

Vantage Pro2™ Console and Weather Envoy®

Firmware Release History

For Revision Version 1.90

This document details firmware changes made to Vantage Pro2™ consoles and Weather Envoys® (both cabled and wireless versions) from the products' inception to the current releases. This manual should be used in conjunction with the Vantage Pro2 Updater (#6311VP2) to ensure your Vantage Pro2 console or Envoy is updated with the correct firmware.

Note: The Vantage Pro2 Updater is shipped with firmware updates for **wireless** consoles only. Do not use the Vantage Pro2 Updater with the shipped firmware if you have a **cabled** console, a **wireless Envoy**, or a **cabled Envoy**. Download the correct firmware for your product from the website before updating your cabled console or Envoy. See the Support page for any Vantage Pro2 wireless and cabled firmware updates at: <http://www.davisnet.com/support/weather/software.asp>.

Before You Begin:

Note: Do not use an original Vantage Pro Updater (#6311VP1) to update a Vantage Pro2 console! Do not use a Vantage Pro2 Updater (#6311VP2) to update an original Vantage Pro console! The two systems are incompatible.

Check your console or Envoy for the version of firmware currently installed. For Vantage Pro2 Consoles:

1. Check the firmware version or firmware date of your Vantage Pro 2 console by holding down the DONE key and pressing the UP [+] arrow.
2. Put your console into Setup Mode by pressing and holding DONE and the DOWN arrow [-].
Entering Setup Mode saves the current time and ensures that no EEPROM or FLASH writes are in process when the power is removed.
3. Write down the console's transmitter ID settings (both the ID codes and the station types), because you may be required to re-enter them after updating.
4. Follow the instructions provided with your Vantage Pro2 Updater to update your console.

For Weather Envoys:

1. Check the firmware version or firmware date of your Weather Envoy by selecting **Console Diagnostics** from the **Reports** Menu in WeatherLink. The **Console Diagnostics** dialog box displays the firmware date currently used by your Envoy at the top of dialog box.
 2. Follow the instructions provided with your Vantage Pro2 Updater to update your Envoy.
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Release History For the Vantage Pro2 Console

This release history lists all changes made to date to the firmware for both wireless and cabled versions. Issues marked “Wireless Version Only” indicate that the change presented was made to the wireless version of the firmware only. The firmware release history is listed from most recent to the earliest firmware release of the Vantage Pro2 console.

What’s New in Version 1.90 (December 31, 2009) - Cabled and Wireless Versions

- Fixed clearing of yearly ET history data.
- Fixed a bug that caused the barometer value to have a large error after updating to firmware version 1.82 .
- Fixed a bug that caused the console to not reflect the change immediately when changing units in software.
- Fixed graph so that zooming to a different span always starts at the first point.
- Fixed display of historical yearly rain totals over 813 mm for 0.2 mm rain collectors (highs, lows and graphs).
- You can now only get to the Receive Diagnostics Screen from the Current Screen.
- Cabled console will now gracefully handle a serial command terminated with two of \n or \r characters.
- Added new serial command "LPS 2", used by WeatherLink, to support 2-minute average wind speed, 10-minute wind gust, last 24-hour of rain, last 1-hour of rain, and altimeter.

Version 1.82 (December 30, 2008) - Wireless Version

Version 1.82 (December 30, 2008) - Cabled Version

Corrected Issues:

- Changed “ALL CLEAR” function so that it does not clear any user-set calibration numbers.
- Improved wind speed translation algorithm for increased accuracy.
- Improved data logging of high wind speed measurements in environments that get poor reception.
- Fixed a communication problem where the console output an extra “\n\r” if it received binary data containing a 10 (x0A) or a 13 (x0D).

Note: This issue only affects third-party software developers.

Version 1.80 (July 14, 2008)- Wireless Version

Version 1.80 (July 14, 2008)- Cabled Version

Corrected Issues:

- Modified wind measurements to accommodate a new version of wind cups.
- Fixed a bug dealing with the digital barometer measurements taken at high temperatures.

Version 1.75 (February 12, 2008)- Wireless Version

Version 1.75 (February 12, 2008)- Cabled Version

Corrected Issues:

- Fixed a bug that causes the console to display incorrect yearly rain values when the unit of measure for rain is set to millimeters.

Version 1.73 (November 2, 2007)- Wireless Version

Version 1.73 (November 2, 2007)- Cabled Version

Corrected Issues:

- Fixed a bug that gave the High Rain Rate an incorrect time stamp.
- Fixed a bug that caused an inaccurate barometric reading at high elevation.
- Extended the amount of time the lamp stays on from 10 seconds to 15 seconds. If a key is pressed within 15 seconds, the lamp stays on for an additional 60 seconds instead of 20 seconds.

