



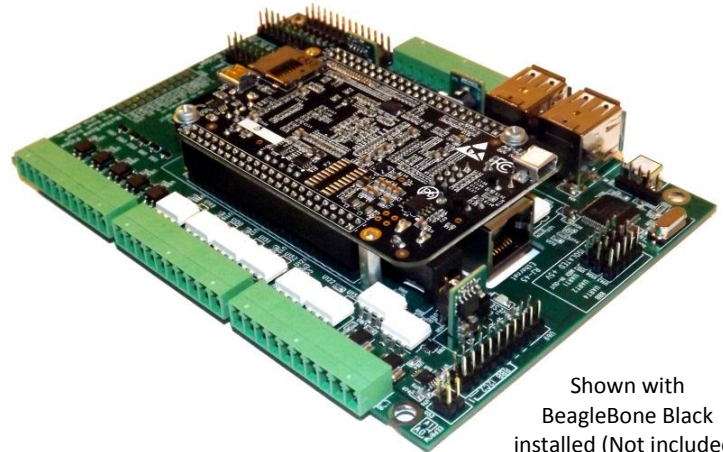
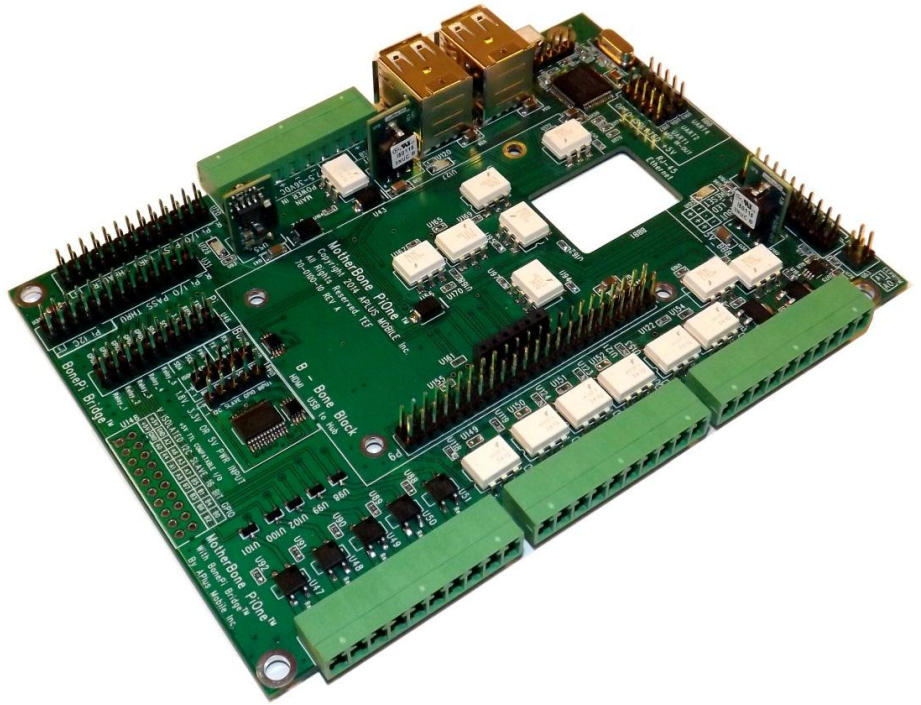
MotherBone™ PiOne™

MotherBone™ PiOne™ is a peripheral motherboard for BeagleBone Black and Raspberry Pi that provides safe I/O expansion for Linux based control systems

Easily realize complex projects through this Linux based control module

Benefits

- Allows BeagleBone Black and Raspberry Pi to simultaneously use MotherBone™PiOne™ resources and I/O
- Use various Linux Operating Systems
- Protects BeagleBone Black I/O pins through opto-isolators and voltage level translators
- Features an extensive combination of I/O (capes & shields) incorporated on one board to enable complex projects
- Simplifies software development with stable, standardized hardware platform
- Open Architecture platform utilizes existing software libraries, such as accessing I/O pins with open source Python libraries
- Create smart control systems that utilize your tablet or smartphone for control functions via WiFi
- Onboard stable industrial grade power system with wide DC input range (7.5-36VDC)
- Exclusive, high-powered 4-port USB Hub for powering downstream peripherals
- Exclusive jumper selectable **BonePi™Bridge™** provides communication between BeagleBone Black and Raspberry Pi via Null modem and I2C
- On-board I2C voltage level translators allow use of various I2C devices for Arduino, Raspberry Pi, Adafruit, Parallax, etc.
- 1 x BeagleBone Black connection, 1 x MIDI, 1 x Raspberry Pi connection, 5 x relays, 7 x analog voltage inputs, 4 x USB, 3 x UART, 1 x **BonePi™Bridge™**, 1 x Raspberry Pi Pass Thru Header, 1 x 16-bit GPIO, 2 x PWMs, Front Panel Connections, 3 x 5VDC accessory connections, 1 x power input, 4 x I2C ports
- Designed and Made in the USA



