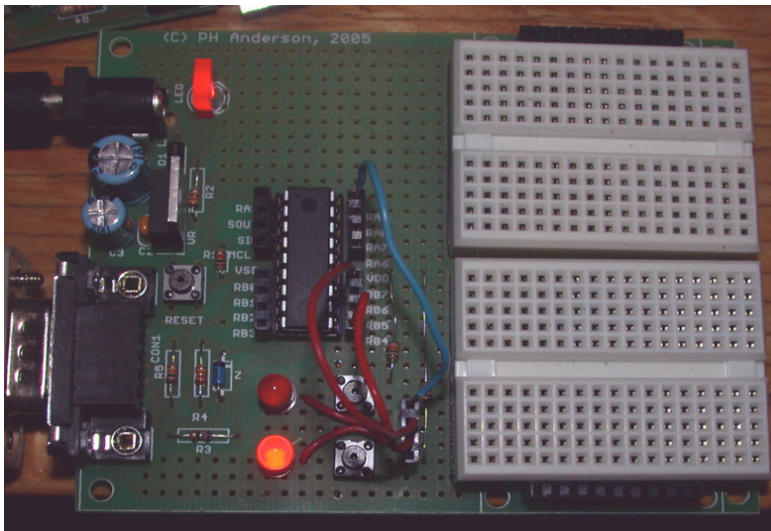


PX18XDev / PX18XProto

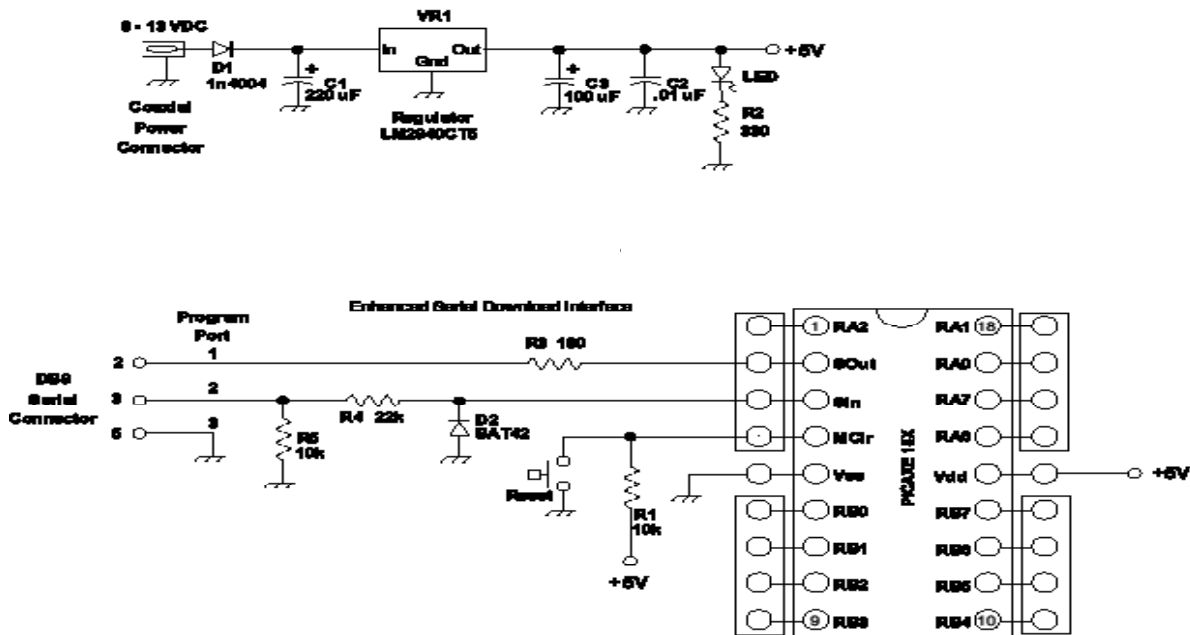
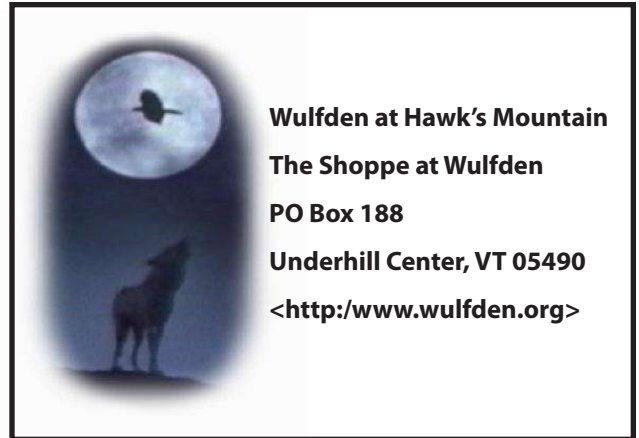
Wulfden PICAXE 18X Development/Prototyping Kits

