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## CyberPower cp1000pfclcd battery replacement

Number of batteries: 2 Battery size: 12V/9Ah Battery type: Sealed lead-acid Dimensions - WxHxD (in): 5.9 x 2.6 x 3.9 Weight (lbs): 11.79 Leak-proof casing: Yes OEM certified: Yes User Replaceable: Yes Warranty: 18 months NEW! Check Prices at your favorite retailers or resellers How to Buy Need a solution? Use How to Buy! Overview Specifications Features Downloads Support Series The RB1290X2 UPS Replacement Battery Cartridge restores life to CyberPower UPS systems that have weak or completely depleted internal batteries. The RB1290X2 contains two 12V/9AH batteries, certified to meet or exceed original manufacturer specifications. This leak-proof, sealed lead-acid battery never requires replacement fluid. The pre-assembled cartridge installs easily into your CyberPower UPS system and is shipped with reusable packaging for delivering expired batteries to a suitable recycling center. The RB1290X2 comes with instructions, recycling information, and an eighteen-month warranty. UPS Compatibility: BRG1350AVRLCD, BRG1500AVRLCD, CP1500PFCLCD, LX1500GU, CP1350AVRLCD, CP1500AVRLCD, CST150XLU Sealed Lead-Acid Battery Supplies high surge currents, provides robust power-to-weight ratios, and is cost-effective. Maintenance-Free Battery Fluid Never requires replacement. Leak-Proof Casing Protects the sealed lead-acid battery and prolongs battery life. Reusable Packaging Provides for conveniently delivering expired batteries to a recycling center. After installing the new cartridge, place the old one in the reusable packaging. OEM Certified CyberPower batteries meet or exceed original manufacturer specifications. Eighteen-Month Warranty Covers defects in materials and workmanship in the product under normal use and conditions within eighteen months of the purchase date. See warranty for details. What's In The Box Battery and Installation Guide WARNING: This product can expose you to chemicals including Lead and lead compounds and Styrene, which are known to the State of California to cause cancer, and Bisphenol A (BPA), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to . A replacement battery cartridge restores life to a CyberPower UPS system that has internal batteries which have become weak or completely depleted. These replacement batteries are certified to meet or exceed the specifications of the original equipment manufacturer (OEM). Replacement cartridges contain leak-proof, sealed lead-acid batteries preassembled for easy installation. Each cartridge ships with reusable packaging which can be used to deliver expired batteries to a recycling center. All CyberPower batteries come with an 18-month warranty. Features OEM certified replacement battery / batteries Leak-proof, sealed lead-acid battery / batteries Replacement instructions Recycling information Reusable packaging 18-month warranty NOTE: To find the model number of a replacement battery cartridge for a CyberPower UPS, see the Specifications section in the UPS User Manual or click the Specifications tab of the Web page for the UPS. Call Toll Free Live Monday - Friday 24 Hour Support 1-877-297-6937 (press 1 ) Most people can get through a household power outage without much hassle—chances are, by the time you find the spare flashlight batteries and break out the board games, your lights and television will already be back on. But if you want to keep your home Wi-Fi network and some other key electronics up and running in the event of an outage, an uninterruptible power supply (UPS) might be a worthwhile investment. After spending 34 hours interviewing experts, considering more than 100 models under \$250, and testing the top candidates, we found that the CyberPower CP900AVR is the best UPS for people who want to back up a few small electronics (such as a modem, router, PC, external hard drive, or game server) during a blackout lasting up to four hours. With five outlets on battery backup and 10 outlets total, this UPS can reliably keep your Wi-Fi network running for up to four hours in a blackout or keep your home-office setup powered long enough for you to save your work and shut down. The CyberPower CP900AVR will cover the basics for most people during common, short-term blackouts. In our tests, it provided enough power to keep a household broadband modem and Wi-Fi router running for four hours, which means you can stay online while the power is off and get in touch with emergency services, follow news and weather changes, or just pass the time on your favorite websites. It requires no setup aside from plugging it in, and it includes automatic voltage regulation—an important feature that some cheaper models lack. Five of its 10 outlets are backed up by a battery, and its compact shape—about the size of a three-ring binder—and its 6-foot cord make it relatively easy to stow under a desk or nightstand. Key specs: Measured run time with a 20 W (modem and router) load: 4 hours Measured run time with a 300 W (modem, router, PC, and hard drive) load: 17 minutes Measured peak power output: 738 watts Measured surge protection: 540.4 let-through volts Number of battery-backed outlets: five Warranty: three years This UPS has the highest peak power output and run time of any model we tested, so it can run more gear for a longer stretch than anything else. Plus, its higher-quality power is compatible with even the most sensitive electronics. The APC BR1500MS2 is the most expensive UPS we recommend for most homes or small offices, but it offers a lot of value in the extra