out of the BOX

µPAD Assembly Guide

Table of Contents

out of the
BOX

Electronics and Robotics LLC

ootbrobotics.com

Parts
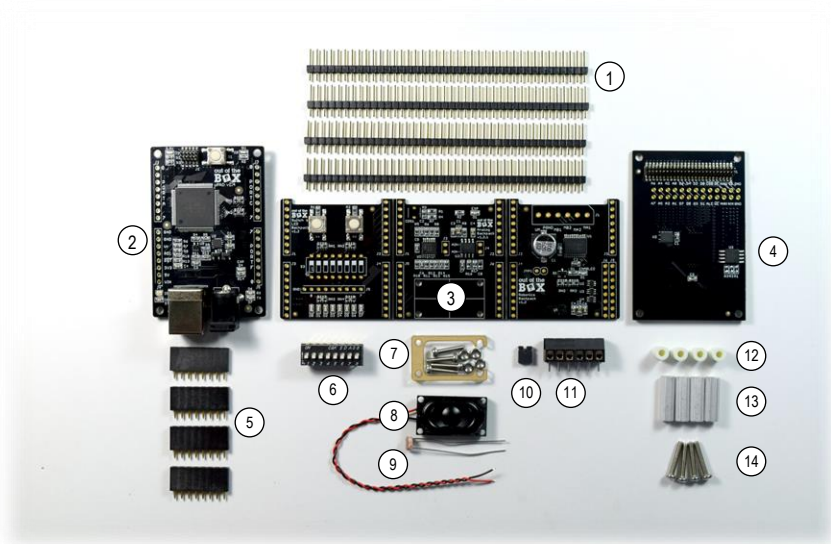
Item Number	QTY	Description
1	4	40-pin headers
2	1	µPAD
3	1 assembly	Backpack panel • 1 Switch & LED Backpack • 1 Analog Backpack • 1 Robotics Backpack
4	1	Memory Base
5	4	8-pin female headers
6	1	8x DIP switch
7	1 assembly	Speaker assembly hardware • 1 Speaker bracket • 4 M2x10 screws • 4 M2 nuts
8	1	Speaker
9	1	CDS cell sensor
10	1	Shunt
11	1	6-pin screw terminal
12	4	#2 7mm spacers
13	4	2-56 5/8" standoffs
14	4	2-56 3/4" screws

out of the
B🔍X

Electronics and Robotics LLC   ootbrobotics.com

Step 1

Solder the female headers (item #5) to the µPAD (item #2).
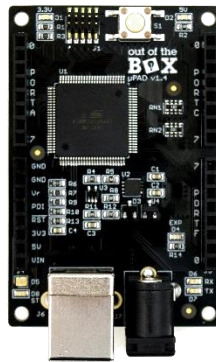
Step 2

Break apart the 40-pin headers (item #1) as follows. Read the table carefully. Three different lengths are created by the 3rd header. Also, there will be scraps from the 3rd and 4th header. You should end up with an extra 3-pin header and a 14-pin header

Header Number	Header Size Created	Quantity of Created Header
1	8-pin	5
2	8-pin	5
3	8-pin	3
3	9-pin	1
3	2-pin	2
4	13-pin	2

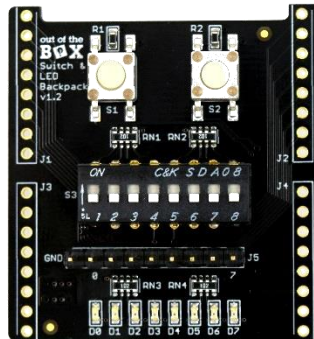# Step 3

Solder the DIP switch (item #6) to the Switch & LED Backpack at location "S3". Orient the switches to where the numbers labeled on the switch are nearest to the LEDS not the tactile switches.
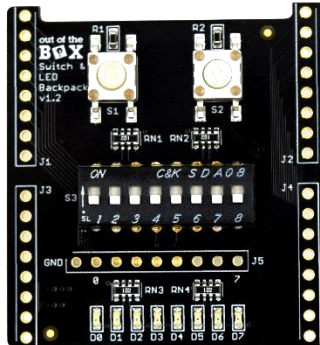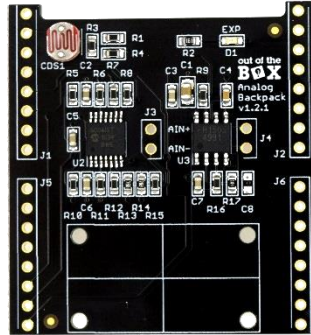

Step 4

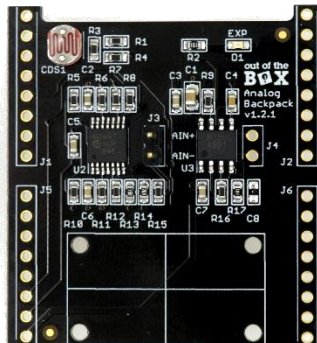Solder the 9-pin Header to the Switch & LED Backpack at location J5.

Step 5

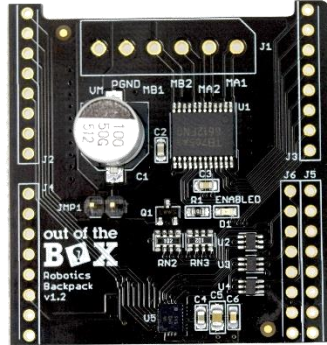Solder the CDS cell sensor (item #9) to the Analog Backpack at location CDS1. Flush cut the leads once soldered.

