



# Vs650 POWER AMPLIFIER

## Product Information

The Crest Vs650 integrates cost-effective design with exceptional sonic accuracy, long-term reliability, and basic features required for a variety of professional applications.

The Vs650's remarkable price/performance ratio is the result of innovative engineering and highly efficient manufacturing in Crest's modern USA facility—along with nearly two decades of leadership in professional amplifier design. However, no compromises in component selection or quality control were permitted as a shortcut to cost reductions. In every respect, the Vs650 embodies the Crest Audio tradition of roadworthy ruggedness and reliability. For example, the Vs650 includes the same TourClass® protection features as found in Crest's CA, CKS, CKV and CKX Series amplifiers. That means the Vs650 will endure virtually any type of mishap or system stress—from uncontrolled 'upstream' oscillation to extreme ambient heat or accidental shorting—without damage to internal circuitry or connected speakers.

Equally suited to permanent installation or mobile applications, the Vs650 offers a welcome balance of exceptional audio performance and overall value.

## Vs650 Features

- **Robust "Over-built" Power Supply** - Massive filter capacitors and a high output custom transformer provide ample current for solid bass performance, even when driving low impedance loads.
- **More Output Transistors** - By using more output devices than many comparable competitive models, the Vs650 puts less stress on each device for a wider safe operating area (SOA) and long-term reliability.

- **Wide-Band Design** - Frequency response extends from 10Hz to 20kHz (-3dB at 165kHz), ensuring powerful sub-bass performance as well as detailed, transparent high frequency response.
- **Effective Cooling** - Large, extruded aluminum heatsink and front-mounted, two-speed 4-inch fan minimize internal temperatures to prolong amplifier life.
- **Rated for Sustained Operation into 2Ω Loads**
- **Front Panel Magnetic Circuit Breaker/Power Switch** - Eliminates need for AC line fuses.
- **TourClass Protection Circuits**
  - ACL (Active Clip Limiting) prevents speaker damage with gentle gain reduction at clip threshold.
  - IGM (Instantaneous Gain Modulation) monitors connected loads to detect conditions that may overstress output devices, allowing safe operation into nominal 2Ω impedances.
  - AutoRamp gradually increases gain to attenuator setting level when the amplifier is turned on.
  - TourClass also includes protection from thermal runaway, input overload, DC, short circuit, in-rush current, and turn-on/turn-off transients.
- **Rear Panel Detented Attenuators**
- **Differentially-balanced 1/4" TRS and Barrier Strip Input Connectors**
- **Five-Way Binding Post or Speakon Output Connectors (market dependent)**
- **LED Indicators for Signal Present and Clip (each channel), Active, and Protect**
- **Stereo/Bridged Mono Mode Select Switch**
- **Five Year Warranty\***



Power Specifications	8Ω Stereo	4Ω Stereo	2Ω Stereo	8Ω Bridged	4Ω Bridged
1kHz, 1% THD+N	200W	325W	425W	650W	850W

Figures are Watts per channel, both channels driven.



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## SPECIFICATIONS

8Ω Stereo Power †	200 Watts
4Ω Stereo Power †	325 Watts
2Ω Stereo Power †	425 Watts
8Ω Bridged Power †	650 Watts
4Ω Bridged Power †	850 Watts
Max RMS Output Voltage (each channel)	44.5V
Peak Output Voltage (each channel)	126V
Frequency Response (+0/-0.3dB, 1W/8Ω)	10Hz-20kHz, -3dB @ 165kHz
Power Bandwidth (Rated power at 4Ω, 1% THD+N)	20Hz-20kHz
TourClass Protection	ACL, IGM, AutoRamp, short circuit, DC voltage, turn-on/off transient, current inrush, sub/ultrasonic input.
THD+N (rated power at 4Ω, 1kHz)	<1.0%
SMPTE IMD (rated power at 8Ω, 60Hz & 7kHz)	<0.1%
Damping Factor (10-400Hz at 8Ω)	>800:1
Input CMRR (1 kHz)	> -64dB
Input Sensitivity (rated power at 8Ω)	.775V
Voltage Gain	X46
Input Impedance (balanced/unbalanced)	>20kΩ/>10kΩ
Hum & Noise (“A” weighted, full power at 4Ω)	-105 dB
Crosstalk (“A” weighted, full power at 4Ω)	> -60 dB
Class	AB
Input Connectors (per channel)	TRS (tip +) & Barrier Strip
Output Connectors (per channel)	5-way binding posts or Speakon (market dependent)
Filter Storage	36,000 μF
Power Supply (factory configured)	100V-240V, 50-60Hz
Idle Current Draw (120V)	1.6A
1/8 Power Curr. Draw (typical music, 120V/4Ω)	6.4A
1/3 Power Curr. Draw (continuous music, 120V/4Ω)	7.8A
Max Curr. Draw (circuit breaker rating, 120V/4Ω)	12.0A
Thermal Emissions (1/8 Power, 4Ω)	1460 BTU/hr
Thermal Emissions (1/3 Power, 4Ω)	2100 BTU/hr
Cooling	Front to Side via one 110 CFM, 2-Speed AC fan
Controls	Front panel: magnetic circuit breaker/power switch. Rear Panel: 2 attenuators, mode select switch.
LED Indicators	1 Clip, 1 Signal per channel, Protect, Active
Construction	14 gauge steel
Dimensions (Height x Width x Depth)	5.25" x 19" x 12" / 133 x 483 x 305mm
Gross Weight, Net Weight	41 lbs. / 18.6 kg., 39 lbs. / 17.7 kg.
Warranty	5 years*