features it includes. If you need to provide power to (or charge) devices at your computer workstation during an outage, it can deliver up to 847 W—we had trouble finding home-office gear powerful enough to overload it in our testing. Like our top pick, it can keep the average modem and router running for up to four hours, giving you more than enough time to save your work and wait for the blackout to end. Roughly the size and shape of a small PC tower, it has 10 outlets in total, six of which it backs up with the battery, and it adds two USB ports (one USB-A and one USB-C) for charging small devices without the need for an extra power adapter. Because it has a pure sine-wave inverter, its power is as smooth as that of a standard wall outlet, making it safe and reliable for even sensitive equipment such as a CPAP machine. Lastly, its backlit screen provides helpful information such as the remaining battery life and the total wattage of the devices plugged into the unit. Key specs: Measured run time with a 20 W (modem and router) load: 4 hours Measured run time with a 300 W (modem, router, PC, and hard drive) load: 21 minutes Measured peak power output: 847 watts Measured surge protection: 593.2 let-through volts Number of battery-backed outlets: six Warranty: three years This UPS lacks premium features, but it has plenty of outlets and power to keep a home Wi-Fi network up and running for up to an hour and a half when the power goes out. At the time of publishing, the price was \$73. If you're on a tight budget, the Amazon Basics Standby UPS 800VA is an affordable UPS with the battery and run time of a more expensive model. It can keep a typical router and modem running for up to one and a half hours. Its maximum output is on the lower side (we measured up to 470 W in our testing), but that should be plenty of power for the six battery-backed outlets to support basics such as home Wi-Fi gear. Unlike our other picks, this less expensive model uses standby power management instead of automatic voltage regulation (AVR). That should be fine in most cases, but it's harder on the battery, and you shouldn't use it for sensitive AV gear or medical equipment. Plus, Amazon offers only a one-year warranty on its UPS models, in contrast to the three-year warranties that brand-name companies provide. Key specs: Measured run time with a 20 W (modem and router) load: 1.5 hours Measured run time with a 300 W (modem, router, PC, and hard drive) load: 6 minutes Measured peak power output: 470 watts Measured surge protection: 402.8 let-through volts Number of battery-backed outlets: six Warranty: one year We've been a science journalist for more than seven years, covering a wide variety of topics from particle physics to satellite remote sensing. Since joining Wirecutter in 2017, I've reported on surge protectors, dash cams, USB-C cables, and more. In total, I've spent 34 hours researching and testing UPS units for this guide. I worked with Lee Johnson—an electrical engineer with more than 15 years of experience designing and testing electronics—to determine the surge-protection capabilities of each UPS in our 2021 round of testing. Additionally, to learn more about how to recycle used UPS units, batteries, and other electronic waste, I interviewed Joe Day, director of global business development at TerraCycle's Regulated Waste, a private firm specializing in hard-to-recycle materials. I also interviewed Linda Gabory, director of external relations at Call2Recycle, a battery-recycling nonprofit, and Call2Recycle CEO Leo Raudys. An uninterruptible power supply, or UPS, is basically a surge protector, a battery, and a power inverter (which turns the battery's stored energy into usable power) wrapped into one unit. The size of the battery determines how long it can provide power, and the inverter determines how much power it can put out at a time, often listed as volt-amps (VA) but more easily discussed as watts (W). A small, inexpensive UPS is great for anyone who wants their home Wi-Fi and internet to stay online during short power outages or brownouts. Unlike landlines, which work without power, digital phone service and Wi-Fi require a broadband modem, which may have only a small battery backup. Adding a UPS can keep you online and connected for an hour or more in case you need to reach emergency services—or if you're about to finish a critical encounter in Dark Souls and your comrades are counting on you. Larger UPS units with extra power and features can help keep home offices and workstations running during business hours, or at least long enough for you to save your work and safely shut down vulnerable equipment. If you have a lot of important data on a desktop computer, an external hard drive, or network-attached storage, you may need a UPS to prevent your drives from losing data in the event of a sudden power outage. In some cases, a UPS can provide crucial backup power to household medical equipment—such as CPAP machines for sleep apnea—for a limited time. A small, inexpensive UPS is great for anyone who wants their home Wi-Fi and internet to stay online during short power outages or brownouts. Powering your home theater for a movie marathon during a storm is more difficult, and costlier, than simply buying a UPS. If you need long-term power, the capacity to keep refrigerators and other appliances plugged in, or a way to light up your whole house in blackout situations, off-grid options such as backup generators or professionally installed battery packs are the way to go. We tested six new NAS devices and found that the Synology