

V600:4 Power amplifier, 600W, 4 channel



- 4-channel amplifier, with a total powerTANK capacity of 600 W
- Variable Load Drive (VLD) providing the same power into 4 Ω , 8 Ω , 70 V or 100 V
- ecoRAIL and APD deliver significant reduction in power consumption
- dualCOOL convection cooling with additional intelligent fan in case of extreme thermal conditions
- Comprehensive protection package for reliable operation

The V600:4 is a 600 W power amplifier with powerTANK technology that flexibly delivers the total power over its 4 channels.

The amplifier is ideally suited to background music and clear voice announcement applications such as:

- Bars and restaurants
- Retail outlets
- Education
- Houses of worship
- Museums and galleries
- Transport hubs
- Conference centers

Functions

powerTANK

powerTANK is a reservoir of available amplification power that is deployed flexibly across the 4 channels of the amplifier. There is no need to set up the powerTANK as it adapts to the requirements of each zone or output without extra manual configuration of each individual channel.

Variable Load Drive

Variable Load Drive (VLD) ensures that the powerTANK capacity is utilized efficiently, providing consistent power to any channel with any impedance.

dualCOOL

The dualCOOL thermal design means that the amplifier typically operates as a convection cooled amplifier, but in extreme thermal conditions the amplifier is also equipped with an intelligent multi-speed fan to ensure maximum performance and reliability in any application.

ecoRAIL

ecoRAIL's power consumption is similar to a regular standby level, yet ecoRAIL still produces audio output suitable for background music levels, and the Auto Power Down (APD) mode can be engaged to further reduce power consumption to less than a watt when there is no signal present for extended periods.

Line input

The single cable installation feature is compatible with AES72-1E (RJ45 connectors) wired devices. This solution provides easy installation for all four channels without needing to wire all the connections individually.

PFC power supply

Equipped with a PFC power supply and protection features usually reserved for the professional power amplifiers, means that the amplifier resists complete shutdown situations and will always perform at its best under all conditions.

Architects' and engineers' specifications

The 4-channel amplifier shall have a total power of 600 W, be able to adapt the power of the output channels with power sharing in either 4 ohm, 8 ohm, 70 V or 100 V conditions on any channel simultaneously. The amplifier housing shall be a 1" rack unit size design. The amplifier shall have a thermal design that can operate as passive cooled device, but also be able to activate forced air-cooling when required under extreme conditions, to avoid reduction in available power. The reliable thermal operating range of the device shall be < 45 °C without reduction or shutdown. The amplifier shall have an automatic power down mode that can be turned on or off with a standby consumption of < 1 W. The amplifier shall also have a low power consumption feature whereby significant power consumption is reduced maintaining the output modulation suitable for background music. The amplifier shall be able to connect audio as either input or through to other devices using the AES72-1E wiring scheme. The amplifier shall be equipped with a PFC power supply and protections to ensure reliable and safe operation including High Frequency Limiter (HFL), Output Current Limiter (OCL), Rail Supervision Limiter (RSL), High Frequency Protection (HFP), DC Protection (DCP), Over Current Protection (OCP), Mains Fail Protection (MFP), Output Balance Protection (OBP), Over Temperature Protection (OTP), Over Voltage Protection (OVP).

The amplifier shall be the Dynacord V600:4 power amplifier.

Technical specifications

Electrical

Output power	4 Ω	8 Ω	70 V	100 V
Rated output power ¹	4 x 150 W			
Maximum output power per channel (power sharing) ¹ at minimum impedance	500 W	600 W	500 W	600 W
Total rated output power ¹	600 W			
Number of channels	4			
Output voltage rated output power	24.5 V _{RMS}	34.6 V _{RMS}	70.7 V _{RMS}	100 V _{RMS}
Maximum output voltage	40.0 V _{RMS}	56.0 V _{RMS}	70.7 V _{RMS}	100 V _{RMS}
Rated impedance per channel	4 Ω	8 Ω	33.3 Ω	66.7 Ω
Minimum impedance per channel	2.6 Ω	4 Ω	10 Ω	16.7 Ω

