

BENCH TEST **Minuteman UPS Has Few Downsides**

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MINUTEMAN POWER TECHNOLOGIES' power protection products are manufactured by Para Systems, based in Carrollton, Texas. Now in its 35th year, the company's product line is well supported and respected, and we tested its remote power management system in August 2016. Our positive experiences with that product raised our expectations, and we were not disappointed. For this review we tested the PRO1500RT, a member of the PRO RT family that includes both 1000VA (700W) and 1500VA (1,050W). These are line interactive units with six battery backed-up outlets and surge protected outlets and two surge protected only outlets. All outlets are 15A, appropriate given the power rating.

Construction

Believe it or not, our favorable impression began with the packaging. Rather than making the user wrestle with preformed top and bottom pieces of Styrofoam packing material, the PRO-1500RT arrived in a box with eight corner pieces (four top and four bottom) and three side pieces. Unpacking was extremely simple, and there were no larger pieces of Styrofoam to be broken up when it was time to discard the packaging. We found this packing configuration to be ingenious.

As with the previously tested Minuteman product, construction is extremely solid. The inside is easily accessible with a standard Philips head screwdriver and looks to be fairly easy to service. Batteries were relatively easy to change, although lining up the long-yet-flimsy screws that hold the front bezel on was more difficult than it needed to be.

The RT designation at the end of the product model number stands for Rack/Tower, another clever design trick. The supplied rack mount ears can be screwed on the front for rack mounting,

or flipped over and used on what becomes the bottom for stabilizing the unit when used in a tower configuration. We were somewhat puzzled by this at first, as the screws that were provided with our review sample fit the mounting holes used for the rack mount configuration but not the mounting holes provided for the tower configuration. This is an obvious mistake; we received two identical bags of screws and should have gotten two different types. We spoke with Bill Allen, director of marketing at Minute-



Minuteman Power Technologies PRO1500RT

man, and confirmed that Murphy's Law was alive and well and applied to review units, as others in their inventory were correct.

Minuteman also provides an optional wall mount bracket that can be used to place the PRO RT Series (and other models) to a wall. This eliminates the need to buy a shelf when these units are used in data closets or other areas, and would allow mounting of the unit with full convenient access to both the front and rear panels. The module that holds the display and switches can be pulled out and rotated to ensure readability from three of the four possible orientations; upside-down is not an option.

All of this is very clearly explained in the printed user's manual supplied with the product. An abbreviated single-page quick install guide explains how to connect the batteries and equipment, and turn the unit on, but you need to go to the manual for the other mounting configurations, display reorientation, and an explanation of the various alarms and display information.

It should be noted that this UPS, like others we have tested, is made in China. Unlike others, Minuteman has clearly taken a leadership role in product line management, particularly with regard to documentation. The manual was well written, free of typos and grammatical errors. We understand that few people actually read the manuals, but those that do will not be left scratching their heads in bewilderment.

Features

The PRO RT Series is marketed as "a value-priced, yet feature-rich UPS," and that it is. With an easily read backlit LCD display, simple to use software (more on that later), and displays with alarms for fault, low battery, weak/bad battery, fault and other modes. The UPS self-tests every two weeks, and overcharge protection is also incorporated into the software. The UPS also checks for an improperly wired wall outlet, indicating a problem on the front panel display.

There is no programming to be done from the unit; not even an option to run in "silent" mode, bypassing audible alarms. You have to go to the software for that. The scroll buttons take you through the various display options, and the manual explains them (fairly intuitive). There's a serial port on the back (RS-232 communication and simulated contact closures for low battery

Minuteman PRO1500RT

SPECS

- ◆ Easy to use, solidly built UPS with a great feature set and versatile mounting configurations

PROS

- ◆ Excellent feature set for the intended application
- ◆ Varied mounting configurations
- ◆ Three-year warranty with \$100,000 lifetime coverage load protection guarantee
- ◆ Well written documentation

CONS

- ◆ Shipped with the wrong screws for tower mounting
- ◆ Bezel difficult to remove on our sample

warning and AC failure), a USB port for the included software that also works with most operating systems (e.g. Windows), and accessory slot for an optional SNMP card or dry contact relay card. There is also a pair of RJ45 connectors for surge protection of a telephone (RJ11) or network connection.

