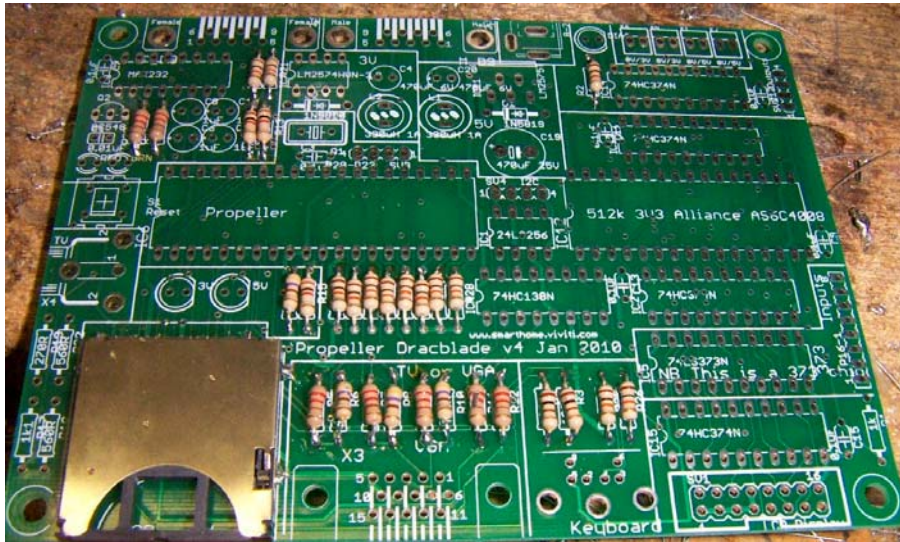


Propeller Dracblade Version 4 Build

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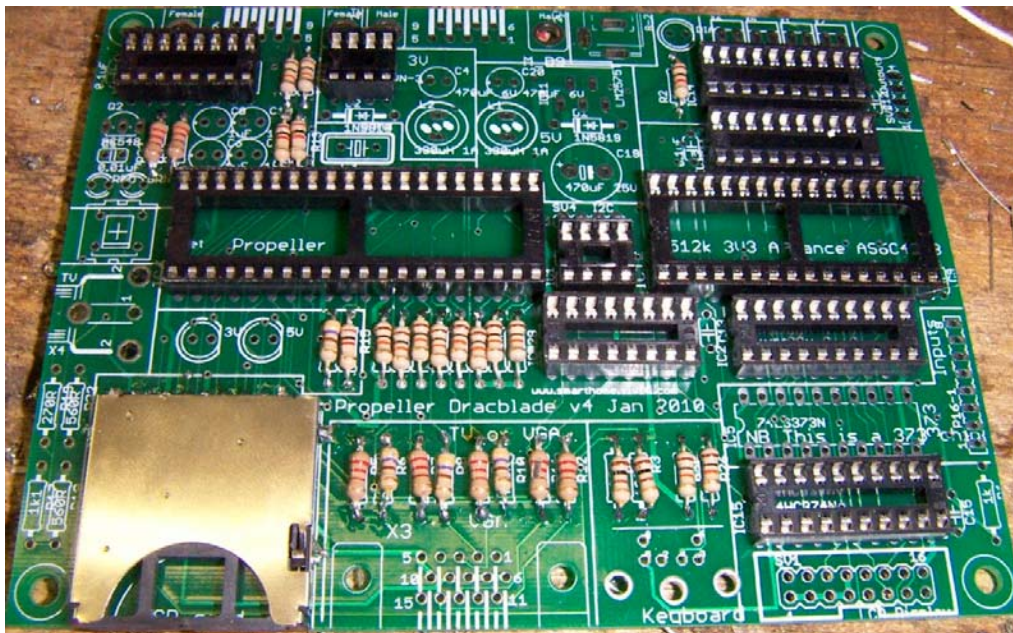
Step 1:

Insert the low components – start with the SD card socket and solder the pins at the back and then the pins on the side. Then solder in the resistors.



