

PICAXE Programming Cable for BatteryMonitor

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To optimize printed circuit board space BatteryMonitor uses a 2.54mm (0.1") three pin male programming header. If you already have a PICAXE serial or AXE027 USB programming cable it's easiest to make an adapter to connect from the PICAXE cable's 3.5mm male stereo phone plug to the three pin header. A wired 3.5mm female stereo phone jack, 3pin header and heat shrink tubing are included in the kit for this purpose.

If you don't have a PICAXE programming cable then consider customizing a serial cable to connect the three pin header with a DB9 female connector. If your computer doesn't have a serial port you will also need a USB to DB9 serial cable adapter.

BatteryMonitor Programming Interface

The BatteryMonitor 3 pin programming connector JP1 is located on the top left hand side of the PCB above the push button switches. The three pins from left to right are ground, serial out, and serial in. Note that the header is wired with serial out as the middle pin so that if you accidentally flip the connector around and insert it in the wrong way the PICAXE won't be damaged.

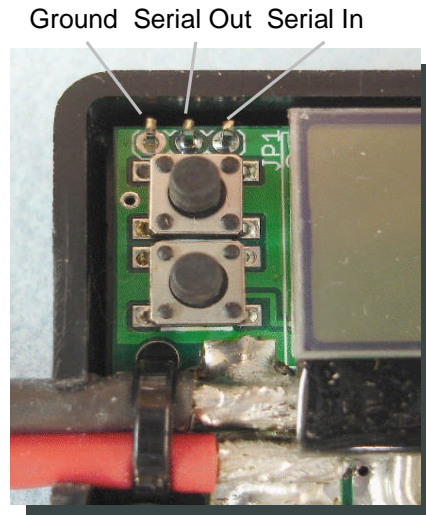


Fig. 1 Battery Monitor Programming Header

Connection Table

Connect the three pin header to either a 3.5mm stereo phone jack or DB9 cable following the table below.

<i>PICAXE Function</i>	<i>BM Header</i>	<i>PICAXE 3.5mm</i>	<i>DB9 Pin</i>
Ground	Gnd	Tip	5
Serial Out	Ser Out	Sleeve	2
Serial In	Ser In	Ring	3



3.5 mm phone jack to BatteryMonitor header adapter cable

The following procedure constructs a jumper cable that consists of a 3.5mm stereo phone jack on one end that connects from the 3.5mm stereo phone plug on the PICAXE programming cable and a three pin header on the other end that connects to the BatteryMonitor.



Fig. 2 Finished adapter cable

Parts Supplied

1. Molded 3.5mm stereo phone jack with 15 cm lead
2. 3 pin 0.1" female header
3. Heat shrink tubing 4mm diameter 3cm long
4. Heat shrink tubing 8mm diameter 3cm long

Cable Construction

1. Slip the 4 and 8mm diameter heat shrink tubing pieces over end of 3.5mm molded in line stereo phone jack. While soldering the cable to the header keep the heat shrink pieces close to the molded phone jack so that they are not heated by the soldering process.
2. Label the three pin header Gnd, Ser Out and Ser In. Ser Out must be the middle pin.
3. Solder the 3.5mm stereo jack wires to 3 pin header following the table below

3.5mm stereo phone jack

Yellow
Red
Blue

Tip
Sleeve
Ring

3 pin header

Gnd
Ser Out
Ser In

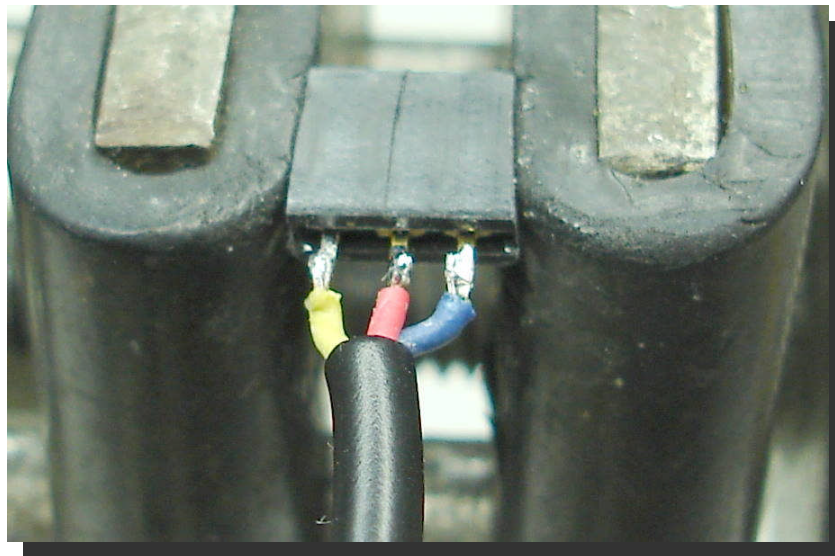


Fig. 3 Header Connections

4. Push the 4mm diameter heat shrink down against the 3 pin header and shrink it
5. Push the 8mm diameter heat shrink tube over the 3 pin header. It should extend over the connecting wire and cover about half the header length. Shrink it.
6. Label the header pins. Print the [ThreePinHeaderLabel.pdf](#) document, cut out the label, and then attach it to the three pin header using a piece of transparent adhesive tape.



Fig. 4 Three Pin Header Label

7. Verify the connections against the connection table above using an ohmmeter.