

# Tracker Assembly Guide, Revision 1.2

## Introduction

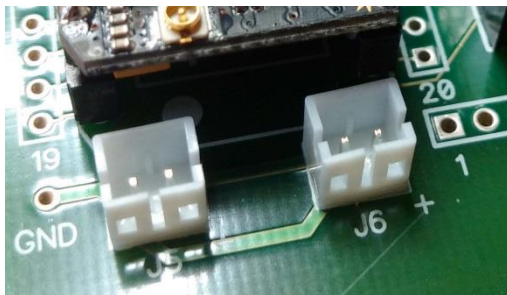
These instructions are for assembly of the Tracker PCBs and mounting them into a base.

## Soldering PCB

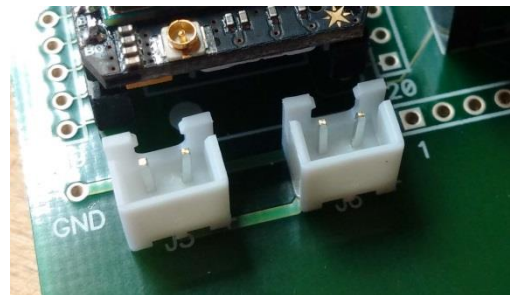
Note for what follows: **J1, J2, J3, J4 and the GND pin are NEVER MOUNTED**; the PCB holes are provided for testing only.

The following components need to be soldered into position (and the following order of assembly is suggested):

- sockets for J5 and J6. **IMPORTANT: there are two possible types of these sockets: a 2 mm pitch version and a very slightly larger 2.5 mm pitch version. Inserting the 2.5 mm pitch version will require a good shove as the hole spacing is for the 2 mm version. Please pay attention to the orientation of the two types of socket as they are quite different:**

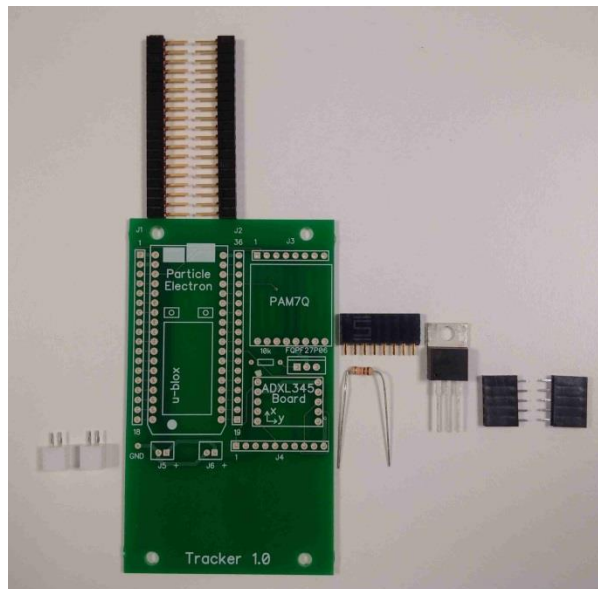


2 mm pitch connector orientation



2.5 mm pitch connector orientation

- 10k resistor,
- 2 x 19 row socket for the Particle Electron board [the PCB below shows only 18 holes, there will be 19 holes on the PCBs you get]; NOTE: the legs of the sockets will stick out a bit but they do not require trimming as there is clearance for them in the mounting to the base,
- 2 x 5 row sockets for the ADXL345 board,
- 1 x 8 row socket for the PAM7Q board,
- FET [the FET is actually an NDP6020P, not an FQPF27P06 as marked on the PCB in the picture below],

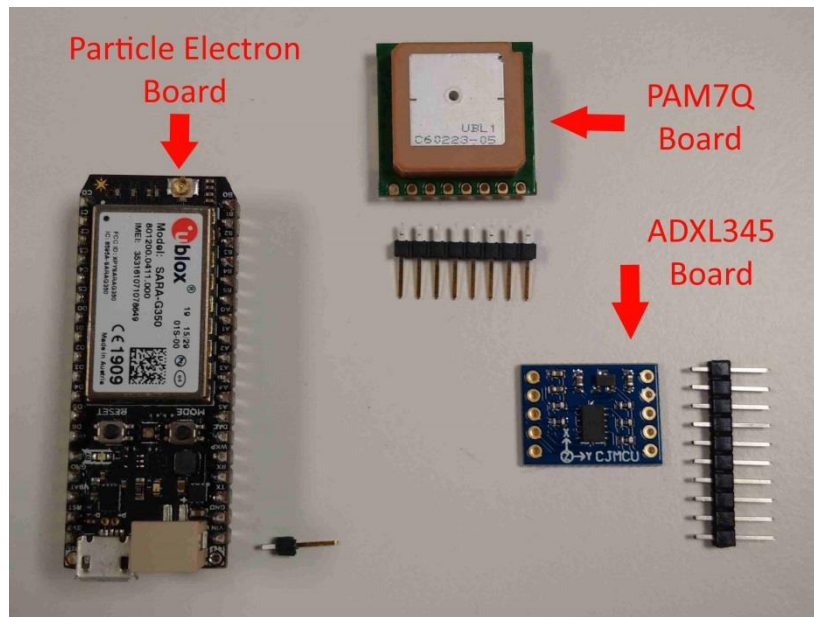


Suggestion: the best way to hold the 19-way and the pair of 5-way sockets straight while soldering may be to insert the associated sub-assembly into the sockets while doing the soldering.

## Soldering Sub-Assemblies

Separately, pins need to be soldered into the following sub-assemblies:

- 8-way pins into the PAM7Q board, oriented so that the pins point downward with the antenna side (**the side *without* the u-blox logo on it, as shown below**) upper-most,
- 2 x 5 way pins into the ADXL345 board (break the provided set of 10 into 2 x 5) such that the **pins point downward with component side upper-most** (as shown below),
- 1 pin into the unpopulated LiPo pin on the Particle Electron board. Suggestion: it may be simplest to push the single pin into the mounted 19-pin socket, then push the Particle Electron board into the socket also and then solder the LiPo pin into the Particle Electron board; this ensures that everything is nicely aligned.



## Assembling Into Base

The assembled PCB should be mounted into the base with four screws:



It doesn't matter which way round the PCB is mounted into the base.

## Assembled Unit Pictures

The assembled unit should look as follows [noting that the board in the picture has 18 holes for each of the two long sockets and the LiPo pin not present, whereas you will have a board with 19 holes on each side and you will add the LiPo pin; these pictures are with the 2 mm pitch J5/J6 socket].