based on PH Anderson PICAXE 18 Proto Board

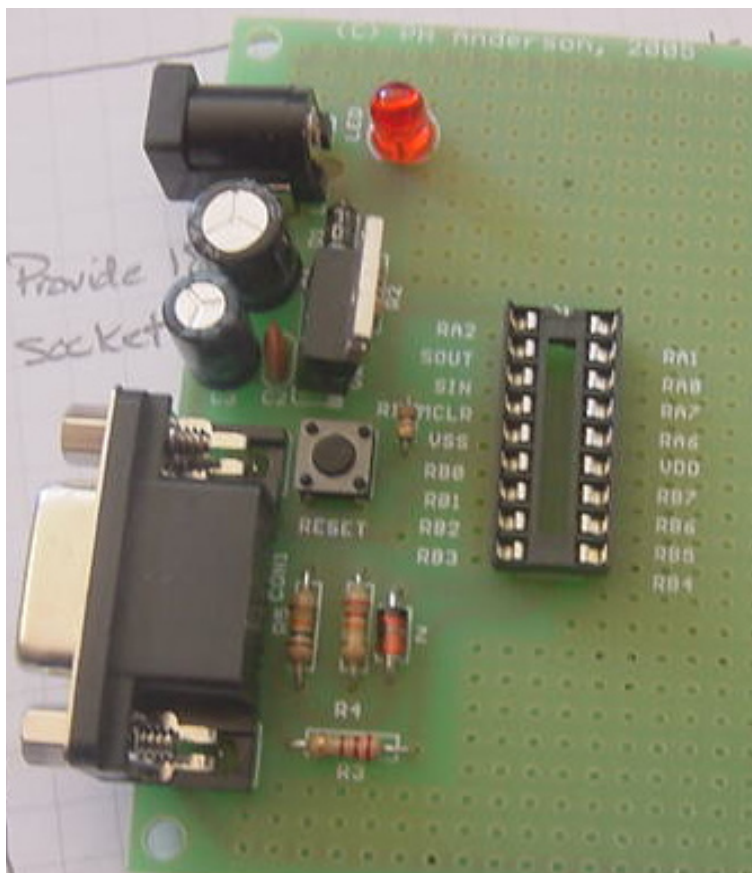
Pictorials, Schematics and Assembly Instructions



PX18XDev



PICAXE 18X Prototyping Board Assembly



These instructions are for the basic assembly of the PH Anderson PICAXE 18 Prototyping board and applies equally to the Development Set. These instructions and photo were adapted from his website.

It is suggested that you mount all low profile components first, followed by the electrolytic capacitors, power jack, D-sub connector, and finally the LM2940 regulator. This will assure that the board will sit reasonably flat during assembly and also assure a minimum of difficulty in mounting some of the smaller components.

Resistors - all mount flat

- R1 - 10K, (brown, black, orange)
- R2 - 330, (orange, orange, brown)
- R3 - 220, (red, red, brown),
- R4 - 22K, (red, red, orange)
- R5 - 10K, (brown, black, orange)

Diodes - The band on diodes is aligned with the silkscreen on the PCB.

D1 - 1N400x, black/white band

Z - BAT42 or 1N914 or 1N4148, diode (blue or tan/black band) is adjacent to R4

RESET switch, pushbutton.

LED - Place LED so flat/short leg is aligned with the flat on silkscreen.

IC1 - 18-terminal socket, the notch on the end of socket aligns with the silkscreen.

