

# VHD2000 Technical Data Sheet

## Introduction

The VHD2000 is the control and amplification unit for the VHD2.0. It is a three-way, rack-mounted unit containing high frequency, mid frequency and mid-bass amplifiers. It also houses all processing and control electronics for the subwoofer system. Our own hybrid signal processing utilises the very best technology available from both the analogue and digital worlds, to offer complete audio system control, equalisation, overdrive protection, thermal protection and user adjustable set up parameters. Time alignment and phase correction is done via KV2's new 20MHz digital delay line, boasting the highest sampling rate of any digital speaker processor available. Once the set-up process is completed, the VHD2000 manages all system functions and assures optimal performance.

## Features

- Three way modular, 2900W Control and Amplification System for use specifically with VHD series modules
- High Frequency, 300W, Class AB, push-pull low intermodulation amplifier with transformer balanced outputs
- Mid Frequency, 1000W, high efficiency, wide power bandwidth amplifier
- Mid Bass, 1600W, high efficiency, current enhancing switching amplifier
- Setup provides two channel selection and control of different VHD subwoofer combinations, or full range mode, with level control +/- 6dB and two rear mounted line level subwoofer outputs to feed a VHD 3200 subwoofer amplifier
- Complete, on board speaker management system including equalization, time alignment, crossover filters, amplifier overdrive protection, system set-up and output level controls
- Newly developed PDM 20MHz sampling, digital delay alignment system setting new standards for audio performance and dramatically increasing phase response precision and definition
- AC soft start circuitry with ON/OFF AC breaker switch provides thorough power protection
- Comprehensive front-to-back cooling system features chassis sealed pcb's for improved reliability
- Two per side switch engages a specific set of filters and operating parameters for larger scale events when using an extra VHD2000 and VHD2.0 per side
- Individual signal inserts for Mid/High, Subwoofer A, and Subwoofer B providing flexibility for insertion of signal processing or feeding from auxiliary sources as required
- Front panel Input Impedance selector provides selection of optimal input impedance when used with a KV2 Audio LD4 Line Driver



## Application

Specifically designed as the amplification and control elements for the VHD loudspeaker systems in a full rack mount module

- Portable PA
- Fixed installations

Output Channels	
Number of Channels	1

High Frequency Amplifier Specification	
Type	Class AB Push-Pull low IM Mosfet design, transformer balanced output
Rated Continuous Power	300W
Distortion	< 0.05%
Operating Bandwidth	2.2kHz to 30kHz

Mid Frequency Amplifier Specification	
Type	High Efficiency, High power bandwidth
Rated Continuous Power	1000W
Distortion	< 0.05%
Operating Bandwidth	450Hz to 2.2kHz

Mid-Bass Frequency Amplifier Specification	
Type	High efficiency, Low frequency, Current-enhancing switch mode
Rated Continuous Power	1600W
Distortion	< 0.05%
Operating Bandwidth	100Hz to 450Hz

Speaker Output	
Speaker Output	AP6

Signal Input	
Input Sensitivity	1.0V RMS
Input Impedance	10kΩ to 50Ω "Line driver ready"
Signal Output	Main Through OUT, Sub A and B OUT
Insert	Mid/High, Sub A, Sub B

Features	
Level Control	+/- 6dB
Subwoofer Level Control	Sub A +/- 6dB, Sub B +/- 6dB
System setup	6x
Full Range Mode	VHD2.0: 60Hz to 22kHz, Sub MUTE
Two per Side switch	Double system - EQ

Power	
Power Connector	Neutrik PowerCon®
Operating Voltage	115V / 230V / 250V
Operating Voltage Range	100 to 120V@60Hz   205 to 240V@50Hz   225 to 260V@50Hz
Recommended Amperage	20A 115V   10A 230V   10A 250V
Soft Start	YES
Protection	Thermal breaker
Cooling	2x temperature controlled fans

Physical Dimensions	
Height	177 mm (7.0")
Width	481.4 mm (18.9")
Depth	455.3 mm (17.9")
Weight	30 kg (66lbs)

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## Architectural Specifications

