

# 1999 USA-100 and XTERMINATOR 100x Technical Information by **U.S. Amps**

Manufacturer: U.S. Amps Inc.

Product Type: Bridgable two-channel audio amplifier with built-in 2-way electronic crossover and preamplifier output.

Physical Specifications: Size: 2.1" H X 9" W X 10.75" L (including terminals)

Weight: 10 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 low-noise high-speed op amp to allow for convenient bridging or stereo / mixed-mono operation.

Crossover: The full Butterworth 2-way fixed frequency crossover can output either high or low pass signals to a second amplifier at 100z with an 18 db per octave slope in high-pass stereo, or a 24 db per octave slope in low pass mixed mono. The crossover can be defeated to allow full range input and output.

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: 8,000mfd

Power Rails:

USA-100: 24 Volts

X-100: 32 Volts

Drivers: Matched triple darlington configuration.

Output Components: Eight 125 watt 3MHz bipolar transistors. (1000 watts)

Rated Amplifier Output @ 4 Ohms per Channel:

USA-100: 100 Watts

100x: 200 Watts

Amplifier Overage Factor: USA-100: 10:1 100x: 5:1

Output Signal Delivery: All high level signals run parallel to the circuit board ground plane for maximum RF rejection. There are no above-board speaker connections.

External Speaker Connections: Via heavy duty gold-plated 10mm barrier terminal, circuit board mounted and end plate reinforced.

Power Supply: Non-regulated Ultrafet.

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

Input Filtering: 6,000mfd low ESR capacitors.

Transformer: Hand-wound 2" solid ferrite with solid copper 14 gauge primary and 16 gauge secondary windings.

Oscillation Frequency: 37KHz

Pulse Components: Six 75 amp 60 volt Ultrafets. (450 amps)

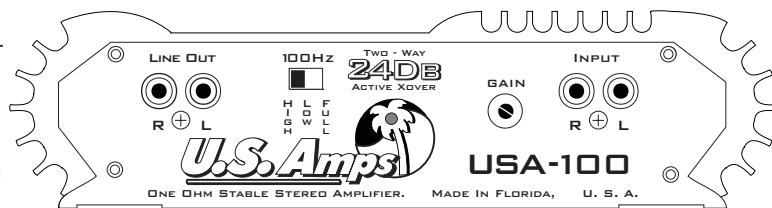
Power Supply Output Current:

USA-100: +/- 24 Volts @ 23 amps.

100x: +/-32 Volts @ 16 amps

Overage Ratio: USA-100: 9.8:1 100x: 10.5:1

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.



## SPECIFICATIONS:

### Watts per Channel

	USA-100 (pictured)	100X
4 ohms:	50 Watts	100 Watts
2 ohms:	100 Watts	175 Watts
1 ohm:	158 Watts	N/A

### Bridged Output:

	USA-100	100X
	315 Watts @ 2 Ohms	350 Watts @ 4 Ohms

### THD:

	USA-100	100X
	<.006%	<.006%

### S/N Ratio:

	USA-100	100X
	>100db	>100db

### Frequency Response:

	USA-100	100X
	5Hz-50KHz	5Hz-50KHz

### Fuse:

	USA-100	100X
	50 Amps	50 Amps