

# K2 DSP+AESOP



2-Channel Power Amplifier with DSP and Networking for High-Performance Portable Sound Systems and Touring



- Touring
- Installation

2CH



DSP  
on board



- ▶ Small to medium-scale touring systems, FOH
- ▶ Fullrange loudspeakers
- ▶ Stage monitoring for
- ▶ Concert halls
- ▶ Live clubs
- ▶ Corporate events

Capable of delivering 4,800 watts, the **K2 DSP+AESOP** is the smallest amplifier in the K Series, at least at first glance. One may wonder how 'small' almost 5,000 watts of output power are, but other than that this amplifier leaves no questions unanswered. Built on the same unique technologies and features present in the much bigger models, it is a full-fledged member of Powersoft's most advanced line.

The **K2 DSP+AESOP** can be software upgraded to become a K3 DSP+AESOP, making it a safe investment that grows with loudspeaker systems without the need for replacing the amp hardware. With much more behind the front panel than meets the eye, the unit still takes only a single space in a 19" rack and weighs only 8 kg/17.7 lb, all a result of efficiency exceeding 85%.

A fully integrated state-of-the-art **DSP** yields extensive system management functionality. IIR/FIR filters, safety features like TruePower™ limiting and LiveImpedance™, as well as the convenient Active DampingControl™ are intuitively manageable with the free PC software Armonía Pro Audio Suite™.

The **AESOP** interface provides four standard Ethernet ports, plus adding hub functionality for two AES3 digital audio streams equivalent to 4 analog signal channels over the same RJ45, allowing for a redundant ring architecture too.

| 2-channel mode |          |          | mono-bridged mode |               |
|----------------|----------|----------|-------------------|---------------|
| 2 Ω / Ch       | 4 Ω / Ch | 8 Ω / Ch | 4 Ω / Ch pair     | 8 Ω / Ch pair |
| 2,400 W        | 1,950 W  | 1,000 W  | 4,800 W           | 3,900 W       |

EIAJ Test Standard, 1 kHz, 1% THD

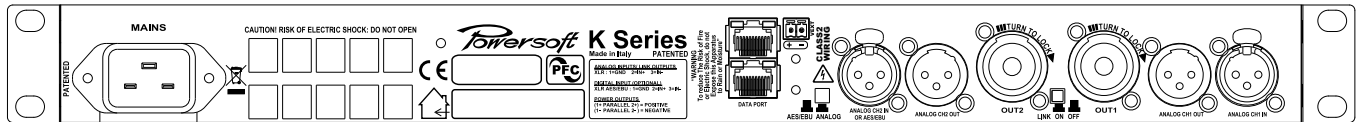
- ✓ **Legendary Powersoft efficiency:**
  - ▶ Unequaled Class D design with fixed switching frequency
  - ▶ Universal switch mode power supply with PFC (Power Factor Correction)
  - ▶ Space and weight saving: only one rack space (1 RU) and 8 kg/17.7 lb
  - ▶ Green Audio Power®: more amplifier output power from the AC mains power distribution due to >85% efficiency
- ✓ **Outstanding performance and operational safety:**
  - ▶ Excellent sonic quality by design, including amp clip limiters and patented ripple cancellation network
  - ▶ Proven reliability, yet downloadable log file of all functional fault events with time-related trace
  - ▶ Numerous amp/system/venue parameters can be configured, locked, and monitored; i.e. AC mains voltage/current draw to protect from breaker tripping
- ✓ **Highly integrated:**
  - ▶ Top-grade DSP with high dynamic range and extensive feature set
  - ▶ Separate input/output EQ's with numerous filters of various types up to 48 dB/oct (IIR), linear phase (FIR), and hybrid (FIR+IIR)
  - ▶ Sophisticated limiter system comprising peak, RMS voltage, RMS current, and TruePower™ limiting
  - ▶ Speaker wire compensation with Active DampingControl™
  - ▶ LiveImpedance™ load monitoring with regular musical signal
- ✓ **Plug & play communication and redundancy for control and digital audio:**
  - ▶ Fully digitally controlled amplifier providing feedback of all status information
  - ▶ 4-port AESOP Ethernet/AES3 interface allowing daisy-chaining and redundant ring architecture
  - ▶ Fully manageable via Armonía Pro Audio Suite™ software, intuitive system setup and maintenance, control and monitoring
  - ▶ AES3 digital audio distribution over Cat-5e cable: two streams equaling four analog channels, low latency, glitchless fallback to analog backup signal
- ✓ **Safe investment: Step-up program allows smooth upgrade to K3 DSP+AESOP**
- ✓ **Practically versatile:**
  - ▶ Mono-bridgeable amplifier channels; switch for linking analog signal inputs
  - ▶ AC inrush current limiting; channel output voltage limiting
  - ▶ Digital gain attenuator for gain/sensitivity selection
- ✓ Front panel interactive LCD display for local access and configuration
- ✓ SmartCard reader/writer for firmware updates, preset storage, and Step-up
- ✓ Front-to-rear airflow cooling with variable-speed fan, temperature controlled
- ✓ Full protection circuitry: over/under AC voltage; troublesome signals (clipping, VHF, long-term RMS); DC; thermal; short circuit; mute at power on/off
- ✓ Full four years warranty
- ✓ **Options & accessories:**
  - ▶ SmartCard, for firmware updates or preset storage; step-up card
  - ▶ Armonía Pro Audio Suite, free at [www.armoniasuite.com](http://www.armoniasuite.com)



