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The Power Struggle

Although PC components have as diverse functions as the appendages on your own body, every moving part (both inside your chassis and a human) has an important common denominator: a power source. For you and me, it's our heart, pumping blood to all our extremities. For a PC, it's the continuous supply of wattage keeping your PC well-oiled and working.

Although the exterior of many PSUs may not be very exciting traditionally, the majority of the units we reviewed buck this trend, thanks to professional-looking finishes and smart design. Our selection might seem a bit willy-nilly due to the varying wattages, but hopefully this broad range will give you some options in terms of PSU enclosures, cable management, and performance.

How We Tested

We started a system originally assembled by one of CPU's well-respected contributors, and then we tweaked it just a bit to amp things for the competition. For all our power supplies we utilized the following configuration: Intel Core 2 Quad CPU Q6700 at 2.67GHz, Nvidia GeForce 9600 GT, three SATA hard drives, one optical drive, Nvidia nForce 790i Ultra SLI motherboard, 1GB Crucial Ballistix DDR3-1,333, and a Dell 3007WFP 30-inch display, all running on Windows Vista. For our single 1,000W+ PSU, the Topower PowerBird 1100 B1, we added an additional GForce 9600 GT.

We placed everything inside the Thermaltake Armor+ Super Tower. This model comes equipped with clear side panels and features a monstrous

230mm fan opposite the motherboard. There wasn't an overwhelming amount of room for uncomplicated cable management, but we welcomed the challenge during each installation.

To stress the four cores, we simultaneously ran four trials of Prime95 for two consecutive hours. We also looped 3D Mark06 at 1,920 x 1,440 (the highest the system could sustain) for the same stretch of time while playing a CD on repeat.

Topower PowerBird 1100 BI
$269
Topower
www.topower.com
CPU Rating: 4

On multiple occasions, I've called the PowerBird 1100 B1 a "beast" because of its obvious dominance in size and cabling options, not to mention the classy mirrored coating. Topower says the casing also incorporates nanotechnology to shield EMI. Our Topower rep says that the PowerBird's construction is better than pure-grade metal and produces less interference.

This PSU makes you pay attention to its modular cable organization. No leads are hardwired. Using
the Connector Definition chart next to the modular interface helps you pair each lead with the right cable. There's a mix and match of cables. Five are sleeved in rubber, while the other seven sport a stretchable nylon weave. The cables were easy to move about the case, although it was quite cramped around
the leads.

With six sets of 12V rails, the PowerBird is both SLI- and CrossFire-certified. Specifically, the PowerBird can support two GeForce GTX 260 GPUs. Like we mentioned earlier, we changed to a dual-GPU configuration by adding the Nvidia 9600 GT. The PowerBird passed the standard torture test with a solid performance. In light of our analysis, it should be

capable of handling a more substantial system.

Choosing a PSU should be based on how the unit can handle real-world conditions. We took this fact into consideration when deciding on components. Consequently, all of our systems were consistently stable and didn't randomly reboot. No components failed because of heat-related issues, though a couple of PSUs did heat up (as expected).

If you're enthused about PSUs, you've probably already decided which unit you prefer. Even so, keep in mind that green power is springing up everywhere. Modular is becoming much more convenient, as well, so we recommend power supplies with detachable leads, including the PowerBird 1100, if you'd like to avoid untangling the traditional bundle.