

# Bruce Sherry Designs

## BatMan EL RS-232 Supplement

This document describes the additional connections and equipment that your BatManELR utilizes. The RS-232 Battery Manager Electrathon Version comes as pictured to the right. It includes:

1. The BatMan-EL unit.
2. Current Shunt.
3. RJ-11 to DB-9F connector.

The main BatMan battery connections are covered in the BatMan-EL Manual, and will not be covered here.



Connection from the BatMan to your computer is simple: Your computer should have a DB-9M connector on the back somewhere, and all you need to do, is to plug in the DB-9F from the Batman, and you should be ready to go.

The data transmitted by the BatMan looks like this:

```
-000.0A, 23.14V, -000.00Ah, 000:00
-000.0A, 23.14V, -000.00Ah, 000:00
-000.0A, 23.14V, -000.00Ah, 000:00
-044.7A, 23.14V, -000.00Ah, 000:00
-346.5A, 23.15V, -000.02Ah, 000:00
-346.5A, 23.15V, -000.05Ah, 000:00
-346.5A, 23.15V, -000.07Ah, 000:01
-346.5A, 23.15V, -000.09Ah, 000:01
-346.5A, 23.15V, -000.12Ah, 000:01
-346.5A, 23.15V, -000.14Ah, 000:01
-346.5A, 23.15V, -000.17Ah, 000:02
-346.5A, 23.15V, -000.19Ah, 000:02
-346.5A, 23.15V, -000.21Ah, 000:02
-346.5A, 23.15V, -000.24Ah, 000:02
-346.5A, 23.15V, -000.26Ah, 000:03
-346.5A, 23.15V, -000.29Ah, 000:03
-346.5A, 23.15V, -000.31Ah, 000:03
-346.5A, 23.15V, -000.34Ah, 000:03
-346.5A, 23.15V, -000.36Ah, 000:04
-346.5A, 23.15V, -000.38Ah, 000:04
```

The data is pretty self explanatory, the first column is the battery current, with negative discharging the battery. Then comes battery voltage, amp/hours used, and race time. You

will notice that time changes every fourth sample. This is because the BatMan updates four times a second.

This data can be displayed or captured with any terminal emulator program on your PC or handheld. One such program for the PC is HyperTerminal, which comes with windows. You can run HyperTerminal by:

Start->Programs->Accessories->Communications->HyperTerminal

Set the port to whichever com port you have plugged the BatMan into. Set the communication parameters to 9600 baud, 8 bits, no parity, 1 stop bit. If the BatMan is plugged in, and connected to the battery pack, you should be getting data on the screen. In order to capture the data to a file:

Transfer->Capture Text

This data can be processed by any convenient program. I have used QBasic, and Perl for this task. I have also used a spreadsheet to graph data that I have captured. You can check this out at: <http://www.brucesherrydesigns.com/WoodburnRun2.pdf>. This was from a special BatMan, but the principles are the same.

If you would like to connect to a modem, or a palmtop, you can get an RJ-11 to DB9-9M connector. These can be obtained from Bruce Sherry Designs, or another vendor. This is why the cable ends in a connector, instead of just terminating in the DB-9.

Use only the DB-9 to connect to your computer. Plugging the RJ-11 into your modem jack will not work. The BatMan has only RS-232 converters, it does not contain a modem.

If you have any other questions, send me an email, or give me a call,

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