Version 1.7 (June 6, 2007) - Wireless Version

Version 1.7 (June 6, 2007) - Cabled Version

Corrected Issues:

- Fixed a bug that caused the barometric data to spike after a firmware upgrade had occurred.
- The 2ND key function is now enabled longer after being pressed. The time-out period for pressing the 2ND key and then pressing another 2ND key function was previously 4 seconds but is now 8 seconds.
- **Wireless Version Only** - Fixed an issue in handling temperature data when an extra temperature station signal is lost.

Version 1.6 (December 1, 2006) - Wireless Version

Version 1.6 (January 8, 2007) - Cabled Version

Corrected Issues:

- Changed the firmware version information displayed in the ticker tape from revision date to a revision version number.
- Fixed a bug that caused the hourly digital barometric data to spike.
- Changed the daylight savings bit in the EEPROM to report whether Daylight Savings time is on or off when the Automatic mode in the Daylight Savings Setup screen is selected on the console.

April 10, 2006 - Wireless Version

April 10, 2006 - Cabled Version

Corrected Issue:

- Fixed a bug that caused the barometric data reading to occasionally spike.

November 28, 2005 - Wireless Version

November 30, 2005 - Cabled Version

Corrected Issues:

- Added the capability to load future firmware directly from a computer to the console through the data logger without use of a Vantage Pro2 Updater.

Note: This capability requires an updater with the latest updater Firmware (dated October 5, 2005). To make sure that your updater is equipped with correct firmware, consult the firmware sticker on the updater for the date. If the updater has an older version of updater firmware, see "Contacting Davis Technical Support" on page 11 for more information.

- Included the new Daylight Savings Time change that becomes effective in 2007. Currently, Daylight Savings Time starts on the first Sunday in April and stops on the last Sunday in October. With the new change effective in 2007, Daylight Savings Time starts the second Sunday in March and ends the first Sunday in November.

- **Wireless Version Only** - Fixed issue with the temperature reading not dashing out when the console has lost connection with a Temperature/Humidity station.
- **Wireless Version Only** - Modified the keystroke combination for displaying repeater information in Setup Screen 2 of the Setup Mode from pressing WIND to pressing 2ND and WIND. Previously, the keystroke combination for displaying repeater information in Setup Screen 2 required pressing WIND only. The change makes it harder to turn on the repeater function by accident.
- **Wireless Version Only** - Improved the radio's gain and made gain an automatic feature. Previously, radio gain was controlled by turning gain on and off in the Diagnostic Screens. The Gain Setting that displayed in the banner of the Diagnostic Screens is replaced with "Background Noise Level," which is used to determine if the console should turn the gain on and off.
- **Cabled Version Only** - The default year was changed to display 2005.

May 27, 2005

Corrected Issues:

- **Wireless Version Only** - Fixed issue with console not entering sleep mode when the console could not acquire the assigned station signal from an assigned repeater but could hear the station signal itself.
- **Wireless Version Only** - Added the Repeater ID to the Diagnostic screens. This feature expands on the previously added Repeater Support by displaying the Repeater ID communicating with the console in the Diagnostic screens.

May 13, 2005

Corrected Issues:

- Updated the Heat Index formula used in the console to use the same formula used in the WeatherLink software (version 5.4 or later).
 - Modified Wind Chill calculations between 40°F (4.4°C) and 93°F (33.9°C), giving more intuitive readings for temperatures above the upper limit of the official wind chill formula (40°F). The result is lower wind chill values in the above temperature range than using the official formula.
 - Changed wind component of the THSW Index to reflect changes made to Heat Index and Wind Chill formulas as described above.
 - Improved forecasting techniques by applying the California Inland criteria to the Mediterranean Sea region, which was considered as Latitude South of 45°N and North of 30°N; Longitude East of 10°W and West of 45°E.
 - Changed reporting of Due North from 0° to 360° to comply with the National Weather Service reporting standards.
 - Revised wind direction formula to improve accuracy of readings.
 - Fixed error regarding the console not reporting a low battery warning for Leaf & Soil Moisture/Temperature stations.
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- "THSWI Index Alarm" was changed to read "THSW Index Alarm".
- Modified the following forecast message conditions:
 - "High Wind Warning": also shown if current wind is speed greater than or equal to 58 mph.
 - "Hold Onto Your Hat": To avoid conflict with above, did not show if current wind speed was greater than or equal to 58 mph.
 - "Kite Flying Weather": Changed wind chill less than 80° F to heat index less than 80° F.
- **Wireless Version Only** - Replaced the unused LOOP packet LEAF 4 field with a low repeater battery status since the console does not support the monitoring of four leaf sensors.
- **Wireless Version Only** - Added functionality to support use of Vantage Pro2 Wireless Repeaters (#7626, 7627) and Long-Range Wireless Repeaters (#7653, 7654) previously not available. Repeater functionality is included as additional information in Screen 2 of the Setup Mode.
- **Wireless Version Only** - "Low Battery on Station...#" message on the banner is not cleared once a station's battery is replaced. Previously, once a station's battery was replaced the Low Battery warning would clear. In this version of the firmware, the Low Battery warning does not clear, even after a station's battery has been replaced, unless the console goes into Setup Mode or until midnight. During the day, the station runs off solar power and takes a battery reading, which can be higher than the reading it takes during the night without solar power. The console keeps the low battery warning on the screen until midnight or when the console enters Setup Mode.

