MegaBoardDB

Assembly Instructions

Take Photos of every step and add to this document.

# Parts list:

* MegaBoardDB Arduino shield (Qty: 1)
* 8-pin long tailed sockets - (Qty: 3)
* 6-pin long tailed socket - (Qty: 1)
* 8-pin headers - (Qty: 2)
* 2x18 pin header - (Qty: 1)
* 8-pin DIP integrated circuits - (Qty: 2)
* 0.1 uF Capacitors - (Qty: 2)
* 6 pin In-Circuit Serial Programming (ICSP) Sockets - (Qty: 1)
* DB25-Male connector - (Qty: 1)
* DB25-Female connector - (Qty: 1)
* DB15-Male connector - (Qty: 1)
* DB9-Female connector - (Qty: 1)
* DB9-Male connector - (Qty: 1)
* 2x6 pin header (Qty: 2)
* 1M (Brown Black Green) resistor - (Qty: 1)
* Jumper - (Qty: 1)

# Assembly instruction:

## Without Wireless E-Stop:

1. ADCL, POWER, PWML, and PWMH shield stacking headers for Arduino
   1. Find:
      * 8-pin long tailed sockets (Qty: 3) for PWML (D0-7), PWMH (D8-13), and ADCL (A0-7)
      * 6-pin long tailed socket (Qty: 1) for POWER
   2. The analog-in socket is 8-pins, even though there are only 6-pins on shields.
   3. Place MegaShieldDB board on **up** position (Text visible)
   4. Secure sockets in a shield
   5. Flip the board down.
   6. Solder all 30 pins in place, making sure to maintain proper alignment with the Arduino board.
2. ADCH, COMMUNICATION, XIOL, and XIOH headers
   1. Get:
      * 8-pin headers (Qty: 2) for ADCH (A8-15) and COMMUNICATION (D14-21)
      * 2x18 pin header (Qty: 1) for XIOL and XIOH (DIGITAL)
   2. Place the long tails of the three connectors into sockets on an Arduino Mega board.
   3. Place MegaShieldDB board on **up** position on top of the MegaShieldDB.
   4. Align the Arduino Mega and the MegaShieldDB, so that the short pins on the three new headers stick though the board. (There will be a gap on the long-tailed sockets from step 1.)
   5. Solder all 52 connector pins.
3. Integrated Circuits (IC)
   1. 8-pin DIP integrated circuits:
      * IC2 - on the right with notch down (closer to IC2 text).
      * IC3 - on the left with notch up (closer to IC3 text).
   2. With the MegaShieldDB board on **up** position, place these two IC.
   3. Flip the board down.
   4. Solder these IC in place.
4. Capacitors
   1. Place two capacitors (0.1 uF):
      * C1 and C2 next to the ICs you just added.
   2. They are ceramic and it doesn't matter which end is which.
   3. Solder these in place.
   4. Flip the MegaShield Snip off the leads after soldering.
5. In-Circuit Serial Programming (ICSP) Sockets
   1. Place the 6-pin ICSP socket on the Arduino ICSP pins
   2. Line up Arduino and MegaBoardDB.
   3. Solder the ICSP connector into MegaBoardDB.
6. DB connectors
   1. Snaps DB connectors into the board:
      * X1 - DB25-Male connector
      * X2 - DB25-Female connector
      * X3 - DB15-Male connector
      * X4 - DB9-Female connector
      * X5 - DB9-Male connector
   2. Solder DB connectors in place
7. ICSP and JP9
   1. Find:
      * 2x6 pin header (Qty: 2)
   2. Place and Solder ICSP and JP9
8. Resistor
   1. Place and Solder R1 (1M - Brown Black Green)
9. Jumper setting
   1. For without wireless E-Stop setting, place jumper on the JP9 (pin 3 and 5)

# Wireless E-Stop