Capacitors - electrolytics - align the minus on the capacitor with the silkscreen.

C1 - 220 uF, 25 VDC, electrolytic

C2 - 0.1 uF, ceramic, or monolithic ceramic ("104")

C3 - 100 uF, 25 VDC, electrolytic

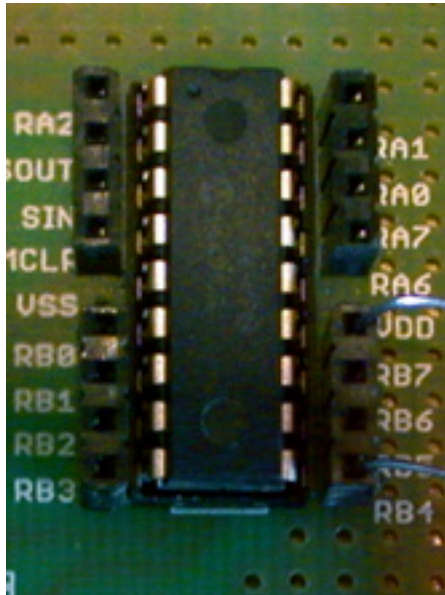
Connectors

Power - 2.1x5.5mm coaxial, positive center after placing, bend the tabs to hold the jack in place while soldering.

Programming - DB9F PCB mount- solder all 9 pins and hold downs

Voltage Regulator - LM2940CT5.0

Additional Assembly Instructions for the Development Set

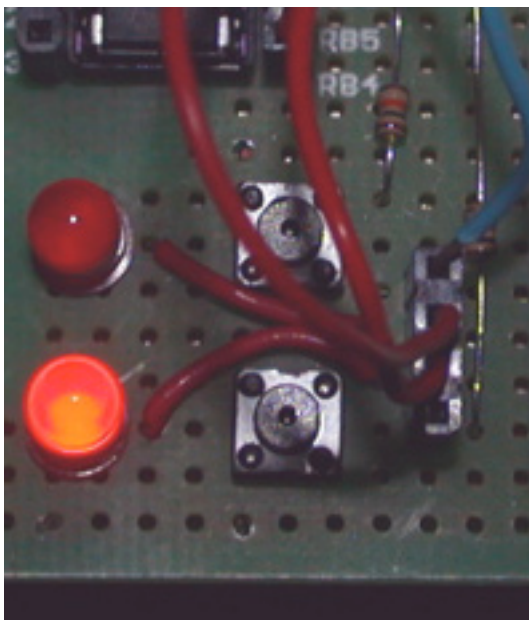


(1) The kit contains five (5) 2x4 socket headers and two(2) 1x10 socket headers. Select our(4) of the 1x4's and place them in one at a time and solder as shown in the photo to the left. Be sure to keep a one hole space between each pair leaving Vss and Vdd holes empty. (Hint: melt a dab of solder on the iron and, holding one of the pieces in its proper hole put enough solder on one pin to hold it in without you having a finger on it, then eyeball to

make sure it's straight and all the way in. You can then heat it a bit and starighten it if needed. Finish the job on the other pins, then go back and do a proper job on the first pin you did.)

(2) The two 1x10s go into the 10 holes between the two large holes (see photo above) along the top and bottom edges. These holes are the +5 volt (top edge) and GND (bottom edge) busses. (Use same technique recommended above)

(3) At this point you should be left with two extra pushbuttons and two extra LEDs, two 10K resistors, and the remaining 1x4 socket header, with no place to put it, that is to say no traces and silkscreen to guide you.