DS220+ is the best for most home users because of its performance, versatile software, and good price. Photo: Michael Murtaugh We started by considering more than 100 models from three leading companies: APC, CyberPower, and Tripp Lite. We've tested uninterruptible power supplies and surge protectors from these companies in the past, and all three have long held reputations as reliable makers of electronics. Since a UPS is designed for use in an emergency, choosing from a reputable brand is crucial to avoid buyer's remorse at the worst possible time. We also added a few models from Amazon Basics to our list because it's a prominent option when you're shopping online. To whittle down our massive list of candidates, we considered the most important traits of a great UPS and developed the following requirements: Automatic voltage regulation (AVR). We required our upgrade-pick contenders to have AVR, and we strongly preferred it in all other models. AVR, also called line-interactive topology, is a more advanced form of power management than the type that less-expensive models use. With AVR, when power from a wall outlet dips or surges briefly outside of a specified range, a small transformer in the UPS acts like a buffer to compensate without relying on the battery; the UPS switches to battery power only when the transformer can't handle the variation. This reduces wear and tear, especially if you live somewhere with frequent brownouts, and prolongs the overall life of the battery. It also provides more-reliable power to sensitive gear such as hard drives. Since AVR is available without a huge price premium, it's a sensible feature that can help you get the most from a UPS in the long term. Pure sine-wave inverter: We required this feature in our upgrade-pick contenders and preferred it in all other models. A battery's sine-wave inverter turns its direct current (DC) power into alternating current (AC) power, which you need to power most devices. A pure sine-wave inverter can produce electrical waveforms as clear and smooth as those of the AC power coming out of any wall outlet, whereas modified sine-wave inverters produce choppy waveforms. The latter are fine for charging most household devices, but you shouldn't use them to run anything with a powerful motor (such as a corded drill, vacuum, or blender) since they can cause inconsistent speeds, heat buildup, or damage to the components. You should also avoid using a UPS with a modified sine-wave inverter for sensitive audio equipment (which can pick up buzzes of interference from the unit) and medical devices that require pure AC power. The pure sine wave from a residential wall outlet. The CyberPower CP1000PFCLCD, a former pick, uses a pure sine-wave inverter to create a smooth sine wave when running on battery power. The CyberPower CP800AVR, our former runner-up pick, uses a modified sine-wave inverter to turn the DC power in the battery into a rough approximation of standard AC power. The pure sine wave from a residential wall outlet. Rated for at least 600 VA output: Most models explicitly include their output in the name or model number in volt-amps (VA). For our upgrade pick, we looked for models with at least a 1,000 VA rating. VA ratings aren't common in most people's lives, but they're power ratings along the same lines as the more-familiar watts (W). In most cases, you can safely assume the wattage you'll get from a UPS will be slightly lower than the VA rating, though the actual result depends on the type of device you're plugging in. At least four battery-backed outlets: All outlets on a UPS provide surge protection, limiting the amount of extra voltage that can reach and potentially damage your devices—which is good because you should never plug your UPS into a surge protector or plug a surge protector into a UPS. But generally only half the outlets are connected to the backup battery (and are prominently marked as such) so that they stay on when the power goes out. It's always good to have more outlets for plugging in more devices, but the outlets that really matter on a UPS are the battery-backed ones. A set of four battery-backed outlets is enough for you to plug in a modem, router, desktop computer, and external hard drive—just make sure to plug the right devices into the right outlets. At least a 5-foot cord: A long cord is helpful if your wall outlet isn't immediately next to your workstation, especially since it's unsafe to plug a UPS into an extension cord. A 5-foot cord should be long enough for most people, but when an even longer cord is available, we prefer that. User-replaceable battery: Most UPS batteries are small, sealed, lead-acid batteries—more like a car battery than the one in your smartphone or laptop. We tested only those models that have a user-replaceable battery, which allows you to spend \$30 to \$60 on a new battery instead of having to buy a whole new UPS. Plus, as demonstrated in this video, the process is simple enough for a novice to complete in just a few minutes. Power-management software: Even though most people won't go through the trouble of installing such software, most UPS makers offer an application you can download to monitor and manage a UPS (over USB) from your computer. You can also program it to complete a series of tasks before shutting down if you're away from your computer when the power goes out—which is especially handy for units with shorter run times. Even better, software that works on any operating system is future-proof even if you replace some of your equipment, so your UPS can be just as useful years