zenitel

DATASHEET
PAVA
V2000 / V2000-R2

- ✓ Amplifier mainframe
- ✓ 2U 19" compact rack mount enclousure
- ✓ High Power density up to 2000 W
- ✓ 10 hot-swappable amplifier slots
- ✓ Internal or external standby options
- ✓ Very high efficiency & low standby current
- ✓ Integrated EN 54-4 charger
- ✓ Part of the Zenitel EN 54 Certified PAVA System

V2000 / V2000-R2

PAVA **Amplifier Mainframe** 2000W

Zenitel's V2000 is an ultra-compact 2U, 19" rack-mount Public Address and Voice Alarm amplifier mainframe, designed to work seamlessly with Zenitel's modular D-Series Amplifiers and LSZDC Interface Cards. It can accommodate up to 10 individual amplifiers, delivering a maximum total power of 2000 W, making it a powerful, scalable, and flexible solution. Supplied unpopulated, the V2000 allows amplifier cards to be installed as needed, thus optimising power efficiency and cost-effectiveness.

Controlled and hosted by Zenitel's VIPEDIA Audio Router, it utilises Ethernet for system control and monitoring, while copper line-level audio provides hardware bypass redundancy. This ensures a level of functionality even in the unlikely event of a frame or Audio Router processor failure, enhancing overall reliability.

For larger installations or those requiring extended availability, multiple V2000 units can be strategically deployed, enabling interleaved A/B loudspeaker circuits for improved system resilience. This makes the V2000 a versatile and dependable choice for both simple and complex, large-scale PAVA installations.

Voice Alarm applications

In adherence to industry standards, the V2000 solution is EN 54-16 certified as part of the Zenitel PAVA system. In addition, it features an integrated battery charger compliant with EN 54-4, designed for use with multiple 12V VRLA batteries to deliver a 24V DC supply. Capable of recharging up to 80Ah in full compliance with EN 54-4, this eliminates the need for an external charger, streamlining installation and reducing cabinet space requirements.

The V2000 provides comprehensive monitoring of processors, power supplies, amplifiers, and loudspeaker circuits. Any detected faults are promptly reported to the Audio Router and categorized in accordance with EN 54-16 requirements.

Ease of diagnostics

The V2000 features integrated LEDs to display the status of the mainframe processor and amplifiers, allowing for quick visual assessment of system operation and identification of any potential issues. This status information is also accessible through IP-based tools, enabling remote access to streamline troubleshooting and maintenance activities.

Multi-functional power supply

The V2000 is equipped with a versatile power supply that supports both 230V and 110V AC operation, alongside a secondary 24V DC supply typically connected to a local battery pack. The dual supply sources provide redundancy and adaptability to a wide range of operational scenarios.

Modular Design

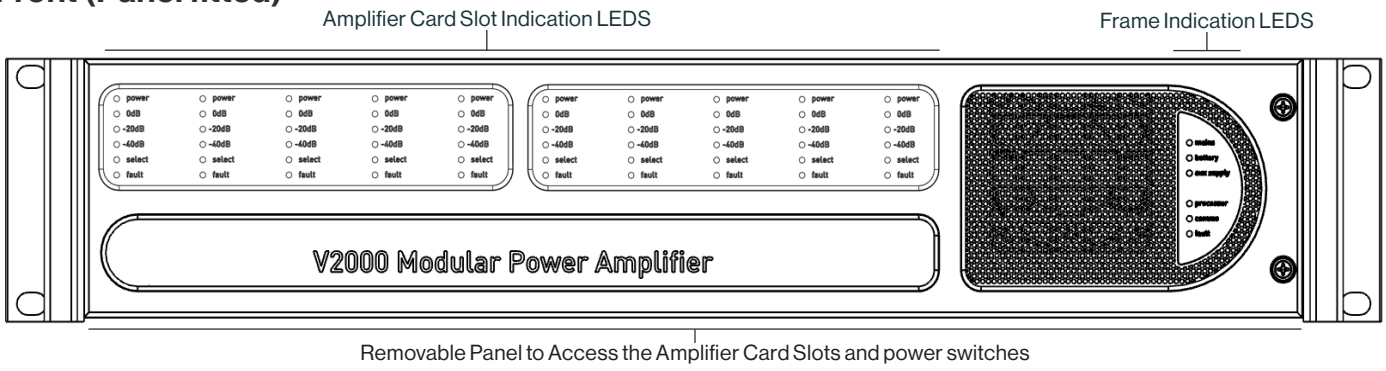
The V2000 mainframe supports Zenitel's D-Series amplifier, which are available in two variants; D500 (max power rating 500W) and D150 (max power rating 150W). These lightweight transformerless modules are hot-swappable and software configurable, allowing for flexible allocation of amplifier power within the mainframe's 2000W total capability, optimizing both space and power efficiency.