January 4, 2005

Corrected Issues:

- Fixed a graph point that would not flash.
- **Wireless Version Only** - The default year was changed to display 2005.
- **Wireless Version Only** - Raised the low console battery threshold to 3.5 volts.

December 21, 2004 - Wireless Version

Corrected Issues:

- **Wireless Version Only** - Internal watchdog timer now set for 10 minutes instead of 10 hours.

November 23, 2004 - Cabled Version

Initial Vantage Pro2 Cabled Console Firmware Release containing support for the cabled console station.

November 13, 2004 - Wireless Version

Initial Vantage Pro2 Console Firmware Release containing support for the new radio type.

Release History For Weather Envoy

This release history lists all changes made to date to the firmware for both wireless and cabled versions. Issues marked “Wireless Version Only” indicate that the change presented was made to the wireless version of the firmware only. The firmware release history is listed from most recent to the earliest firmware release of the Weather Envoy.

What’s New in Version 1.90 (December 31, 2009) - Cabled and Wireless Versions

- Fixed a bug that caused the barometer value to have a large error after updating to firmware version 1.82 .
- Cabled envoy will now gracefully handle a serial command terminated with two of \n or \r characters.
- Added new serial command "LPS 2", used by WeatherLink, to support 2-minute average wind speed, 10-minute wind gust, last 24-hour of rain, last 1-hour of rain, and altimeter.

Version 1.82 (December 30, 2008) - Wireless Version

Version 1.82 (December 30, 2008) - Cabled Version

Corrected Issues:

- Changed “ALL CLEAR” function so that it does not clear any user-set calibration numbers.
- Improved wind speed translation algorithm for increased accuracy.
- Improved data logging of high wind speed measurements in environments that get poor reception.
- Fixed a communication problem where the console output an extra “\n\r” if it received binary data containing a 10 (x0A) or a 13 (x0D).
Note: This issue only affects third-party software developers.

Version 1.80 (July 14, 2008)- Wireless Version

Version 1.80 (July 14, 2008)- Cabled Version

Corrected Issues:

- Modified wind measurements to accommodate a new version of wind cups.
- Fixed a bug dealing with the digital barometer measurements taken at high temperatures.

Version 1.73 (November 2, 2007)- Wireless Version

Version 1.73 (November 2, 2007)- Cabled Version

Corrected Issues:

- Fixed a bug that gave the High Rain Rate an incorrect time stamp.
- Fixed a bug that caused an inaccurate barometric reading at high elevation.

Version 1.7 (June 6, 2007) - Wireless Version

Version 1.7 (June 6, 2007) - Cabled Version

Corrected Issues:

- Fixed a bug that caused the barometric data to spike after a firmware upgrade had occurred.
- **Wireless Version Only** - Fixed an issue in handling temperature data when an extra temperature station signal is lost.

Version 1.6 (December 1, 2006) - Wireless Version

Version 1.6 (January 8, 2007) - Cabled Version

Corrected Issues:

- Fixed a bug that caused the hourly digital barometric data to spike.
- Changed the daylight savings bit in the EEPROM to report whether Daylight Savings time is on or off when the Automatic mode in the Daylight Savings Setup screen is selected on the console.

April 10, 2006 - Wireless Version

April 10, 2006 - Cabled Version

Corrected Issue:

- Fixed a bug that caused the barometric pressure data to intermittently spike.

November 28, 2005 - Wireless Version

November 30, 2005 - Cabled Version

Corrected Issues:

- Added capability to load future firmware directly from a computer to the console through the data logger without the use of a Vantage Pro2 Updater.