Amplifier	4 Ω	8 Ω	70 V	100 V
Nominal gain (+6 dBu input sensitivity, LEVEL 0 dB)	24.0 dB	27.0 dB	33.2 dB	36.2 dB
Maximum gain (0 dBu input sensitivity, LEVEL +6 dB)	30.0 dB	33.0 dB	39.2 dB	42.2 dB
THD+N (1/8 rated output power, 1 kHz)	< 0.1 %			
Crosstalk (ref. 1 kHz, 12 dB below maximum)	< -70 dB	< -75 dB	< -90 dB	< -95 dB
Frequency response ² (ref. 1 kHz, analog in to speaker out, -3 dB)	HP: 30/100/150 Hz to 20 kHz LP: 30 Hz to 150 Hz	HP: 50/100/150 Hz to 20 kHz LP: 50 Hz to 150 Hz		
Damping factor (30/50 Hz to 1 kHz, ref. to rated impedance)	> 80	> 160	> 500	> 1000
Output stage topology	Class D, fixed frequency			
Signal to noise ratio (A-weighted, ref. to rated output power, LEVEL 0 dB)	> 98 dB	> 100 dB	> 101 dB	> 103 dB
Output noise (A-weighted, LEVEL 0 dB)	< -68 dBu	< -67 dBu	< -62 dBu	< -61 dBu

Connectivity

Analog audio input	
Type	2 x 6-pin Euroblock, 3.81 mm, male, parallel 1x RJ45 (AES72-1E)
Maximum input level (LEVEL 0 dB)	+18 dBu
Input impedance, active balanced	20 kΩ
Mains Input	IEC C14
Loudspeaker output	2 x 4-pin Euroblock, 5.08 mm, female
Control Port	
Type	1 x 5-pin Euroblock, 3.81 mm, male
REMOTE ON	Remote On / Standby contact (overrides power button on front panel)
READY/FAULT	Galvanic isolated relay, max. 30 V _{DC} / 500 mA _{DC}

General

Signal processing	Input routing, HPF 24 dB/Oct. selectable 100/150 Hz, LPF 24 dB/Oct. selectable 150 Hz, Flat, Peak limiter
Power requirements	100 V to 240 V, 50 Hz to 60 Hz AC
Power consumption	
Consumption at 1/8 rated output power	115 W
Idle mode (ecoRAIL with no input signal)	< 20 W

General	
Standby mode (APD active)	< 1 W
Power supply topology	Switching power supply with power factor correction
Protections	Audio limiters, high temperature, DC, HF, short circuit, back-EMF, peak current limiters, inrush current limiters, mains over/under voltage protection
Front status LEDs	Signal, limit, fault LEDs per channel; power LED

Environmental

Climatic conditions	
Cooling concept	Convection cooling in tabletop application and rack application with spacing between units. Forced cooling (side to rear) in rack

Climatic conditions	
	application without spacing between units and in extreme thermal conditions.
Ambient temperature limits	-5 °C to +45 °C (+23 °F to +113 °F)
Altitude (operating)	-500 m to +5000 m (-1614 ft to 16404 ft)

Mechanical

Enclosure	
IEC Protection class	Class I (grounded)
Dimensions (HxWxD)	
With 19" mounting brackets	44.2 x 483 x 269.5 mm (1.74 x 19.2 x 10.6 in)
Weight	3.6 kg (7.9 lb)

¹⁾ Test signal for max. output power according IHF-A-202 (Dynamic-Headroom, burst 1 kHz / 20 ms on / 480 ms off / low level -20 dB)
²⁾ Selectable via Filter.



