

# ASSEMBLING YOUR WIND MONITOR

For support please e-mail:  
wind@winddatalogger.com

Before you start building your wind monitor, please check the parts you received against the list below. If you are missing anything, please contact us immediately and we will rush a replacement part to you.

## Wind Monitor

Check	Designator	Description	Count
	D1, D2	MAN6760 LED Displays	2
	J1	DB9 female connector	1
	R4-R10	220 ohm resistors	7
	R14, R2, R3	10k resistors	3
	R12	4.7k resistors	1
	R1	22k resistor	1
	C1, C2	0.1uF capacitors	2
	U3	18 pin DIP socket	1
	U1	78L05 voltage regulator	1
	Q1, Q2	2N3906 transistors	2
	C3	47uF capacitor	1
	J2, J5	Blue terminal blocks	2
	U3	Programmed PIC16F628	1
		3/4" #4-40 screws	3
		#4 internal tooth lock washers	5
		#4-40 hex nuts	5
		#4 hex standoff (optional)	2
		Printed Circuit Board	1
		UR crimp connectors	2
		#4 nylon standoff	3
		1/2" #6 screws	4
		Red laser-cut bezel	1

## APRS Kit

Check	Designator	Description	Count
	J3, J4	Blue terminal blocks	2
	R11, R13	2k resistors	2
	R15	4.7k resistor	1
	SW1	Wire jumper	1

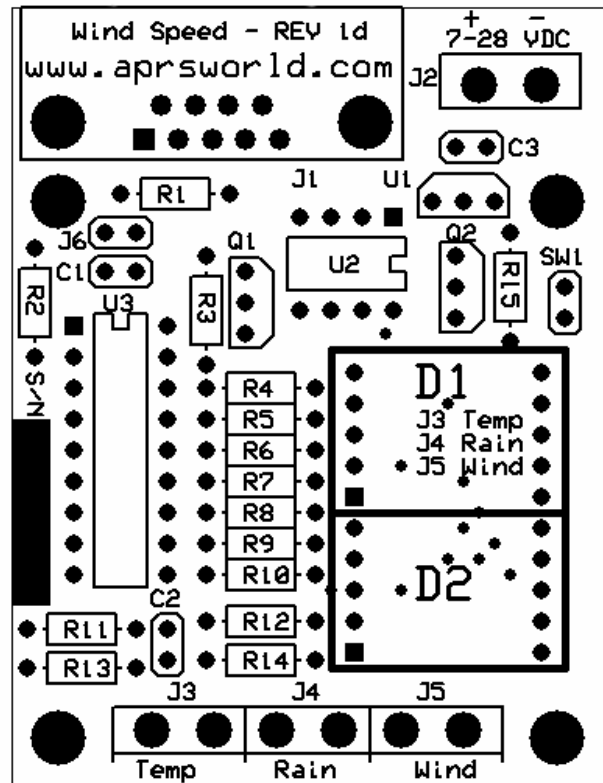
## Datalogger Kit

Check	Designator	Description	Count
	U2	24LC256 EEPROM	1
	U2	8 pin DIP socket	1
	R11, R13	2k resistors	2
		Software diskette	1
		Start / stop card	1

## Assembling the Circuit

The printed circuit board has a white screen-printed legend that shows the location of each part. You should use this legend to locate where each part on the printed circuit board is placed.

## Parts Placement Diagram



**Warning:** Do not install the DB9 connector until instructed!

Using a low wattage soldering iron (less than 25 watts) install the components on the component side of the board. The LED displays D1 and D2, capacitor C3, and the DB9 female connector, will be installed on the solder side of the board. You should start by installing the lowest profile components such as resistors and capacitors. Install the sockets and connectors last. You can use tape to temporarily hold down components while you solder their leads.

Install the displays on the solder side. The decimal points should be closer to resistors R4 – R10 rather than the edge of the board.

At this point you should connect power (7-28 volts DC) to the printed circuit board by using J2. Be sure to observe the polarity marked on the printed circuit board. Using a voltmeter verify that there is 5 volts DC on J6. The positive pin of J6 is on the left, and the negative is on the right.

