How to integrate the Vaisala WXT510/520 and the Septentrio PolaRx5 (Command Line)

840 Henry Berglund April 13, 2016 Vaisala 1499





OR

1. Use hyper terminal (or any other terminal emulation program) to configure the Vaisala WXT510/520 manually.

To configure the Vaisala using a terminal emulation program:

- 1. Connect to the Vaisala using the following settings:
 - Baud: 19200
 - Parity: None
 - Flow Control: None
 - Edit the hyper terminal ASCII settings:
 - check box for "send line ends for line feed"
 - check box for "Echo typed characters locally"
 - check box for "Append line feed to incoming line ends"
- 2. With the terminal connection established, power up the Vaisala. You should get a "0X0, start" message.
- 3. Use the following commands to configure the WXT510/520:
 - 0XU,M=Q,C=2 (This should set the WXT510 to NMEA polled, RS232 communication)
 - 0TU,R=&11010000,I=180,P=B,T=C (This should set the pressure units to bar and temperature to Celsius)
 - 0RU,R=&1000000U=M,Z=A (This sets the precipitation units to mm/hr and counter reset)
 - OWU,R=&01001000 (These next two commands sets wind averaging, units, and output values)
 - 0WU, I=180,A=180,U=M,F=1
 - OSU,R=&00000000 (This removes the system status elements from the output values)
 - 0XU,M=P (to change the communication protocol back to ASCII)

- 1. Verify the Vaisala is enabled:
 - Issue a "0R0" command.
 - The met pack is set to output the following string:

0R0,Dm=076D,Sm=0.1M,Ta=24.4C,Ua=20.9P,Pa=0.8429B,Rc=0.00M,Hc=0.0 M

where:

0R0 - the command that is sent
Dm - wind direction, degrees
Sm - wind speed, m/s
Ta - temperature, degree C
Ua - humidity, percent
Pa - barometric pressure, Bar
Rc - rainfall, mm/sampling period (reset at each measurement)
Hc - hail, hits/sampling period (reset at each measurement)

Configuring the Septentrio PolaRx5

Configuring the PolaRx5 using a telnet connection

- Connect to the receiver (default command port: 28784)
 - telnet ip_address port_number
- Login to the receiver
 - login, username, password
- Setup the serial port (in this example the met device is connected to COM2)
 - scs, COM2, baud19200, bits8, No, bit1, none
- Enable a periodic ASCII command to be sent to the met device (%%CR and %%LF correctly terminate the '0R0' command sent the device)
 - spe, COM2, A:0R0%%CR%%LF, min5

- Enable the receiver to accept the met device's ASCII input
 - sdio, COM2, ASCIIIn
- Add the ASCIIIn to the desired SBF logging stream
 - sso, Stream#, LOG#, +ASCIIIn,
- Save the new configuration settings to Boot
 - eccf, Current, Boot

Using teqc to extract met records

Use the following command to create a met file:

teqc +met <filename>.met -M.obs pr+td+hr+ws+wd+ri+hi <filename>.sbf > <filename>.obs

where <filename>.sbf is the binary file that you pulled from the receiver,

and

<filename>.met is the ASCII file that contains the extracted met data,

and

<filename>.obs is the RINEX observation file extracted from the SBF file.

Online URL:

https://kb.unavco.org/article/how-to-integrate-the-vaisala-wxt510-520-and-the-septentrio-polarx5-command-line-840.html