

10/8/2022

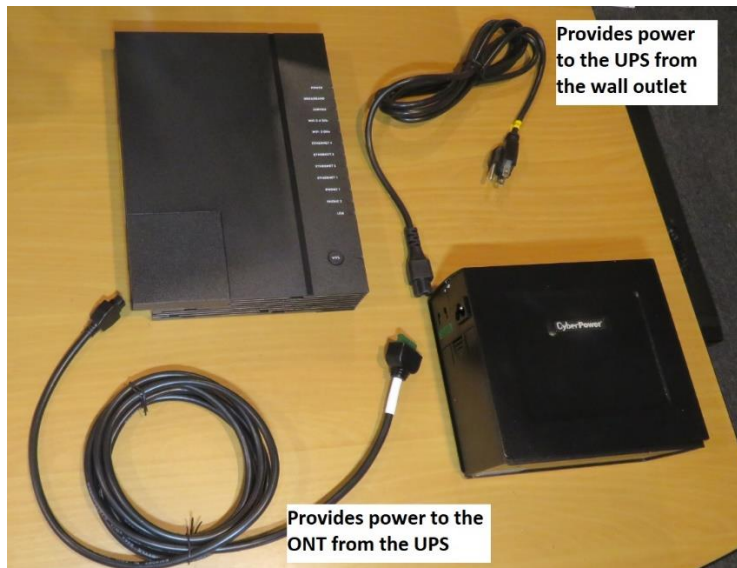
The Care and Use of Your Broadband Battery Backup System

By Page Clason

Four successful years have blazed by since the Town's broadband service started. Those of you wanting to do all you can to make sure your Internet access stays active when the CMP power is out should be paying attention to the condition of the equipment in your house.

BROADBAND EQUIPMENT IN YOUR HOUSE

Most houses have two pieces of town equipment installed for Internet access. The ONT is the cereal box sized device providing Internet access via WiFi or network Ethernet cables. The smaller, thicker device is a CyberPower Uninterruptable Power Supply (UPS) containing a battery which keeps your ONT running when the electric power to your house is out.



THE ONT

There is not much for you to do with your ONT. So long as the lights on your ONT are green, some of them may be blinking, and you have internet access then things are good. Occasionally your network may be misbehaving with devices not working or Internet speeds being slow. You can try to reboot your ONT by removing the power cord from the ONT or from the UPS. You know you pulled the right cord when the lights go out on the ONT. Wait a few moments and then plug it back in. Within 5 minutes the ONT should be fully booted and Internet access should be back. If you still are experiencing problems it is best to call GWI's support number. (866) 494-2020

THE UPS BATTERY SYSTEM

The rest of this article discusses your UPS battery backup system. The UPS contains a battery which keeps your Internet service active while the CMP electrical power is out. GWI maintains most all components of our town owned network and equipment. However, the UPS batteries are the responsibility of the property owner. When new, the batteries should power your ONT for

approximately 8 hours. The amount of time the battery provides power will decrease as the battery ages. Typical battery life is approximately 3 years. They can die sooner or they can live longer. If you have not yet replaced your battery but you desire having it provide hours of service while the CMP power is out you should be monitoring its condition.

To be clear, the battery is not required to have Internet service. If your battery is dead or removed from your UPS, so long as power is provided by CMP or your generator, your ONT will provide Internet and WiFi service. If you don't have a generator or other alternative power source and you want to have Internet available when CMP power is out you will need a healthy battery in the UPS. GWI phone customers should keep in mind the ONT must be powered up for that phone service to work.

BATTERY STATUS LIGHTS

The four lights on the front of the UPS provide a quick view of the UPS and battery status.

| | |
|---------------|---|
| System status | Normally green – the UPS is powered on. |
| DC | Normally off – when lit the UPS does not have power from the wall outlet and the ONT is running from battery power. |
| Mute | Off by default. If on, there is no audio alarm when the UPS does not have power from the wall outlet. |
| Battery | Normally off. If this is red the battery needs to be replaced or connected. |



TESTING YOUR BATTERY

To test if your battery is working you can simulate a power outage by unplugging the power cord from the UPS or the electrical receptacle in the wall. If you unplug the UPS power cable from the wall receptacle and the lights on your ONT immediately turn off you likely need a new battery.

Usually when the battery has failed the BATTERY light indicator will illuminate red. If the light is red, first verify the battery terminal wires are properly connected before replacing the battery.