down the line as it is the first day you plug it in. Warranty for a year or more: Most brands we looked at back their devices for upwards of three years, but a year is plenty of time to test out your UPS and determine whether it's working properly. And since power outages happen about once or twice per year in the US, you're likely to have tested it against a real-world outage in that time frame, too. USB ports: For charging a phone or some other small device, using a built-in USB-A or USB-C output port is more convenient than taking up one of the outlets with a multipot wall charger. These ports aren't connected to the battery, though, so you can't use them during a power outage. Backlit screen: A small status light is all it takes for your UPS to tell you that it's up and running, but some of the pricier UPS models have a screen to display additional information such as the battery's charge status, the current load, and the remaining run time. This information helps to ease low-battery anxiety when the power goes out and you're rushing to save your work in time. Cost under \$250: You can get a good UPS for well under \$250, and we don't think most people shopping for use at home or in a small office would get any added benefits by spending more than that. After applying these criteria to the available options, we were left with 12 contenders to test. We tested the performance of each model in a few key areas, including the following: Peak power output (watts): This test told us the maximum load each UPS's inverter could handle. For this test, we plugged in the UPS and turned it on. Then we unplugged it—leaving it running on its battery—and plugged in household appliances with known power draws (such as an array of 50 W halogen bulbs, a couple of 10 W lamps, and a 100 W fan that we tested using a Kill A Watt power meter) one by one until the battery overloaded and the UPS shut down. Then we added up the total maximum power draw (based on the appliances we had plugged in) and recorded the maximum output in watts. Battery capacity (watt-hours, or Wh) and run time: Manufacturers often publish run-time ratings that outline how long a UPS can keep devices of various wattages running. Since most ratings are based on ideal conditions, we tested our top candidates at two different loads to see how they would perform in real-world use: 20 W, representing the combined power draw of a household modem and router, and 300 W, representing the power usage of a PC, modem, router, and external hard drive running simultaneously. After charging each UPS overnight, we plugged a Kill A Watt meter into one of the battery-backed outlets. Then we plugged in an array of six halogen bulbs totalling 300 W and unplugged the UPS, leaving it running on its battery. Once the battery died, we recorded the time elapsed (run time) and the kilowatt-hours (kWh), from which we calculated the battery's effective capacity in watt-hours (Wh). We then repeated the test with two 10 W lamps, measuring the run time with a 20 W load. Surge protection: Applying the same equipment and protocol we use to test surge protectors, we zapped each UPS with 5,000-volt power surges and measured how many volts they let through. We a lower let-through voltage (also called clamping voltage) is better, since you want as few volts as possible to get through to your devices. Since surge protection isn't the primary aim of a UPS, we didn't set a hard limit, but we did prefer models with lower let-through voltages. Max output (watts) from USB-A ports, if applicable: For the units with USB-A output ports, we connected a PortaPow USB power monitor and a Drok USB load tester to each port, then cranked up the power on the load testers until the ports overloaded and shut down. We recorded the maximum amps and volts, and we multiplied them to calculate the total output in watts. Look and feel: We considered the usability of the interface, the layout and spacing of the outlets and ports, the shape and size of the unit, and the overall design. Tripp Lite's 12-outlet TLP1208TE1 absorbs thousands of volts so they won't fry your gear, and it helpfully lets you know when its protection wears out. Photo: Michael Murtaugh With five outlets on battery backup and 10 outlets total, this UPS can reliably keep your Wi-Fi network running for up to four hours in a blackout or keep your home-office setup powered long enough for you to save your work and shut down. The CyberPower CP900AVR offers premium features that you typically find in units costing twice as much. It has a peak power output of 738 watts—one of the highest figures we measured in our testing, and more than double the power necessary to run a household modem, router, PC, and external hard drive—and it can keep a modem and router (a 20 W load) running for up to four hours. Plus, it has 10 outlets, including five battery-backed outlets, to keep those devices running during a power outage. It's easy to use, and it has a compact design that fits comfortably under most workstations. The CP900AVR has a modified sine-wave inverter, so it produces a slightly choppy electrical waveform than what you can get from the pure sine-wave inverters found in more expensive models, which are better for powering sensitive equipment. But because it has automatic voltage regulation (AVR), this UPS doesn't need to transition from wall-outlet power to battery power as often as models lacking this feature. This technology provides more-reliable power to connected devices that can't tolerate power drops, such as hard drives, and it also extends the overall