Quick Start Guide to Completing Your BackpAQ

Ok, so you’ve built your BackpAQ device and it turns on. Now what? Here’s what to do next. This is a quick summary of the next steps…please refer to the Instructable for details and photos.

**Step 1**:

Your device powers on and the display looks like this:

 Hint: Make sure you have a charged LiPO battery!

What you are seeing at the blue line is the Wifi prompt, asking you to go to a web browser and connect via the SSID of “BackpAQ”. Once you do this a capture portal screen will appear which looks like this:

A screenshot of a cell phone

Description automatically generated Hint: If you DON’T see this, try pressing “RESET” on the ESP board. There is code in the firmware to reset things properly if it doesn’t the first time.

Click on the top button – “Configure WiFi” and you’ll see this screen:

A screenshot of a social media post

Description automatically generated Hint: This dialog will NOT work with a challenge screen like that found at places like Starbucks.

This is a list of all WiFi SSIDs BackpAQ can “see”. Select the one you wish to associate you’re your BackpAQ device and type in the password. Congrats, you’re connected, and you should see this on your BackpAQ display:

A circuit board

Description automatically generated

This display starts a 35 second timer, to give the PM sensor some time to “warmup” (stabilize). When the timer is up, you should see this on the display:

A circuit board

Description automatically generated

If you are seeing this, your device is fully functional and you are getting reading from the sensor. Congrats again, you’ve completed Step 1 and are ready to complete the configuration steps of sending data to your smartphone, and then sending the data to the Thingspeak cloud.

**FOR ADVANCED STUDENTS**

If you don’t see something like this, we’ll have to do a bit of debugging to see what’s gone wrong. Once thing to try first is updating your BackpAQ firmware. To do this, you need to start up Arduino, grab the latest code from my github site (backpaq.com/drewcssv/backpaq), then flash to your device. Two things to remember before starting the flash onto your device:

1. You need to unplug the sensor Grove connector from the socket during the download, as it interferes with the flash process
2. You’ll need to press the “Flash” button on the ESP board during the UPLOAD to tell the board that you want to FLASH and not RUN (default is RUN mode)

**IF YOU DON’T FEEL COMFORTABLE DOING THIS**

If you’re not all that into Arduino and don’t feel up to this step, ask one of your classmates who deals with Arduino to help you with the FLASH update.

Once you’ve updated the firmware, try the startup sequence again. Sometimes you may need to press the “RESET” button on the ESP board to trigger the correct boot up sequence. Nothing wrong here, just a quirk of this particular ESP board.

**Step 2**

Next we’ll clone the BackpAQ app into your own smartphone.