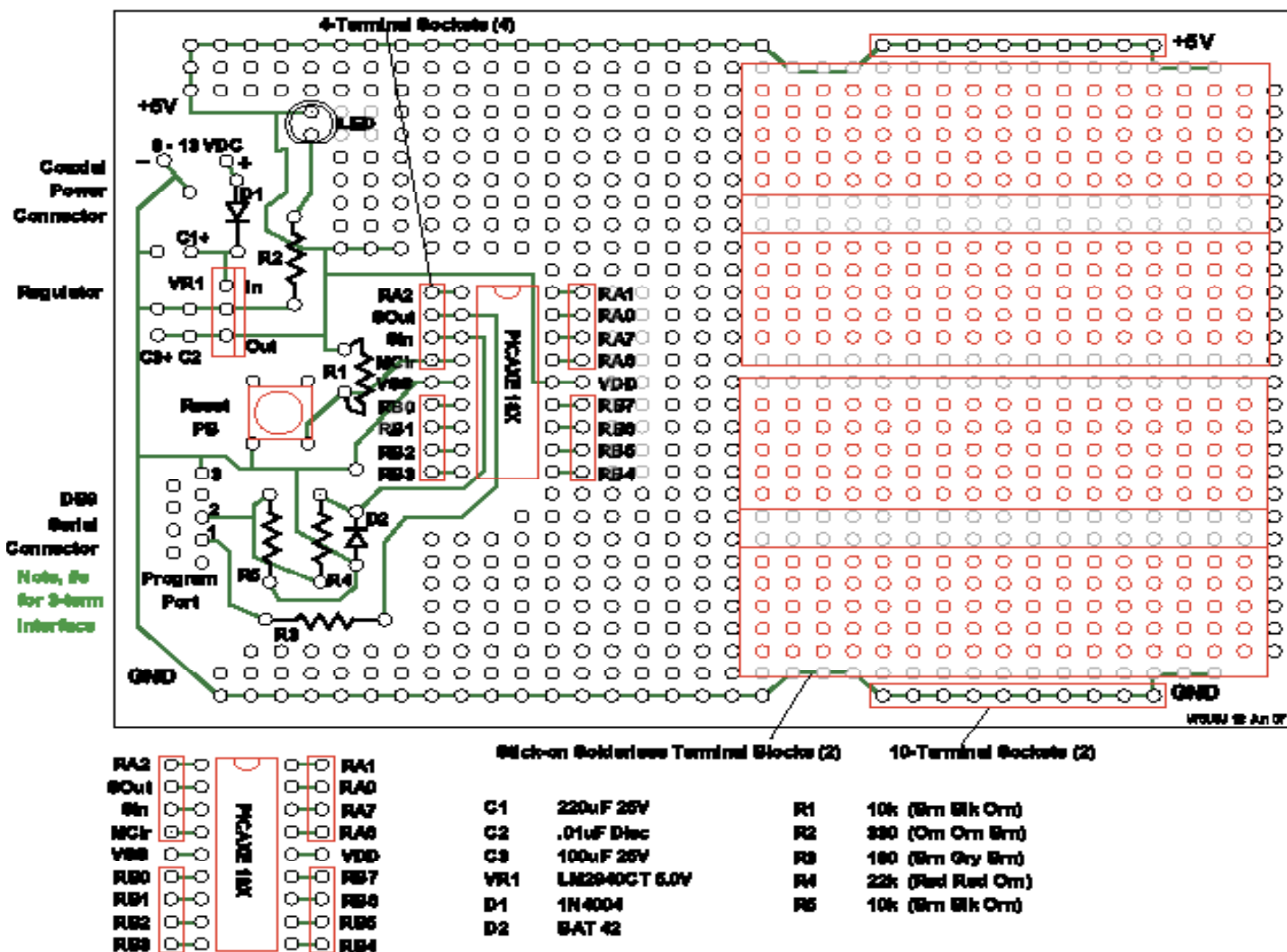
These two LEDs are special. They have built in 330 ohm series current limiting resistors. (one less thing to deal with!) I simply inserted them. Flats to left as shown in picture to left, near the bottom edge. (Remember the bottom row of holes is the GND buss!) I bent the short lead of the top LED over and took one turn around the sort lead of the bottom LED clipped and soldered, Then bent the second lead over and inserted it up through the hole in the GND bus, soldered and clipped the remainder protruding through the top of the board.

