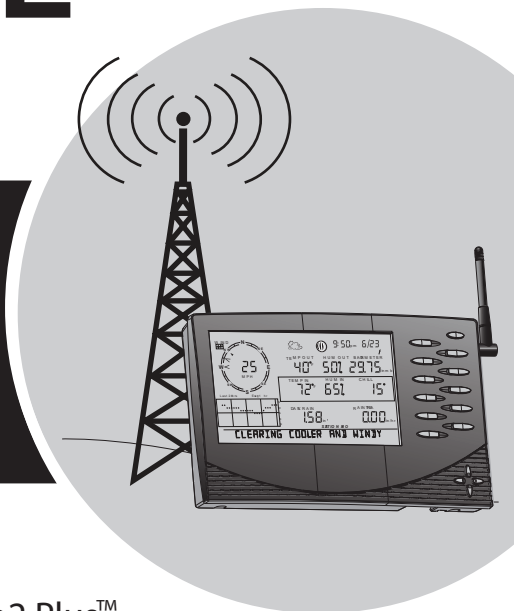


USER MANUAL

WeatherLink[®] for APRS



For Vantage Pro2[™], Vantage Pro2 Plus[™],
Vantage Vue[®] and Weather Envoy[™]

Product number 6540

DAVIS  [®]

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WeatherLink for APRS

For APRS (6540)

WeatherLink for APRS includes a streaming data logger that is designed for use by ham radio operators with a TNC modem capable of accepting APRS data packets. It allows you to transmit weather data over ham radio without the need for a PC.

It also includes WeatherLink software. Please consult your *WeatherLink Getting Started Guide* and on-line Help files for information on the use of the WeatherLink software (including its hardware requirements and typical installation), package contents, and optional accessories

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 or one free USB port with the Serial-to-USB adapter (part no. 8434) connected to a Windows PC (for configuration only).
- Ham radio with attached TNC modem capable of accepting APRS data packets.
- Computer running any version of Windows XP or later.

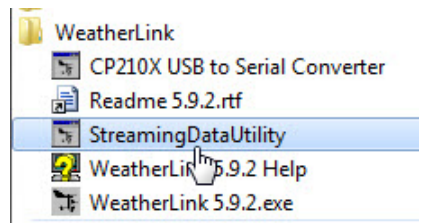
Refer to the section on “Serial Port Installation” in your *WeatherLink Getting Started Guide* for detailed hardware installation instructions for connecting this product to the console and a PC. To connect this product to a TNC modem, connect the cable plug at the end of the 8' cable to the supplied 25-pin TNC modem adapter. Plug the adapter into the 25-pin port labeled Computer on the TNC modem. If your TNC modem requires a 9-pin or different connection, please contact Technical Support for a wiring diagram. (See “Contacting Davis Technical Support” on page 6.)

Note: Since WeatherLink for APRS will draw additional current from the Vantage Pro2 Console and Weather Envoy™, you should use the power adapter provided with your product when running WeatherLink for APRS.

Install the Software and Set Up the Streaming Data Logger Utility

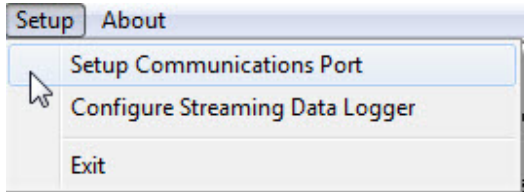
Follow the installation instructions for WeatherLink. This will also install the streaming data logger utility.

From the computer’s Start menu, choose WeatherLink from the programs list. Double-click on StreamingDataUtility.

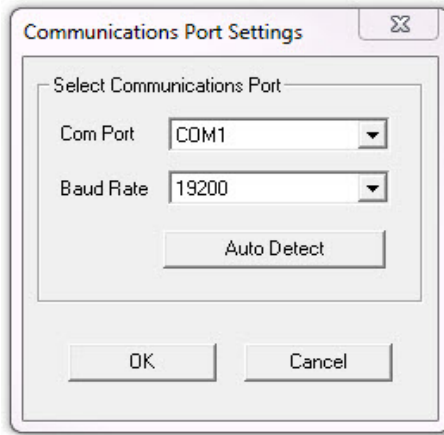


Find the Correct Serial Port

In the streaming data logger's Setup menu, click Communications Port Settings.



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 console, and in WeatherLink. The default value is 19,200 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: Using the Auto Detect command can help you locate the serial port. Use the Loopback connector and WeatherLink software to help you determine whether the serial port is functioning. Consult the *WeatherLink for Vantage Pro2 Getting Started Guide* and on-line Help files for more information.

