

# Propeller Proto Board, Proto Board USB and Accessory Pack (#32212/#32812/#130-32212)

## General Description

Parallax's Propeller Proto Board and Proto Board USB are low cost, high quality solutions for permanent projects using the Propeller™ chip. To save the user some expense, the Propeller Proto Board does not include the USB programming interface; we suggest you purchase a Prop Plug (#32201) for programming your Propeller Proto Boards. This board is also compatible with the Prop Clip (#32200), and also the USB2SER (#28024) with the addition of a 4 pin header (not included). The Propeller Proto Board USB includes the USB programming circuit on board.

## Features

- P8X32A-Q44 Propeller chip
- 64 KB EEPROM for program and data storage
- LM1086 5 V and 3.3 V regulators provide up to 1.5 Amps with an input power supply of 6-9 VDC
- Optional VGA, mouse and keyboard interface available in the accessory kit
- Three-position power switch (off, logic power, power to logic and servo ports)
- Sockets for 4 servos
- Removable 5 MHz crystal
- Access to all 32 I/O pins
- Large amount of prototyping area
- Unplated row of holes along perimeter to provide stress relief to off board connections
- Same size and mounting holes as Board of Education (3" x 4") for compatibility with the Boe-Bot

## Key Specifications

- + 6-9 VDC; boards can source up to 1.5 A
- Propeller chip: 3.3 V CMOS
- Board Dimensions: 3.05 in. (7.75 cm) x 4 in. (10.16 cm)
- Operating temperature: -40 to 80 °C (-40 to 176 °F)

## Application Ideas

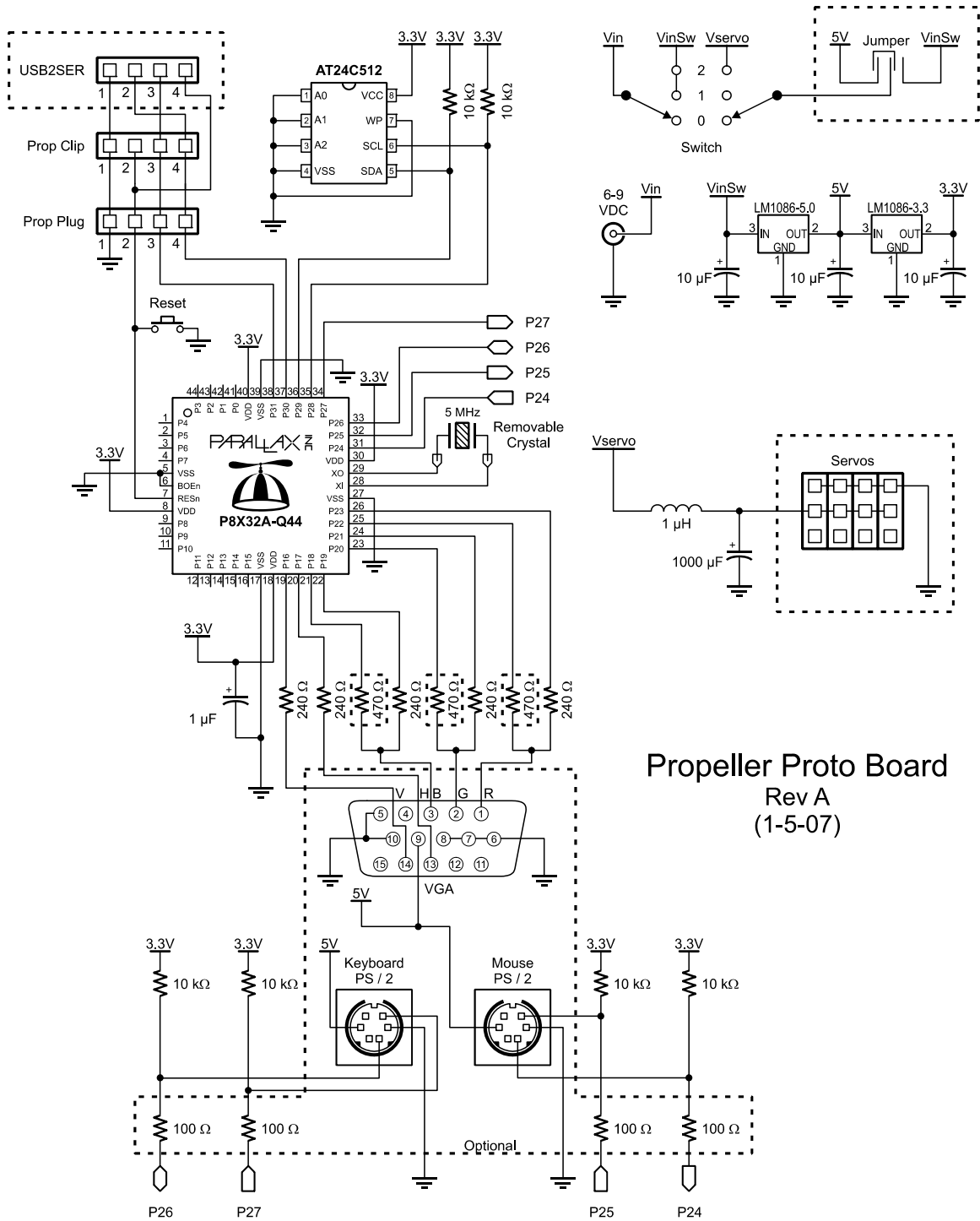
- Low-cost Propeller development system
- Hardware platform for low-volume Propeller-based products

