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### Features

- Proven Class D amplifiers
- Four 1250W bridgeable channels
- 2 ohm and 70/100v line capability
- 96kHz DSP with real-time monitoring
- Extremely rugged with abuse logging
- Live networked control and monitoring or 'configure and leave' operation

### Applications

- Concert touring
- Regional touring
- Permanent installations

## Electronics

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# RACKDP-50 Powered management system



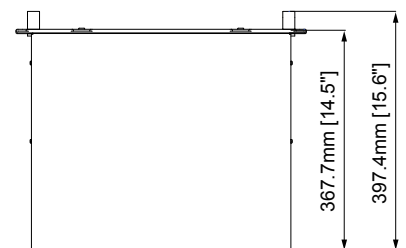
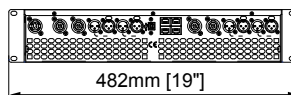
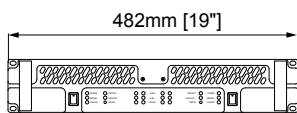
**The RACKDP-50 is a 4-channel power amplifier integrating lightweight power supplies, high power sonically transparent Class D amplifiers, full system monitoring (including 'end of line') and a fully featured USB or network controlled 24 bit 96kHz DSP processing platform provided onboard as standard.**

The RACKDP-50 contains four 1250W channels of class D amplification, providing significant benefits in efficiency and power density over conventional amplifier types. The design has produced a short signal path which directly results in clean, fast amplification that is so efficient that even though capable of a total power output of 5000W, the variable-speed fans only run at high speed under extreme conditions. The advantages of switching technology have been carried through to the extremely efficient lightweight power supply evolving in harmony with the amplifier section and therefore achieves an optimum match between the two. Intelligent detection of the mains supply voltage makes the unit suitable for global operation without requiring any reconfiguration. Each pair of channels contains a complete 96kHz digital loudspeaker management and control subsystem, containing an extremely powerful state-of-the-art floating point SHARC based DSP engine. A simple PC connection allows customers to manipulate DSP parameters to optimise the performance and develop user settings – stored in the RACKDP-50 so a PC is not necessary for operation – for particular applications. The RACKDP-50 can also recall different settings (voices) by the means of rear panel auxiliary port, useful in voice evacuation applications where it may be required to mute the current source of audio, switch to an alternate input carrying an evacuation message and broadcast it with different level and EQ settings. All RACKDP-50 models are networkable as standard; and Turbosound's TurboDrive PC application provides real-time control and monitoring functions for either single units or whole networks of products. A PC connects to the RACKDP-50 either directly via USB or BvNet. Networked RACKDP-50s allow system installers to more easily optimise the performance of individual speakers in a space, solving a number of problems that cannot be addressed adequately with the traditional approach of one centralised system controller. Networked RACKDP-50s and TurboDrive also allow all the important system parameters, including load impedance, to be monitored and displayed. Sophisticated micro-processor controlled amplifier protection systems continuously monitor all aspects of performance and under extreme or abusive conditions the RACKDP-50 will progressively decrease the audio level while endeavouring to find a stable operating level. Even without a PC connection, the RACKDP-50 continuously records logs against time for the temperature readings, and the state of amplifier protection for up to 3 days into the past. These may be easily viewed at any time and their data can even be exported to a spreadsheet for further analysis.

# RACKDP-50

Powered management system

<b>INPUT IMPEDANCE</b>	6.7k ohm unbalanced; 10k ohm balanced
<b>MAX INPUT LEVEL</b>	+20dBu
<b>FREQUENCY RESPONSE</b>	20Hz - 20kHz±0.5dB (4 ohm load)
<b>OUTPUT NOISE</b>	-106dB A weighted ref. max output, 22kHz BW
<b>DISTORTION</b>	<0.05% (1kHz, -3dB output, 22kHz BW)
<b>PROTECTION SYSTEMS</b>	<b>Over current</b> : Initially gain reduced to maintain control, persistent over-current causes shutdown <b>Temperature</b> : Limiters applied, persistent over-temperature causes shutdown <b>Brownout</b> : Automatic protection and recovery <b>Mains</b> : Soft-start current inrush limiting <b>DC Fault</b> : Immediate shutdown, power cycle to recover
<b>INDICATORS</b>	Sig, Limit -6dB, Limit (per channel). Power, Protect, Bridge, User DSP defeat (per channel pair)
<b>CONTROLS/CHANNEL</b>	<b>Front panel</b> : User DSP defeat x 2; power switch x 2   <b>Rear panel</b> : BvNet, USB and auxilliary ports
<b>MONITORING FACILITIES</b>	Input signal level, Output signal level, Output current level, Temperature, Limiter operation, Protection system operation, Driver impedance
<b>AMPLIFIER SECTION</b>	<b>Output power</b> : 1250w/ch @ 2 ohms, 800w/ch @ 4ohms, 450w @ 8ohms (RMS program, all ch. driven, 20Hz-20kHz) (bridged pair) 2500W @ 4ohms, 1600W @ 8ohms, 900W @ 16ohms <b>Slew rate</b> : >80V/μs <b>Damping factor</b> : 120 ref 8ohms <b>Efficiency</b> : >90% typical
<b>POWER SUPPLY</b>	<b>Type</b> : High current, high frequency switch mode <b>Efficiency</b> : >90% typical <b>Input voltage</b> : 115V / 230V nominal ±10% <b>Input voltage selection</b> : Automatic <b>Mains frequency range</b> : 45-65Hz <b>Other features</b> : Automatic soft start, Automatic brownout recovery, Automatic over-voltage protection, Remote shutdown
<b>THERMAL</b>	One variable speed fan per pair of channels, additionally one variable speed fan per unit. Airflow is from front to rear
<b>SIZE (H X W X D)</b>	88mm (2U) x 482mm (19") x 360mm (14") (behind rack ears)
<b>WEIGHT</b>	9kg (20lbs)
<b>OPERATING RANGE</b>	Temperature: 0° to +40°C, Humidity: 0 to 80% (non-condensing)
<b>CONNECTIONS</b>	Mains (per RACKDP): Neutrik 'Powercon', Audio input & link (per channel): 3 pin XLR, Output (per channel): Speakon NL4, Network (input and link): RJ45, Aux facilities: RJ45
<b>OPTIONS</b>	Rear rack supports
<b>MORE INFO</b>	More information can be found on our website: <a href="http://www.turbosound.com">www.turbosound.com</a>



## Limited Warranty

Every Turbosound loudspeaker product is warranted to the original end-user purchaser and all subsequent owners for a period of two (2) years for loudspeaker products, or one (1) year for electronics products, from the original date of purchase. Warranty coverage includes defects in materials and workmanship. It does not include:

- damage caused by accident, misuse, abuse, neglect or modification by any other person other than an authorised Turbosound representative,
- damage caused by overdriving, use with unsuitable amplifiers or amplifier failure,
- damage caused by failure to operate the product in accordance with the instructions contained in the user's manual,
- damage occurring during shipment in transit,
- claims based upon any misrepresentations by the seller,
- products which do not have the original components as specified in the product engineering information,
- products on which the serial number has been removed or defaced.

Should any fault develop with a component of your Turbosound system, please return the product, freight pre-paid, in its original packing carton, along with proof of purchase such as the original bill of sale, and a description of the suspected fault, to your local authorised Turbosound representative. The product serial number must be quoted in all correspondence relating to the claim. Insurance is recommended as Turbosound or its representatives are not liable for loss or damage in transit.