Consult your TNC modem and ham radio documentation to determine how to configure your streaming data logger to communicate APRS data to your ham radio.

Configure the Streaming Data Logger

In the streaming data logger's Setup menu, click Configure Streaming Data Logger.

The screenshot shows the 'APRS Configuration' dialog box. The 'Logger Type' is set to 'APRS 2.00'. Under the 'Configuration' section, 'Time Out Period' is 5 seconds, 'APRS Baud Rate' is 9600, and 'Transmission Rate' is 5 minutes. The 'Latitude' is set to 37 degrees, 38 minutes, and 10 seconds North. The 'Longitude' is set to 122 degrees, 7 minutes, and 30 seconds West. The summary section shows the coordinates as Latitude 3738.17N and Longitude 12207.50W. The 'APRS String' field is empty. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

Time Out Period

Normally, the streaming data logger will stream an ASCII character string according to the Transmission Rate setting to the ham radio TNC modem. However, the streaming data logger utilizes a time-out period for ceasing streaming whenever software attempts to communicate to the logger. 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.

APRS Baud Rate

Use this setting to determine what baud rate to send APRS data to the TNC modem on your ham radio. The default value is 9600.

Transmission Rate

Use this setting to determine how often to send APRS data packet. The default setting is 5 minutes. Consult the APRS website (www.usna.edu/Users/aero/bruninga/aprs.html) for guidance on sending data more or less often.

Latitude & Longitude

For APRS reporting, you must enter your latitude and longitude information. Enter your latitude and longitude in degrees, minutes and seconds in the appropriate boxes. The APRS String boxes below indicate what the APRS position character string will look like based on the values entered. Before any new data is entered, these boxes indicate the latitude and longitude string currently stored in the streaming data logger. If “invalid string” is shown in these boxes, either one of the entries is outside the range of valid parameters or, as in the case of the first time you receive the product, no latitude or longitude values have been stored in the data logger.

Default

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

Streaming Data Logger Functionality & Troubleshooting

The APRS streaming data logger compiles a character string consisting of the following:

ASCII character "@",

The date and time on a 24 hour clock in the following format: Day of Month, Hour, Minute, where each value is a 2 digit number.

Lower case "z",

Latitude/longitude "position" string: 4903.50N/07201.75W_.

Vector average wind direction (in degrees) over 2 minutes (reported as 000 if the average wind speed is zero);

Forward slash "/",

Sustained one-minute wind speed (in mph);

Lower case "g",

Gust (peak wind speed in mph in the last 10 minutes);

Lower case "t",

Temperature (in degrees Fahrenheit). Temperatures below zero are expressed as -01 to -99;

Lower case "r",

Rainfall (in hundredths of an inch) in the last hour,

Lower case "p",

Rainfall (in hundredths of an inch) in the last 24 hours,

Upper case "P",

Rainfall (in hundredths of an inch) since midnight,

Lower case "h",

Humidity (in %. 00 = 100%);

Lower case "b",

Barometric pressure (Altimeter Settings in tenths of millibars/tenths of hPa);

The letter "L", (upper case if solar radiation is below 1000, lower case if solar radiation is between 1000 and 1999), omitted if missing,

Solar Radiation (in watts per square meter) last 3 digits (see above), omitted if missing,

The following character string inside the quotes (including the leading period):

".DsVP". This will indicate that a Davis Vantage Pro2 is sending the APRS data packet with its own proprietary device.

Carriage Return character

Line Feed character

Upon powering up the console, the data logger will report rain over the last hour and the last 24 hour rain initially as zero if the storm rain and daily rain is zero, otherwise it will report those values as missing for the first hour and first 24 hours, respectively. Also, if data is missing due to other problems such as disconnected sensors or poor reception, data may not be reported.

Hourly and last 24 hour rain will resume reporting totals normally after the data logger streaming function is interrupted for PC communication

Contacting Davis Technical Support

For questions about installing or operating WeatherLink for APRS, please contact Davis Technical Support. We'll be glad to help.

- Online** **www.davisnet.com**
See the Weather Support section for copies of user manuals, product specifications, application notes, software updates, and more.
- E-mail** **support@davisnet.com**
- Telephone** (510) 732-7814
Monday - Friday, 7:00 a.m. - 5:30 p.m. Pacific Time.

WeatherLink® for APRS

Product Number 6540

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