

1999 VLX-400 and USA-800 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 40" L (excluding wiring harness)
Weight: 36 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 Boards: 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 an 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:
VLX-400: 24,000mfd
USA-800: 11,280mfd

Power Rails:
VLX-400: 45 Volts
USA-800: 65 Volts

Drivers: Matched triple darlington configuration.
Output Components: Fourty 125 watt 3MHz bipolar transistors. (5,000 watts)

Rated Amplifier Output @ 4 Ohms per Channel::
VLX-400: 400 watts
USA-800: 800 watts

Amplifier Overage Factor:
VLX-400: 12.5:1
USA-800: 6.3:1

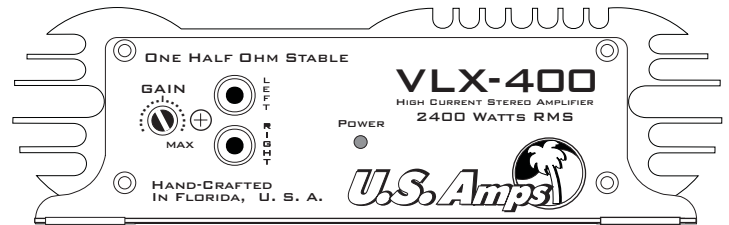
Output Signal Delivery: All high level signals exit the circuit boards via 8 gauge oxygen-free Ultraflow wire by Esoteric Audio.

External Speaker Connections: 12 inches of dual 8 gauge Ultraflow wire. Note: Due to the extreme voltage and current delivery of these two amplifiers, use of speaker terminal blocks rated less than 60A @ 120VAC is not recommended. It is best to hardwire all connections and use at least 8 gauge or larger speaker wire.

Power Supply: Non-regulated Ultrafet.
Power Requirements: 10-15 volts DC. Over and under voltage protected.
Input Filtering: 6,000mfd low ESR capacitors.
Transformers: Four hand-wound 2.5" ferrite cores in dual- channel master-slave configuration. Quad solid copper 12 gauge primary and dual 12 gauge secondary windings.
Oscillation Frequency: 37KHz
Pulse Components: Thirty-two 75 amp 60 volt Ultrafets. (3,600 amps)
Power Supply Output Current:

VLX-400: +/-45 Volts @ 96 Amps.
USA-800: +/-65 Volts @ 70 amps

Overage Ratio: VLX-400: 10:1 USA-800: 9.5:1
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. (But maybe not before it melts some other part of your system. Professional use only.)



<u>SPECIFICATIONS:</u>	VLX-400 (pictured)	USA-800
<u>Watts per Channel</u>		
4 ohms:	200 Watts	400 Watts
2 ohms:	400 Watts	800 Watts
1 ohm:	1200 Watts	1500 Watts
<u>Bridged Output:</u>	2400 Watts @ 1 Ohm	3000 Watts @ 2 Ohms
<u>THD:</u>	<.006%	<.006%
<u>S/N Ratio:</u>	>100db	>100db
<u>Frequency Response:</u>	5Hz-50KHz	5Hz-50KHz
<u>Fuse:</u>	400 Amps	400 Amps