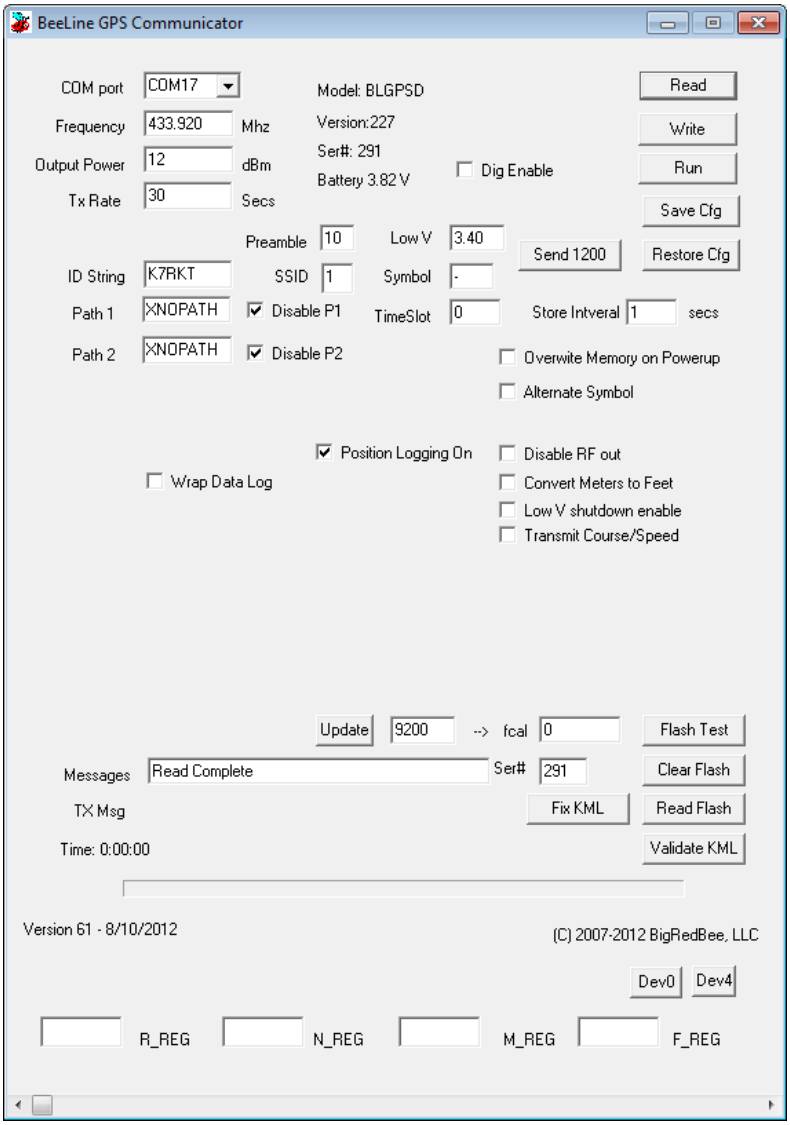
BeeLine GPS and Memory Management

The current version of the 70cm BeeLine GPS contains a 1-mbit non-volatile memory chip used to store position data. Each “record” is 15 bytes long and stores latitude, longitude, altitude, GPS time, and number of satellites in view. This allow for approx. 8700 records to be stored, or about 2.5 hours of continuous recording at 1 hz.

The memory can be managed in 4 different ways by setting the “Overwrite Memory on Powerup” and “Wrap Data Log” options.



If “Overwrite Memory on Powerup” is selected, the device will start writing at location 0 when power is applied. If power is cycled, the previously stored data will be overwritten. The “Wrap Data Log” options controls what happens when the end of the memory is reached.

1) Wrap Data Log = Off. Writes start at location 0 when power is applied. Recording stops when the end of memory is reached.

2) Wrap Data Log = On. Writes start at location 0 when power is applied. Recording wraps around to the beginning when the end of reached. When the wrap occurs, the old data is overwritten with the new data.

Using mode 1) requires that your flight occur within 2.5 hours of applying power before recording stops. Using mode 2) requires that you retrieve the device and turn power off within 2.5 hours of the start of the flight before the data is overwritten.

When using either of these methods be careful about turning the unit on if it contains un-read data. Data will be overwritten once GPS lock is acquired, so apply power and read the device as quickly as possible to prevent data from being overwritten.

If “Overwrite Memory on Powerup” is cleared, the device will keep track of the last address written to, and start writing to that address after power is applied. The “clear flash” button will reset this last address pointer to 0

3) Wrap Mem = OFF. Starts writing at location 0, and picks up where it left off if power is cycled. Stops when it reaches the end of memory. Once the end of memory is reached, No more data will be written until the “clear flash” function is executed.
4)
5) Wrap Mem = On. Starts writing at location 0, and picks up where it left off if power is cycled. Wraps to the beginning when the end is reached. “Clear Flash” will reset the last location pointer to 0.

It is very important to “Clear Flash” prior to use if configured in mode 3). Failing to clear the flash from a previous session will likely mean that no data will be written.

The default configuration is “Overwrite Memory on Powerup” set, and “Wrap Data Log” cleared. In this mode, the device will store data for approx. 2 ½ hours starting at location 0 and stop when memory is filled. While it is recommended that the flash be cleared in between flights, there is no requirement to do so when configure in this mode.