Shown with BeagleBone Black installed (Not included)

Aplus Mobile, Inc., 412 S. Beavercreek Rd., Suite 606, Oregon City, OR 97045

www.AplusMobile.com

84-MTHB-01_RA



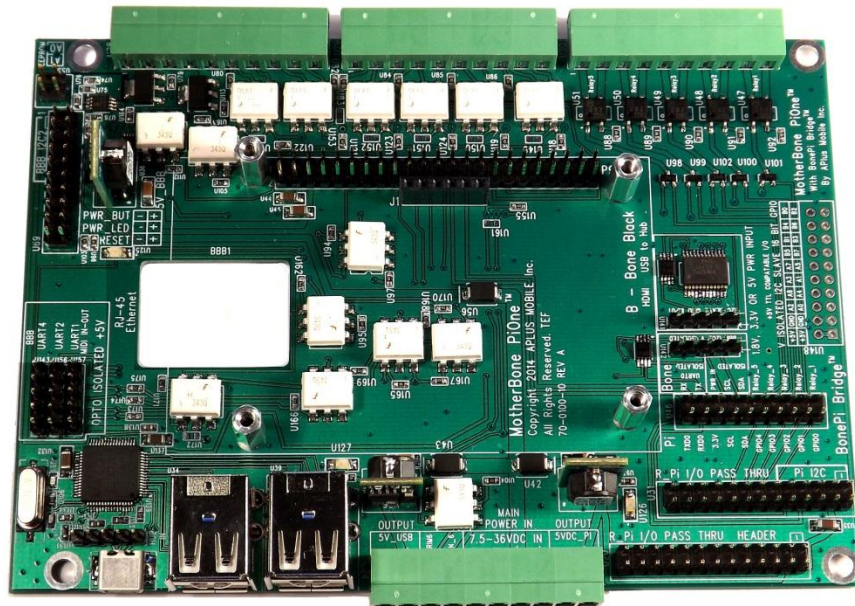
MotherBone™ PiOne™

Specifications

Form Factor	3.5 inch industrial standard motherboard (5.8" x 4") (5.25", 3.5" external drive chassis)
CPU Requirements	BeagleBone Black and/or Raspberry Pi single board computers simultaneously (Not Included)
Power System	Three 5VDC switching power supplies (52W maximum, 22W nominal)
Input Power	7.5-36VDC, single input connection
4-port High Powered USB Hub	Four downstream USB ports with extended current capability can be used by BeagleBone Black or Raspberry Pi
Raspberry Pi Pass Thru	Raspberry Pi I/O header interconnect with Pass Thru Connection for Raspberry Pi peripherals
BonePi™ Bridge™	Jumper selectable I2C and null modem connections and relay access for Raspberry Pi
16-bit GPIO	5V TTL level 16-bit GPIO (I2C Slave) can be used by Raspberry Pi or BeagleBone
I2C, I2C2 Bus	Individual BeagleBone Black and Raspberry Pi 5-pin I2C Master access with additional BeagleBone Black 5-pin I2C2 voltage isolated port
Solid State Relays	Five high-powered solid state relays for AC, DC and analog switching
Analog Inputs	Seven wide range analog voltage inputs with trim adjust for voltage range select
PWM Output	Two high-current, open drain MOSFET PWM outputs
UART2, UART4	Two fully opto-isolated +5V TTL voltage level translated UART connections
J1 Serial Console (UART0)	BeagleBone Black J1 serial connection accessible on BonePi™ Bridge™
MIDI (UART1)	One standard opto-isolated 5V MIDI IN and OUT connection
Front Panel Connections	Traditional motherboard power button, power LED and reset button connections
Cape EEPROM	Standard BeagleBone Black required expansion cape EEPROM with address select
Temperature	Operating 0-60°C; Storage -20-+85°C
RJ45 Ethernet	Accessed from BeagleBone Black (not included)
HDMI Video, Audio	Accessed from BeagleBone Black (not included)

Note: BeagleBone Black, Raspberry Pi, Arduino, Adafruit and Parallax are trademarks of their respective owners.

Note: For more information see the MotherBone™ PiOne™ System Reference Manual 95-MTHB-01 at www.APlusMobile.com



APlus Mobile, Inc., 412 S. Beaver Creek Rd., Suite 606, Oregon City, OR 97045

www.APlusMobile.com

84-MTHB-01_RA