life of the unit. In our testing, this CyberPower UPS achieved a higher peak power than any comparably priced competitor, and it was just as good as some pricier units we tested. We were able to plug in 738 watts' worth of devices—two lamps, a fan, 10 halogen bulbs, and even a KitchenAid mixer set to medium power (don't do this at home)—before its built-in battery finally cried uncle and shut down. Obviously most people won't be powering their KitchenAid mixers on a UPS during a blackout, but our test is a good indicator that this unit will power almost anything you need in your home office for at least a short while. The CP900AVR's run time is as good as that of any model we tested, and better than most. Judging from our testing, we expect it to keep a modem and router running for up to four hours—or a modem, router, PC, and external hard drive running for about 17 minutes—giving you ample time to save any work and close any programs you have open. That result is on a par with what we saw from our upgrade pick, and more than twice as long as our budget pick's result. The CP900AVR has a total of 10 outlets, including five battery-backed outlets, so you could keep a PC, monitor, NAS, modem, and router running while the power goes out. Aligned in two rows, the outlets are spaced widely enough for you to fit most plugs, and two of them can accommodate the bulkiest of plugs. The unit has a compact, upright design—about the shape and size of a family-size box of cereal—so you can easily stash it next to a PC tower or wireless router at a workstation, or alongside the speakers and stereo receiver in a record-player setup. This model is as easy to use as any UPS we've tested. It has a large, round button on the front to power the unit on and off, and another to mute the notification noises (a double-beep every 30 seconds after a power outage, rapid beeping when the battery backup is about to cut out, a constant tone if there's an overload or short circuit, or a beep every two seconds if the UPS has an internal problem). Below those buttons is a cluster of four small LEDs that light up to indicate (clockwise from top left) when the unit is powered on, when the battery backup has kicked in, when the unit is overloaded, and when the AVR feature has kicked in. The unit has large vents on either side to prevent overheating, and all of the ports and connectors are located on the back. In addition to its 10 AC outlets, the CP900AVR has two coaxial connectors that you can use to hook up a cable box or modem, a serial port for a printer or other peripheral device, and two network ports to connect the unit to a server. Wi-Fi router, or any other device that requires a wired network connection. It has a USB-B port to connect the UPS to your computer—which you need to do if you want to use CyberPower's software or your computer's operating system to set up data saving, monitoring, and other functions. It also has a small LED to alert you if it detects a wiring fault in the outlet you plug it into, as well as a red button to reset the circuit breaker in the event of an overload or short circuit. The CP900AVR has a thick, flexible 6-foot cord, which is as long as or longer than the cords on all of the units we tested. As with the rest of our picks, its plug has a flat, low-profile shape and is oriented at a 45-degree angle so it won't block more than one wall outlet (though if you prefer a straight-in plug, our former top pick, the Tripp Lite AVR750U, is a good option). CyberPower protects the CP900AVR with a three-year warranty, which is as long as we've found for a home UPS. Three years is more than enough time for you to test your UPS to find out if it's a dud and whether it meets your needs in a real-world power outage. The CyberPower CP900AVR isn't as easy to slide under a desk or an entertainment center as units that are flatter in shape, like our budget pick, so you need to have enough vertical space to accommodate it. Its ports are also less accessible since they're located on the back of the unit instead of on top, but that's a worthwhile trade-off to reduce cord clutter. Although this model has two fewer outlets than our budget pick, 10 outlets is plenty for most people—and all the models we tested with more outlets had worse peak power or run times. When we threw 5,000 volts at this unit, it blocked all but 540.4 of them. That's not quite as good as what we saw from our favorite surge protectors, none of which let through more than 300 volts in testing with identical equipment and parameters. But against most household power spikes, sags, or surges, the CP900AVR can protect your devices better than most of the UPS models we tested, some of which (such as the CP800AVR and CP685AVRG) let through more than 700 volts apiece. For powering and protecting critical equipment, such as a CPAP machine or high-end audio gear, you'd be better off with our upgrade pick, since this model's modified sine-wave inverter produces slightly choppy waveforms that can be incompatible with some devices. Photo: Michael Murtaugh This UPS has the highest peak power output and run time of any model we tested, so it can run more gear for a longer stretch than anything else. Plus, its higher-quality power is compatible with even the most sensitive electronics. If you need more power, slightly longer run times, or the ability to protect sensitive electronics such as household AV gear or medical equipment in a blackout, the APC BR1500MS2 is your best bet. It costs around twice the price of a model like the CP900AVR, but its peak power output is higher