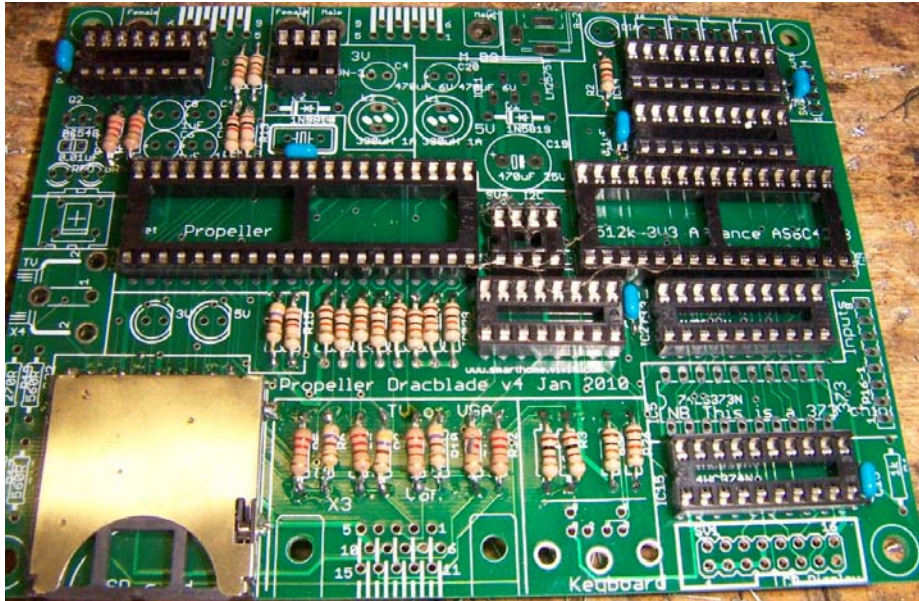
Step 2:

Now solder in the sockets. I find it easier to put in all the sockets, then place a flat board over the top and flip the whole thing over. Leave out the socket for the HC373 Inputs chip for the moment.



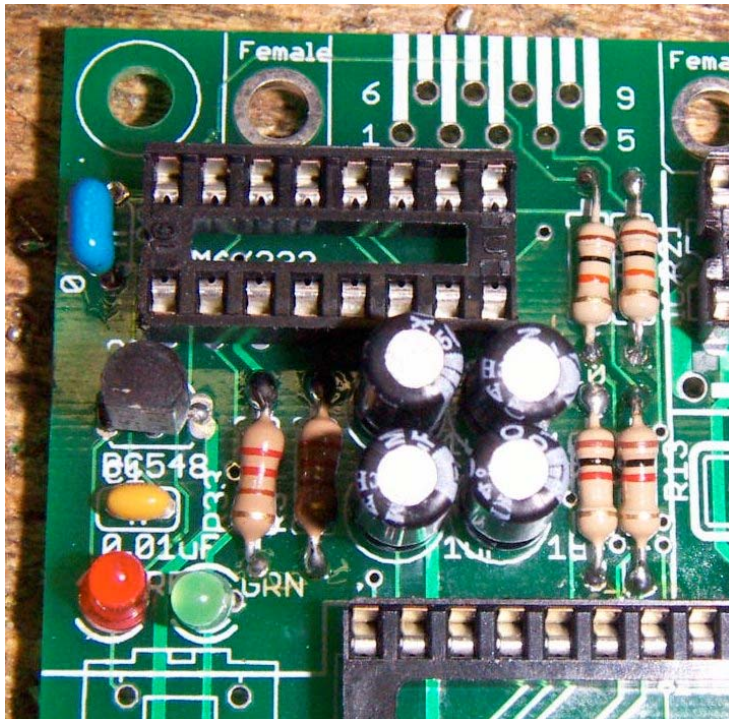
Step 3:

Insert the bypass capacitors. There are 7 in total – there is one more that hasn't been inserted just to the right of the 512k ram chip.