# K2 DSP+AESOP



2-Channel Power Amplifier with DSP and Networking for High-Performance Portable Sound Systems and Touring



## Specifications

| General                             |  |
|-------------------------------------|--|
| Number of channels                  | 2  |
| Output power                        | stereo mode  |
| EIAJ Test Standard, 1 kHz, 1% THD   | 2 Ω/ch      4 Ω/ch      8 Ω/ch   |
|                                     | 2,400 W      1,950 W      1,000 W  |
| Max output voltage / current        | 140 V <sub>peak</sub> / 102 A <sub>peak</sub>  |
| AC Mains Power                      |  |
| Power supply                        | Universal, regulated switch mode with PFC (Power Factor Correction)  |
| Operating voltage                   | 100-240 V ±10%, 50/60 Hz   |
| Power factor cos (φ)                | >0.95 @ >500 W   |
| Consumption / current draw          | @ 230 V  |
| Idle                                | 88 W      1.35 A   |
| 1/8 of max output power @ 4 Ω       | 609 W      3.1 A   |
| 1/4 of max output power @ 4 Ω       | 1,219 W      5.7 A   |
|                                     | @ 115 V  |
| Idle                                | 69 W      1.2 A  |
| 1/8 of max output power @ 4 Ω       | 609 W      6.3 A   |
| 1/4 of max output power @ 4 Ω       | 1,219 W      11.4 A  |
| Thermal                             |  |
| Environmental operating temperature | 0° - 45° C / 32° - 113° F  |
| Thermal dissipation                 | Fan, continuously variable speed, temperature controlled, front to rear airflow  |
| Idle                                | 382 BTU/h      96 kcal/h   |
| 1/8 of max output power @ 4 Ω       | 722 BTU/h      182 kcal/h  |
| 1/4 of max output power @ 4 Ω       | 1,062 BTU/h      268 kcal/h  |
| Audio                               |  |
| Gain, selectable                    | 26 dB      29 dB      32 dB      35 dB   |
| Input Sensitivity @ 8 Ω             | 4.48 V      3.17 V      2.47 V      1.59 V   |
| Max input level                     | 27 dBu      24 dBu      21 dBu      18 dBu   |
| Gate                                | -52 dBu      -55 dBu      -58 dBu      -61 dBu   |
| Frequency response                  | 20 Hz - 20 kHz (1 W @ 8 Ω, ±0.5 dB)  |
| S/N ratio (amplifier section)       | >106 dBA (20 Hz - 20 kHz, A weighted)  |
| Crosstalk separation                | > 70 dB @ 1 kHz  |
| Input Impedance                     | 10 k Ω balanced  |
| THD+N/SMPTE IMD/DIM 100 IMD         | <0.2% from 1 W to full power (typically <0.05%)  |
| Slew rate                           | 50 V/μs @ 8 Ω, input filter bypassed   |
| Damping factor @ 8 Ω                | >5000 @ 20-200 Hz  |
| DSP                                 |  |
| A/D converter                       | Dual 24bit 96 kHz Tandem® architecture with 127 dBA of dynamic range and THD <0.005% (20 Hz - 20 kHz)  |
| D/A converter                       | Dual 24bit 96 kHz Tandem® architecture with 122 dBA of dynamic range and THD <0.003% (20 Hz - 20 kHz)  |