The amplifier inputs and outputs, are connected via the LSZDC interface modules, with options for single or isolatable A/B dual circuit output feeds. Additionally, the LSZDC modules may be configured to monitor the following system parameters: Input signal (0dBu nom), amplifier functionality, loudspeaker line integrity using DC, Impedance or Loop-Back surveillance techniques.

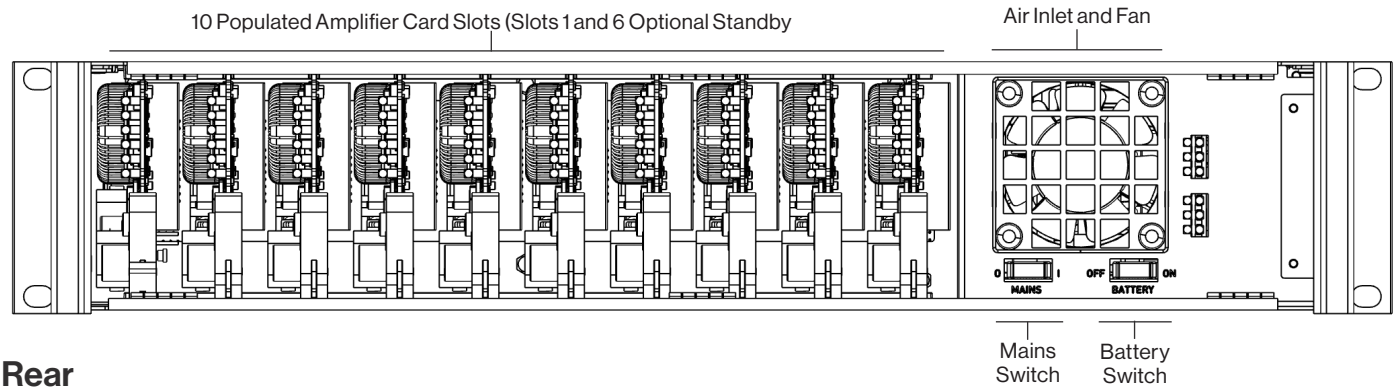
Standby amplification can either be configured as self-contained within each individual V2000 mainframe or housed in a separate V2000 mainframe within the rack, in which case the optional V2000-STBY module will be required.