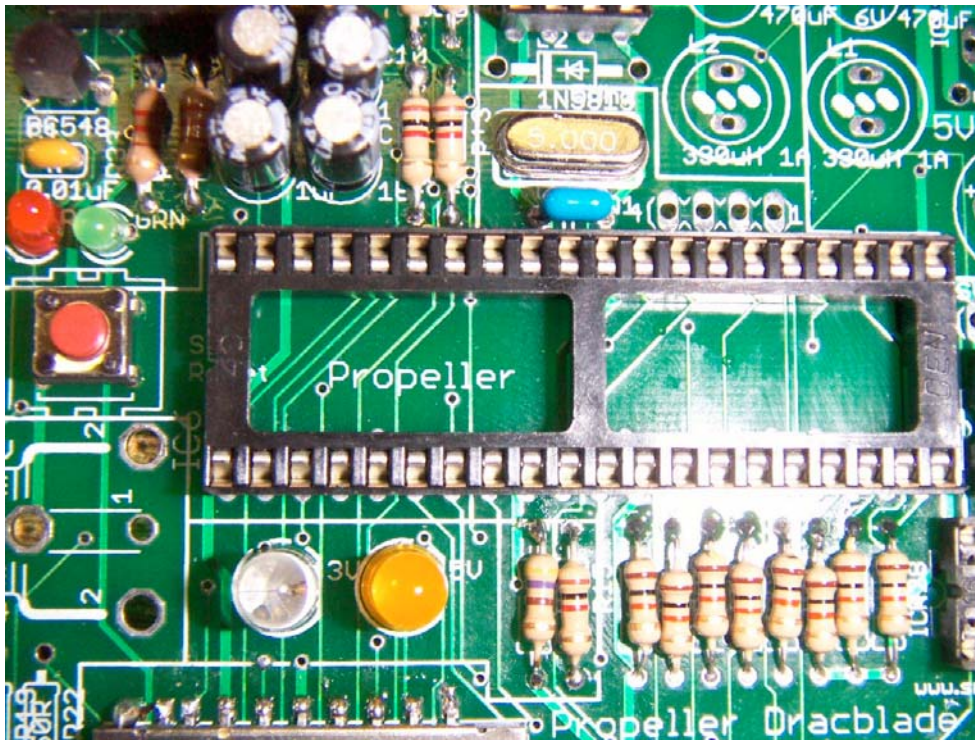
Step 4:

Solder the components for the download section. The transistor is a BC547 or 548 or 549. Other small signal transistors can be used but watch the pinouts as many are different. Looking at the writing, a BC547 goes CBE. The capacitor below that is a 0.01uF. The four capacitors for the max232 are 1uF – either electrolytic or tantalum. The red and green leds are for data transfer on the second (male) port.



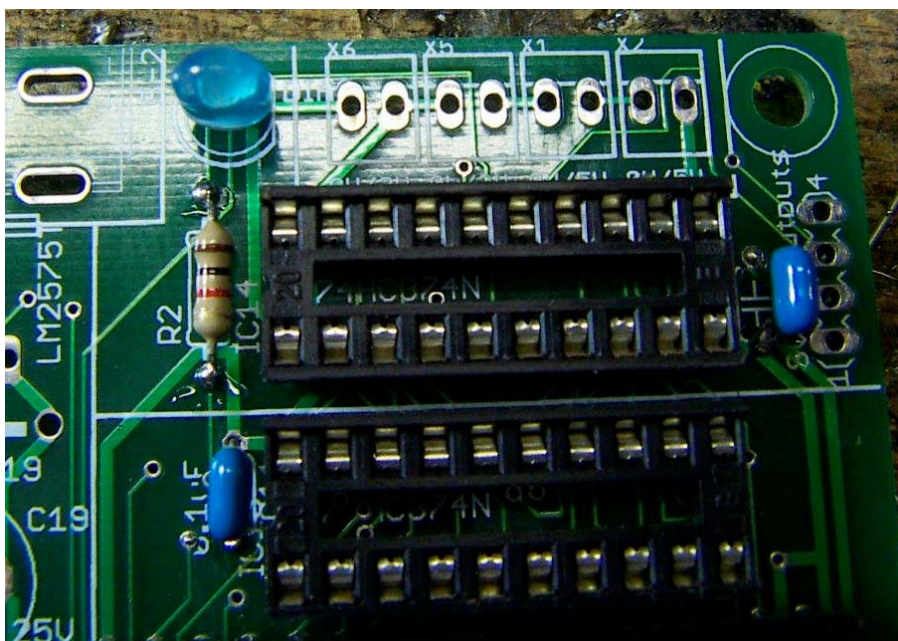
Step 5:

Insert the 5Mhz crystal and the two power supply leds (any colour) and the reset switch.