Fig. 1: Back view

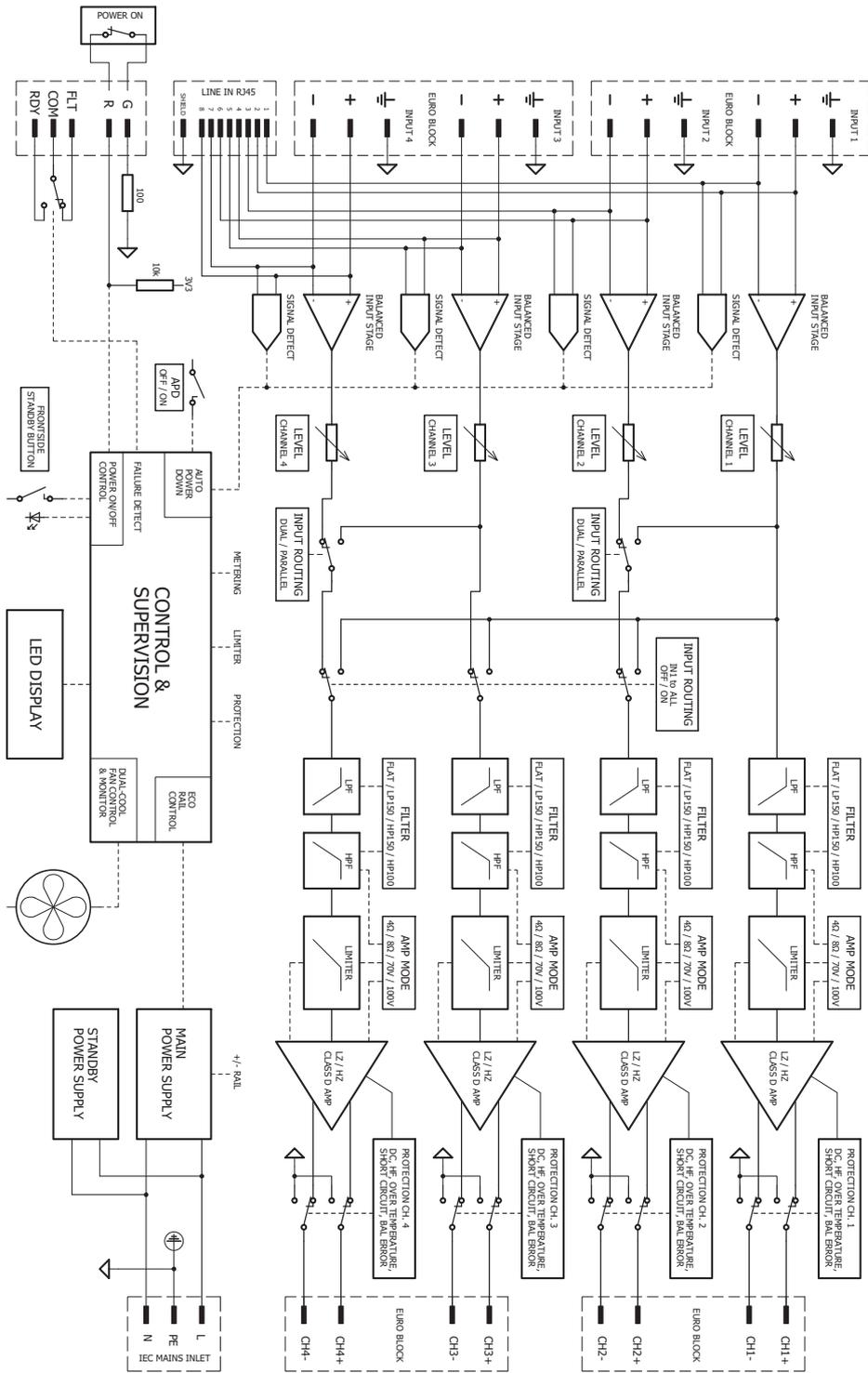


Fig. 2: Block diagram

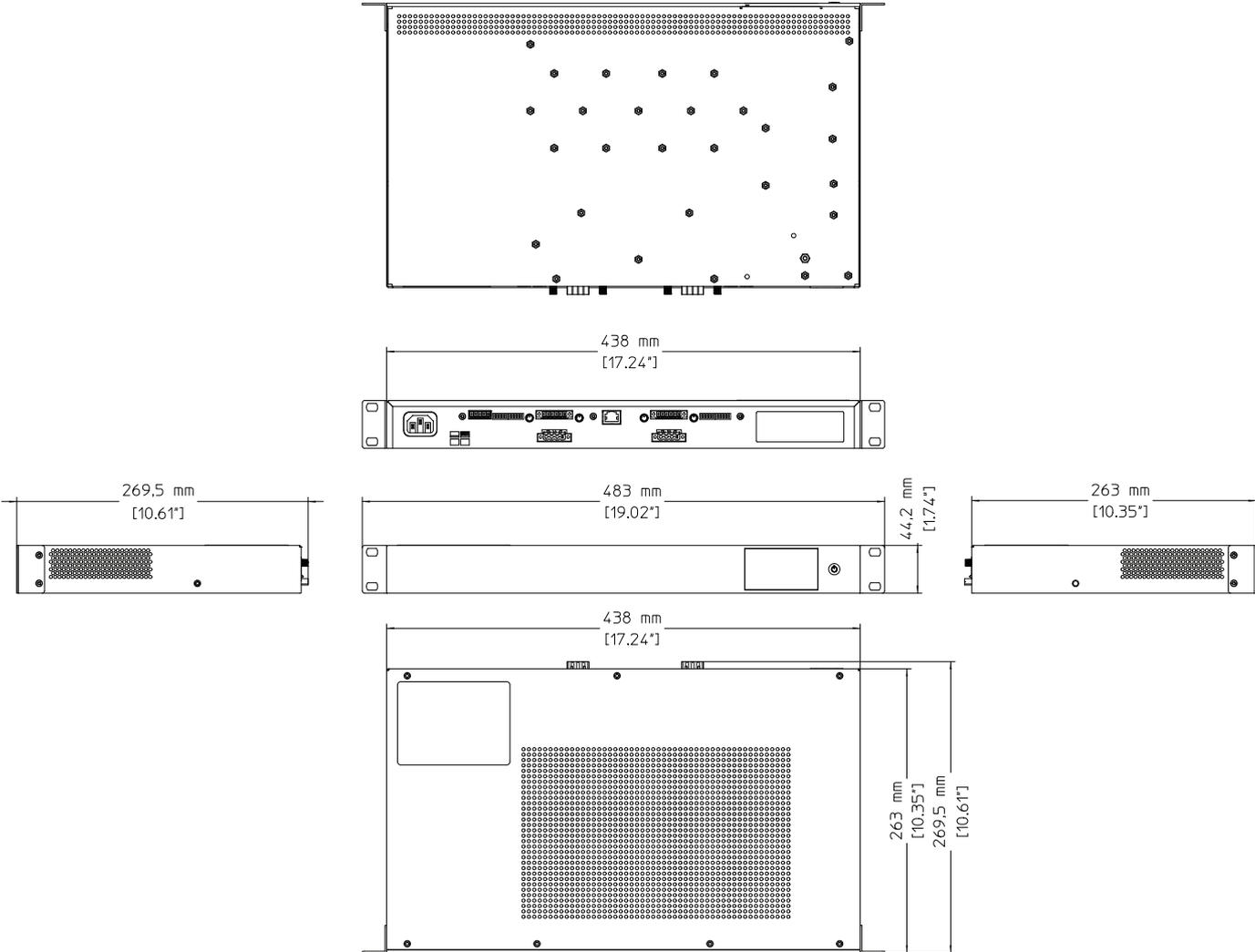


Fig. 3: Dimensions

Ordering information

V600:4-US Power amplifier, 600W, 4 channel, US

4-channel, 600 W power amplifier with power sharing.

Order number **V600:4-US | F.01U.409.544**

V600:4-CN Power amplifier, 600W, 4 channel, CN

4-channel, 600 W power amplifier with power sharing.

Order number **V600:4-CN | F.01U.409.545**

V600:4-EU Power amplifier, 600W, 4 channel, EU

4-channel, 600 W power amplifier with power sharing.

Order number **V600:4-EU | F.01U.409.543**

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