BeBoPr Cape

From Circuitco Wiki Support

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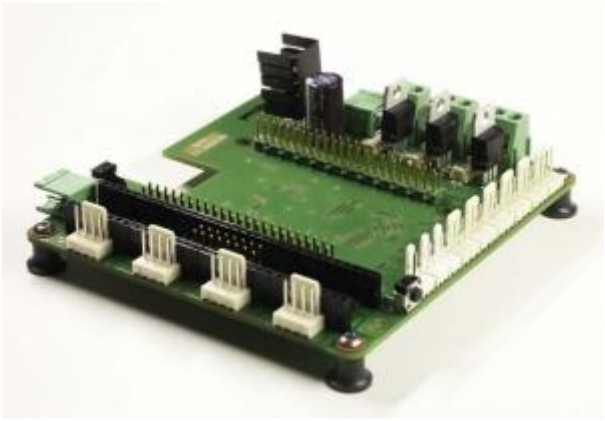
Descriptions



The BeBoPr Cape provides all the necessary I/O to control a Mendel/Reprap 3D-printer.

- 3 analog inputs optimized for thermistors.
- 6 digital inputs for limit switches.
- 3 high-power PWM outputs for heater(s) and/or fan.
- 4 axis steppermotor interface (5 axis via future expansion board) for either external drivers, or on-board StepStick/Pololu modules.
- Single 12 Volt supply operation. The integrated 5V/2A switching stepdown convertor powers the BeagleBone, cape and external Opto sensors.
- All I/O is protected to prevent damage to the BeagleBone by accidental short-circuits.
- Steppermotor operation at up to 24Volt.
- LEDs mounted next to the input and output connectors provide status information.

All 'hard' realtime control, e.g. step pulse generation, acceleration etc. runs on a dedicated coprocessor that is part of the AM3359 on the BeagleBone. The 'soft' realtime control, e.g. traject planning, temperature control etc., runs on the ARM processor under Linux.

- The stepper control code accelerates and steps all axes simultaneously at up to 62.5 kHz steprate.
- The step-pulse duration on the E-axis can be controlled for laser engraving/cutter applications.

A license for the coprocessor code comes with the board. A port/rewrite of the RepRap/Teacup 3D printer

control software is expected to be ready before end Q2/2012. All Linux code will be Open Source, the coprocessor code will be provided as a binary module.

Specifications

Electrical Specifications

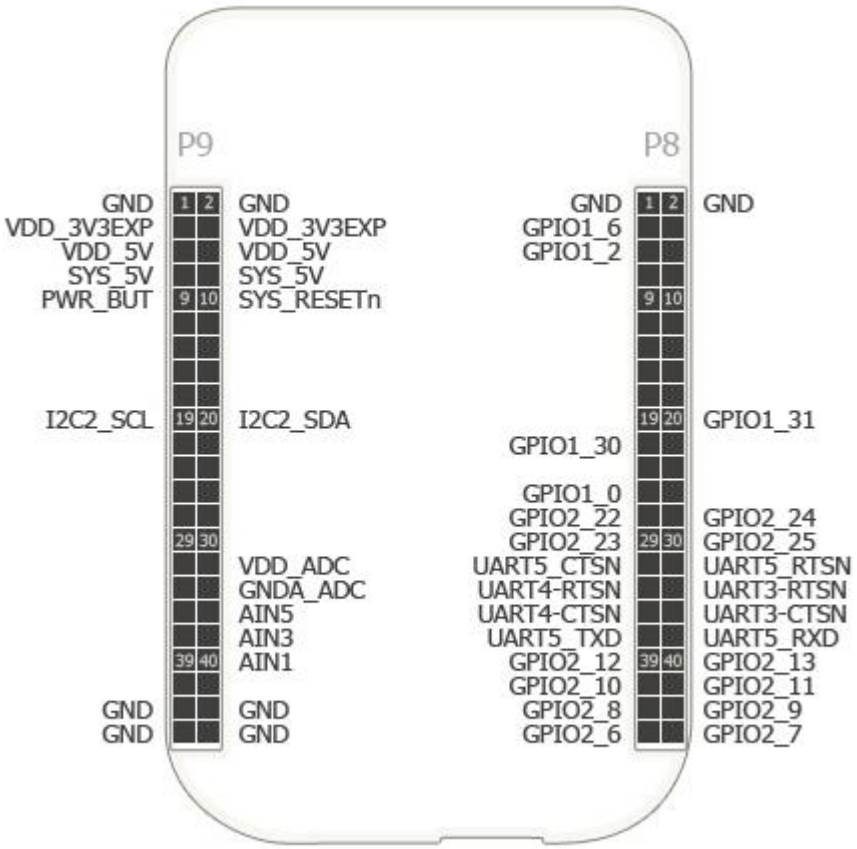
Power	Single 12 Volt operation with stepdown for BeagleBone. 5V via expansion header
Indicators	14 LEDs in functional colors
Connectors	Too many to mention, see picture & description

Mechanical Specifications

Size	100 x 107 mm
Layers	2
PCB Thickness	.062"
RoHS Compliant	Yes

EEPROM

EEPROM Suport	Yes
Board Name	BEBOPR
Version	R2
Manufacturer	AES electronics
Part Number	2191
Pins Used	29



Documentations

Open Source	No
System Reference Manual	Yes
Schematics	No
PCB Files	No
Gerber Files	No
Bills of Materials	No