If you want to estimate the quality of life left in the battery you will need to leave the UPS unplugged from the power receptacle and watch to see if the battery provides power to the ONT for the originally specified 8 hour run time. The less time the battery powers the ONT the closer to replacement your battery is. Before trying this you should have the UPS plugged in overnight to make sure it had sufficient opportunity to reach full charge.

ACCESSING THE BATTERY

Open the panel as shown in the diagram. Sometimes the battery sticks a little so you may need to lightly shake the UPS to dislodge the battery allowing it to slide out.

Often the UPS is wall mounted. In this case it is hanging on two screws so you simply lift the UPS up and off the screws.

When replacing the battery it is not necessary to unplug the UPS from the wall power receptacle but I prefer doing so.



BATTERY TERMINAL WIRES

The UPS terminal wires slide on the battery terminals as shown in the picture. The red terminal wire goes to the red positive terminal on the battery and the black terminal wire goes to the black negative terminal on the battery.

The wires usually slide on to the terminals relatively easily but once they are on they can be difficult to pull off. A pair of pliers make it easier to put on and remove the terminal wires. Use care to not let the pliers touch both the red and black terminals at the same time or you will see sparks. Touching either terminal is harmless, touching both terminals at the SAME TIME is to be avoided.



PROTECTING YOUR BATTERY

To get the longest life out of your battery you want to make sure the battery doesn't freeze and that it remains charged. For those folks who shut down houses and leave for the winter season you should store your battery somewhere warm and with a full charge. Doing so will provide the best chance of prolonged battery life. The best care would be to store the UPS with the battery in it and the UPS plugged into power keeping your battery fully charged and out of freezing or damp air. If simply leaving the UPS and battery in place but turning off the house power then disconnect the ONT power cord from the UPS when you turn off the house power so at least the battery begins its stored session with a full charge.

BATTERY REPLACEMENTS

These are 12 volt sealed, maintenance free lead-acid batteries with 7.2 amp hours usually specified as 12V 7.2 Ah. The UPS documentation suggests a maximum rating of 9 Ah could be used which will provide longer run time from battery. So finding a replacement in the 7.2 to 9 Ah range is good. Check the replacement battery measurements to be sure it will fit in the UPS. Our batteries are 2 1/2" wide, 5 7/8" long, and 3 5/8" high.

These batteries are in the \$25 to \$40 range at Walmart, Amazon, or other sources. The Town Office also typically can sell them. I also typically have some available through my own support business.

Please remember to properly recycle your old battery. Our Transfer Station accepts these batteries.



MUTING THE ALARM

By default the UPS is configured to beep when the power is out. The beeping will increase as the battery drains. This is an annoyance when trying to sleep. Pressing the gray “ALARM SILENCE” button on the front of the UPS will stop this. The ALARM SILENCE is the upper button of the two gray buttons.

Press the button about $\frac{1}{2}$ second, the UPS will beep to confirm the alarm has been disabled for 24 hours. Press the button again for about $\frac{1}{2}$ second to enable the alarm again. The UPS should beep twice to confirm the alarm is back on.

I prefer to permanently turn off the audio alarm. To do this press and hold the ALARM SILENCE button for 15 seconds. The UPS will beep once after 1 second and then once again after 15 seconds indicating the alarm is permanently silenced. You can press and hold the ALARM SILENCE button for 15 seconds again to restore the audible alarm. The UPS should beep twice to confirm the alarm is back on.

If the UPS’s MUTE light is amber the alarm is muted.

NO WI-FI WHEN USING THE BATTERY POWER

There is a circumstance when WiFi stops working when running from battery power. You may want to test this BEFORE you need to rely on battery power for WiFi access because changing it involves a phone call to GWI support. There are a variety of settings in the system GWI uses to manage all of our ONTs. One setting tells the ONT to turn off the WiFi radios after several minutes of running on battery. Removing the energy drain of the WiFi radios maximizes the time the battery would keep the ONT on. This is good if you want to maximize the time GWI phone service and/or wired network devices remain active. This is a problem if you prefer to have WiFi access while running from battery.

To see how your ONT is configured for running from battery you need to test the battery as described earlier in this article. This time, observe the WiFi signal for 10 minutes of running from battery power. If WiFi remains active the whole time then your ONT is set for WiFi priority. If WiFi runs for a few minutes and then disappears your ONT is configured to turn off WiFi when running on battery. If you want this setting changed call the GWI support desk and ask to have the network folks adjust your ONT settings as desired.

I hope this helps you get the most enjoyment and service out of your battery system. If you have questions or requests for other information please let me know and we can cover it in a future article. For future reference you can find this article on the Town's website (www.townofislesboro.com) in the Islesboro Municipal Broadband section.