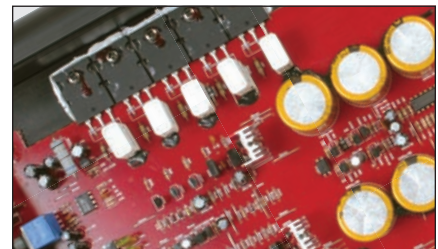
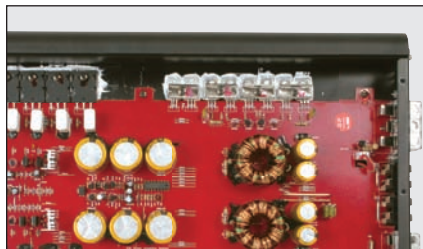




# Autotek SS500.1



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**A**utotek is part of the impressive Maxxsonics group that also manufactures Hifonics, Crunch and MB Quart. The Autotek name has been around for almost 30 years, with its roots dating back to 1977. The four major lines back when Autotek began included the Super Sport line, and we have one of the latest additions to that with the SS500.1 500W subwoofer amplifier.

## INSIDE OUT

The SS500.1 was designed to offer solid performance at reasonable prices. The Super Sport Series is about performance and value and includes two subwoofer amps, two four channel amps and a pair of stereo amps.

The S500.1 makes its home in an extruded

aluminum heat sink. The heat sink is finished in a satin black and there is an aluminum trim piece with an illuminated Autotek logo adorning the center of the amp. On the right side of the amp are two clear terminal blocks – one for speaker connections and one for power. The power block will accept 4awg and the speaker block will accept 10awg without any problem. Between the two blocks are four fuse holders, each intended to house a 25A ATC fuse.

On the opposite end of the amp are two sets of RCA jacks – one for signal input and one for output. A jack for a wired remote bass control can also be found here. LEDs are provided to indicate when the amp is powered up or has gone into protection. Four knobs allow for tuning. The first will let you dial in up to 12dB of Bass Boost. The

second and third adjust filter frequencies – the first is a subsonic filter adjustable from 15Hz to 55Hz and the second is a low-pass crossover adjustable from 40Hz to 150Hz. Finally, the gain control allows your installer to adjust sensitivity between 0.2V and 5V.

Inside the amp is a large single-sided circuit board. Power from the terminal block travels to a set of four 2,200µF, 35V, 105°C caps. The power supply uses 12 International Rectifier IRFZ44N 94W MOSFETS before sending current to a pair of toroidal transformers. Six large 2,200µF, 63V, 105°C caps stiffen the rail voltage. The speaker's outputs are driven by five 2SA1943 and five 2SC5200 150W Silicone power transistors. The remaining components on the board are all through-hole devices. Resistors are 5% tol- >>

erance units and capacitors are a mix of electrolytic and polyester in the filter circuits.

The SS500.1 is a Class A/B amplifier. This means that each bank of five output devices is directly controlled by an analog signal and they operate through their resistive range. Another way to think of Class A/B is that each bank of output devices acts like a valve – passing more current when needed. The downside to a Class A/B design is that these devices dissipate a great deal of heat when operating in this fashion. On the plus side, signal-altering, power-wasting filter circuits are not needed between the output devices and the load. This means the devices have a direct connection for excellent woofer cone control, sound quality and linearity as compared to most Class D designs. As always, there are pros and cons to every design.

**ON THE BENCH**

With the physical inspection complete and my curiosity appeased, it was time to bring the SS500.1 to life on the test bench. Before we get to the results, I should let you know that this amp was extremely well behaved during testing. It didn't shut down when a full power test signal was sent to it, it didn't shut down when connected to my test equipment and when pushed hard, it clipped gracefully. I must say, I do enjoy testing Class A/B amplifiers more than any others.

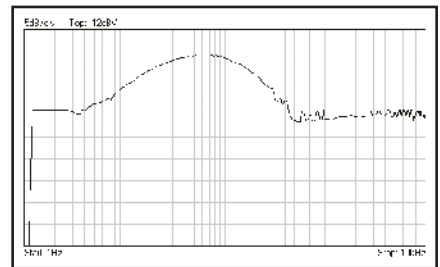
In terms of power production, I tested the amp through two voltage ranges – around 14V and around 13.25V – to evaluate its power supply

regulation. The attached chart shows the results. Overall, the amp fared well, falling slightly short of its rated power spec at 4Ω by greatly exceeding it at 2Ω and 1Ω. Efficiency for a Class A/B amplifier was to be as expected. Peak efficiency of 67% was reached while producing 258.8W into a 4Ω load and supplied with 13.38V. 1/3 power efficiency was 39% at 4Ω, 29% at 2Ω and 26% at 1Ω. Again, as expected for a true Class A/B amplifier. The plus side of this classic output device topology is excellent behaviour when pushed hard and a good speaker control via a high damping factor. The SS500.1 damping factor measured quite admirably at 199.8.

I measured the amplifier's frequency at 1 Watt into a 4Ω load with the crossover and subsonic filter set at their outer limits. On the bottom end, the amp was -1dB at 30.2Hz and 116Hz on the top. The -3dB frequencies were 19.1Hz on the bottom and 174Hz on the top. This is a somewhat narrow bandwidth and shows the markings on the crossover and subsonic filter are off by a little bit.

**CONCLUSION**

The Autotek SS500.1 is a good solid subwoofer amplifier for the discerning customer who is still on a budget. The Class A/B design of the SS500.1 will provide good sound quality, making your bass system hit harder and go deeper. Power production once loaded down was very good – if it was my amp, I'd run it around 1.5Ω to maximize the balance of power production and efficiency. The SS500.1 offers a simple but effective feature set at a great price. If you are looking for a step up from a little stereo amp or entry level product, the SS500.1 might be just what you are after. **PAS**



Load	Amps	Voltage	Power	dBW	Efficiency
4Ω	31A	14.17V	286.1W	24.6	65%
4Ω	29A	13.37V	258.6W	24.1	67%
2Ω	55A	14.02V	470.0W	36.7	61%
2Ω	52A	13.24V	419.6W	26.2	61%
1Ω	91A	13.81V	665.6W	28.2	53%
1Ω	85A	13.05V	571.7W	27.6	52%

