WeatherLink® for Emergency Response Teams
Addendum

Introduction

This Streaming Data Logger is designed for use with the free CAMEO® software developed by National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA). It provides the real-time weather data needed to map the "footprint" of a hazardous plume, predict its dispersion, and help make critical public safety decisions. Please note that this product is specifically designed to work with the CAMEO® software program and will not work with other such programs of this type. CAMEO®, or Computer-Aided Management of Emergency Operations, is a suite of three integrated software applications, including ALOHA®, Areal Locations of Hazardous Atmospheres. This product utilizes the features in the ALOHA® program that will automatically accept data from an automated weather station. For further and more detailed information on CAMEO® software, please visit the following website: http://www.epa.gov/ceppo/cameo/aloha.htm .

This product also contains the functionality of the WeatherLink for Vantage Pro Serial version. Please consult the WeatherLink for Vantage Pro™ Getting Started Guide and on-line Help files for information on the use of the WeatherLink® program (including its hardware requirements and typical installation), package contents, and optional accessories for this product.

Hardware Installation and Requirements

In addition to the requirements for WeatherLink, the streaming data capability of this product has the following additional hardware requirements.

- One Free Serial Port capable of running at 1200 baud
- Computer running any version of Windows™, Internet Explorer 5.01 Service Pack 2 or later, with at least 3 MB free of RAM and 100 MB free of hard disk space

Please refer to the WeatherLink Getting Started Guide, page 7, "Serial Port Installation" for detailed hardware installation instructions

Note 1: Davis highly recommends you use the same serial port on your computer for both WeatherLink® and ALOHA®, however, you cannot communicate to both programs at the same time.

Note 2: While ALOHA® requires communications at 1200 baud, WeatherLink® and the Vantage Pro console may communicate at any baud rate including the default 19,200 baud.

Note 3: Due to its normal operation, this product will draw more current from the Vantage Pro™ Console and Weather Envoy™ than in typical use. Davis recommends you use the power adapter provided with your product if you are concerned about battery life.

Software Installation and Setup

Installing the Software

Follow the installation instructions for WeatherLink®. This will also install the configuration software. The install file contains this configuration program as well as WeatherLink® if you ever need to install the program manually.
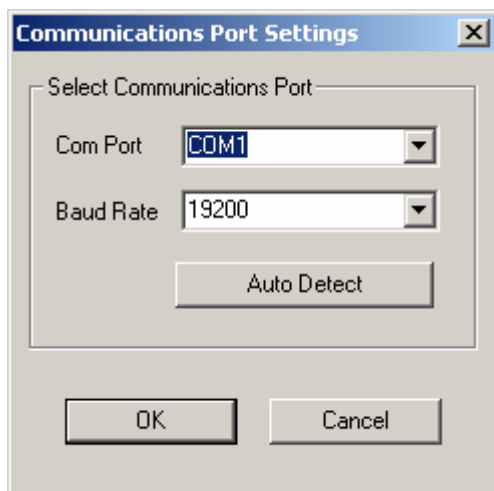
Running the Configuration Software

To run the configuration software, double-click on the Streaming Data Utility icon in the Streaming Data Utility directory of the WeatherLink® directory or select the Streaming Data Utility from the Start Menu under the WeatherLink® directory.

Finding the Correct Serial Port

The configuration software includes a procedure for locating the serial port to which your streaming data logger is connected or determining whether that serial port is working.