than that of nearly every other UPS we've tested, it can keep a home Wi-Fi network powered for a few minutes longer, and it has an LCD screen that you can use to closely monitor output, battery life, and other variables. Plus, when you're not in an outage, you can use its two USB ports to keep a phone and one other small device charged. Because it has both a pure sine-wave inverter and automatic voltage regulation (AVR), this unit can work with even the most sensitive electronics. In our testing, we ran out of 10-, 50-, and 100-watt appliances trying to reach the BR1500MS2's peak power output, so we ended up putting it to the ultimate test by plugging in a hair dryer—don't try this at home, since a UPS is not designed for use with heat-producing devices—after which we finally measured a maximum output of 847 watts. Similarly, the BR1500MS2 led most contenders in the dust when it came to battery capacity, as it ran for four hours at a 20 W load and 21 minutes at a 300 W load. The only competitors that came close were our top pick and the CyberPower CP1500PFCLCD (the latter was also the only UPS to beat the BR1500MS2 in output, cranking out a whopping 930 watts). No matter how massive your setup is—maybe you have a full workstation drawing 300 W or more, or maybe you have only a modem and router plugged in, totaling about 20 W—the BR1500MS2 should buy you plenty of time to save your work and shut down all your programs. Like our top pick, the BR1500MS2 has 10 outlets, two of which are spaced far apart enough to accommodate extra-large plugs. It has one more battery-backed outlet than our top pick (six versus five), so you could potentially keep a computer, monitor, external hard drive, modem, router, and NAS unit running without skipping a beat in the event of a power outage. Plus, the USB-A port and the more-powerful USB-C port on the front (which have a combined output of 19 W, according to our measurements) can help free up one of the surge-protected AC outlets, which might otherwise be occupied by a USB wall charger. No matter how massive your setup is, this UPS should buy you plenty of time to save your work and shut down all your programs. The BR1500MS2 is one of the biggest models we tested, measuring about 4 inches wide by 10 inches high by 14½ inches deep (the CP1500PFCLCD and CP900AVR are both roughly the same size). Like our top pick, it stands upright, so it's better suited for placing alongside a desktop computer tower or bookshelf speakers rather than sliding under a desk or mounting on a wall. When we jugged the BR1500MS2 with 5,000-volt surges, it was able to block all but 593.2 volts. That's not nearly as much protection as our favorite surge protectors offer, and it's slightly worse than what we saw from our other UPS picks (our top pick let through 540.4 volts, and our budget pick let through just 402.8 volts), but this model will still protect your equipment against most household power surges. The BR1500MS2 is one of just three UPS units we tested with a display screen (the other models, the APC BR1000MS and CP1500PFCLCD, are similar in price and have all the same key features, but in our testing they had a shorter run time and let through more volts than the BR1500MS2, respectively). The screen is large and bright, with easy-to-read text and images. It tells you if the UPS is on and passing power to your devices, and it also relays lots of other information, including the current input and output, the battery's charge status, how much of the maximum load your devices are using, the estimated run time (in minutes) if an outage were to occur, how many outages have happened, whether the alarm's volume has been muted, when the UPS is utilizing its AVR feature, and when the battery backup has kicked in. This isn't information everyone needs to know, but it can offer extra peace of mind—which is especially nice in when you're scrambling to safely power down your equipment in a blackout. The BR1500MS2 is the only one of our picks with a screen, which allows you to closely monitor output, battery life, and other variables. Photo: Michael Murtaugh Beneath the screen, you'll find (from left to right) a display button to toggle through options, a power button, and a mute button to silence the chirruping audio notifications. The last is especially useful with this unit, since you can get most of the necessary information from the display screen rather than trying to infer meaning from a series of chirps (which are louder and less charming than actual birdsong). Like every model we tested, the BR1500MS2 has a little light (on the back) that turns red if it encounters a problem. But its screen offers additional information, such as whether the problem originated internally, from faulty wiring in your wall, or from the battery overloading. And like most UPS units, it has a red button (also located on the back) that you can press to reset the circuit breaker, which means you don't have to unplug and then replug the UPS every time a problem occurs. Like our top pick, this UPS has two network ports, a serial port, a USB-B port, and two coaxial connectors. All of these ports are unnecessary for most people, but they don't take up much space and are nice to have if you're concerned about power surges coming over those lines. If you have a Windows computer, you can connect it to the USB-B port and run APC's included software to schedule your computer to turn on and off at a certain time, back up certain data, and more. If you have a Mac, you can use your operating system's native shutdown feature for a similar range