Data logging from Smart Car 1-24-2013

WIZ-903-A4

AT-WIZ-903







1. Need a new cable made, 10 pin header (2x5) to 4 pin header (1x4) (or 4 pins) to bring RX, TX, GND and Vcc (+5V) to board.
	1. TX is pin 1, RX is pin 5, either pin 3 or 4 for ground, and Vcc is pin 10.
2. For 38400 baud, need SP2 on and SP1 off. For cars, Bill would wire wrap to replace any jumpers. It takes away any temptation on the part of the students to move jumpers.
3. Note: TX is the signal that this board will transmit, so it connects to TX, P0.0, of the C8051F020. RX goes to RX, P0.1
4. PWR-DWN: I don’t believe that we connect to the power down pin for the gondolas, but if we want to be sure, we should ground pin 9 for normal operation.

Setting the channel number:

We want to set the modules to different channels and then label the modules. The easiest way to do this is to use the W232 RS232 adapter cables. We have at least 2 of these in JEC 4219.

1. Run a terminal emulator program on a laptop.
2. Using an USB/RS232 adapter, connect the laptop to the transceiver.
3. The transceiver needs 5V and Gnd. This can be done using the 2 pin header on the transceiver. All of the gondolas have 5V and GND 2 pin cables, so a gondola can be used as the power source.
4. Use Control M for <CR>, Control J for <LF>
	1. +++ <CR><LF> (laptop)
	2. OK <CR><LF> (transceiver)
	3. ATS2=4,WR,CC <CR><LF> (laptop – set RF channel #4, this is register 2 of transceiver, write register values into EEPROM, exit command mode and run or just cycle power). Values reset with a power cycle if you don’t write to EEPROM.
	4. OK <CR><LF> (transceiver)
	5. ATS2<CR><LF> (laptop – ask which channel is now used)
	6. 4<CR><LF> (transceiver)
5. Other registers, ATSn where n is the register number.
	1. 1 can be read to know the frequency band, ours should always return a value of 0.
	2. 2 is the channel number,(R/W) 0-9 (we have labeled 0 as channel 10 for the blimps.)
	3. 3 is the RF output power, (R/W) a value of 3 is the max.
	4. 16 Received Strength Signal Indicator, (R) 9 is max, 0 min.

 5 pin header 10 pin header

 1 TX-------------------brown--------------------------------1 TX

 2 GND-----------------orange-------------------------------3 GND

 3 RX-------------------green---------------------------------5 RX

 4 Vcc------------------black----------------------------------10 Vcc

 5 Pwr\_Dwn-----------white---------------------------------9 Pwr\_Dwn