## Accessory Pack

Assembly instructions for the Accessory Pack are provided on page 5. The accessory pack contains the following items:

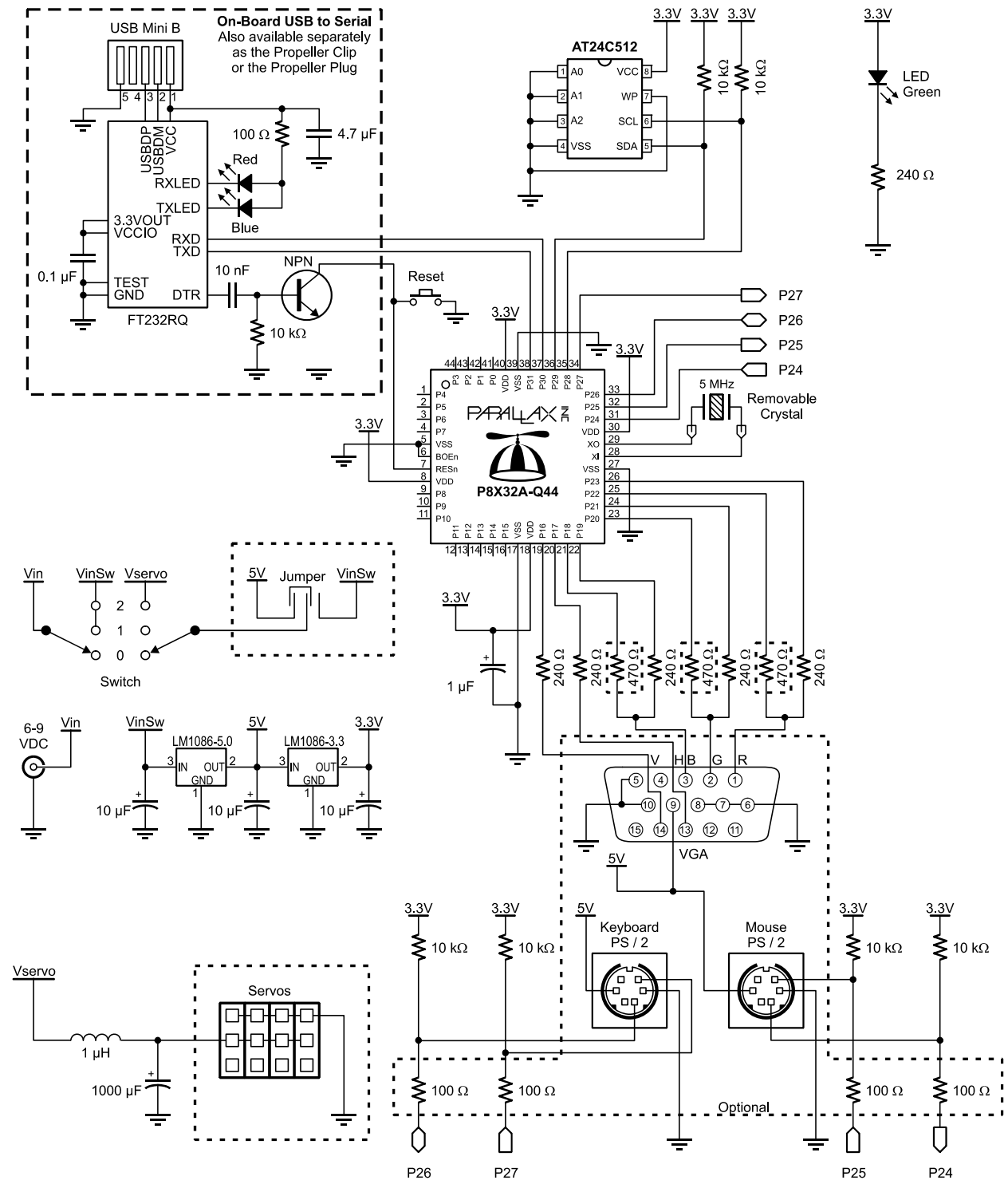
- Norcomp 999-H15-PS2L571 integrated SVGA and PS/2 mouse and keyboard connector
- 4 - 470 Ω ¼ watt resistors
- 5 - 100 Ω ¼ watt resistors
- 5 - 3-pin headers
- shorting block

