

# VORTEX SERIES

## SPECIFICATION

<b>Circuitry</b>	bipolar, Class H
<b>Frequency Response</b>	20 Hz - 20 kHz $\pm$ 0.15 dB 8 $\Omega$ load, 1 dB below rated power
<b>Input Impedance</b>	40 k $\Omega$ balanced
<b>Voltage Gain</b>	selectable: 26 dB, 32 dB, or 1.4 V input sensitivity
<b>Protection Circuits</b>	inrush-current limitation, protection circuits against power-on/off transients, temperature monitoring of transformers and heat-sinks, output DC protection, power transistor control, temperature dependent SOA protection, intelligent mains fuse protection
<b>Limiter</b>	switchable peak-limiter
<b>Fan</b>	2 temperature dependent speed-controlled axial fans
<b>Ground-Lift</b>	input ground-lift switch on back panel
<b>Indicators</b>	LED's for ON, SIGNAL, CLIP, DC, High Temp, Output Current
<b>Input Connectors</b>	3-pin XLR, male and female per channel, pin 2 = inphase
<b>Output Connectors</b>	one 4-pole SPEAKON connector for each output channel (bi-amping possible)
<b>Modes Of Operation</b>	STEREO, BRIDGE MONO and PARALLEL MONO
<b>Options</b>	Extended User Interface / E.U.I. — modules for any kind of EQ
<b>Signal To Noise-Ratio</b> 20 Hz - 20 kHz, 8 $\Omega$ load	> 107 dB (unweighted) > 110 dB (A-weighted)
<b>THD+N (typical)</b> 20 Hz - 20 kHz, 8 $\Omega$ load, 3 dB below rated power	< 0.01 %
<b>SMPTE (typical)</b> 20 Hz - 20 kHz, 8 $\Omega$ load, 3 dB below rated power	< 0.01 %
<b>Damping Factor</b> 8 $\Omega$ load, 1 kHz and below	> 400
<b>Dimensions (WxHxD)</b>	483 x 88.9 x 420 mm (19", 2U)
<b>Net Weight</b>	12.4 kg
<b>Shipping Dimensions (WxHxD)</b>	600 x 600 x 205 mm (0.074 m <sup>3</sup> )
<b>Shipping Weight</b>	15 kg

*Subject to technical alterations without prior notice.*

Product Design & Layout: Michael Mailling Limited, UK

## NEW QUALITY

The amplifiers of the Vortex Series display more information by LED indicators than conventional amplifiers. Operational status, functions and alternating states are clearly signaled by differing luminosity or colour. All indicators and controls are also available for adjustment by means of a remote control network; 99 network addresses can be selected with the amplifier's volume controls. Owing to the standard E.U.I. (Extended User Interface), peripheral modules can be used to configure the Vortex Series for any type of sound reinforcement application.

From a technical and mechanical point of view the Vortex Series is a future-oriented product. Its modern design, high-grade componentry and the use of SMD technology are state-of-the-art features reducing service/maintenance cost and work as well as the number of internal cable and plug/socket connections. Thus, the Vortex Series sets a new standard in terms of audio quality, power, reliability and ease of operation.

## NEW SOUND

Precision and transparency of sound are the Vortex Series' most characteristic features. The underlying new approach in amplifier technology eliminates sound-deteriorating drawbacks right from the start. The circuit design using internal current control provides for a new definition of the term sound quality. All protection systems respond only when damage to the amplifier can be expected, and hence allow for temporary extreme situations without affecting the sound quality of the music program.

The Vortex Series is not just "another amplifier" but has been designed as an integral part of pro-level sound reinforcement systems. The superior sound quality and enormous power delivered by the Vortex Series are the features that make a good audio system an extraordinary one.