### Architect's & Engineer's Specifications

The power amplifier shall have two channels. Each channel shall deliver a minimum of 200 watts at 8 ohms, 325 watts at 4 ohms and 425 watts at 2 ohms, 1kHz, 1% THD+N. In bridged mono mode, it shall deliver 650 watts at 8 ohms and 850 watts into 4 ohms, 1kHz, 1% THD+N.

The amplifier shall be front-to-side cooled, with a two-speed AC fan.

The amplifier shall have circuitry to protect itself and the speaker load from output short circuits, DC voltage on outputs, and thermal overload.

The amplifier shall include circuitry to gradually increase gain to attenuator setting levels when the amplifier is turned on, and circuitry for impedance sensing and active clip limiting.

The amplifier shall have a voltage gain of X46 with an input sensitivity of .775V for rated power at 8 ohms. THD+N shall be less than 1.0% at 4Ω, 1kHz. The hum and noise level shall be 105 dB below rated output, “A” weighted. SMPTE IMD shall be less than 0.1%, rated power at 8Ω, 60Hz and 7kHz. The amplifier shall have a class AB output stage. The frequency response shall be greater than 10Hz-20kHz, +0/-0.3dB, 1W/8Ω.

The amplifier shall operate at 100V-240V, 50-60 Hz AC (configured at factory). Maximum current draw shall not exceed 12 amperes at 120VAC, (circuit breaker limited), with both channels driven continuously into a 4 ohm resistor.

A combination power switch/magnetic circuit breaker shall be mounted on the front panel. Front panel indicators shall include an “Active” LED, a “Protect” LED, “Signal” LED and a “Clip” LED (one per channel).

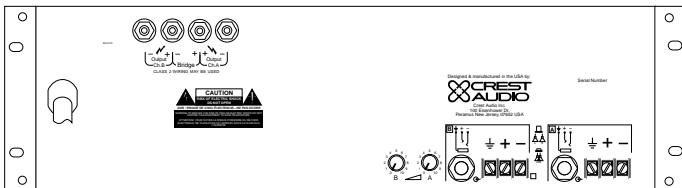
Gain attenuators shall be rear panel mounted. A rear panel Bridge/Stereo mode select switch shall be provided. Rear panel input connectors shall be an actively balanced TRS (tip +), and barrier strip for each channel. Output connectors shall be Speakon connectors or 5-way binding posts (market dependent). Rear mounting ears shall be provided.

A rear-panel IEC AC mains socket or single AC mains cord having an appropriate AC plug for the intended operating voltage shall be provided (market dependent).

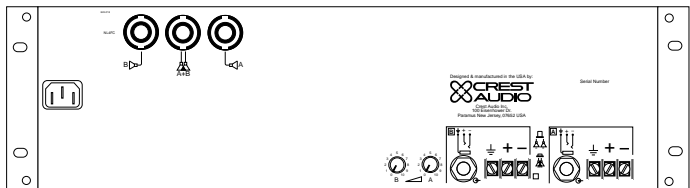
The packaging of the amplifier shall allow for standard rack mounting without requiring space between similar units. Optional rack mount handles shall be available. Dimensions shall be 5.25" (133mm) high x 19" (483mm) wide x 12" (305mm) deep. The amplifier shall have a net weight of 39 lbs. (17.7 kg). The amplifier shall be designated the Crest Audio model Vs650.



### Rear View, Binding Post Version



### Rear View, Speakon Version (not available in North America)



† Power figures are watts per channel, both channels driven, 1kHz, 1% THD+N. \* 3-Year Warranty with 2 additional years is Registration Card is sent to Crest Audio. (USA, UK, Canada, and many other countries). Crest Audio reserves the right to make improvements in manufacturing or design which may affect specification. Crest Audio specification literature is available in downloadable PDF format; visit our website at: <http://www.crestaudio.com>. ©1997 Crest Audio Inc.



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