

# 1999 USA-100HC and VLX-25 Technical Information by



Manufacturer: U.S. Amps Inc.

Product Type: Bridgable two-channel audio amplifier.

Physical Specifications: Size: 2.1" H X 7.5" W X 23.75" L (including terminals)

Weight: 17 lbs.

Material: Heat Sink: Bead-blasted anodized 60/63 aircraft aluminum alloy, T-6 temper. Laser-etched U.S. Amps logo.

End plates: .062" painted steel.

Bottom Plate: .125" clear Plexiglas.

Amplifier Circuit Topology:

Number of Channels: 2

Circuit Board: Mil-spec FR-4 double-sided plated through 2 ounce SMOBC. (so *there!*)

Input: Ground-reinforced dual gold-plated RCA jacks. Input-isolated to effectively eliminate ground loops and subsequent system noise. A built-in voltage dividing network will accept high and low level signal from nearly any source, including most OEM and high-powered BTL units.

Potentiometers: Sealed custom-built 7mm linear taper. Water and dust-proof.

Phase Inversion: The left channel is inverted using a premium Analog Devices AD-714 high-speed op amp to allow for convenient bridging or stereo / mixed-mono operation.

Signal Path Components: All polypropylene capacitors and 1% tolerance resistors.

Operation: Class A-B utilizing isolated triple darlington dual-differential pairs with complementary-symmetry outputs.

Amplifier Filtering: 12,000mfd

Power Rails:

USA-100HC: 24 Volts

VLX-25: 12 Volts

Drivers: Matched triple darlington configuration.

Output Components: Twenty 125 watt 3MHz bipolar transistors. (2,500 watts)

Rated Amplifier Output @ 4 Ohms per Channel:

USA-100HC: 100 Watts

VLX-25: 25 Watts

Amplifier Overage Factor:

USA-100HC: 25:1

VLX-25X: 100:1

Output Signal Delivery: All high level signals exit the circuit board via 8 gauge oxygen-free Ultraflow wire by Esoteric Audio.

External Speaker Connections: Via heavy duty gold-plated 8mm barrier terminal. 8 gauge or larger speaker wire is suggested.

Power Supply: Non-regulated Ultrafet.

Power Requirements: 10-15 volts DC. Over and under voltage protected.

Input Filtering: 16,000mfd low ESR capacitors.

Transformer: Dual hand-wound 2.5" ferrite in master / slave configuration with quad solid copper 14 gauge primary and dual 12 gauge secondary windings.

Oscillation Frequency: 37KHz

Pulse Components: Twenty-four 75 amp 60 volt Ultrafets. (1,800 amps)

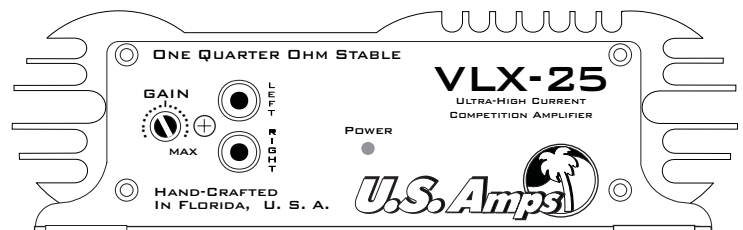
Power Supply Output Current:

USA-100HC: +/-24 Volts @ 60 Amps.

VLX-25: +/-12 Volts @ 60 amps

Overage Ratio: USA-100HC: 15:1 VLX-25: 30:1

Protection: Both models incorporate a non-computerized version of SAT, (U.S. Amps' exclusive Smart Amp Technology) that precisely monitors each amplifier channel, the battery voltage, and amplifier temperature.. In the event of a fault condition, SAT will activate to protect the amplifier from damage.



## SPECIFICATIONS:

### Watts per Channel

	USA-100HC	VLX-25 (Pictured)
4 ohms:	50Watts	12.5 Watts
2 ohms:	100 Watts	25 Watts
1 ohm:	200 Watts	50 Watts
1/2 ohm:	400 Watts	100 Watts
1/4 ohm:	N/A	200 Watts

### Bridged Output:

	USA-100HC	VLX-25 (Pictured)
Bridged Output:	800 Watts @ 1 Ohm	400 Watts @ 1/2 Ohm

### THD:

	USA-100HC	VLX-25 (Pictured)
THD:	<.006%	<.006%

### S/N Ratio:

	USA-100HC	VLX-25 (Pictured)
S/N Ratio:	>100db	>100db

### Frequency Response:

	USA-100HC	VLX-25 (Pictured)
Frequency Response:	5Hz-50KHz	5Hz-50KHz

### Fuse:

	USA-100HC	VLX-25 (Pictured)
Fuse:	225 Amps	225 Amps