



RAM

Audio®

V Series

Heavy Duty Power Amps



Technical Specifications

	V-6000	V-9000	V-12000	V-9004	V-9044	V-12004	V-12044
Output Power							
<i>1kHz, 1.0% THD+N</i>							
@ 2Ω	2x 3025 W	2x 4400 W	2x 5900 W	4x 2260 W	-	4x 3025 W	-
@ 4Ω	2x 1600 W	2x 2300 W	2x 3100 W	4x 1150 W	4x 2200 W	4x 1600 W	4x 2950 W
@ 8Ω	2x 820 W	2x 1200 W	2x 1600 W	4x 600 W	4x 1150 W	4x 820 W	4x 1550 W
Bridge @ 4Ω	6050 W	8800 W	11800 W	2x 4520 W	-	2x 6050 W	-
Bridge @ 8Ω	3200 W	4600 W	6200 W	2x 2300 W	2x 4400 W	2x 3200 W	2x 5900 W
Frequency Response							
Power Bandwidth ±0.25dB	20Hz-20kHz						
Phase Response							
@ 1 watt 20Hz-20kHz	±15 deg						
Total Harmonic Distortion							
20Hz-20kHz	<0.05%						
Intermodulation Distortion							
SMPTE	<0.05%						
Damping Factor							
20-500Hz @8Ω	>500						
Crosstalk							
20Hz-20kHz	>80dB						
Voltage Gain 26dB to 38dB (0.5dB steps)							
Sensitivity							
Rated Power (26/32/38dB Gain)	4/2/1 V	4.9/2.5/1.2 V	5.7/2.8/1.4 V	3.5/1.7/0.9 V	4.8/2.4/1.2 V	4.1/2/1 V	5.6/2.8/1.4 V
Signal-to-Noise Ratio							
20Hz-20kHz	113dB	115dB	116dB	112dB	115dB	113dB	116dB
Required AC Mains							
Operating Voltage (50Hz-60Hz)	170V-265V AC						
Power On Idling (@230V)	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A	0.5 A
1/8 Rated Power (@230V min. Z)	7 A	10 A	13 A	11 A	10 A	14 A	13 A
Dimensions							
W x H x D (mm)	483x89x460						
W x H x D (inches)	19x3.5x18.1						
Weight							
Net (Kg-Lbs)	10-22.1	12-26.5	12-26.5	12-26.5	12-26.5	12-26.5	12-26.5

Protections

Soft-start, Muting at turn-on/turn-off, Over-heating, DC, RF, Short-circuit, Open or mismatched loads, Overloaded power supply, Mains Overvoltage (up to 400V AC), ICL™, PMS™, SSP™ and FCM™

The touring, live, big gigs world is not a trivial matter for an amplifier to work on. Every performing condition is hard: stressful music, high ambient temperature, suboptimal mains service, carelessly transport, dirty places, long working schedules and so on. So, the product that has to cover these challenging performances has to be robust, naturally strong, but performing the same audio quality as in a full care environment. The task mandates a top class gear and RAM Audio is proud to answer with the V Series... not conventional machines.

V Series implement dual oversized regulated SMPS with PFC front end to deliver their full performances independently of mains status or load requirements. An oversized high efficiency and bandwidth audio power stage is the responsible of audio power and quality. The cooling system is the guard who cares of maintain every power device into its operating temperature boundaries forcing into the case fresh air through an optimal path. The air filters and the upside down assembly guarantees a reliable operation into dirty environments.



Features

- PFC QuantaPulse™ Regulated Dual SMPS
- Digital Control with extra large blue LCD display user interface
- USB port for firmware update and DSP control
- Digital Potentiometers with Encoder control
- RAM Audio® Power Management System (PMS™)
- Hi Efficiency, Heavy Duty Audio Power section for extreme use
- Easily removable front panel dust filters
- Industry standard Neutrik® XLR (IN+LINK) and Speakon® connectors
- Optional low latency high performance DSP with post-DSP signal links
- Optional EtherAM II Ethernet monitor and control system
- Optional CobraNet™ audio transport and AES/EBU Digital input

Protection Systems:

- **PMS™**: *Power Management System*. This is a complete set of protections that monitors the main amp parameters, in order to draw from the power supply only the precise amount of current required to maintain safe operation during hazardous or extreme working conditions. This system controls the amount of power that the amp delivers under two basic circumstances:
 - When internal temperatures rise to near thermal shutdown point due to abnormal operating conditions.
 - Excessive mains current consumption under laboratory conditions or in conditions of prolonged acoustic howl-round.
- **SSP™**: *SOA Sentry Protection* effectively limiting the power that the amp could deliver into an incorrect load or to a direct short-circuit. This avoids power transistor failure.
- **ICL2™**: improved *Intelligent Clip Limiting*, to avoid speaker failure and provide more acceptable sound quality even when clipping occurs. With the ICL™ system you don't lose the music punch but the speakers are kept under control.
- **FCM™** *Faulty Channel Management* system to avoid entire device shutdown



Display Menu features

- **Channel Temperature:** shows the percent of maximum temperature
- **Display Mode:** change between *Channel Attenuation* or *VU meter* mode
- **Operating Time:** shows the amplifier total time operation
- **Preset Manager:** to change quickly the amplifier preset configuration
- **Input Links:** you can Link the input signal to the next channel
- **Amplifier Gain:** change the gain for each channel from 26dB to 38dB
- **Amplifier Mode:** it configures the amplifier in *Dual* or *Bridge* mode
- **Attenuators Link:** to modify the output level for all channels simultaneously
- **ICL Clip Limiter:** you can turn on/off the ICL Clip Limiter for all channels
- **Password protection:** to prevent any modification of the configuration



DSP Module (optional)

The Digital Signal Processor is real time fully programmable through USB or Ethernet network (optional) or directly from the front panel. There are two different versions: 4 Inputs/4 Outputs or 2 Inputs/2 Outputs totally free route configurable. Both versions include post-processor signal XLR output connectors to link the processed signal to another amplifier without DSP. You can save more than 50 presets directly in the amplifier. The main characteristics are:

- 56 bit double-precision floating-point DSP process
- 120dB dynamic range
- High performance 24bit, 512x Oversampling AD/DA Cirrus converters
- 0.6ms latency for IIR filters

Input Section:

- Gain, Mute and Phase inversion per input
- Input Delay: 0 to 80 meters (230ms) per input
- Input EQ: 29 parametric filters or 29 band Graphic EQ per input
- Signal Generator: Pink/White noise and 20Hz-20kHz sine wave

Output Section:

- Crossover Filters: FIR (Linear-phase) and IIR 48dB/oct (Butterworth/Linkwitz-Riley/Bessel)
- Output Delay: 0 to 18 meters (50ms) per channel
- Output EQ: 20 filters per channel (Parametric, Shelving, LP, HP, BP, SB)
- Gain, Mute and Phase inversion per channel
- RMS Power and Peak Voltage variable knee limiter per channel



Module Options

AES/EBU Digital Input: Input for digital audio signal AES/EBU (AES3) standard via Neutrik® XLR. Its Sample Rate Converter permits 16 or 24 bits resolution operation from 32kHz to 96kHz Sample Rate.

CobraNet™ Audio Transport: digital audio network interface module which permits the reception of audio signal through an Ethernet network.

EtheRAM™ II Control Module: permits the control and monitoring of an installed group of Power Amps, connected to a standard Ethernet network. For it you can use third party control system as Crestron®, AMX® or third party software as Stardraw Control®.