MECHANICAL

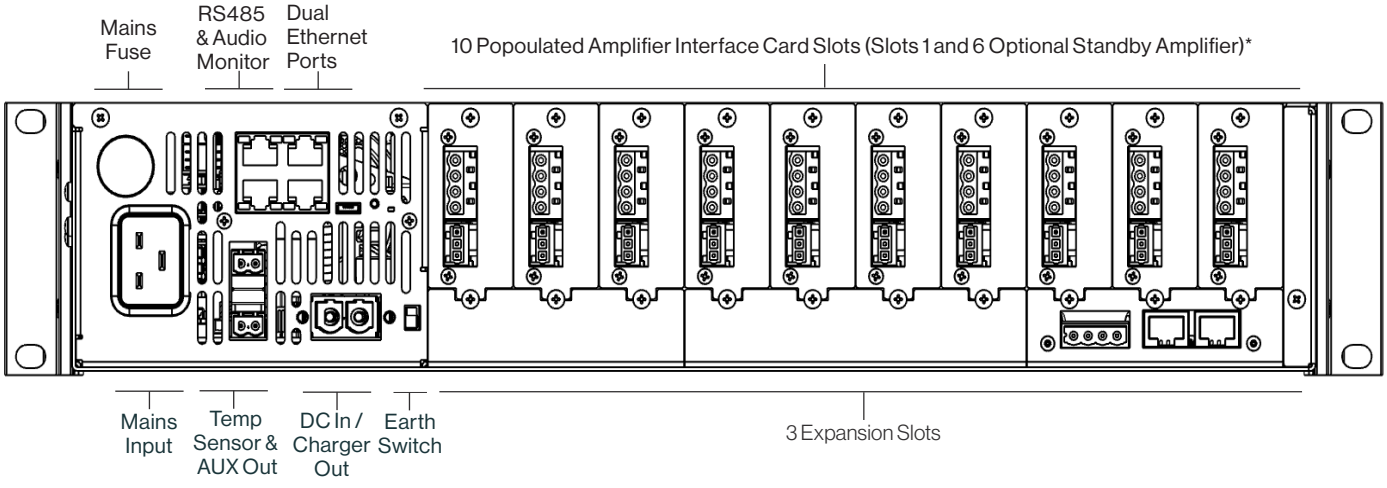
Front (Panel fitted)



Front (Panel removed)

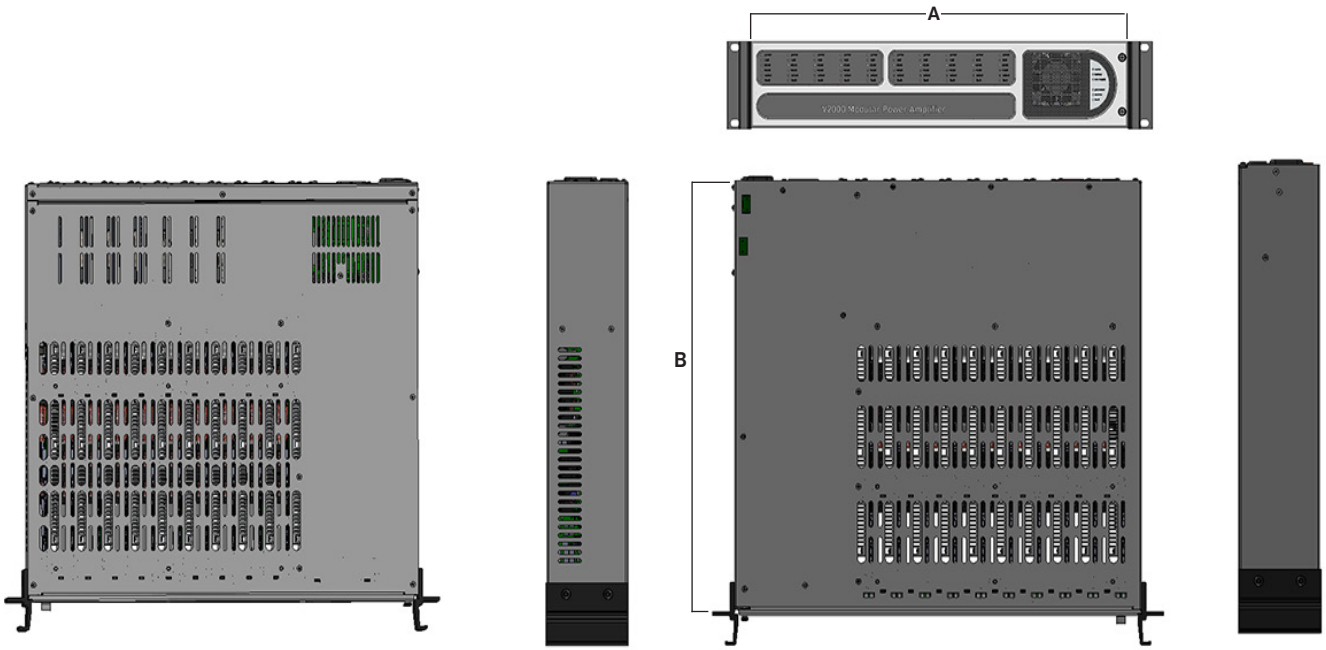


Rear



* The LSZDCs, D500/D150 amplifier cards, and V2000-STBY interface shown above are for reference only. The V2000 is supplied unpopulated.

