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Six Notebooks That Don't Burn

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By **Marc Spiwak**,

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Solution providers selling notebooks have been taking a lot of heat this year. Customers concerned about reports of notebooks burning up and a Sony [notebook](#) battery recall of 9.6 million [batteries](#) from vendors as diverse as Dell, Apple, Sony and Toshiba have customers pounding on partners for recommendations about which notebooks run coolest with the longest battery life and best performance for the buck.

With that in mind, the *CRN* Test Center decided to take a hard look at six notebooks that were not affected by the recalls. We evaluated everything from battery and air vent temperatures, [AC](#) power draw and battery life to performance and price. Test Center engineers then set out to determine which of them runs the coolest and draws the least amount of power. What we found is that there's a real difference among those notebooks that know how to take the heat without sacrificing performance. Read on and find out. The answers may surprise you. **No. 1:**

Panasonic Toughbook CF-51

The Panasonic's Toughbook CF-51 is the *CRN* Test Center's notebook of choice. Its battery held out for an incredible 5 hours and 15 minutes, which was more than double the life of three other units. It also drew the least amount of AC power (22 watts) and was one of the two coolest-running units as well. Its fan exhaust temperature was only 97 degrees, and the surface of the battery measured only 76 degrees.



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Like all Toughbook notebooks, the CF-51 is more ruggedly built than typical notebook computers. It features a full magnesium alloy case, and the lid is a lot more rigid than most. The shock-mounted [hard drive](#) is better able to resist damage from bumps and drops. The Toughbook's multimedia expansion bay came fitted with a DVD-CDRW combo drive, but the bay instead can accommodate an optional second battery.

The Toughbook CF-51 is the only notebook included here that does not have a widescreen display. Its 15-inch display has a standard aspect ratio and a business-friendly native XGA [resolution](#) of 1.024 x 768. Not the fastest unit tested, the Toughbook CF-51 came equipped with a 1.66 [GHz](#) Intel T2300 Core Duo [processor](#) (not Core 2 Duo). In fact, it was the second-slowest notebook tested, with an overall PassMark rating of 397.3. Note, however, that this was still more than

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twice as fast as Twinhead's Durabook, which came equipped with a much slower [Pentium M](#) processor. Had the Toughbook come with more than 512 Mbytes of memory, its performance likely would have improved. The Toughbook is one of only two units that will accept as much as 4 Gbytes of memory.

Other noteworthy Toughbook features: It is one of only two units to have four [USB 2.0](#) ports and one of only two units to include a three-year warranty. Ruggedness comes at the expense of added weight, though. The Toughbook weighs 6.8 pounds and was the heaviest unit tested. Most important, though, the Toughbook earned the highest overall score for the roundup, and priced at \$1,675, it tied the Jetbook for first place in offering the best bang for the buck. **No. 2: Jetta**

Jetbook 9700P

Jetta International's Jetbook 9700P looks attractive, is well-made, offers a top-notch feature set, is one of the top two performers, and is the second least expensive, with a street price of \$1,538. It came in tied with Panasonic for the highest bang-for-buck rating and had the coolest exhaust temperature of all. Note that this unit is identical to Velocity Micro's NoteMagix L80 Ultra, as both are made by the same company.



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Like four other units tested, the Jetbook 9700P features a 15.4-inch widescreen display with a high-gloss finish. The screen has a native resolution of 1,280 x 800 pixels. The Jetbook 9700P also features a 2GHz T7200 Intel Core 2 Duo processor and 1 Gbyte of memory, expandable to 2 Gbytes. These components earned the notebook a second-place PassMark performance rating of 544.4, just behind Velocity Micro's score of 561.9.

The Jetbook's battery pack lasted 2 hours 51 minutes, which was second highest behind Panasonic. The Jetbook had one of the higher AC power draws of 35 watts while running and charging, but its 95-degree fan exhaust temperature was the coolest of all, and the battery surface temperature was among the coolest.

No. 3: Velocity NoteMagix L80

Velocity Micro's NoteMagix L80 Ultra notebook computer was the fastest of all units, with a PassMark rating of 561.9.



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The NoteMagix L80 Ultra is physically identical to the Jetbook 9700P, as both units are made by the same company. However, the L80 Ultra came with a more elaborate feature set than the Jetbook. For starters, the L80's 15.4-inch widescreen display has a higher native resolution of 1,680 x 1,050 pixels. The L80 also came with 2 Gbytes of [memory](#) rather than the Jetbook's 1 Gbyte, a dual-layer [DVD](#) burner and a fast 7,200-rpm, 100-Gbyte hard drive. Like the Jetbook, the L80 Ultra features a 1.3-megapixel video camera, a 4-in-1 media [card reader](#) and a

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biometric fingerprint reader. Because of its extensive list of high-end features, the L80 Ultra, priced at \$2,155, costs about \$600 more than the Jetbook.

