



- Touring
- Installation

2CH



DSP
optional



- ▶ Subwoofers
- ▶ High-power LF drivers in
- ▶ Large-scale touring systems for
- ▶ Stadiums
- ▶ Open-air events
- ▶ Arenas
- ▶ Large concert halls

The **K20** is the strongest model in the flagship K Series and probably the world's most powerful amplifier at its size. Ideal for subwoofers and low-frequency devices requiring relatively high continuous power and ample headroom, the **K20** is the unique result of smart design, attention to sound quality, and extremely high efficiency with reliability, portability, and adaptability in mind.

Like all K Series models, the **K20** is designed for, and absolutely stable with, 2 Ω loads, further reducing the number of amps required to power a specific system.

Such enormous power density in a single 19" rack unit weighing as little as 12 kg/26.5 lb and running off a single mains phase is only possible due to unique Powersoft technologies, resulting in a remarkably high efficiency exceeding 85%.

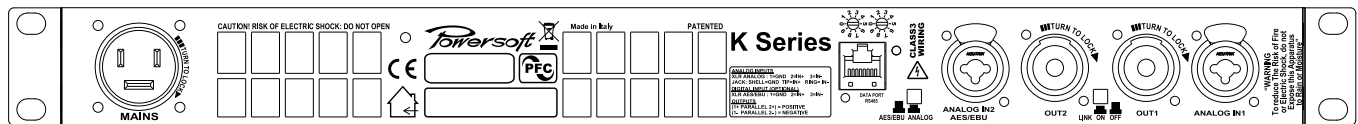
Better still, the **K20** can be equipped, at the factory or anytime later, with an optional state-of-the-art **DSP** board for extensive sound management functionality. IIR/FIR filters, safety features like TruePower™ limiting and LiveImpedance™, as well as the convenient Active DampingControl™ are intuitively manageable with the free PC software Armonía Pro Audio Suite™ via standard RS485 communication port.¹⁾

2-channel mode			mono-bridged mode	
2 Ω / Ch	4 Ω / Ch	8 Ω / Ch	4 Ω / Ch pair	8 Ω / Ch pair
9,000 W	5,200 W	2,700 W	18,000 W	10,400 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 12 kg/26.5 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
 - ▶ Numerous amp/system/venue parameters can be configured, locked, and monitored; i.e. AC mains voltage/current draw to protect from breaker tripping
- ✓ **Communication:**
 - ▶ Fully digitally controlled amplifier providing feedback of status information
 - ▶ RS485 serial communication port standard on board, for amplifier control and monitoring via Armonía Pro Audio Suite™ software¹⁾
 - ▶ Proven reliability, yet downloadable log file of all functional fault events with time-related trace
- ✓ **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
- ✓ Front panel SmartCard reader/writer for firmware updates and preset storage
- ✓ 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
 - ▶ Armonía Pro Audio Suite, free at www.armoniasuite.com
 - ▶ Power Control Hub, RS485 distribution and remote Power-on unit for up to eight K Series amplifiers, 19"/1 RU
 - ▶ KDSP Board, for DSP integration:
 - Optional 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
 - AES3 digital audio signal input via XLR
 - ▶ KAESOP Board (Ethernet/AES3 interface)

¹⁾ Serial communication is relatively slow; hence, max 4 amps can be monitored simultaneously, and information is reduced, e.g. no signal level metering.



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
Max output voltage / current	9,000 W 5,200 W 2,700 W 18,000 W 10,400 W
	225 V _{peak} / 125 A _{peak}
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 @ 115 V
Idle	88 W 1.17 A 90 W 1.15 A
1/8 of max output power @ 4 Ω	1,625 W 7.9 A 1,625 W 15.8 A
1/4 of max output power @ 4 Ω	3,250 W 14.7 A 3,250 W 29.3 A
Thermal	
Environmental operating temperature	0° - 45° C / 32° - 113° F
Thermal dissipation	Fan, continuously variable speed, temperature controlled, front to rear airflow
Idle	682 BTU/h 172 kcal/h
1/8 of max output power @ 4 Ω	1,590 BTU/h 402 kcal/h
1/4 of max output power @ 4 Ω	2,498 BTU/h 631 kcal/h
Audio	
Gain, selectable	26 dB 29 dB 32 dB 35 dB
Input Sensitivity @ 8 Ω	7.37 V 5.22 V 3.68 V 2.62 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)	>110 dBA (20 Hz - 20 kHz, A weighted)
Crosstalk separation	> 66 dB @ 1 kHz
Input Impedance	10 k Ω balanced
THD+N/SMPTE IMD/DIM I00 IMD	<0.5% 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 (optional)	
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
Power switch	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® Combo XLR female/1/4" jack; AES3: use channel 2 XLR
Loudspeaker output connectors	2 x Neutrik® Speakon NL4MD
Network data port RS485	1 x RJ45 with 2 recessed rotary encoders for ID selection
Aux voltage	1 x 2-pin Phoenix P, 3.81mm
AC mains	AMP CPC 45A on rear panel; AMP CPC 45A connector mounted on a 3 x 5mm ² (10AWG) cable
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 475 mm / 18.7"
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	12 kg (26.5 lb)

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