of tasks. Like our top pick, the BR1500MS2 has an ample 6-foot cord to reach from a wall outlet to your work or entertainment setup, and it's backed by a three-year warranty in case you run into any issues with your UPS in that period. Photo: Michael Murtaugh This UPS lacks premium features, but it has plenty of outlets and power to keep a home Wi-Fi network up and running for up to an hour and a half when the power goes out. At the time of publishing, the price was \$73. The Amazon Basics Standby UPS 800VA is a good option if your budget precludes you from getting one of our other picks—plus, it adds two more outlets. But in saving some cash, you're giving a few things up: It has the lowest capacity and peak power output of any of our picks, as well as the shortest cord and the skimpiest warranty. And don't plan on using it to protect electronics that require either a pure sine-wave inverter or automatic voltage regulation (AVR), since it lacks both features. In our testing, this inexpensive option had more than enough power output for home-networking gear or a simple home-office setup. We measured a peak power output of 470 W, as it allowed us to connect an assortment of eight halogen bulbs and two lamps to its battery-backed outlets before it tapped out a few seconds later. That's a lower output than we got from most UPS units we tested, but it should still be enough to power a desktop computer, a household modem, a Wi-Fi router, an external hard drive, and maybe a few small devices. If you just want to keep your Wi-Fi powered during a blackout, this Amazon Basics option is a cheaper way to do so for around an hour and a half (that's how long it lasted with our 20 W fan). It won't last more than a few minutes under a heavier load, though; we measured a run time of just six minutes with a 300 W load. This UPS has 12 outlets total to plug your electronics into, including six battery-backed outlets to protect some sensitive devices—such as a router, modem, laptop, monitor, external hard drive or NAS, and alarm clock—in the event of a power outage. That's two more outlets than in either of our other picks. The Amazon Basics Standby UPS 800VA has 12 outlets, four of which are spaced far enough apart to accommodate extra-large plugs. Photo: Michael Murtaugh The unit is about the size and shape of a dictionary lying flat on its back. The outlets are widely spaced, and four of them have enough space for extra-large power bricks. The unit's only auxiliary connector is a USB-B port, which you'll need if you want to use the included software that lets the UPS trigger a safe shutdown of your computer (it works for either Mac or Windows). Like our other picks, it has a circuit-breaker reset button, which is handy for restarting the unit if it overloads or short-circuits; this feature prevents you from having to unplug and then replug the entire unit. When we zapped this unit with 5,000 volts, it blocked all but 402.8 of them. Although that's about twice as many volts as our favorite surge protectors let through, it's still better surge protection than we saw from any UPS we've tested (other than the Tripp Lite AVR750U, which performed about the same). This means that, unlike with some models we tested, your precious devices should have ample protection against common household power fluctuations as well as against less-frequent blackouts that trigger the battery backup. On the top, the Standby UPS 800VA has a single on/off button that doubles as all of the indicator lights for the unit. For example, the button turns solid green when the device is powered on and working, it flashes and beeps when the UPS is running on battery, and it turns solid and plays a constant tone when the battery is overloaded. This interface is less intuitive than that of other units, and it might make you resort to the manual (or this guide) to figure out what the UPS is trying to tell you, but it gets the job done. This UPS has a 5-foot cord, which is a foot shorter than the cords for our other picks, so you might have to move your workstation closer to an outlet to help it reach. As for other drawbacks, aside from the unit's lack of AVR, a feature that came with only our top pick, Amazon Basics also offers the shortest warranty. With a one-year warranty, you have little wiggle room, so if you do choose this model, make sure to test it out within that window to confirm that it works—and continue to test the battery periodically by unplugging the UPS from the wall and letting it run on its battery. It's important to know what a UPS can and can't do. Using a UPS to power high-draw devices—including large office equipment such as laser printers and paper shredders, or anything that makes heat, like a space heater or curling iron—can damage its internal components, degrade its battery, and void its warranty. Small electronics or office equipment without moving parts should be fine, but for anything bigger than a desktop computer, check the manual for your UPS. Do not ever—ever, ever—plug a UPS into a surge protector, or vice versa. Aside from potentially overloading either unit and tripping a fuse or breaker, you also risk cancelling out the surge protection instead of doubling it up. Similarly, you should not plug a UPS into an extension cord, because the excess load can cause it to overheat and melt. If the cord on your UPS isn't long enough, you're better off moving your workstation closer to an outlet or spending \$100 or so to have an electrician install a new outlet—either of which is preferable to replacing damaged electronics or starting a fire