

TECHNICAL BULLETIN NO. 20090909

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SUBJECT Winterizing Modems with Lead-Acid Batteries

PRODUCT FAMILY WatchDog Communications: GPRS, CDMA, Satellite

DETAILS

Most WatchDog Weather Stations are in use all year. However, some owners prefer to remove the station during the winter months for cleaning, recalibration, and protected storage. Special care must be taken when the station is being used with a WatchDog cellular or satellite modem containing a sealed lead-acid battery.

Without intervention during a four-month storage period, a lead-acid battery will permanently lose over half its charging capacity. Once this happens, the battery will no longer be able to maintain communications through multiple overcast days. If this occurs, recycle the old battery, and replace it with a new one.

There are three options for maintaining charging capacity:

1. Continue to operate the WatchDog station and modem throughout the winter months. Note that if the snow is deep enough to block the solar panel, then the battery may discharge as noted above.
2. Store the station and the modem. Remove the battery from the modem. Charge it once a month with a 12 volt (automobile) battery charger.
3. Store only the station. Leave the modem in place, or move it to a more protected area.

If the modem is moved to an outdoor location, the solar panel can be pointed due east or west, as less power is required to maintain the charge. Tightly affix a plastic bag around the connector at the end of the station cable to protect it from the weather.

If the modem is moved into a building with windows, leave the battery and solar panel connected. Place the solar panel near a window so that the entire panel receives at least thirty minutes of direct sunlight each day. Note that the entire panel must be receiving the sunlight for thirty minutes – if only part of the panel is receiving light, not enough voltage will be generated to charge the battery.