| Memory                              | 8 MB (RAM) plus 2 MB (flash for presets)   |
| Presets                             | 50 stored locally + 150 stored on a smartcard  |
| Digital audio input                 | AES3 (glitchless fallback to analog audio selectable)  |
| Delay for time alignment            | up to 4 s on the input section, up to 32 ms per output, sample-by-sample stepping  |
| Crossover filters                   | Butterworth, Linkwitz-Riley, Bessel, Arbitrary Asymmetric, 6dB/oct to 48dB/oct (IIR), linear phase (FIR), hybrid (FIR+IIR)                                     |
| Output equalizer                    | 16 fully parametric filters per channel, IIR: peaking, hi/lo shelving, hi/lo pass eq, band pass, band stop, all pass. Custom FIR up to 384 taps @ 48 or 96 kHz |
| Input equalizer                     | Three layers (PEQ, raised cosine, shelving), 32 filters each + group filters, up to 256 filters per channel  |
| Cable compensation network          | up to 2 Ω negative/positive wire compensation (Active DampingControl™)   |
| Limiters                            | Power limiter (TruePower™, RMS voltage, RMS current) + Peak Limiter  |
| Front Panel                         |  |
| Indicators                          | 7 meter LEDs: 5 x green, 1 x yellow, 1 x red, top yellow and red show alarm with protect description on LCD panel  |
| Controls                            | 4 pushbuttons, function depending on user menu; mains switch   |
| Network data port AESOP incl. AES3  | 2 x RJ45 with activity LEDs  |
| Maintenance                         | SmartCard reader/writer for firmware updates and preset storage. Easily accessible dust filter foam behind two steel covers                                    |
| Rear Panel                          |  |
| Audio signal input connectors       | Analog: 2 x balanced Neutrik® XLR female; AES3: use channel 2 XLR  |
| Audio signal output connectors      | Analog: 2 x balanced Neutrik® XLR male   |
| Loudspeaker output connectors       | 2 x Neutrik® Speakon NL4MD   |
| Network data port Ethernet          | 2 x RJ45 with activity LEDs  |
| Aux voltage                         | 1 x 2-pin Phoenix P. 3.81mm  |
| AC mains                            | IEC20A with IEC20A Schuko for EU, IEC20A/American 15 A pin plug  |
| Controls                            | 1 x link switch, linking analog inputs 1 and 2; AES3/analog input switch   |
| Construction                        |  |
| Dimensions                          | W 483 mm / 19", H 44.5 mm / 1.75", D 380 mm / 15"  |
| Chassis                             | 1 mm / 0.04" steel chassis and removable dust cover; 3 mm / 0.12" steel front panel, screw hole protection, side reinforcement & rear support                  |
| Weight                              | 8 kg (17.7 lb)   |

Data is subject to change without notice.  
© 2012 Powersoft • All rights reserved.