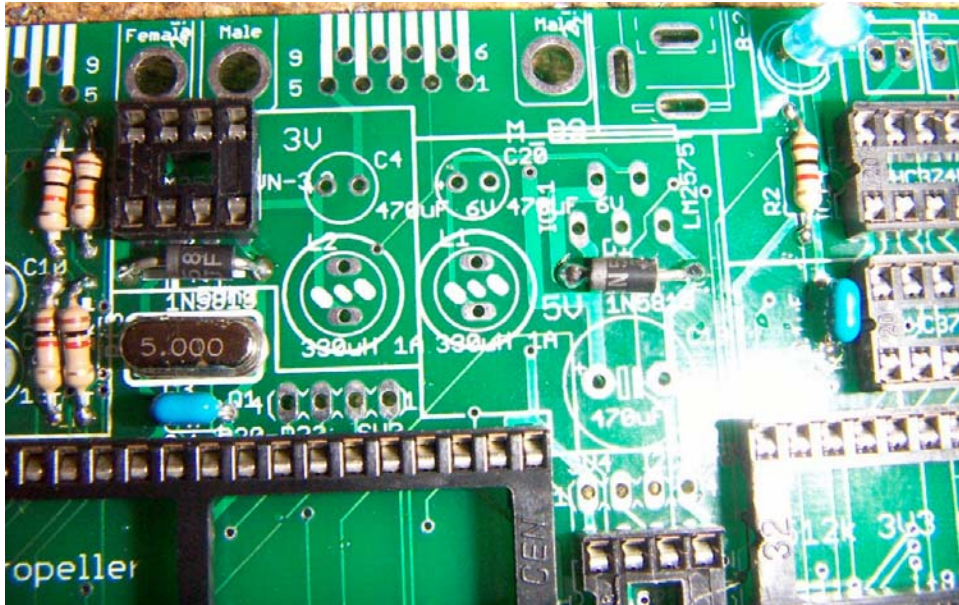
Step 6:

Insert the diagnostic led (any colour) and its 1k resistor. (This led is used for debugging, and also for indicating the SD card is running).



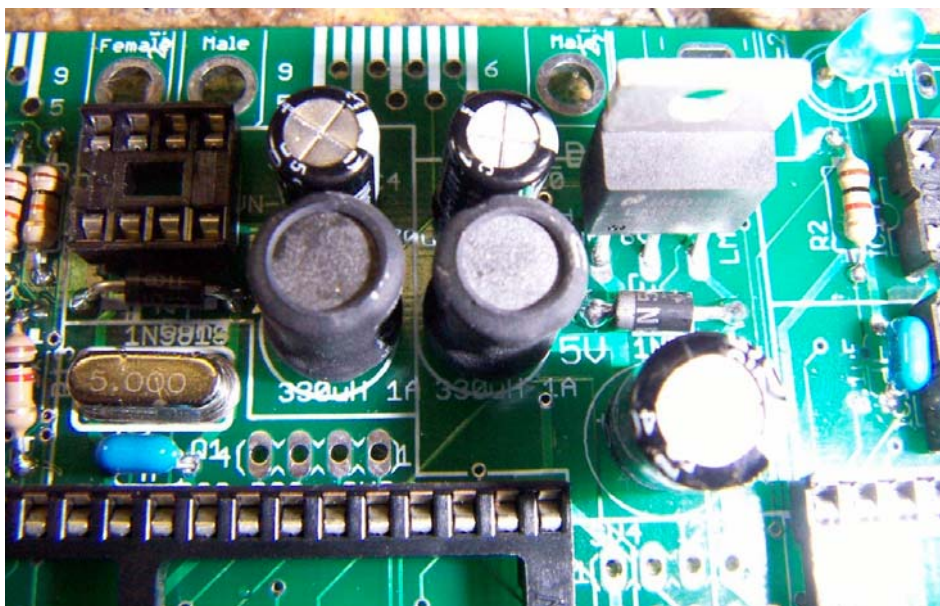
Step 7:

Insert the two 1N5819 diodes, stripes to the left. These are high speed switching diodes so please don't use different ones.



