

CPU Fan Comparison

I have always been interested in getting the most bang for my buck. When I'm at the store I always buy a 2-liter of Mountain Dew and a cup of ice instead of paying \$1.09 for a 20 ounce. In computers, this means I will usually buy a speed grade or two beneath the fastest and then overclock it. This strategy with CPU usually saves me several hundred dollars. I am not sure whether I do this because I am cheap, or just poor. If I ever strike it rich I'll let you know.

I also want the most bang for my buck with CPU fans. I want it to blow like a hurricane force gale, and yet be as quiet as a whisper. So I scrounged up four fans. Two I had laying around, two were provided by our friends at Crazy PC, and I decided to find out in fact, just how much better the noisy fans performed than the quieter ones. If I am going to put up with all that noise I want to know exactly how much extra cooling performance I am buying with using a noisy fan.

Specifications:





ThermalTake Smart Fan 2

Fan Dimension: 80x80x25mm
 Rated Voltage: 12VDC
 Started Voltage: 6 VDC
 Rated Current: 0.20AMP ~ 0.70AMP
 Power Input: 2.4W ~ 8.4W
 Fan Speed: 1300 rpm +/- 10% at 20 Degrees C~
 4800 rpm +/- 10% at 55 Degrees C
 Max. Air Flow: 20.55 CFM at 1300 rpm
 75.7 CFM at 4800 rpm
 Air Pressure: 1.45mm H2O at 1300 rpm
 8.43mm H2O at 4800 rpm
 Noise: 17 dBA at 1300 rpm
 48 dBA at 4800 rpm
 Bearing Type: Two Ball bearing
 Life Time: 50,000 Hours
 Connector: 3 Pin

Sanyo Denki 109P0812A201

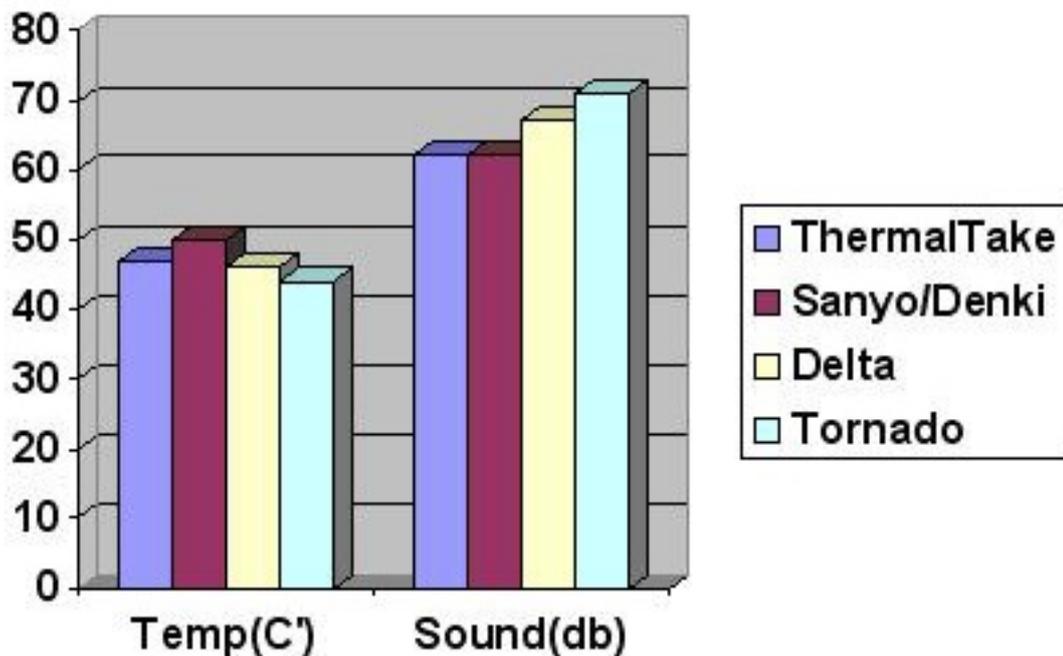
Fan Dimension: 80x80x32
 Rated Voltage: 12VDC
 Rated Current: .31AMP
 Power Input: 4.1W
 Fan Speed: 4600 rpm
 Max. Air Flow: 53 CFM
 Air Pressure: 9.25mm H2O
 Noise: 45 dBA
 Bearing Type: Two Ball bearing





Delta FFB0812SHE	Tornado TD8038H
Fan Dimension: 80x80x38	Fan Dimension: 80x80x38
Rated Voltage: 12VDC	Rated Voltage: 12VDC
Rated Current: .58AMP	Rated Current: .76AMP
Power Input: 6.96W	Power Input: 9.1W
Fan Speed: 4900 rpm	Fan Speed: 5700 rpm
Max. Air Flow: 68.5 CFM	Max. Air Flow: 84.1 CFM
Air Pressure: 15.01mm H2O	Air Pressure: ~19mm H2O
Noise: 48.5 dBA	Noise: 55.2 dBA
Bearing Type: Two Ball bearing	Bearing Type: Two Ball bearing

Since this is meant as a short fan noise/temp comparison, and not a product review, now that we have the specs out of the way, let's get to the dBA/performance graph.



Once again I would like to thank Crazy PC for their generosity to this site.

Conclusion:

After looking at the numbers my personal choice for CPU fan would be the Thermaltake Smart Fan 2. Lets be clear if the Tornado had performed 10C better than the competition, or if my computer was only used for gaming the Tornado would then be a no-brainer. That's not the situation though. My main PC is run 24/7 and is located ten feet or so from my bed. A 3C CPU temperature reduction does not for me justify the 9dBA of additional noise that it brings. In your personal situation though it just might.

Update:

12-05-02 Several readers have brought to my attention a fairly obvious oversight I made here with not mentioning what type of HSF I was using. As different types of HSF have different cooling characteristics. The HSF used for all these tests was the Thermalright SLK-800.

[Jim Adkins](#)

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