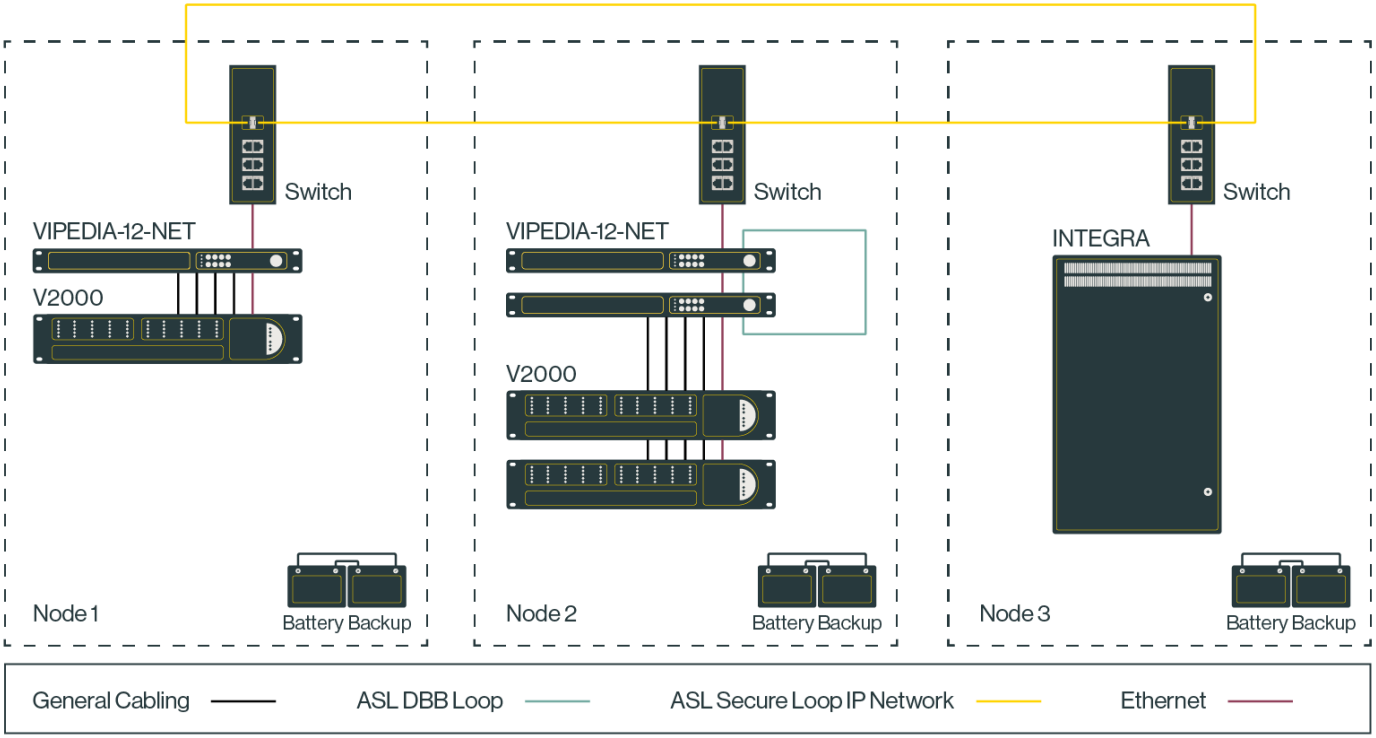
Views & Dimensions



Dimension (Excludes Handles)		
A	Width (W)	436 mm
B	Depth	425 mm
C	Height	86 mm (2U)

TYPICAL ARCHITECTURE

The example below shows a distributed multi-node system with various V2000 mainframes hosted locally on the VIPEDIA Audio Router. The diagram also show interoperability with Zenitel's INTEGRA range of wall-mount products. Please refer to System Design guide for details on cooling and cabinet allocation.