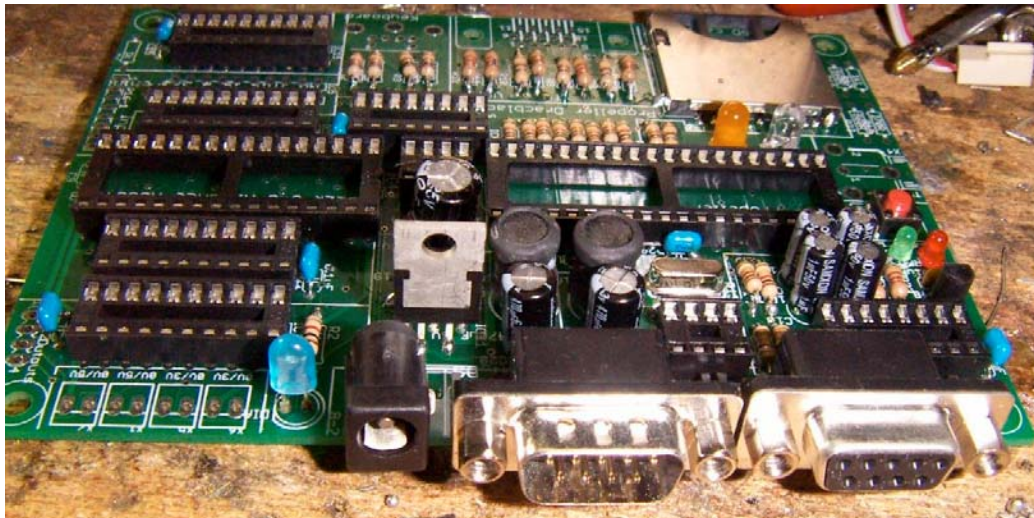
Step 8:

Insert the two inductors (1Amp, 33uH), two 470uF/6V capacitors and the LM2575 switching regulator. If the switching regulator has pins all in a straight row you may need to bend them forwards then backwards alternately.



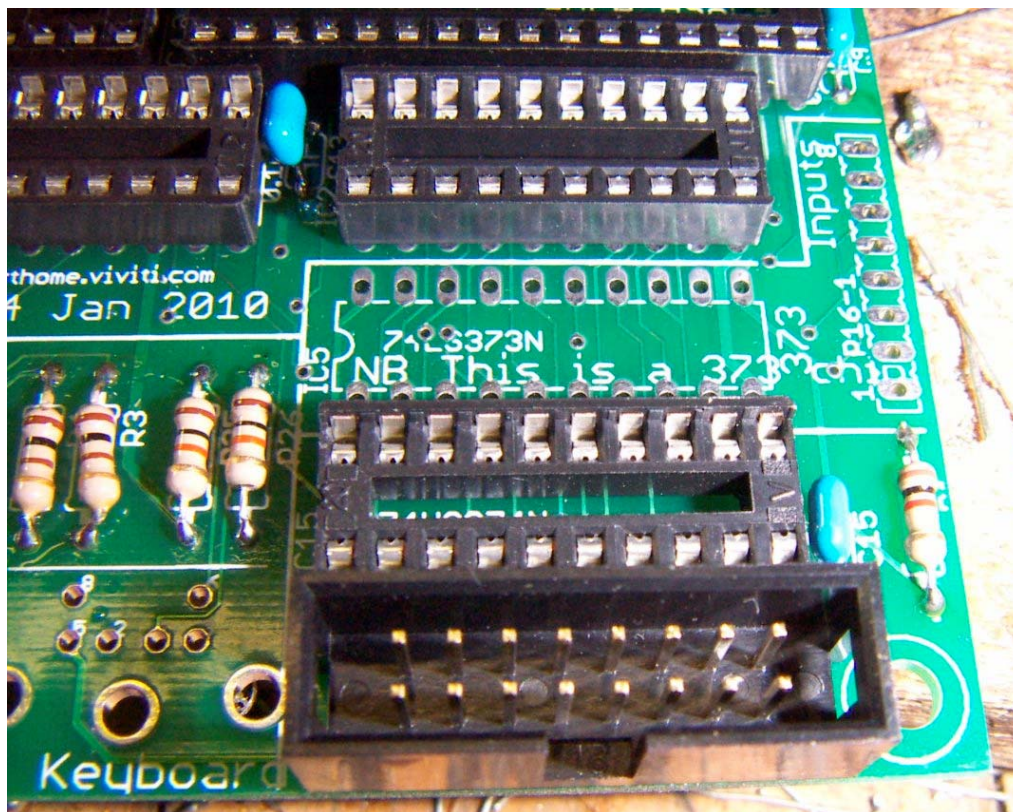
Step 9:

Solder in the two D9 sockets and the DC supply socket.



