



1.5AM+ Self Powered Coaxial High Output Stage Monitor

ONE
series



APPLICATIONS

Vocal Monitor
Instrument Reinforcement
Drum Fill
Side Fill
DJ Monitors
Sound Stages

FEATURES

Coaxial, Horn-loaded
Two-Way Active
Max Output 136 dB SPL
LF Device: 15 in. (381mm)
HF Device: 4 in. (101.6mm)
40°H x 60°V Coverage
2 Ergonomic Handles
(1) EP-4 (or NL4) Connector
1,600W 2-Channel Amp.
Module (Clair OEM Powersoft)
XLR In/Thru
PowerCon In/Thru
4 Native Presets

GENERAL DESCRIPTION

The Clair Brothers 1.5AM+ is the next generation single 15" coaxial stage monitor with incredible low frequency output. The engineering behind the 1.5AM+ combines the Clair tradition of great stage monitors with the successful Clair coaxial horn technology developed over the past 5 years. The result is a highly capable and compact speaker with excellent coherence between components that is simultaneously in-your-face and smooth and hi-fi sounding.

1.5AM+ Transducer Components:

The high frequency compression driver features a 2" throat diameter (4" voice coil diameter), a pure titanium diaphragm with a titanium nitride coating, and a neodymium magnet assembly. The driver is joined to a 40° horizontal by 60° vertical rotatable horn. A 15" carbon fiber reinforced cone transducer provides mid-bass and low frequency reproduction.

1.5AM+ Connectors:

The 1.5AM+ input panel features PowerCon (In/Thru) connectors and a pair of XLRs (In/Thru).

1.5AM+ Electronics:

The 1.5AM+ features an extremely lightweight and powerful OEM amplifier module made exclusively for Clair Brothers by Powersoft. The base configuration of the 1.5AM+ features a similar DSP to the successful kiT Series with 32-bit floating point processing with crossover slopes up to 48dB/oct and FIR filtering. The 1.5AM+ is voltage agile with a PFC corrected PSU that accepts 85-240VAC 50/60Hz.

1.5AM/1.5AM+ Preset Modes:

The 1.5AM presents interesting preset configurations native to the 1.5AM+ built-in DSP. The four preset modes include:

- (1) 1.5AM Monitor Mode A
- (2) 1.5AM Monitor Mode B
- (3) 1.5AM 12AM Emulation Mode 32 dB
- (4) 1.5AM 12AM Emulation Mode 38 dB

Other Features:

Low profile styling and ergonomic, flush mounted side handles provide great aesthetic appeal and portability. The speaker grille is constructed of

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DESCRIPTION (CONTINUED)

aerospace grade perforated aluminum and is specially treated to create a durable exterior finish.

Clair Brothers combines amplification, and proprietary DSP processing in portable racks for all monitor systems. Custom cabling for systems is available and can be pre-wired, labeled and delivered in road cases. As with all Clair Brothers products, the cabinet is constructed of the finest Baltic birch and finished with a rugged polyurea paint to withstand the most demanding conditions.

OPTIONS & ACCESSORIES

RC-1.5 – Road Case for (2) 1.5AM+ (P/N: 11223)

Upgrade to Networked DSP Available

Proprietary DSP + Amplification Rack Packages

Custom Colors Available

[see **1.5AM** for non-powered model]

1.5AM+ EP-4/NL4 Pin Configuration

Pin	Use
1	Low (-)
2	Low (+)
3	High (-)
4	High (+)

AUDIO SPECIFICATIONS (LOUDSPEAKER)

Loudspeaker Type	Self Powered	Two-Way Coaxial Stage Monitor / Point Source
Frequency Response		60Hz–18kHz (+/- 2dB) 50Hz–20kHz (-10dB)
Power Amplifier	1600W 2-Ch. Amp Module	(see Specifications on next page)
Sensitivity (1 Watt @ 1 Meter)	LF	99 dB SPL
	HF	109 dB SPL
Maximum Output	Peak	136 dB SPL
Drivers	LF	(1) 15 in. (381mm)
	HF	(1) 4 in. (101.6mm)
Nominal Impedance	LF	8 Ohms
	HF	16 Ohms
Power Handling	LF	800W Cont. 3200W Peak
	HF	130W Cont. 260W Peak
Dispersion		40° H x 60° V (Rotatable)
Input Connections	Signal	(1) XLR (F) In, (1) XLR (M) Thru (+ 10.8dBu Max)
	Power	PowerCon In/Thru
Speaker Output	Standard	(1) EP-4 <i>Optional (1) NL4</i>

MECHANICAL SPECIFICATIONS

Enclosure	Shell	Baltic Birch Premium Grade
	Finish	Black Polyurea
Grille		Aerospace Grade Perforated Aluminum, Foam Backed
Dimensions	Height	13.79 in. (350.3mm)
	Width	25.00 in. (635.0mm)
	Depth	23.11 in. (587.0mm)
Weight		78 lbs. (35.4kg)
Shipping Weight		95 lbs. (43.1kg)

Note: All wattage figures are calculated using the rated nominal impedance.

Clair Brothers products are designed to perform optimally by utilizing factory recommended proprietary DSP settings.

