# PROTOPLUS MODULE

GADGET GANGSTER

The ProtoPlus module expands the Propeller Platform USB with video, audio, and an area for prototyping your circuits.

FEATURES

- **Video+Audio**: Two RCA connectors let you output NTSC / PAL video and audio using the same pin assignments as the Propeller Demoboard.
- **Prototyping**: .100" spaced holes are connected in buss pattern and clearly marked.
- **Expandable**: Connect the ProtoPlus to the Propeller Platform USB or any breadboard. Use the included pin headers to connect to boards underneath and add sockets on the inner row to stack another module on top.
- **Open-source:** Design is available under the MIT license, Info and templates for designing your own custom modules is available at www.gadgetgangster.com/find-a-project/261.
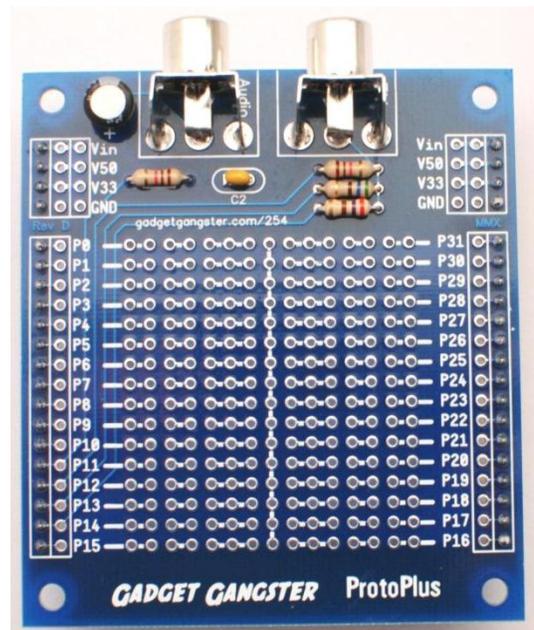
SPECIFICATIONS

- Footprint: 2.8" × 2.5", Prototyping area 1.5" (15 pads) × 1.6" (16 pads). 240 pads total
- Video: The Propeller supports NTSC or PAL through the RCA connector. Video DAC is connected P11..P14
- Audio: RCA Jack with Low Pass filter (14.4kHz)
- 27 I/O available with Audio / Video. Accessing all 31 is accomplished by not connecting Video / Audio resistor
- Included 3M 2340-6211TG pin headers give extra space between modules; .508".
- 3rd row of Vin, V50, V33, and Gnd pads

Mechanical Drawing

Note: Full specifications with Eagle, Diptrace, and ExpressPCB design templates are available at
www.gadgetgangster.com/find-a-project/261
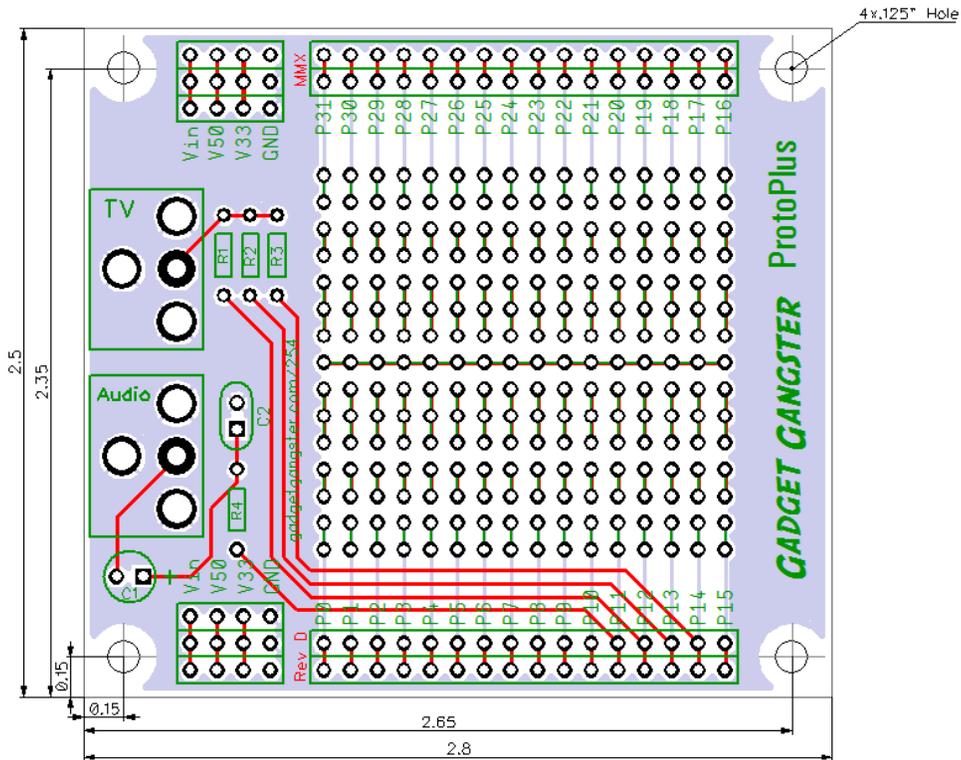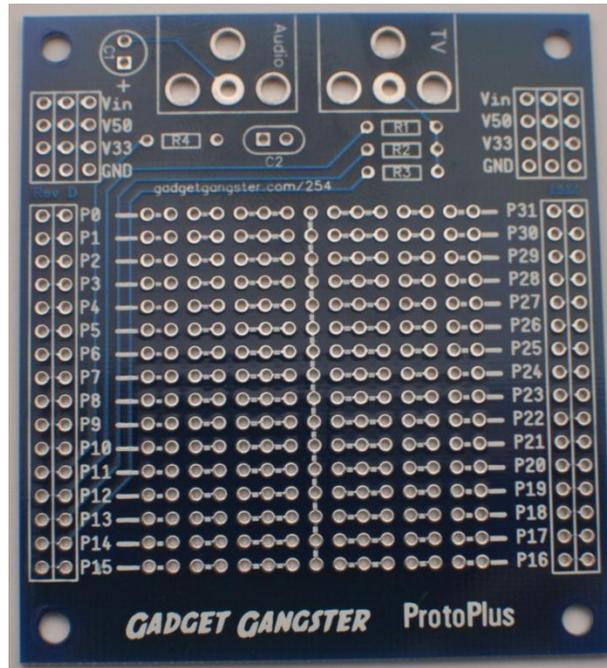