Step 6

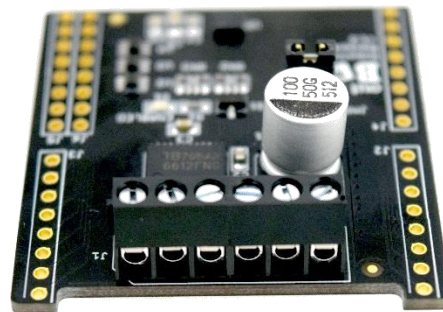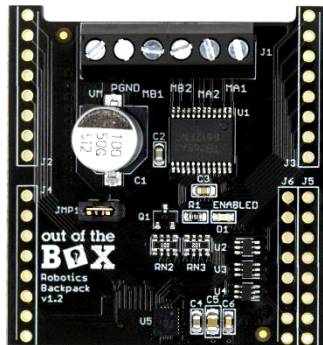Solder a 2-pin header to the Analog Backpack at location J3

Step 7

Solder a 2-pin header to the Robotics Backpack at location JMP1. Once finished place the shunt (item #10) onto that header.
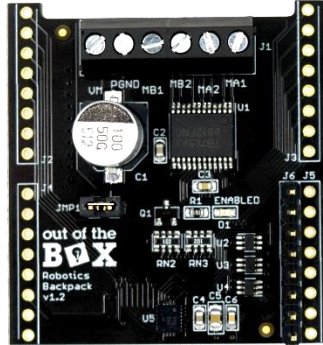

Step 8

Solder the 6-pin screw terminal to the Robotics Backpack at location J1.

out of the
BOX

Electronics and Robotics LLC

ootbrobotics.com

Step 9

Solder an 8-pin header to the Robotics Backpack at location J6.

Step 10

In the following sub steps, affix the speaker to the Analog backpack using the bracket screws and nuts provided (item #7 assembly).

Step 10.1

Prep the speaker bracket. Ensure the bracket holes are unobstructed. If needed use a screw to push any remaining plastic out of the mounting holes. Then peel the paper off the speaker bracket.

Step 10.2

Place the speaker on the speaker bracket. The open end of the bracket mates to the wired side of the speaker. Since the speaker wire will be soldered to J4 in the next step orient the speaker bracket assembly so that the wire is nearest J4. Attach the assembly to the Analog Backpack using the provided nuts and screws.
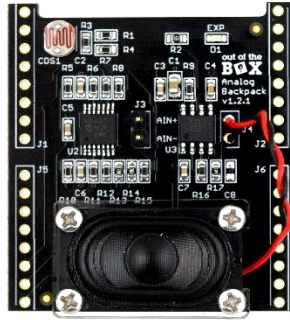
out of the
BOX

Electronics and Robotics LLC   ootbrobotics.com

out of the
BOX

ootbrobotics.com
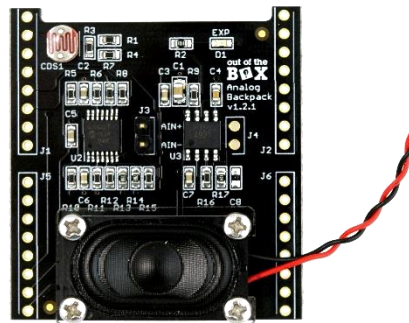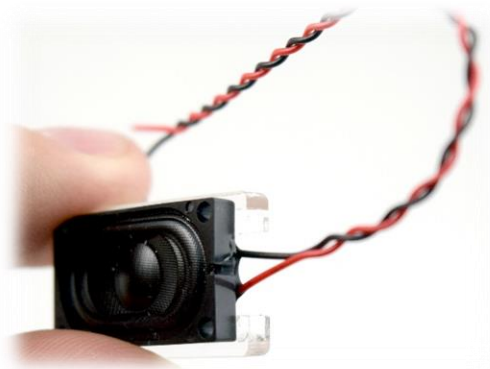
Step 11

Solder the speaker to location J4 (not polarized).

(**Optional**) cut and re-strip the speaker wire to a preferable length. **Do not attempt without a wire stripper possessing a 28AWG setting!**
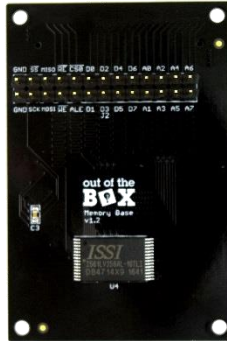

Step 12

Insert four of the 8-pin headers into the female headers previously soldered to the μPAD. Place the Switch & LED Backpack onto the butts of these headers. Make sure that the relief of the backpack is placed nearest to the reset button on the μPAD. Once oriented correctly solder the headers to the backpack. Repeat for the Analog and Robotics Backpacks.

out of the
BOX

Electronics and Robotics LLC

ootbrobotics.com
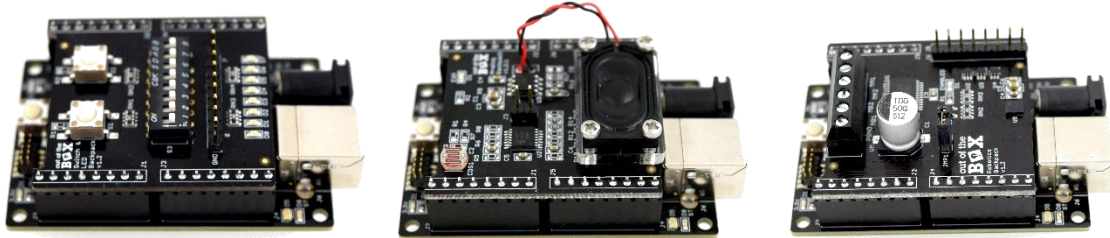
Step 13

Solder the two 13-pin headers to the Memory Base at location J2. Be very careful of orientation. The long side of the headers should point out the bottom of the board. The top of the board is the side the 50-pin base connector is located.

Step 14

Attach the Memory base to the µPAD using items 12, 13, and 14 as shown below.