

Eval Board

Care and feeding Instructions



General

- Don't lose it!
 - Put your name/email on your board, cables, and plastic case.
 - ..
put label on plastic case.
 - Don't leave it laying around:
it looks cool, and might "wander off"
 - 1 student left on bus.

General

- Plugging/Unplugging

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- plugging/unplugging the hat, connecting pins to wires, or connecting LED light stick.

- (students have fried target by shorting 5V to ground)

- USB, Ethernet, audio OK to hot-swap.

Power

- Current
 - BYAI is powered by USB-C
 - It uses a lot of power; gets very warm; ~1 amp when running OK to run on good PC connection
 - If needing more power, use a powered USB-C adapter or USB hub.
 - If low on power..
May be an issue on some computers.
- Voltage
 - USB-C runs 5V nominal, but can negotiate to higher voltages
 - E.g., 5V at 3.0A, 9V at 2.0A



Electrostatic Discharge (ESD)

- Static electricity can very easily damage electronics.
 - The high static voltage will "punch through" the electronics making them malfunction.
 - Especially problematic in..
 - Don't wear fuzzy slippers and a polar fleece robe while working on board.
- Ground yourself before touching board
 - Touch unpainted metal case of power supply, or USB port on your grounded desktop PC.
- Take care when using push buttons.
 - Don't press buttons with metal pen, pencils, etc.
 - Try not to touch chips on board or headers.

Pin capabilities

- BeagleY-AI CPU..
 - The microprocessor's I/O runs at 3.3V
 - Does not tolerate 5V applied to its pins: doing so can fry the CPU.
 - 1 student shorted 5V to GPIO pin; board dead
 - Some pins are 5V, others are 3.3V (USB is 5V).
 - Don't cross the streams.
- Don't short power pins to ground.
 - 1 student did; board dead
 - 1 student ran 3.3V through an LED to ground (no resistor); board dead.



Liquids

- General idea:..
 - Keep your drink on the opposite side of your computer from the board.
 - No food or drink in the lab
- Cleaning if you do spill on your board:
 - Disconnect all cables & power.
 - Run board under water from tap for 10 minutes.
 - Dry it off well using...

Physical Damage

- Carrying Suggestions
 - Transport board inside anti-static bag.
 - Protect board using the provided plastic box.
 - Make sure your name is on the case and cables
 - 100 identical copies floating around!
 - Pickup circuit board by the edges.

Summary

- The board is yours!
Enjoy it, but take good care of it.
- Treat eval-board carefully;
it is good quality, but easily damaged.
 - Be careful about static electricity.
 - Keep liquids away from it.
 - Protect it from physical damage.