Building Tips and Hints

1. **Populate the power supplies first!**
   Populate the two regulators, the USB connector, power LED and the barrier strip close to the power supplies. Apply power to the USB connector and monitor the voltage at JP101-3. Apply power to the barrier strip and measure the voltage at JP101-1. Both should read 3.3V ± 5%. If the voltages are not withing this specification, DO NOT GO ANY FURTHER until you have debugged the circuit.

2. **Populate the Microcontroller**
   Populate the components on page 1 of the schematic. Insert the microcontroller into its socket. Ensure proper orientation of the LED's, the COM led should be oriented in same direction as the ACT Led beside it.

3. **Populate the Wifi Part**
   Populate all the parts on page 6 of the schematic.

4. **Program the Microcontroller**
   Connect the power supply and the PICKit to J102 and program the microcontroller. If you have a pre-programmed microcontroller, simply insert it into the socket. Connect the USB to a PC or single board computer, and test to see that it is recognized as a USB device.

5. **Complete the assembly**
   Insert the remaining components on to the board as per the parts list and schematic. Determine the values of RS and RG for the analog inputs from the manual and insert them.

6. **Turn up**
   If the USB mode Is the only mode that is going to be used, the board is now ready for use. Connect to an Allstar system, configure the application and restart asterisk. The COM Led will light steady green when it is connected.

7. **Enabling Wi-Fi**
   To enable the Wi-Fi mode, insert a jumper into JP601 and toggle the reset switch. The COM led will be flashing RED to indicate that the device is in the configuration mode. Connect to it from a WiFi enabled device as per the manual instructions, when programmed, remove the jumper and toggle the reset switch again.

8. **Configuring the Analog Inputs**
   The configuration resistors for the analog inputs VC1 through VC3, and V1 through V4 are **NOT** shipped with the kit, as they are application dependent. VC1 through VC3 are configurable to be directly connected to a voltage or a thermistor type device, and V1 through V4 are designed for a voltage input. The series (Rs) and ground (Rg) resistor values are dependent on the type of device used and range of the input voltage. Please consult the sections "Choosing the resistor divider values" and "configurable analog inputs" on pages 6-7 of the manual for suggested values.