accidentally. The sealed, lead-acid battery inside your UPS will stay charged as long as the device is plugged in, so it should be able to perform well for many years. But since batteries degrade over time, you can avoid any surprises in the future if, once a year or so, you unplug the UPS from the wall outlet with your devices running—just to make sure the UPS powers them for as long as you expect it to. Like all electronics, a UPS unit won't last forever. But ideally, you should be able to replace the battery numerous times before you have to replace the entire unit. CyberPower and APC sell replacement batteries that are compatible with our top and upgrade picks, respectively, as do some third-party battery makers. Amazon Basics doesn't sell spare UPS batteries, but you can get a compatible replacement for our budget pick from Duracell, Mighty Max, and some other well-established brands. When in doubt, just make sure the voltage and terminals (either F1, F2) listed on the label match the battery that came with your unit. UPS units typically use sealed lead-acid batteries, which (along with nearly every kind of battery used these days) can be recycled. Although most Americans recycle plastic, metal, paper, and cardboard on a regular basis, less than half recycle their used batteries and other electronic waste. This is a bummer, since batteries that end up in a landfill can leach heavy metals and other harmful chemicals into local soil and water systems. It also means that to make new electronics, manufacturers need to have more raw materials mined, rather than salvaging the usable components from old ones. To recycle your old UPS batteries, as well as the UPS units themselves (when they eventually wear out), you have a few options: Look up municipal recycling facilities in your area that accept electronic waste using the Earth911 database. Drop off spent UPS batteries (and other used batteries) at a Call2Recycle collection site. Mail in a prepaid TerraCycle Power Strips and Cords Zero Waste Box with your old UPS unit (sans battery) and any surge protectors, power strips, extension cords, and other cables you'd like to get rid of. Mail in a prepaid EasyPak Electronics Recycling Container from TerraCycle Regulated Waste to recycle a medley of batteries and other types of e-waste. If our top pick is unavailable, and you don't need the premium features our upgrade pick offers (such as a pure sine-wave inverter, a screen, and USB ports), get our former top pick, the Tripp Lite AVR750U. It has even more outlets (six battery-backed outlets and 12 total) than our top pick, as well as an equally long (6-foot) cord. It had the best let-through voltage of any model we tested, letting through just 397.2 volts. It also performed well in our other tests—keeping our 10 W lamps lit for two hours and cranking out 489 watts of power—though not as well as our top and upgrade picks performed. The CyberPower AVR6900U is a good option if our top pick and the Tripp Lite AVR750U are both unavailable and you don't need our upgrade pick's premium features. In our testing, it kept our lamps lit for two and a half hours, had a 617-watt peak power output, and blocked all but 540.4 volts of our 5,000-volt power surges. It has 12 outlets (including six battery-backed outlets) and a 5-foot cord. We omitted the following models because they let through more voltage than our picks in our surge-protection testing: The APC BE650G1 let through 684.4 volts, the CyberPower CP685AVRG let through 718 volts, the CyberPower CP800AVR (our former runner-up pick) let through 756 volts, and the CyberPower CP1500PFCLCD (our former upgrade pick) let through 628.4 volts. The Amazon Basics Standby UPS 600VA has mediocre battery capacity. In our testing, we measured a 30-minute run time at a 20 W load, and three minutes at a 300 W load. Plus, it has only eight outlets (four with battery backup), fewer than any of our picks. The APC BR1000MS has 10 outlets, six of which have battery backup. But in our tests it had a disappointing peak power output—we measured a max output of 670 watts, a result that's no better than what we got from some of the less-expensive models. The CyberPower CP1000PFCLCD has a shorter run time (90 minutes at a 20 W load, six minutes at a 300 W load) and peak power output (535 W) compared with either of the similarly priced models we tested, as well as some models that cost less than half as much. Sarah Witman has researched, tested, and reviewed all manner of products—from massage chairs and mousetraps to pencils and power banks—since joining Wirecutter in 2017. Before that, she worked as a science writer and fact checker for numerous publications, and she studied journalism at the University of Wisconsin. In her spare time, she eats as much cheese as her body will tolerate. Further reading: Sarah Witman | Tripp Lite's 12-outlet TLP1208TE1LTV absorbs thousands of volts so they won't fry your gear, and it helpfully lets you know when its protection wears out. | Sarah Witman | The best power strip for travel in North America is the inexpensive Acoell Home or Away Surge Protector (aka Tripp Lite Protect It 3-Outlet Surge Protector). | Rachel Cericola | plug-in smart outlet enables smart features like scheduling, remote control, and voice commands in un-brainy devices such as lamps, fans, or Christmas lights. | Erica Ogg | Whether your utility is planning outages to prevent wildfires or you're preparing for other blackout scenarios, here's the best gear for backup power and lighting.







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