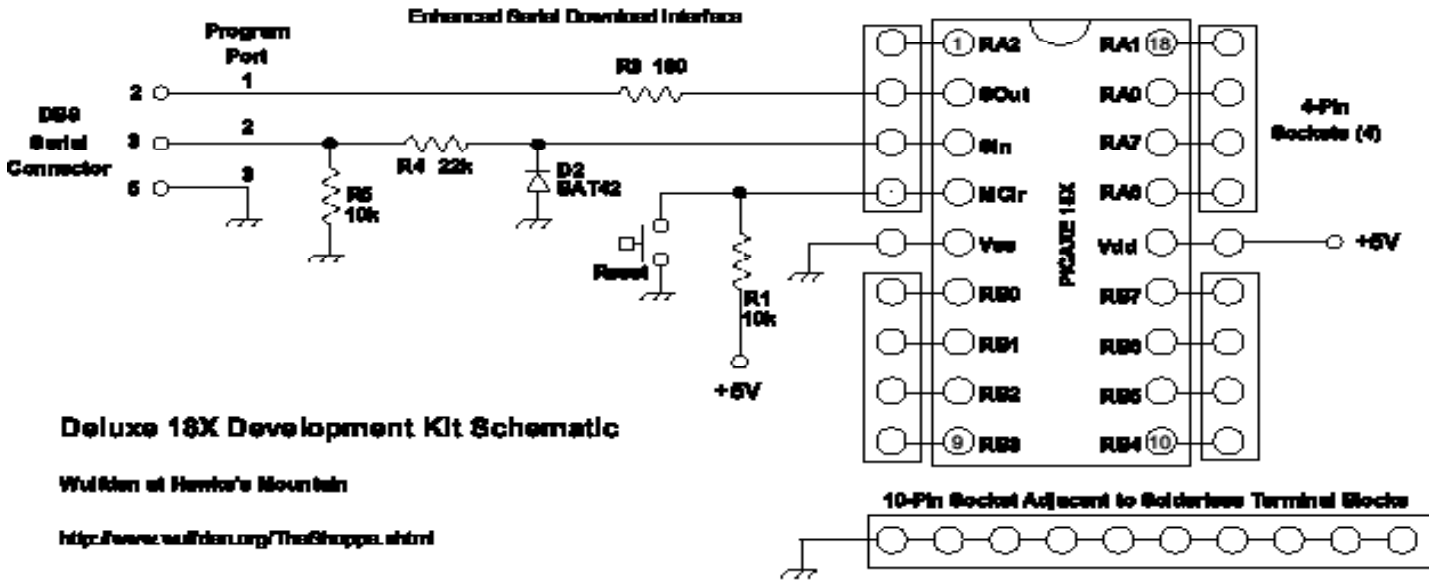
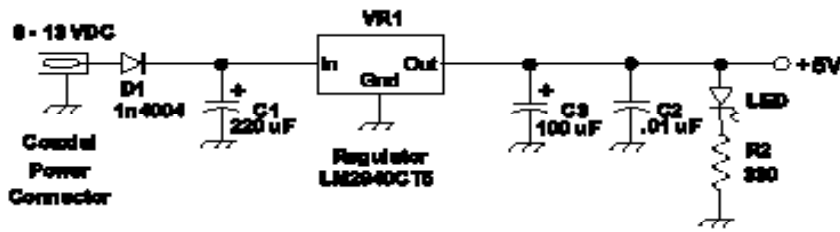
The switches are tricky, they don't really fit this pin-hole layout. But, they can be coerced to fit on a 3 hole by 3 hole square -- P A T I E N C E - is the key ... and a pair of needlenosed pliers!

So now we have the pushbuttons in place, but not yet soldered. Time to insert the remaining 1x4 socket header, attach with a dab of solder to one pin as suggest above.

We will consider the four pins of the socket header as starting at the bottom near the ground buss numbered 1 up to 4. Pins 1 and 4 will be the pushbuttons and 2 and 3 will be the LEDs. Take two short pieces of hookup wire and insert as shown, strip the ends and wrap one end around the long lead of the LED, solder and clip. The other end goes through a hole right next to the socket header and around pin 2 (the other to pin 3), solder and clip excesses.

Insert the 10K resistors to bridge the top switch to pin4, and the bottom switch to pin 1. The opposite ends of the resistors go up and tap +5v from the Vdd on the 18 pin socket.





Deluxe 18X Development Kit Schematic

Wulfden of Heron's Mountain

<http://www.wulfden.org/TheShoppa.shtml>

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18084 18 Aug 07

PICAXE-18X