ARCHITECT AND ENGINEER SPECIFICATIONS

The loudspeaker shall be a two-way active system featuring a total of two drivers. The low frequency device is one 15 in. driver capable of handling 800 watts of pink noise with a 6 dB crest factor for 8 hours (as per EIA RS-426-A standard). The high frequency device is a 2 in. exit, 4 in. voice coil diameter compression driver joined to a 40° horizontal by 60° vertical rotatable horn. The 4 in. driver is capable of handling 130 watts (1 kHz to 10 kHz) of pink noise with a 6 dB crest factor for two hours (as per AES-1984 and ANSI S4.26-1984 standards). The signal processing is Clair Brothers proprietary data. The enclosure shall be constructed of premium grade Baltic birch and covered with a durable black polyurea finish. The dimensions shall be 13.79 in. high, 25.0 in. wide, and 23.11 in. deep. The system weight shall be 78 lbs. (35.4kg). The loudspeaker shall be the Clair Brothers 1.5AM+.

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Due to constant research, development and improvements all specifications are subject to change without notice.

1.5AM+ POWER MODULE



The ONE Series Power Module is a 2-channel amplifier module representing an important evolution in the ONE Series family of products. Delivering up to 1600 W on 4Ω per channel (3200 W on 8Ω in mono-bridged mode), the ONE Series Power Module reaches a new level of excellence in terms of power consumption and sonic performance, guaranteeing reliability and consistency in all operating conditions thanks to a new power supply equipped with PFC and featuring Smart Rails Management.

The ONE Series Power Module shares the same compact mechanical layout of the ONE Series non-powered speaker cabinets allowing simple conversion and upgrade possibilities.

Efficiency and robustness, always and everywhere — Latest generation single-stage patented Power Factor Correction design allows achieving optimal and consistent performance in all operating conditions worldwide.

Maximize performance, minimize consumption — Patented SRM (Smart Rails Management) technology allows maximizing the efficiency of the system and drastically reducing power consumption at any load condition.

Premium Performance — Class-D technology is an industry standard in terms of quality, reliability, robustness and attention to detail. Accurate design of the Pulse Width Modulation block guarantees maximum performance, high predictability and immunity from intermodulation artifacts.

Powerful and flexible signal processing tools — Using DSP solutions: together with Armonia Pro Audio Suite™ Clair Brothers tailored the module's behavior to fit specific models within the ONE Series. Processing capabilities include standard Linkwitz-Riley crossovers to FIR filters, from Peak and RMS limiters to delays and everything in between.

Complete set of protections — Amp modules are equipped with extensive protection circuitry: power limiters, thermal shutdown, short circuit and overload, clip limiter.

Compact — Power supply, output stage, DSP and connectors are all included in a single, compact, lightweight and protected chassis.

POWER MODULE SPECIFICATIONS

General	Number of Channels	2 ins - 2 outs			
	Output power	2-channel mode		mono-bridged mode	
	EIAJ Test Standard, 1 kHz, 1% THD	4Ω / Ch	8Ω / Ch	16Ω / Ch	8Ω / Ch pair 16Ω / Ch pair
		1600 W	1100 W	600 W	3200 W 1600 W
	Max output voltage	150 V _{peak} (106 V _{RMS})			
Max output current	54 A _{peak} (38 A _{RMS})				
Max aux supply current draw	500 mA				
AC Mains Power	Power requirements	AC 100 V - 240 V ± 10%, 50/60Hz with PFC			
	Efficiency	> 75% (typical)			
	Power factor cos (φ)	> 0.90 @ 4Ω full power			
	Power consumptions	1/8 of max power @ 8Ω bridged 600VA (5A @ 120V, 2.6A @ 230V)			
Thermal	Max environmental operating temperature	40° C			
	Thermal dissipation	Fan, variable speed, temperature controlled			
		115 V		230 V	
	1/8 of max output power @ 4Ω	297 BTU/h	75 kcal/h	293 BTU/h	74 kcal/h
1/4 of max output power @ 4Ω	587 BTU/h	148 kcal/h	556 BTU/h	140 kcal/h	
Audio	Gain	32 dB			
	Voltage gain	x 40			
	Frequency response	10 Hz - 25 kHz (-3 dB) for 1W @ 4Ω			
	S/N ratio (amplifier section)	> 115 dBA (20 Hz - 20 kHz, A weighted)			
	Crosstalk separation	-71 dB @ 1 kHz (4Ω)			
	Input sensitivity @ 8Ω	1.6 V / +6 dBu			
	Max input level	+10.8 dBu			
	Input impedance	10 kΩ balanced			
	THD+N / SMPTE IMD	< 0.05% from 0.1 W to full power (typically <0.02%)			
	DIM100 IMD	< 0.05% from 0.1 W to full power (typically <0.02%)			
	Slew rate	50 V/μs @ 8Ω, input filter bypassed			
	Damping factor	> 10000 @ 100 Hz			
	Output type	unbalanced to ground			
Presets		1.5AM+		Compatible Subs -> kiT-Sub+ kiT-Sub-mini+	
	Preset 1	1.5AM MONITOR A	Full range stage monitor with extended LF.	80Hz	80Hz
	Preset 2	1.5AM MONITOR B	Full range stage monitor with extended LF, with APF for use with sub.	80Hz	80Hz
	Preset 3	12AM EMULATION-32dB	Full range stage monitor with extended LF, with APF for use with sub, 32 dB gain.	100Hz	100Hz
	Preset 4	12AM EMULATION-38dB	Full range stage monitor with extended LF, with APF for use with sub, 38 dB gain.	100Hz	100Hz
DSP & Networking (optional board)	Connector	72-pin SIMM connector (DSP-C and DSP- 4 compatible)			
	Configuration	Configurable with Sigma Studio™ or predefined layout			
	Remote control	Fully supported by Powersoft Armonia™ Pro Audio Control Suite			
Construction	Dimensions	216 mm x 122 mm x 79 mm (8.5 " x 4.8 " x 3.1")			
	Weight	1550 g (3.4 lb)			