Note: Using the Auto Detect command in WeatherLink® can help you locate the serial port. The Loopback command will help you determine whether the serial port is functioning. Consult the WeatherLink® for Vantage Pro™ Getting Started Guide and on-line Help files for more information.
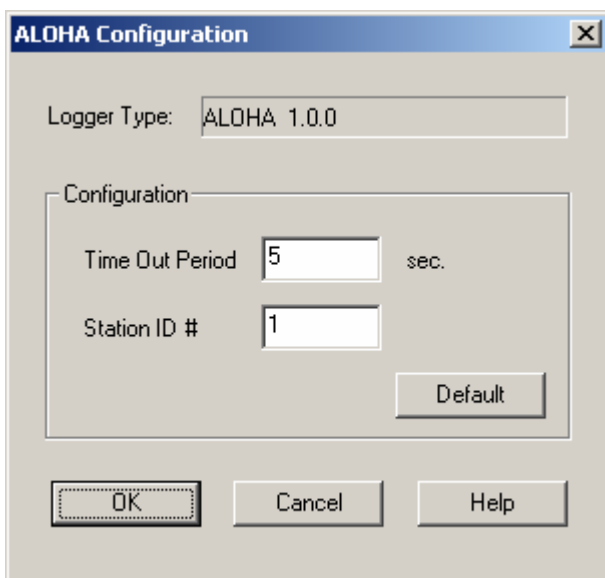
Use the Serial Port Settings dialog box to select the correct COM port and baud rate to communicate to the streaming data logger. The correct baud rate will be the one set in your Vantage Console, and in WeatherLink. The default value is 19200 baud. You may manually set the COM port setting or use the Auto Detect button to automatically find where your streaming data logger is connected.

Note: If you have more than one streaming data logger connected to your system, it is highly recommended that you manually set the com port and baud rate.

Module Type

The software indicates the device type and firmware revision level of the streaming data logger in the logger type box.

Station Setup

Choose a station ID number for your station and enter it into the Station ID # dialog box. The default is 1. The allowable range is 0 to 999. Although a station ID number is included in each data transmission, ALOHA® does not use this value. It is recommended that you use a different value for each station if you are using more than one Vantage Pro™ station for emergency operations.

Time Out Period

Normally, the streaming data logger will stream an ASCII character string every 30 seconds to the computer for use with the ALOHA® software program. However, since the streaming data logger shares its serial port for Vantage Pro™, WeatherLink® and ALOHA® communications, it ceases streaming whenever PC software attempts to communicate to the logger. After communications from the PC has stopped for the time-out-period, the Aloha streaming will resume. The default setting is 5 seconds. You may adjust this value if you wish streaming to resume sooner or later after communicating to the logger using WeatherLink® or the Streaming Data Utility.

Note: Once communications to WeatherLink are initiated and successful, the streaming data logger will be unable to communicate with the Streaming Data Utility until the Time Out Period expires. If you need to communicate to the logger with both the Streaming Data Utility and WeatherLink®, you should communicate using the Streaming Data Utility first.

Default

Press this button to restore the data entries to their default values. You must still hit OK to save the settings in the data logger.

Streaming Data Logger Functionality & Troubleshooting

The ASCII character string that is sent every 30 seconds contains information on the following parameters (as required by ALOHA®):

> station ID #,
> vector mean wind speed, (5 minutes average in meters per second),
> mean wind direction (5 minutes average in degrees true),
> standard deviation of the wind direction ("sigma-theta") (degrees),
> mean air temperature, (5 minutes average in °C),
> instantaneous wind speed (meters per second),
> instantaneous wind direction (in degrees true),
> instantaneous air temperature (°C),
> instantaneous Vantage Pro™ console or Weather Envoy™ battery voltage.

Upon powering up the console or interrupting communication for software use, the streaming logger will not report the 5 minute average values until 5 minutes have elapsed. As specified by ALOHA®, the streaming logger will place a -1 in the "sigma-theta" field until 5 minutes has elapsed and 5 minutes of data has been captured. ALOHA® will flag this data as a communications problem, so be sure to let the Vantage Pro system run for at least 5 minutes before utilizing the data in ALOHA®. Also, if data is missing due to other problems such as disconnected sensors or poor reception, average data may not be reported and a -1 may appear in the "sigma-theta" field.

Additionally, if there is no wind speed over a 5 minute period, and thus no real wind direction, the streaming logger will place a -1 in the "sigma-theta" field. The -1 will also be indicated if the wind direction varies by 180 degrees or more over the 5 minute averaging period.

Please check your station and console if 5 minutes have elapsed and the wind direction does not vary greatly (particularly if wind are not light), but the streaming logger continues to report the -1 value, marks other data as missing, or you get a communication error message in ALOHA®.