# Propeller Proto Board Schematic (#32212)



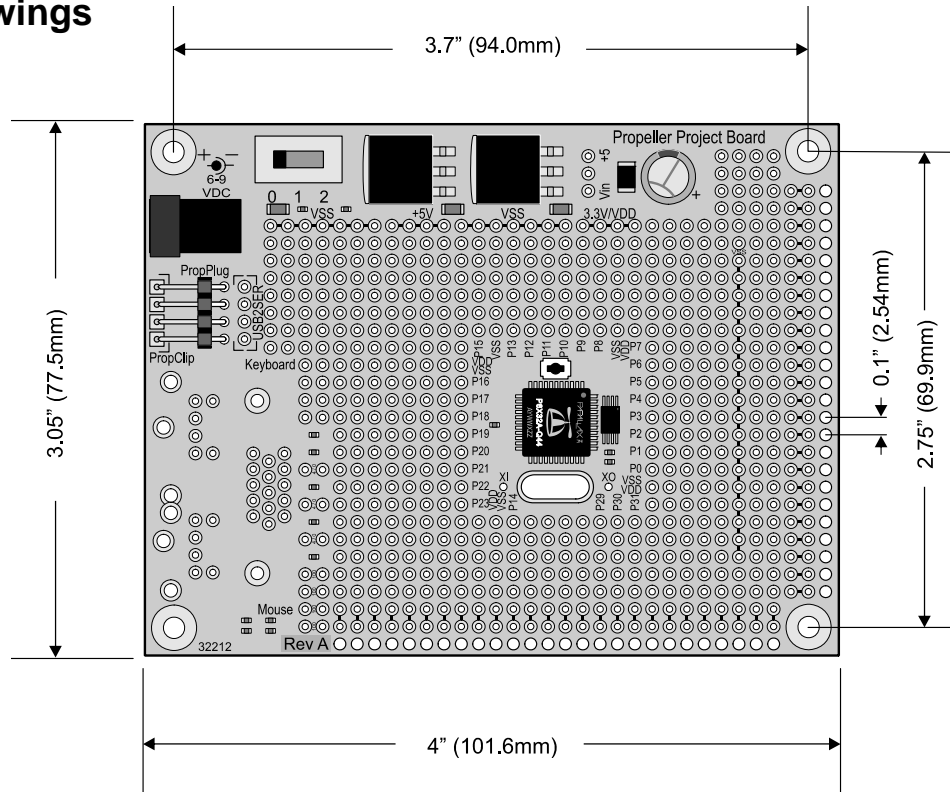
Propeller Proto Board  
Rev A  
(1-5-07)