Dimensions

- 2.8" Width (71.12mm), 2.5" Length (63.5mm)
- 4 x .125" (3.175mm) diameter mounting holes placed .15" (3.81mm) from the edge of the board

ASSEMBLY

A video guide to assembly is available at: http://www.vimeo.com/20077548 .

CHECK YOUR KIT

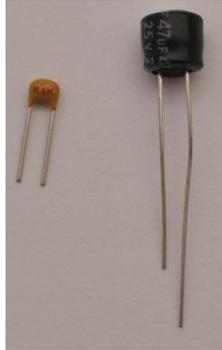Make sure your kit contains the following parts;

ProtoPlus PCB

2x 1,100Ω resistors (marked Brown – Brown – Red)
1x 560Ω resistor (Green – Blue – Brown)
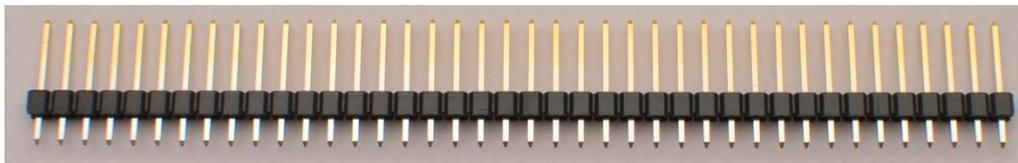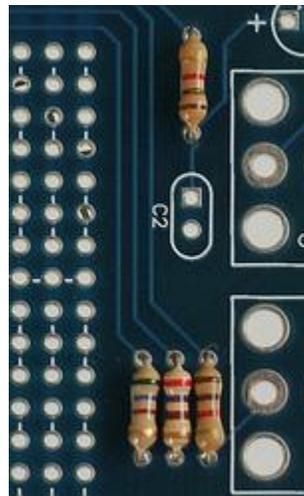1x 270Ω resistor (Red – Violet – Brown)

2x RCA jacks

1x .01µF radial ceramic capacitor
1x 47µF radial Electrolytic capacitor

40 Pin headers

ADD RESISTORS

R1 = 1.1kΩ (Brown – Brown – Red)
R2 = 560Ω (Green – Blue – Brown)
R3 = 270Ω (Red – Violet – Brown)
R1 = 1.1kΩ (Brown – Brown – Red)

ADD CAPACITORS

Note that C1 is polarized; the shorter lead that's closer to the stripe marked on the capacitor goes through the circular hole. The longer lead goes through the square hole (closer to the + mark on the circuit board).