Finally, now that all components besides the DB9F are installed, you can install the PIC microcontroller in the spot marked U3. Be sure to align the notch on the microcontroller with the notch in the silk screen and the notch in the 18-pin socket.

## Mechanical Assembly

The printed circuit board is attached to the red acrylic bezel by way of three standoffs and screws. Sandwiched between the printed circuit board and the bezel will be the displays a capacitor (C3) and the DB9F connector.

If there is paper backing on the bezel you should remove it now. Usually peeling at it with your fingernail will work, but if that does not you can use a low heat source such as a hair dryer. Be careful not to melt the acrylic!

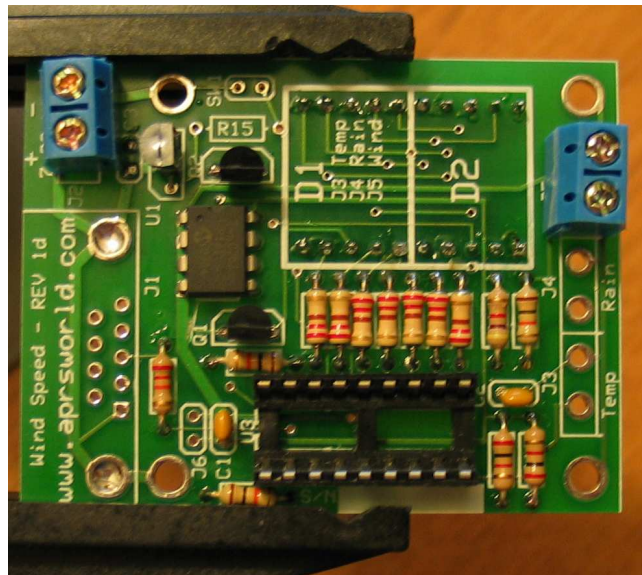
The DB9F should be placed in the cutout in the acrylic so the flange is on the side that does not have countersunk screw holes. You should then insert the three  $\frac{3}{4}$ " #4-40 screws in the inner three holes. With the screws sticking up you should slide the nylon standoffs over the screws. It may help to then set the assembly down on a table with the connector hanging over the edge.

With the connectors, screws, and spacers lined up you should set the printed circuit board on the screws and align it so it drops on top of the nine pins from the connector. You can now place the lock washers and nuts on the screws and tighten the printed circuit board down snugly.

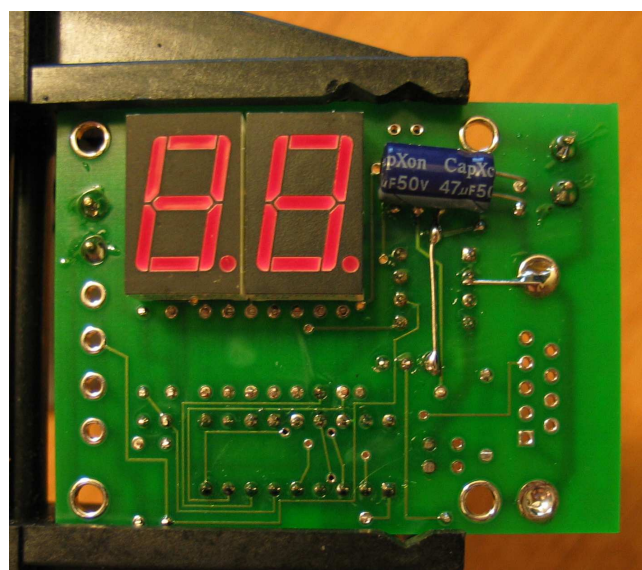
Once everything is mechanically attached and you are happy with the alignment you can solder the DB9 connector down. It may help to tape it to front of the bezel so that it does not pop up while you are soldering it.

**Congratulations, you have finished assembly of your wind speed monitor! You can now continue on to the operating manual for instructions on setting up and using your wind monitor.**

If you have any problems feel free to contact the support number or e-mail address listed on the manual.



Component side during assembly. Note that the DB9 connector, 47uF capacitor and displays are mounted on the solder side.



Solder side.