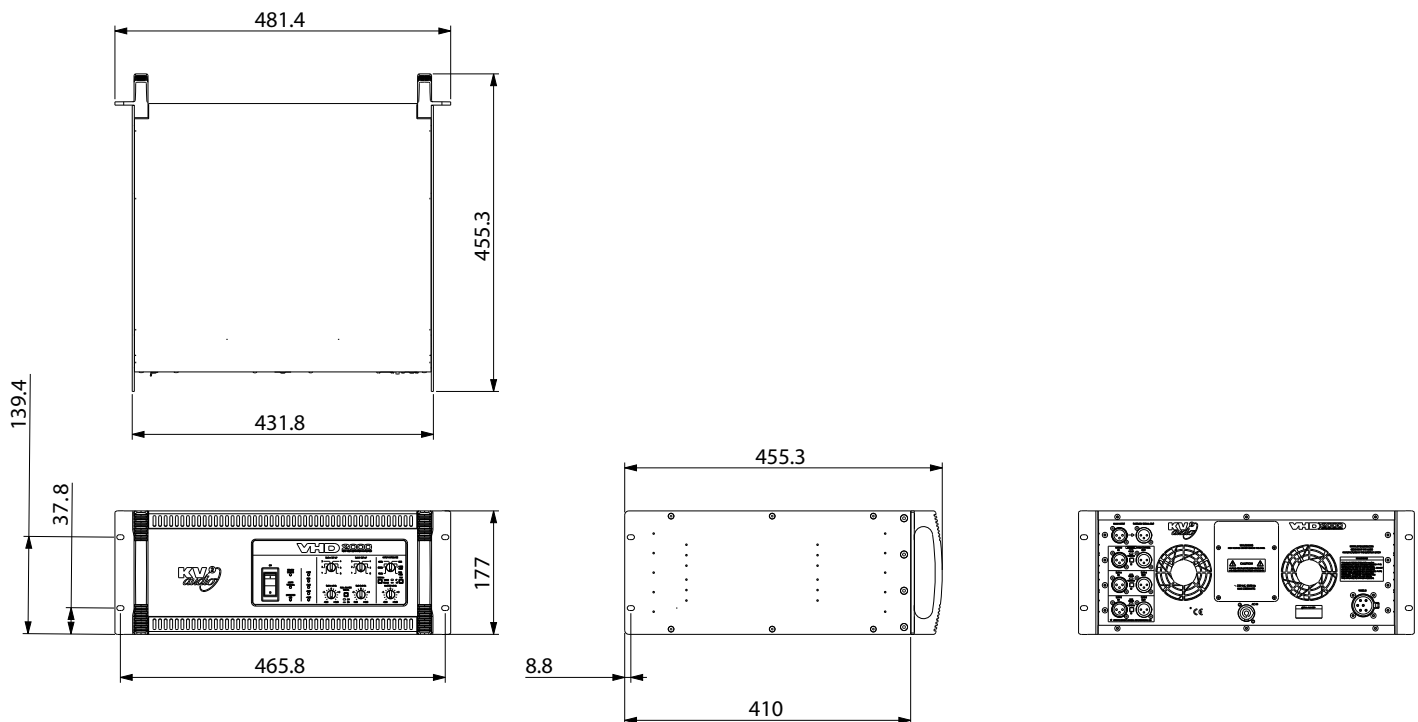
The Power Amplifier-Controller shall provide three individual application specific electronic channels of amplification for VHD2.0, with internal loudspeaker protection, filter networks and equalization using SLA Technology (Super Live Audio). The output Topology shall be Multi-disciplined for each individual output channel, consisting of Class AB Push-Pull low Intermodulation Mosfet design, High Efficiency High Power bandwidth and Current-Enhancing switch mode. The Power Amplifier-Controller shall employ rear panel fitted switches to allow insert points for delay requirements on any of three channels, (Mid hi and 2 x Sub).

The input sensitivity shall be 1.0V RMS, the input Impedance shall be 10Kohm to 50ohm (selectable). Power Outputs of the three channels shall be 300W RMS High Frequency section, 1000W RMS Mid high frequency section, 1600W RMS Mid bass frequency section. The Power Amplifier-Controller shall have an operating bandwidth of 100Hz to 30kHz and an operating distortion factor of less than <math><0.05\%</math> across all output channels. The Power Amplifier-Controller shall have electronically balanced XLR input connectors, with XLR thru and insert connectors. Output connectors shall be 6 pin Amphenol AP6. The front panel controls will have 2channel Bass speaker selection switches, +/-6dB Bass level controls, selectable input impedance switch, full range operation switch and double system Eq switch. The Power Amplifier-Controller shall have front panel indicators for Power, Limit/Thermal and Improper use and a 5 segment LED level input indicator. A large Thermal Breaker switch shall be used for switch on/off. The Power Amplifier-Controller shall have a Neutrik PowerCon connector for mains supply, with an operating voltage range of 100 to 120V @ 60Hz, 205 to 260V @ 50Hz. A soft start circuit will limit inrush power. The Power Amplifier-Controller shall have recommended Amperage of 20A @115V, 10A @230V, 10A @250V. 2 x Temperature controlled variable speed fans will assist internal convection cooling systems.

The Amplifier chassis and enclosure shall have dimensions of 177 mm / 7.0" x 481.4 mm / 18.9" x 455.3 mm / 17.9". The total weight will not exceed 30 kg /66lbs.

The Power Amplifier-Controller shall be the KV2 Audio VHD2000. The Power Amplifier-Controller shall be specifically for the VHD2.0.

## Dimensional Drawings



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