



DATA LOGGER AND SOFTWARE

The Health WeatherLink data logger (referred to as the WeatherLink) contains a microprocessor, ROM, and 32K RAM. When used with the software, it does the following:

- ▲ Makes current sensor output data available for real-time "bulletin" display on the computer.
- ▲ Logs weather data for subsequent transfer to the computer.
- ▲ Enables user to set and clear data in the Health WeatherLink console (time and date, highs and lows, alarm thresholds, calibration numbers, etc.) from the computer.
- ▲ Manages data communication with the computer.

Details of data formatting and content are contained in the Programmer's Reference Library (#7864, available upon request); the contents of the Library may be downloaded from the Davis website (<http://www.davisnet.com/support/download>).

The software provides a wide range of numeric and graphical display features.

HEALTH WEATHERLINK PRODUCT INFORMATION

Current Data

Current data are contained in a 11-byte "sensor image" which is available to be transmitted to the computer for real-time "bulletin" display.

Sensor Image Data	Inside Temperature	Air Temperature	Wind Direction (0°-360°)
	Wind Speed	UV Index	UV Dose Total
	Solar Radiation Intensity	Rainfall Total	Rate of Rainfall
	Outside Relative Humidity	Inside Relative Humidity	Barometer
	Barometric Trend	Station Power Status	Alarm Status
	Alarm Output Module Communication Status		
Transmission Interval	Once per second (approximately)		

Data Logging

Weather data are stored in 32-byte archive records. The records are contained in the 32K "archive" (1083 records) which may be transferred to the computer using the software. Maxima, minima, and averages are taken over the archive interval.

Archive Record Data	Inside Temperature (avg.)	Air Temperature (avg.)	Maximum Air Temperature
	Minimum Air Temperature	Wind Direction (dominant)	Wind Speed (avg.)
	Maximum Wind Speed	UV Index (avg.)	Maximum UV Index
	UV Dose (increment)	Solar Radiation (avg.)	Maximum Solar Radiation
	Rainfall (increment)	Maximum Rate of Rainfall	Relative Humidity (last)
	Inside Relative Humidity (last)	Barometric Pressure (last)	Time/Date of Record
Archive Interval	User-selectable from the following intervals (in minutes): 1, 5, 10, 15, 30, 60, or 120		

Storage Capacity (the amount of time before the archive is completely filled)

1 Minute Archive Interval	18 hours
5 Minute Archive Interval	3.75 days
10 Minute Archive Interval	7.5 days
15 Minute Archive Interval	11 days
30 Minute Archive Interval	22.5 days
60 Minute Archive Interval	45 days
120 Minute Archive Interval	90 days

Communication Protocol (See Programmer's Reference Disk)

Data Channel Characteristics	1200 or 2400 baud (switch-selectable), RS-232, half-duplex, data only (no CTS or RTS)
Error Checking	CRC error-checking performed on all transmissions in both directions.
Isolation	Ground isolation is provided by photo-couplers in the Link Isolator (included).

HEALTH WEATHERLINK SOFTWARE INFORMATION

General Description

The software enables transfer of data from the WeatherLink to your computer for creation of a permanent weather database. Once stored in the database, the information may be used in the generation of a wide variety of numerical reports and graphical displays.

System Requirements

Computer running Windows™ 3.1, NT, 95, or 98 with at least 4MB of RAM, one free serial port, and 5 MB of free disk space. The amount of disk space necessary for the data files depends on the archival interval. Database files containing data stored at a 30-minute archival interval require approximately 64K of disk space per month of data. The file size changes in a linear fashion depending on the archival interval. For example, data stored at a 1-minute interval requires approximately 1.92 MB/month, while the data stored at a 2-hour interval requires approximately 16K/month. For phone modem connections, the following additional hardware is required: One external modem to connect to the WeatherLink and one internal modem or external modem connected to your computer (modems must be Hayes compatible and run at either 1200 or 2400 baud), and Telephone Modem Adapter (#7870).

Data Display Options

Real-Time Displays (these displays update in real-time)

- Graphical Bulletin Displays current conditions, highs and lows, and barometric trend.
- Text-Based Summary Displays current conditions and highs and lows along with the time at which they occurred.
- Text-Based Status Displays the status of the station's alarms (including the two Alarm Output Module user-controlled bits) and power voltages.

Plotting Displays

- Plot Window Enables graphing of all database information (multiple variables may be plotted on a single graph) over any of the following spans (1 hr, 4 hr, 8 hr, 12 hr, 1 day, 3 days, Week, Month, Year).
- Strip Charts Four stacked line graphs (multiple variables may be plotted on a single graph), which update at the time of each archive interval. Strip charts may use any of the following spans (1 hr, 4 hr, 8 hr, 12 hr, 1 day, 3 days, Week, Month, Year).

Sunburn Risk Using current UV Intensity, estimates the approximate number of minutes of exposure before sunburning begins. Number of minutes for each of seven skin types shown.

Reports (generated using sensor data) Hours of Daylight, Sunrise & Sunset Times, NOAA Monthly Summary, NOAA Yearly Summary

Control

The user may exercise a number of control functions via the Health WeatherLink.

Control Functions Available Set Archival Interval Set Calibration Numbers Set Alarm Thresholds and Time
Clear Total Values Set Time and Date

TYPICAL INSTALLATIONS