# Propeller Proto Board USB Schematic (#32812)

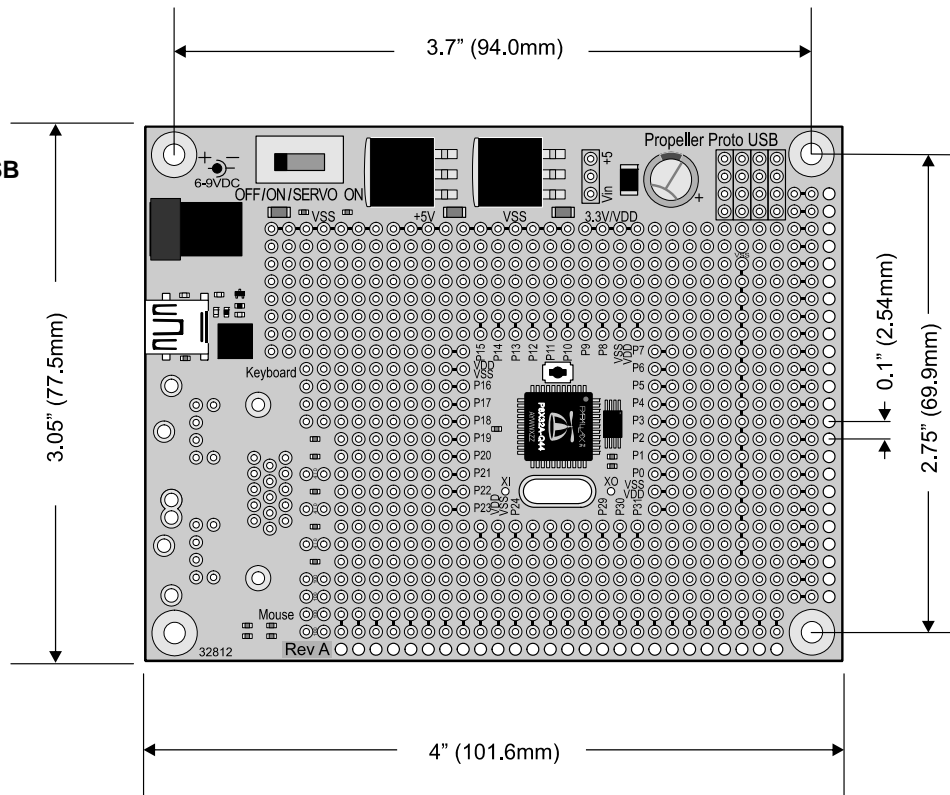


# Mechanical Drawings

**Propeller Proto Board**



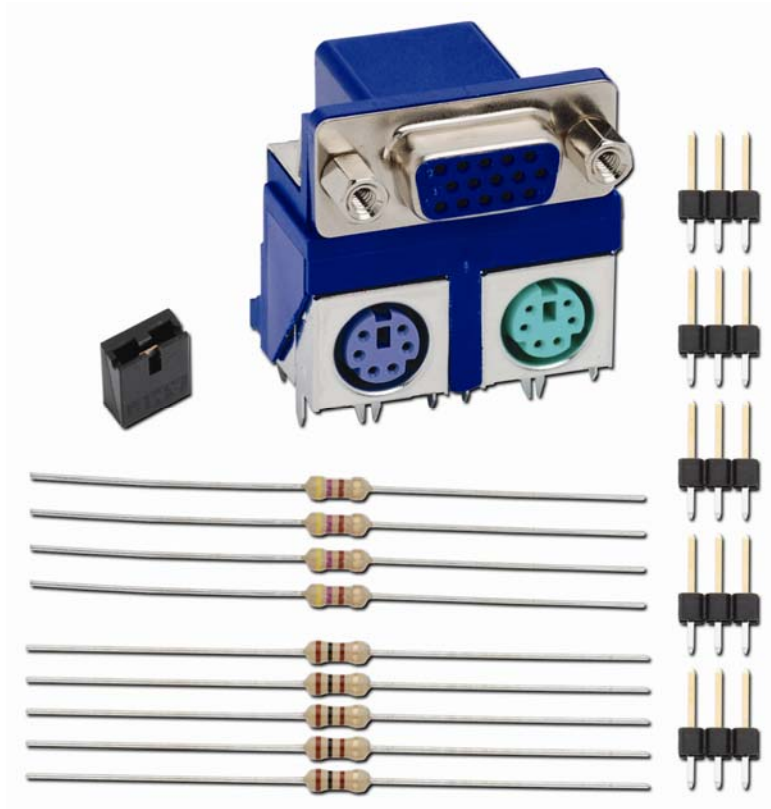
**Propeller Proto Board USB**



## Assembly Instructions for the Accessory Pack

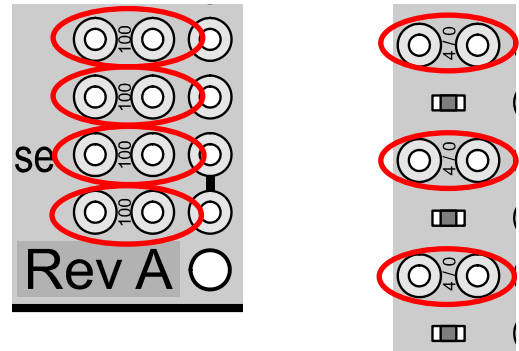
Make sure your Accessory Pack contains the following parts:

- ☑ Norcomp 999-H15-PS2L571 integrated SVGA and PS/2 mouse and keyboard connector
- ☑ 4 - 470  $\Omega$  ¼ watt resistors
- ☑ 5 - 100  $\Omega$  ¼ watt resistors
- ☑ 5 - 3-pin headers
- ☑ shorting block



### Add the 100 $\Omega$ and 470 $\Omega$ Resistors

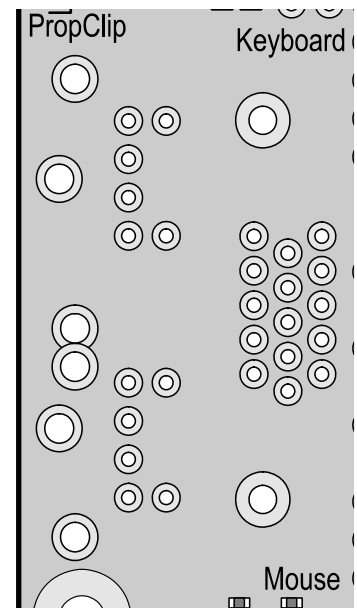
- ✓ Remove the resistors from their packaging.
- ✓ Take a 100  $\Omega$  resistor (brown-black-brown-gold) and bend one lead near the resistor so that it points in the same direction as the other lead.
- ✓ Place it in the two holes marked 100 right above the Rev A label and solder it in place so the resistor is in vertical orientation.
- ✓ Repeat this process for 3 more 100  $\Omega$  resistors moving upwards (you will have 1 spare 100  $\Omega$  resistor left).



- ✓ Repeat this process using (3) 470  $\Omega$  (yellow-violet-brown-gold); placing each resistor in the 3 sets of holes marked 470.

### Add the Norcomp Connector (right)

- ✓ Place the Norcomp integrated SVGA and PS/2 mouse and keyboard connector in the board.
- ✓ Solder the signal lines in the four corners (signal lines are the smaller pins).
- ✓ Once the connector is securely in place and level, solder the remaining signal pins, then solder the mechanical pins (the mechanical pins are the larger pins around the perimeter of the connector).
- ✓ The VGA/mouse/keyboard circuit is now installed.

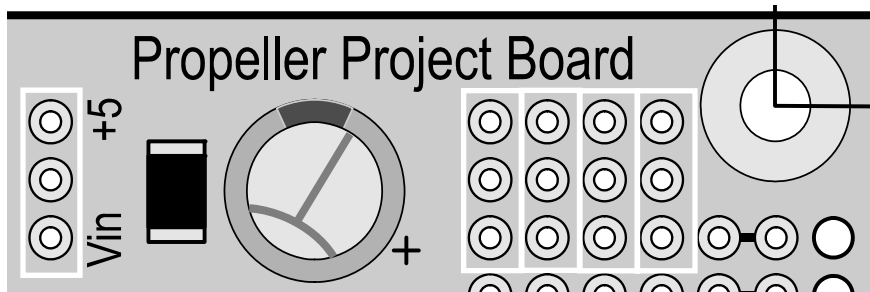


### Add the Servo Circuit (below)

- ✓ Solder a 3 pin header into the 3 holes to the right of the 3.3V regulator.
- ✓ Solder the 4 remaining 3 pin headers to the right of the electrolytic capacitor.
- ✓ Install the shorting block on the first header to choose the servo supply.

### IMPORTANT: Servo Power Supply (Vin)

Use only the Vin jumper setting for powering servos when power is supplied from a 6V battery pack. Damage could occur to your servos if you use an unregulated power supply.



**Note:** If only video or PS/2 peripherals are needed for an application, standard connectors may be used on the Propeller Proto Board. If only PS/2 connectors are installed, only the 100  $\Omega$  resistors need to be installed. If only a VGA connector is installed, only the 470  $\Omega$  resistors need to be installed.