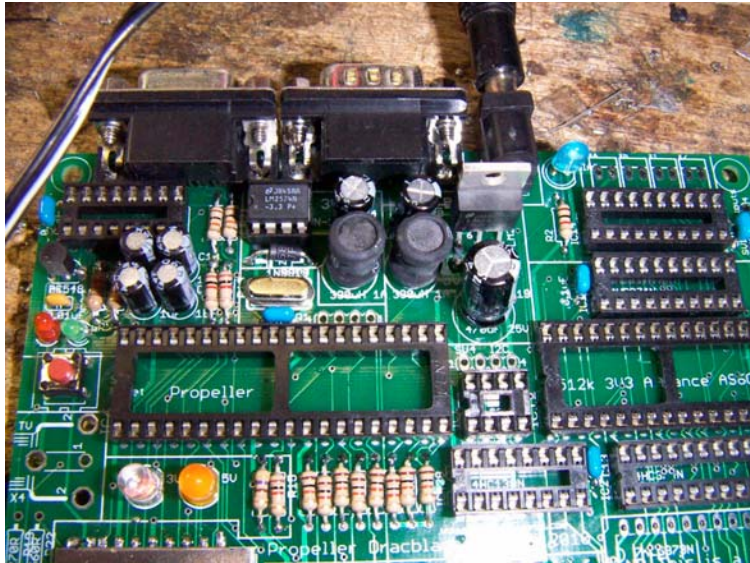
Step 10:

If you are going to use a 20x4 LCD display, solder in a 16 way polarised box header and associated 1k resistor. (you can leave this out if just using a VGA display)



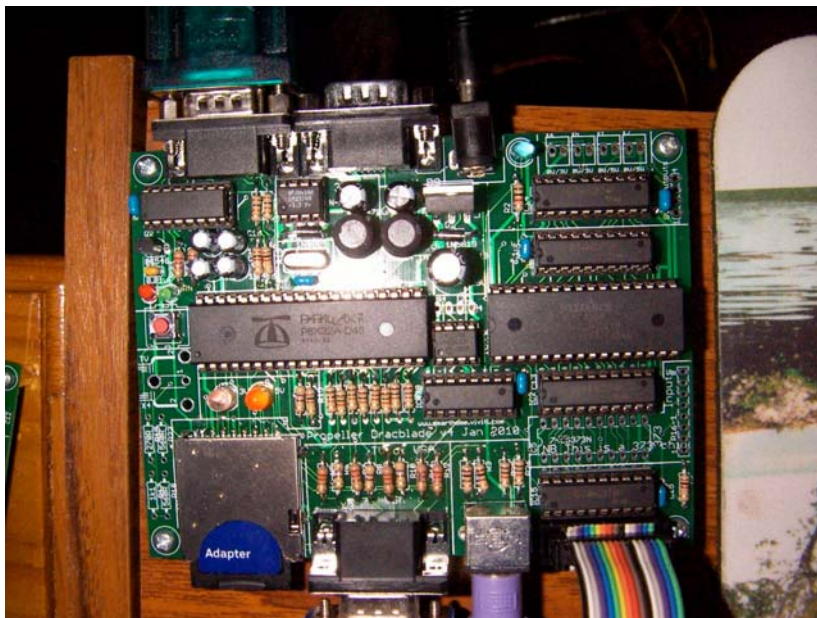
Step 11:

Put the 8 pin LM2574 switching regulator chip into its socket and power up the board. Check the 3V and 5V supplies have the correct voltages and the two power leds are lighting.



Step 12:

Insert the VGA socket, the keyboard socket and the rest of the chips (Propeller, max232, 4xHC374, HC138 and eeprom). Run the propeller software (Parallax.com), connect a USB to serial adaptor and do a quick F7 test to check the propeller chip exists. Download the compiler <http://forums.parallax.com/forums/default.aspx?f=25&p=001&m=298620> and download software (please ask for latest version) <http://forums.parallax.com/forums/default.aspx?f=25&m=405722&p=1>. Put the .dsk files on the sd card as well as the tiny file MYNAME.TXT. Compile using the spin compiler and download.



Step 13:

This is a work in progress, but the setup below shows two boards talking to each other using the second serial port. It is also possible to replace the three wire serial link with a wireless link using various RS232 to wireless modules.