## VORTEX 2.6

2 x 1,350 W / 2 Ohms  
2 x 750 W / 4 Ohms  
2 x 450 W / 8 Ohms

1 x 2,700 W / 4 Ohms  
1 x 1,500 W / 8 Ohms

12.4 kg

## VORTEX 4

1 x 4,000 W / 4 Ohms  
1 x 3,200 W / 8 Ohms

2 x 2,000 W / 2 Ohms  
2 x 1,600 W / 4 Ohms  
2 x 920 W / 8 Ohms

12.4 kg

## VORTEX 6

1 x 6,000 W / 4 Ohms  
1 x 4,200 W / 8 Ohms

2 x 3,000 W / 2 Ohms  
2 x 2,100 W / 4 Ohms  
2 x 1,300 W / 8 Ohms

12.4 kg

*Maximum power ratings are based on:  
– Duration limited by fuse-protection for RL < 8 Ohms  
– Sine wave 1kHz, THD < 0.1%, both channels driven*

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# CAMCO

Breathe **life**  
into your music



# CAMCO

VORTEX SERIES

## NEW GENERATION

CAMCO is well known for its high-end products. For almost 20 years now CAMCO power amplifiers have proven their quality day after day in pro-level applications. With the Vortex Series CAMCO now introduces a new generation of power amplifiers setting new standards in terms of technical and mechanical design and construction. Through the superior combination of new and time-tested technologies CAMCO engineers have succeeded in bringing a product to market that truly deserves the title "New Generation".

## NEW TECHNOLOGY

The idea behind the Vortex Series was to build a new power amp that uses a switched-mode power supply, ensures optimum ventilation and can be produced in compliance with state-of-the-art technical standards. Yet, output power had to be at least as high as that produced by CAMCO's "classic" power amps, while the dimensions and weight had to be reduced. With the Vortex Series this idea has become a reality: Vortex is a high-power amplifier featuring exceptionally high efficiency, enormous power (6,000 watts mono into 4 Ohms) a mere 2 units in height and the use of micro-controllers to digitally control and monitor all functions and thus ensure first-class audio quality.

For the Vortex Series CAMCO engineers have developed a variety of innovative features: power transistor control with emergency shutdown in case of extreme malfunction (prevents the amp from being destroyed), reliable overvoltage protection up to 400 V, thermal protective circuitry for the transistors, hum free operation in case of extreme undervoltage (instead of sound-deteriorating limiters). The amplifiers from the Vortex Series are particularly fast owing to their current-coupled amplifier stages. The 3-stage switched-mode power supply provides each amplifier channel with the supply voltage it actually needs, while the volume level is controlled by a 12-bit digital-analog DCA converter (Digitally Controlled Attenuator).

The cooling and ventilation system is a completely new design that ensures optimum air flow. CAMCO research has allowed us to design heat sinks with optimized heat dissipation surfaces and an integrated airflow channel. The direct and straightforward link between air intake and exit contributes considerably to the thermal stability of this power amplifier.



Breathe **life** into your music



Maintaining performance is a mixture of advanced technology and basic practicality. Heat is the main by-product of amplification. The Vortex 6 already minimises

energy use through its efficient 3 step Class H operation. Very effective management of the airflow through the amplifier enhances this benefit and ensures that the amplifier is not filled with pollutants (dust and smoke) from its local environment.

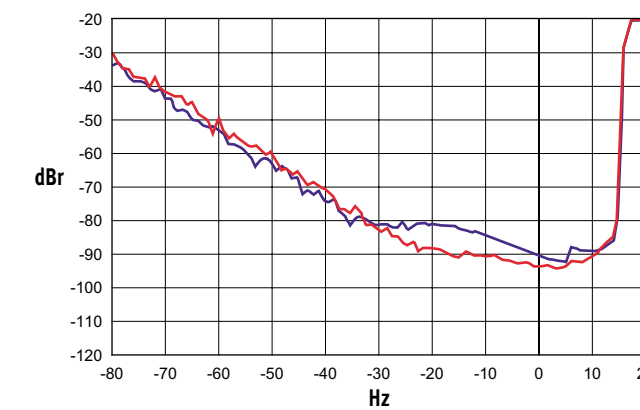
The air is filtered from the front...