ADD CONNECTORS
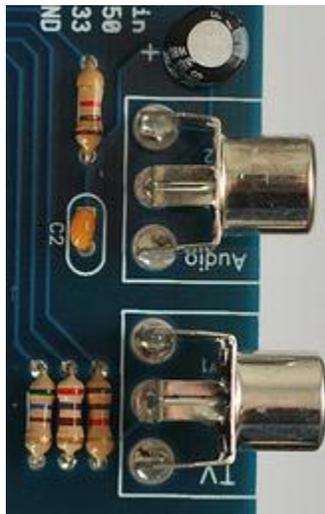
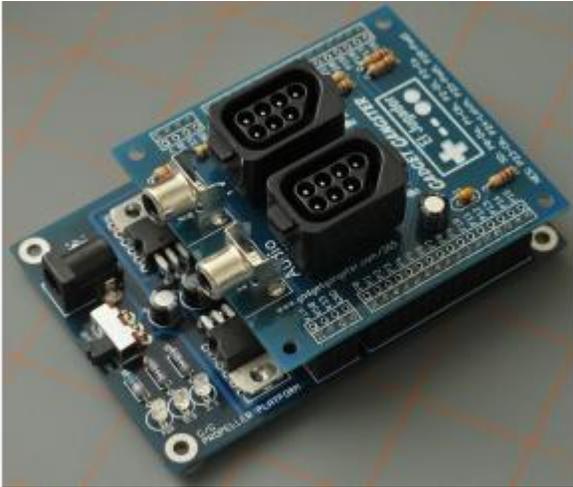Add the two RCA jacks to the spots on the board marked TV & Audio

Finally, add pin headers to the outside row of the module, pointing down so you can connect directly to a Propeller Platform

TUTORIALS & EDUCATIONAL MATERIAL

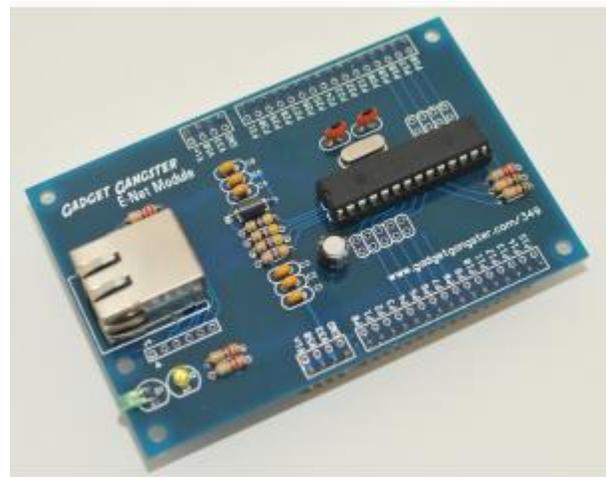In addition to the educational & reference guides on parallax.com, there are written and video tutorials at http://www.gadgetgangster.com/go/propusb.

MORE MODULES

Check out other modules at www.gadgetgangster.com. Some of our most popular modules are below;

El Jugador (Gaming)
http://www.gadgetgangster.com/265

E-Net (Ethernet Controller)
http://www.gadgetgangster.com/349

DMX IO (DMX Transceiver)
http://www.gadgetgangster.com/201

LCD UI (LCD + User Interface)
http://www.gadgetgangster.com/175

Servo Player
http://www.gadgetgangster.com/355
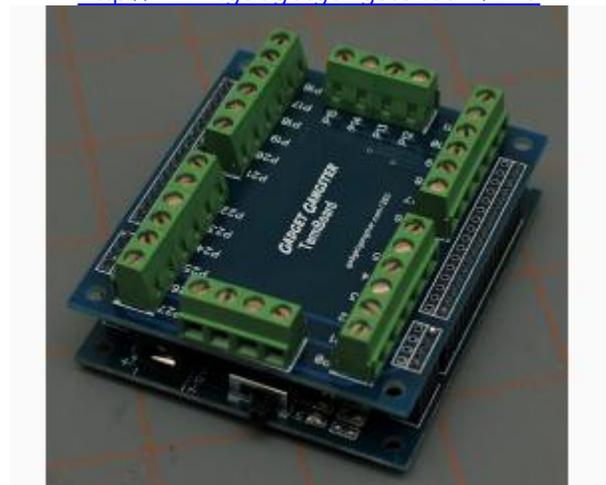
TermBoard (Screw Terminal I/O)
http://www.gadgetgangster.com/283

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