SPECIFICATIONS

Supply Voltage	
AC Supply	230 V (+25% / -16%)
	110 V (+10% / -15%)
AC Supply Frequency .	50-60 Hz
Inrush Current (max)	21 A
Maximum AC VA Rating (50% Full Power Sinewave).	2200 VA (230 V AC Supply)
	900 VA (110 V AC Supply)
Maximum AC VA Rating (100% Full Power Sinewave)	
	3800 VA (230 V AC Supply)
	1650 VA (110 V AC Supply)
DC Supply	21-28 V Nominal 24 V lead acid battery pack
Quiescent DC Current No Amplifiers	80 mA @ 24 V DC
Maximum DC Current per D500 Amplifier	28 A @ 24 V DC
Auxiliary DC Supply Output	
DC Voltage	20 V to 29 V depending on AC or DC supply
Rated Continuous Maximum Output Current (Imax. a)	2 A
Minimum Loading (Imin)	0 A
DC Supply Input & Charger	
Input/Output Voltage	21 to 28 V (Nominal 24 V Battery)
Maximum Battery Charging Current	3A
Maximum value of internal battery resistance for which unit functionality can be maintained (Ri max)	60 mΩ
Charging Time[1]	<24 hours to charge to 80% capacity
	<72 hours to charge to 100% capacity

1. Charging Time and Temperature Compensation for two serially connected YUASA NPL65-12IFR or Power Sonic PS-12750 FR, PG-12V75T FR, PG-12V65 FR or PG-12V80 FR batteries.

Amplification	
Amplifier Cards (D-Series)	150 W or 500 W Modules Sold Separately
Interface Cards (LSZDC)	Sold separately
Maximum Output Power	2000W (230 V AC Supply)
	1000W (110 V AC Supply)
Number of Amplifier Card Slots	10 out of the 10
Number of Standby Card Slots	2 out of the 10

Mechanical	
Dimensions (H x W x D)	86mm x 436mm x 425mm (Excludes Handles)
Mounting	19-inch rack mounting (2U)
Finish	Low Smoke / Zero Halogen
Colour	Silver & Black
Weight (Frame only)	7.7 kg
Weight (Frame fitted with 10 Amplifiers / Interfaces)	15 kg
Environmental	
Operating	-10°C to +55°C
Storage	-20°C to +55°C
Humidity Range	0% to 93% non-condensing
Ingress Protection	IP20
Software, Tools and Management	
Configuration Tools	IP based tools
Software Audio Router	
VIPEDIA-12-NET / VIPEDIA-12-PRO	PAVA DSP Audio Router
Software Compatibility	
V2000	Software Bundle ≥V1 LTS
V2000-r2	Software Bundle ≥V4 LTS
Approvals & Standard Compliance	
Voice Alarm	EN 54-16 / EN 54-4
Rail Applications	EN 50121-4
Electromagnetic Compatibility Directive (Emissions & Immunity)	EN 61000 series / EN50130-4
Low Voltage Directive (Safety	EN / UL / IEC 62368-1
Conformity	CE / CPR / UKCA
Environmental	RoHS / REACH
Part Codes	
V2000	PAVA Amplifier Mainframe up to 2000W /1000W /10 Channel (0 amplifiers)
V2000-r2	PAVA Amplifier Mainframe up to 2000W /1000W /10 Channel (0 amplifiers) Revision 2 Hardware
Compatible Hardware	
D150	PAVA Amplifier Card for the V2000 up to 150W
D500	PAVA Amplifier Card for the V2000 up to 500W
LSZDC	PAVA Amplifier Interface Card for the V2000
V2000-STBY	PAVA Standby Linking Interface Card for the V2000
RAK-FAN-01	Fan tray for the V2000
RAK-DUCT-01	Ducting for the V2000 Fan Tray
V2000-BDIST	Battery Breaker for the V2000
V2000-POK-01	V2000 Power Output Card Kit

Manufactured by Zenitel GB Limited
Unit 17, Cliffe Industrial Estate, Lewes, East Sussex, BN8 6JL, UK

www.zenitel.com
sales@zenitel.com
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