Electronically controlled through two axial fans...

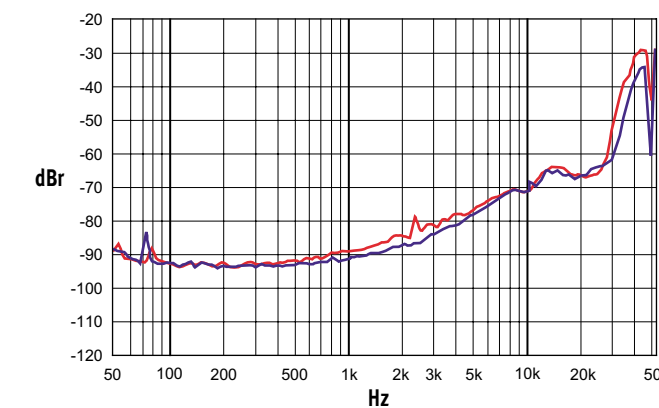
Then ducted across the heatsinks.

The result is an amplifier that operates at the lowest possible temperature for the load and program.

VORTEX SERIES

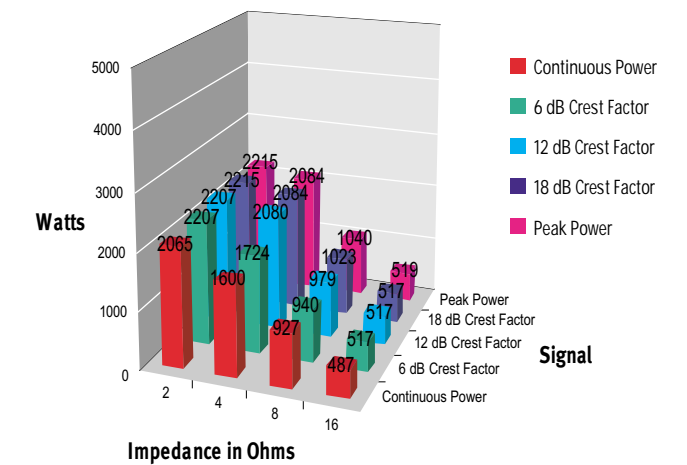


VORTEX 6 - Total Harmonic Distortion (THD) at 2 x 4 Ohms load (CH1, CH2)

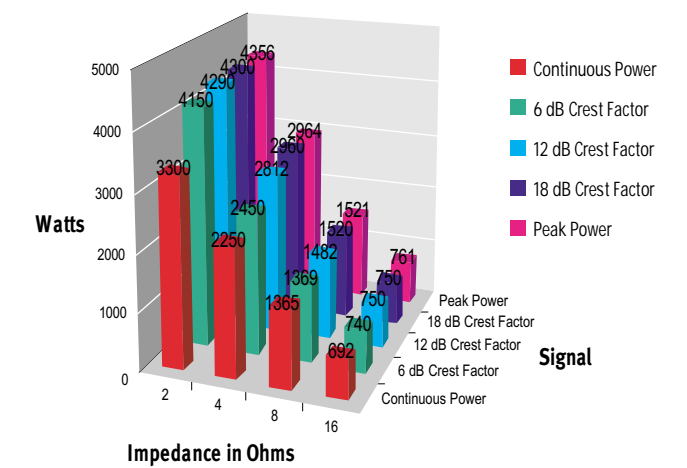


VORTEX 6 - Total Harmonic Distortion (THD) versus Frequency at 3 dB under full load at 2 x 4 Ohms (CH1, CH2)

VORTEX 4 - Performance Summary \*  
A performance diagram for one channel with simultaneous load applied to all channels



VORTEX 6 - Performance Summary \*  
A performance diagram for one channel with simultaneous load applied to all channels



\* Values given by an independent test in the magazine Production Partner

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