Note: This capability requires an updater with the latest updater firmware (dated October 5, 2005 or later). To make sure that your updater is equipped with correct firmware, consult the firmware sticker on the updater for the date. If the updater has an older version of updater firmware, see "Contacting Davis Technical Support" on page 11 for more information.

- Included the new Daylight Savings Time change that becomes effective in 2007. Currently, Daylight Savings Time starts on the first Sunday in April and stops on the last Sunday in October. With the new change effective in 2007, Daylight Savings Time starts the second Sunday in March and ends the first Sunday in November.
- **Wireless Version Only** - Fixed issue with Temperature reading not dashing out in WeatherLink when the Envoy has lost connection with a Temperature/Humidity station.
- **Wireless Version Only** - Improved the radio's gain and made gain an automatic feature.

May 27, 2005

Corrected Issues:

- **Wireless Version Only** - Fixed issue with console not entering sleep mode when the console could not acquire the assigned station signal from an assigned repeater but could hear the station signal itself.
- **Wireless Version Only** - Added functionality to support use of Vantage Pro2 Wireless Repeaters (#7626, 7627) and Long-Range Wireless Repeaters (#7653, 7654) previously not available.

May 13, 2005

Corrected Issues:

- Updated the Heat Index formula used in the console to use the same formula used in the WeatherLink software.
- Changed wind component of the THSW Index to reflect changes made to Heat Index and Wind Chill formulas described above.
- Modified Wind Chill calculations between 40°F (4.4°C) and 93°F (33.9°C), giving more intuitive readings for temperatures above the upper limit of the official wind chill formula (40°F). The result of this modification is lower wind chill values in the above temperature range than using the official formula.
- Improved forecasting techniques by applying the California Inland criteria to the Mediterranean Sea region, which was considered at Latitude South of 45°N and North of 30°N; Longitude East of 10°W and West of 45°E.
- Changed reporting of Due North from 0° to 360° to comply with the National Weather Service reporting standards.
- Revised wind direction formula to improve accuracy of readings.
- Fixed error regarding the console not reporting a low battery warning for Leaf & Soil Moisture/Temperature stations.
- **Wireless Version Only** - Replaced the unused LOOP packet LEAF 4 field with a low repeater battery status since the Envoy does not support the monitoring of four leaf sensors.

- **Wireless Versions Only** - The way the low battery status is reset in Weather Envoy and displayed WeatherLink now takes place at midnight. The Low Battery status for a station is not cleared once a station's battery is replaced. Previously, once a station's battery was replaced, the Low Battery warning would clear. In this version of the firmware, the Low Battery warning does not clear, even after a station's battery has been replaced until midnight. During the day, the station runs off solar power and takes a battery reading which can be higher than the reading it takes during the night without solar power. The Envoy keeps the low battery warning until midnight or when the console enters Setup Mode.

December 21, 2004

Corrected Issues:

- **Wireless Version Only** - Internal watchdog timer now set for 10 minutes instead of 10 hours.

December 16, 2004

Corrected Issues:

- **Wireless Only** - Fixed issue that would not allow the Envoy to receive a station set on Transmitter ID 1.
- **Wireless Only** - Retransmit function corrected.

December 10, 2004

Initial Vantage Pro2 Cabled Envoy Firmware Release.

November 13, 2004

Initial Vantage Pro2 Wireless Envoy Firmware Release with new radio protocol support.

Contacting Davis Technical Support

If you have any questions, or encounter problems with your Vantage Pro 2 weather station, or with the current firmware installation, please contact Davis Technical Support. We'll be glad to help.

(510) 732-7814 — Monday - Friday, 7:00 a.m. - 5:30 p.m. Pacific Time. We are unable to accept collect calls.

(510) 670-0589 — Technical Support Fax.

support@davisnet.com — E-mail to Technical Support.

info@davisnet.com — General e-mail.

www.davisnet.com — Davis Instruments web site. See the Weather Support section for copies of user manuals, product specifications, application notes, and information on software updates. Watch for FAQs and other updates.

Vantage Pro2 Firmware Release Notes

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Rev. K, January 22, 2010

Used with Vantage Pro2 Updater # 6311VP2

For Vantage Pro2 Consoles and Envoys # 6312, 6312C, 6316, 6316C

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3465 Diablo Avenue, Hayward, CA 94545-2778 U.S.A.

510-732-9229 • Fax: 510-732-9188

E-mail: info@davisnet.com • www.davisnet.com