In short, this UPS is bare-bones if programming or advanced features are required, although the software provides some additional “tweaks.” However, the PRO1500RT is quite full-featured in terms of the majority of applications for this price class and configuration. We would have liked to have seen a way to mute the alarms from the front panel, but that’s the only shortcoming that we saw.

Software

The PRO1500RT ships with a CD that includes Minuteman SentryPlus software and the associated (again, well written) manual. The software is designed to support other Minuteman products and there are a few options that do not apply to the PRO1500RT, such as monitoring three-phase power. Surprisingly, the software adds quite a bit of functionality, including the ability to silence alarms, run a number of more comprehensive tests, log line and load voltages, graph operation, and indicate battery voltage, battery level, loading level, input frequency, and input voltage. It should be noted that the software is purely optional. If you just want to use the UPS to shut down a PC automatically, Windows will handle all of that.

In fact, that was our only issue with the software; on the splash screen it noted that the software only worked with Windows versions through XP. In fact, it worked just fine on our freshly updated Windows 10 test bench configuration.

Our least favorite software feature was the constantly scrolling Minuteman UPS logo on the main screen. Our favorite feature? When Broadcast Message is enabled, unplugging the UPS will result in a very British (think Elizabeth Hurley) voice calmly saying, “Power failed. The UPS is operating on battery power,” and “Power restored. The utility power restored” when all is well. For those who are interested, the voice announcements (there are 24 of them) are stored as WAV files in the software directory and can be repurposed if desired.

Setup

Because of the limited options available on the UPS, setup is a breeze. Remove four screws, connect the batteries, mount the unit as needed, plug everything in and away you go. The manuals are fine, but I doubt many will need them. The software is optional unless you want to silence the internal alarms. This is as it should be; a versatile UPS with plug-and-play operation.

Testing

As expected, the UPS performed without a hitch. The voltage measurements were off by more than we usually see on a UPS, registering almost exactly 3V low on both input and output (we used three separate meters when testing and got uniform mea-



The PRO1500RT’s internal components are protected with heat-shrink tubing rather than common electrical tape, and replaceable automotive-style 30A fuses ensure the value of components protecting the circuit will never change, albeit at the expense of changing a fuse in a failure.

surements from all of them). The surge protection RJ45 connectors are specified as 10/100 Base-T in the manual, and our testing bore that out; they worked fine in the specified range but would not pass a Gigabit signal, even at a reduced speed. This is noteworthy, as most current generation PCs include 10/100/1000 ports and will not work when connected through the PRO1500RT. As this is explained in the manual, it did not impact our score, although we think Minuteman should either mark it on the rear panel or consider upgrading the port to 10/100/1000 to be in line with commonly connected devices.

Conclusions

One of the first filters we use when selecting products for review is “bang for the buck.” A product can be spectacular, but if it is priced outside of the market range for similar products, it may not warrant our consideration. After all, we all live in the real world, and comparably performing products should generally be comparably priced.

To that end, the Minuteman PRO RT line is a winner. It beat the comparably rated unit from a major manufacturer in almost all categories — slightly more efficient power conversion (1,050W vs. 1,000W), better surge protection (1,140 Joules vs. 459 Joules) and a significantly lower price. Construction, warranty, ease of use, software, simplified battery changes and display functionality make this a product worthy of your strong consideration. As far as we’re concerned, Minuteman has once again delivered a winner. SSI

VERDICT
FEATURES ★★★★★
CONSTRUCTION ★★★★★
SETUP ★★★★★★
PERFORMANCE ★★★★★
OVERALL ★★★★★

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