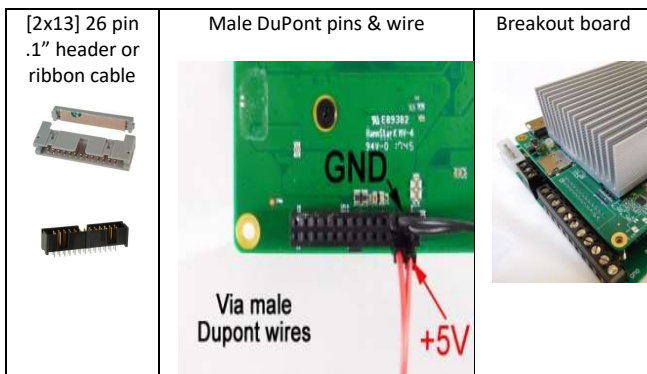# Congratulations!
Here's your Atomic Pi!

Please visit AtomicPi.org for component specs & latest info

Quick Start

Power polarity is critical, reversing polarity can fatally damage the board. Be sure power is connected to the correct pins. Feed power to the APi via one of these methods:

[2x13] 26 pin .1" header or ribbon cable	Male DuPont pins & wire	Breakout board
	GND / Via male Dupont wires / +5V	

- Keep the 2032 coin-cell battery attached to preserve BIOS / CMOS settings. Pressing reset clears the RTC.
- Pin 1 on the 26 pin connector is nearest the SD card slot at the edge of the board. +5 enters on pins 3,5,7,9,11,13. Pins 2,4,6,8,10,12,14 are grounded. Use at least 2 pins ie 3,5 and 6,8. Confirm +5V is regulated. Don't exceed 5.2V. Use thick wires. If the power supply droops under load, the APi may crash during boot. USB chargers, LED supplies and unfiltered DC-DC converters won't work.
- Attach an HDMI monitor and USB keyboard.
- Power up. Use CTL-ALT-F2 to open a window.
- Log in with user: atomicpi and the password shown.
- Tiny SMD components are fragile. Handle with care.
- GPIO pins are 3.3V levels, 5V tolerant.
- To use WiFi and Bluetooth you may need external antennae. Aliexpress and Amazon have plenty of options. Choose a single band or directional antenna for best noise immunity and range. Use two WiFi antennae for diversity. Select a u.FL or IPEX connector. Align the connector accurately, press down gently. To release RF connectors pry straight up, don't use the cable for leverage.
- The webcam port supports the camera or other USB 2.0 device.
- Press the locking tab before pulling up to release JST connectors. No force is needed.
- Like to try a different OS? Just boot from a uSD card or USB. Find OS images at:
  www.digital-loggers.com/downloads/index.html#API_IMAGES
- Have fun with it!

Power Supply

The APi runs on 5V and needs a solid 5V supply. A wide range of power supplies over 2.5A will power the board itself. If you plan to tether external peripherals like a hard drive, get a 5A supply. Amazon, Digikey, Mouser and Aliexpress have plenty of alternatives including DC-DC converters, etc. Be sure to use appropriate wire gauge. Below are a few parts we carry to help:

Large breakout / proto board with USB debug port, screw terminals & PC-style Molex socket Now available with traces for analog audio in
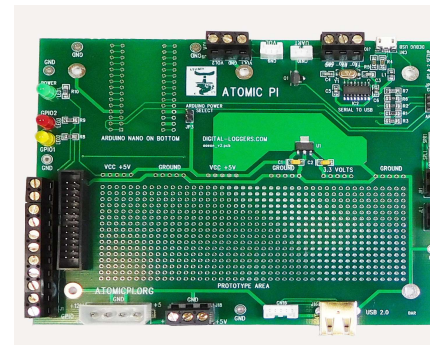
5V 2.5mm Switching Adapter (center +) 2.5-5A required.

Baby breakout board with 2.5mmm barrel connector

Industrial switchers, linear supplies, etc

Machine vision camera for neural computing under Linux

Troubleshooting

BIOS Reports boot device error, but board starts up fine.
Normal report when a boot device is selected but unavailable. All boot device options (LAN, eMMC, USB, uSD) are enabled by default. Adjust boot settings in BIOS to suit your preference.

Noise on keyboard with large breakout board attached.
Debug port enabled by default. Ground unused input or disable.

Crash when running under load or shortly after boot.
Usually caused by a weak power supply or thin power wires. A sagging power supply can also corrupt eMMC or SD flash.

Increasing audio output power.
Board provides 1.5W per channel in to 8 ohms with the class-D amp running on 5V. Carefully wire pin 1 to a 12V supply for more power. The Emerson jukebox runs the amp on 14V for about 6W total.

Where's pin 1?
NB: Pin 1 on all connectors is marked with a square pad or arrowhead. See below.

Windows ate my 2GB, help!
You'll need to strip the bloatware to run Windows in 2GB.
Go back to Linux or use Win LTSB1607 with NTLite and SD for updates.

Need more GPIO, ADC, etc.
The debug serial port and USB2 camera port (marked WEBCAM) can also be used. Consider an Arduino Nano as a slave I/O expander controlled via HS serial or USB. See the full breakout board schematic. The latest large breakout boards AKA "enchilada" have provisions for adding an audio codec.

Need an enclosure?
There's a DIY printable enclosure design on the FAQ page.

AI / Neural Computing? Intel NCS2 support?
www.digital-loggers.com/ncs2.html

BSD Support?
Configure the loader: set hint.uart.0.disabled="1"
set hint.usrt.1.disabled="1" See forum.

Blown fuse on breakout card.
Fix wiring fault first, then replace fuse with 4A fast-blow.

Check Reddit and FAQs:
https://www.reddit.com/r/Atomic_Pi/
www.digital-loggers.com/APIFAQS.html