How To Manage BATT2 (BThr, BatW, LoVWthr, LoVW)

This “How To” document discusses issues related to the use and control of the second (auxiliary) tool battery, “BATT2”.

Some of the Key Parameters:

1) BThr/BatW – BThr is the QDT/GE “Low Battery Threshold Voltage” parameter. When the supply voltage on the Toolbus (BATTBUS) drops below the voltage specified by “BThr”, then the “BatW” flag becomes set and the tool switches in the auxiliary battery (BATT2) if it is present in the tool.

2) LoVWthr/LoVW – LoVWthr is the XXT “Low Battery Voltage Warning Threshold”. When the supply voltage on the Toolbus (BATTBUS) drops below the voltage specified by “LoVWthr”, then the “LoVW” flag becomes set and the tool switches in the auxiliary battery (BATT2) if it is present in the tool.

3) Bat2 – This is the BATT2 Status Flag. When BATT2 is switched in, the “Bat2” flag is set to “On” (1). When BATT2 is not switched in, the “Bat2” flag is set to “Off” (0).

4) BatV/BEvT - The battery voltage used for comparison against the low battery threshold is “BatV”. BatV is measured by averaging the BATTBUS voltage over a specified evaluation time “BEvT”. BEvT defines both the time interval over which battery data is averaged and also the interval at which BatV is updated. A period of 10 seconds is typical.

5) XXT nodes can use either “BatW” or “LoVW” synonymously and interchangeably, but QDT/GE tools must use “BatW”.

6) When doing any command-line operations (i.e. qBus/xxBus), be sure to use “BThr” for QDT/GE nodes and “LoVWthr” for XXT nodes. The XXT MPRx05 receiver card is an exception and always uses “BThr” (not LoVWthr).

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From within XXT’s xxMWDconfig utility click on the “Battery” section and you will see the following window (this example is from xxMWD/PC™ Program Suite V02.10):

If you want to have BATT2 always switched in (in addition to BATT1), for example to have more battery power available for driving a pulser which draws more current, just set “BThr” to the maximum allowable value (in this case 36.0 Volts). Since the voltage supplied by BATT1 will be less than 36.0 volts, BATT2 will be switched in right from the beginning (about BEvT seconds after a reset or power-up), in addition to BATT1.

When using the xxMWDconfig utility, setting a value for “BThr” will automatically program either the “BThr” parameter (QDT/GE) or the “LoVWthr” parameter (XXT) depending on the Tool being programmed.

For a description of any one particular parameter, click on the parameter in the Battery Monitor Settings window and read the description at the bottom of the window. For more detailed information about all of the Battery-related parameters, while in the Battery Monitor Settings window, press the F1 key on your keyboard to open a “Help” dialog window.
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