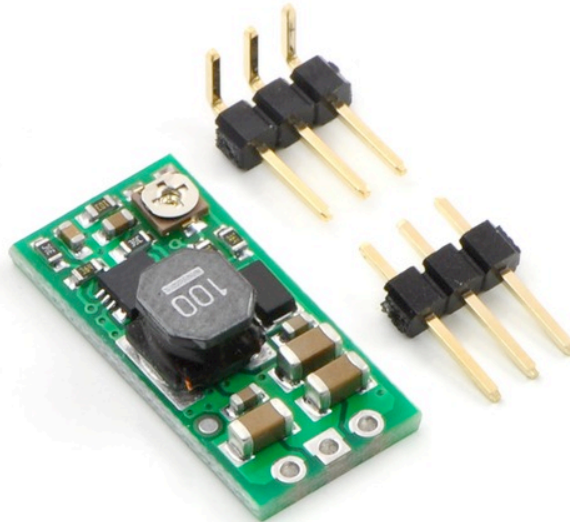


Adding USB Charging to the MicroStar 2000

Gordon Anderson

January 2012



Overview

The application note illustrates how to use the USB power to charge your transmitter's battery. This is intended for NiCD or NiMH 8 cell transmitter packs. Do not use this technique for any Li chemistry batteries.

When the USB connector is plugged into your computer, 5 volts is available at the USB connector. This circuit uses this 5 volt supply to power a 5 volt to 20 volt boost converter to provide the voltage needed for a simple constant current charger.

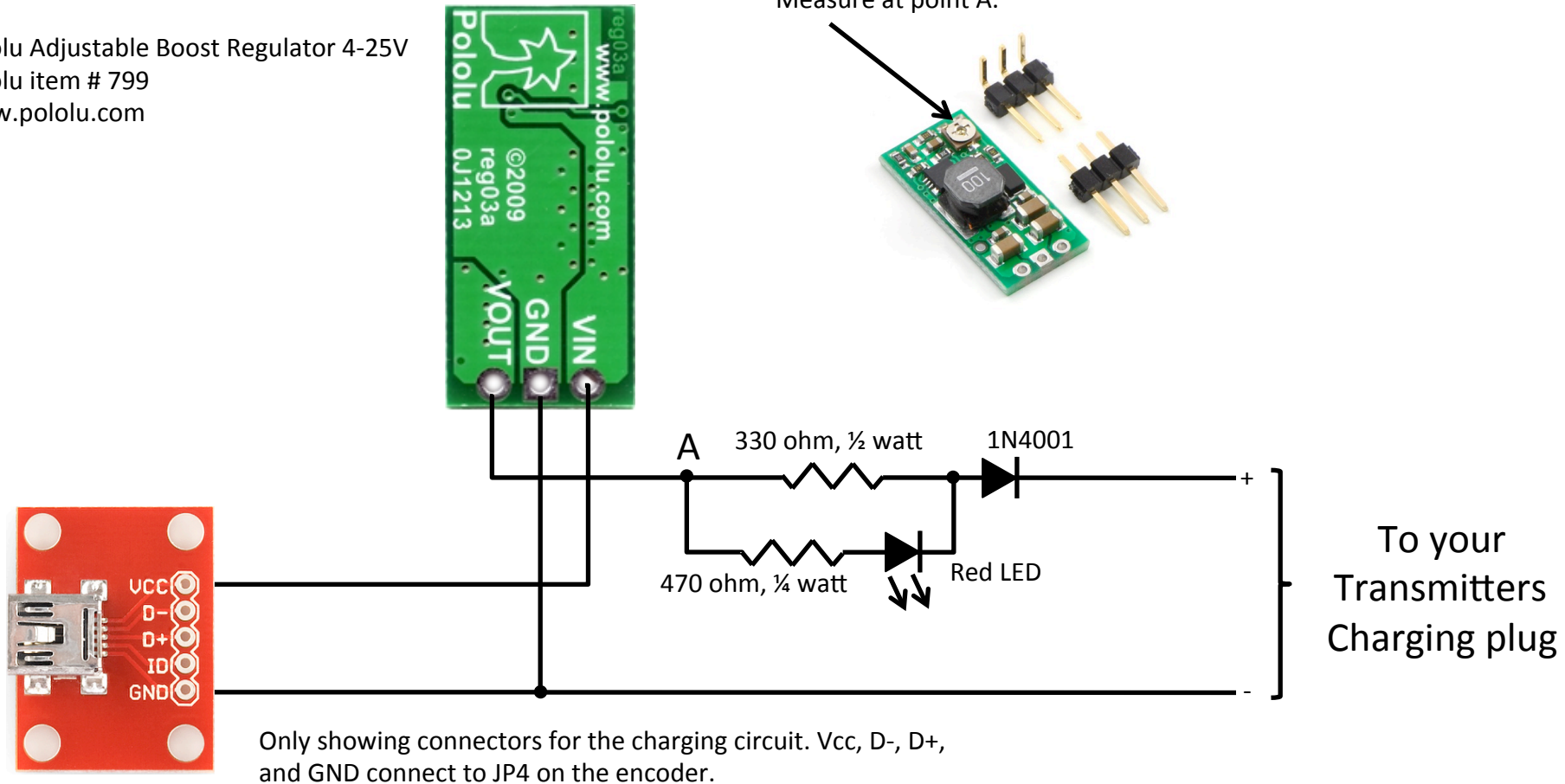
If built as shown then the battery will only charge when the transmitter power is off. The charge current is approximately 50 mAmp.

If you are using an encoder with the FTDI USB interface, I recommend you follow the procedure to customize the interface and increase the bus power. This procedure will also allow the PC interface (2.12d or later) to automatically locate the encoder when started. This greatly simplifies connecting your encoder to your PC.

Charging schematic

Pololu Adjustable Boost Regulator 4-25V
Pololu item # 799
www.pololu.com

Adjust power supply to 20 volts,
Measure at point A.



Only showing connectors for the charging circuit. Vcc, D-, D+, and GND connect to JP4 on the encoder.

Breakout Board for USB Mini-B

BOB-09966, originally used a BOB-08401. This part is no longer available on the sparkfun site.

www.sparkfun.com