

# 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  
Standard Configuration:  
(1) EP-4 Connector  
[Option of 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 aerospace grade perforated aluminum and is specially treated to create a durable exterior finish.

# 1.5AM+ Self Powered Coaxial High Output Stage Monitor



## Description (continued)

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+ (PN: 11223)

Upgrade to Networked DSP Available

Proprietary DSP + Amp Rack Packages

Custom Colors Available

[see 1.5AM for non-powered model]

| 1.5AM+ EP-4   NL4* Pin Configuration   |        |          |
|--|--------|----------|
| EP   | NL PIN | USE      |
| 1  | – 1    | Low (–)  |
| 2  | + 1    | Low (+)  |
| 3  | – 2    | High (–) |
| 4  | + 2    | High (+) |
| (1) EP-4 is Standard Connector.<br>(1) NL4 is *Optional: Must spec on order. |        |          |

## Audio Specifications (Loudspeaker)

|                                |                        |  |
|--------------------------------|------------------------|--|
| Loudspeaker Type               | Self Powered           | Two-Way Coaxial Stage Monitor                    |
| Frequency Response             |                        | 55Hz–18kHz (+/- 2dB)   43Hz–20kHz (-10dB)        |
| Power Amplifier                | 1600W 2-Ch. Amp Module | <i>(see Specifications on next page)</i>         |
| 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 Connection               | Signal                 | (1) XLR (F) In, (1) XLR (M) Thru (+ 10.8dBu Max) |
|                                | Power                  | PowerCon In/Thru                                 |
| Speaker Output                 | Standard               | (1) EP-4   *Optional (1) NL4                     |

## 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 |        | 94 lbs (42.6kg)                                  |

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+.

# 1.5AM+ POWER MODULE



The ONE Series Power Module is a two 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 Armonía 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 <sub>peak</sub> (106 V <sub>RMS</sub> )                 |   |                   |                                 |
|                                   | Max output current                | 54 A <sub>peak</sub> (38 A <sub>RMS</sub> )                   |   |                   |                                 |
|                                   | 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 temp. | 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 1 W @ 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 q (3.4 lb)   |   |                   |                                 |

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