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Perhaps because of the added memory and faster hard drive, the NoteMagix L80 Ultra ran a [bit](#) hotter than the Jetbook. The L80's exhaust temperature was measured at 102 degrees, and its battery temperature was 83 degrees.

No. 4: HP Compaq nw8440

Hewlett-Packard's workstation-class HP Compaq nw8440 came with a 2.16GHz T7400 Intel Core 2 Duo processor, the fastest of all units tested. The nw8440 also came with 2 Gbytes of memory and an ATI Mobility FireGL V5200 [graphics](#) accelerator. These components helped the nw8440 achieve an overall PassMark performance rating of 542.3. Surprisingly, this was only a close third place behind Velocity Micro's 561.9 and Jetta's 544.4. Note that the nw8440 is one of only two units that will accept 4 Gbytes of memory, along with the Panasonic unit we examined, while everything else tops out at 2 Gbytes.



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Sleek, attractive and well-made, the nw8440 features a 15.4-inch widescreen display with the ultra-high native resolution of 1,920 x 1,200 pixels, the finest of the lot. Weighing a bit less than 6 pounds, the nw8440 was one of the lightest units tested. The high-end processor and display help make this HP model the most expensive of the group, with a price [tag](#) of \$2,999. The HP's high price lowered its bang-for-buck rating, where it came in last place.

Battery life of the nw8440 was among the lowest, shutting down after 2 hours 30 minutes. Its AC power draw of 36 watts was among the highest. While none of the notebooks felt unusually hot anywhere on the outside surface, the HP ran the hottest, with an air vent temperature of 111 degree Fahrenheit and a battery surface temperature of 86 degrees Fahrenheit. Overall, the nw8440 scored fourth place mainly because of its high price and temperature rating. **No. 5: Asus F3Jv** With a street price of only \$1,299, Asus's F3Jv notebook is the lowest-priced unit we examined, but behind that low price is a well-stocked feature set. The notebook offers Intel [dual-core](#) performance and features a built-in video camera. It's also one of the few units to feature an ExpressCard port. This PC-Card like slot lets users add the latest hardware expansion modules such as memory, communication devices and security devices, and it's compatible with USB 2.0 and [PCI](#) Express standards.



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The F3Jv came equipped with a 1.66GHz Intel T5500 Core 2 Duo processor and 1 Gbyte of memory, which can be expanded to a maximum of 2 Gbytes. A 15.4-inch display with a native

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resolution of 1,280 x 800 provides a generous workspace.

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Performance-wise, the F3Jv came in fourth place, with a PassMark rating of 432.8-ahead of only Twinhead and Panasonic. But it lost points due to a battery life of 2 hours 31 minutes, which tied the unit for last place with HP and Velocity Micro. The F3Jv was also one of the hotter running units with a fan exhaust temperature of 105 degrees Fahrenheit but had a cooler battery surface temperature of 81 degrees. It had the highest AC power draw of 42 watts while running and charging.

No. 6: Twinhead Durabook D13RI

Powered by a 2GHz Intel Pentium M processor, the Durabook D13RI was the only unit we evaluated that did not contain a dual-core CPU. But it did come with 2 Gbytes of memory, the most the unit will accept. The Durabook's PassMark rating of 185.9 is typical of systems powered by single-core processors. Its battery life of 2 hours 47 minutes was third best of the group but still about two-and-a-half hours less runtime than the Toughbook.



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The Durabook has a rugged design that features a magnesium screen lid and bottom case with an attractive finish that looks like carbon fiber. The Durabook has the smallest widescreen display in the roundup, measuring 13.3 inches diagonally with a native WXGA resolution of 1,280 x 800.

One convenient feature on this notebook is its volume control wheel on the front [edge](#) of the unit. It's much easier and more intuitive to lower volume this way than via the keyboard, as is the case with most notebooks. The Durabook's fan exhaust and battery temperature readings were among the lowest of all. But its relatively high price of \$1,977, combined with mediocre performance earned it the lowest overall score in the roundup.

The Bottom Line

By the numbers, Panasonic's Toughbook CF-51 is the best choice for all around value in a notebook computer, and one that runs a lot cooler than most. It also delivers incredible battery life. But for those users who prefer a cool-running notebook with a more powerful processor and a widescreen display, the Jetbook 9700P delivers the best value.

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