WeatherHawk™

Quick Start Guide
Signature Series Model 232/916/922/240
Read Me First

Computer Requirements
- Available Serial Port or USB Port (Serial-to-USB Converter Cable required)

WeatherHawk Setup Procedure

1. Remove the top foam packing from the WeatherHawk box and verify you have all ordered equipment; then unpack equipment.

Lift Straps

⚠ **CAUTION**

a. Use the lift straps to remove the WeatherHawk station, since removing the station by lifting on the sensors may damage the sensors (see Figure 1).

b. Avoid resting the WeatherHawk on the wind speed and wind direction sensors.

c. Report missing or damaged equipment to WeatherHawk Customer Service before installing your system.
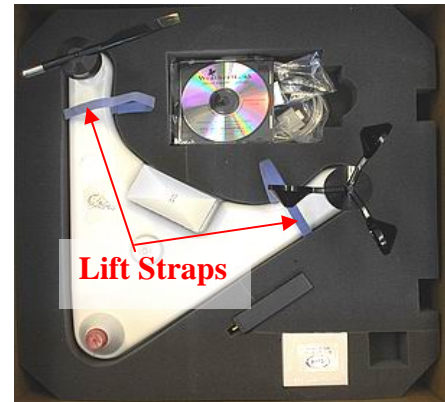
Figure 1: Box of standard and wireless equipment. The lift straps allow easy removal of the WeatherHawk from the box.

2. Install your application software on your computer.

3. Connect the serial cable male connector to the WeatherHawk RS-232 port and the serial cable female connector to a computer serial port (Figure 2).
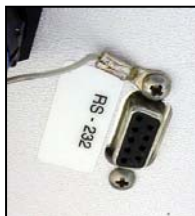
Figure 2: Serial cable (left) and the WeatherHawk serial port in which the serial cable male connector connects. A dust cover must be removed from the WeatherHawk RS-232 port before connecting the cable.

NOTE

a. If you are using a serial connection, ensure the serial port is not already assigned to an open program.

b. If you're connecting the cable to a USB port, a serial-to-USB converter cable is required and optionally available from WeatherHawk (P/N 16878, USB-AD).

4. Turn the key to the on position (Figure 3), and observe a red flashing light through the small rectangular Scan/Receive window on the underside of the WeatherHawk.

Figure 3: Keyed power switch is located on the bottom of the WeatherHawk station.

WeatherHawk™

5.   Start application software and monitor the sensor displays. Within a couple of minutes, numerical values should appear confirming that the WeatherHawk is functioning. The lights labeled Scan/Receive on the underside of the station should also blink every ten seconds.

If the WeatherHawk does not function properly, contact WeatherHawk Customer Service to solve the problem before continuing to the next steps.

6.   Using your PC and weather station software, enter the setup parameters for the station. If you are using Virtual Weather Station software, see the section in this document labeled "*Station Setup using Virtual Weather Station Software*". If you are using the WeatherHawk XP/X software, please refer to the software manual in the WeatherHawk folder that was created on your computer when the software was installed.

7.   Disconnect the serial cable from the WeatherHawk and place the dust cover back on the serial port.

8.   If your WeatherHawk is wireless (Model 916/922/240), setup the radio (see "*Radio Setup*" section below).

9.   Install the WeatherHawk weather station at the site. Refer to the Installation Guide provided on the CD shipped with your station for siting information and installation procedures.

Station Setup Using Virtual Weather Station Software

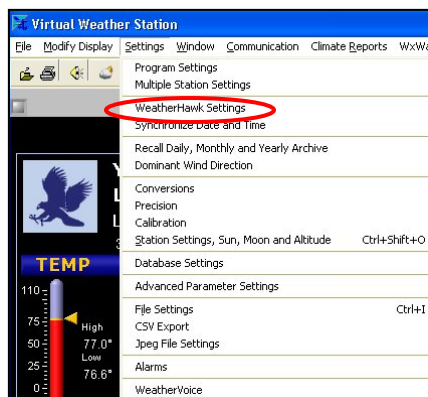1.   Click on the *Settings* menu and choose *WeatherHawk Settings* from the drop down menu (Figure 4).

Figure 4: The settings menu of Virtual Weather Station Software. Select WeatherHawk Settings (circled in red).

2.   If your WeatherHawk is wireless, change the *Logger Address* to your WeatherHawk station's serial number (1 of Figure 5). The serial number of your WeatherHawk is located on the underside of the station.

3.   Enter the interval timer (2 of Figure 5). This value determines how often the WeatherHawk stores the measurements. The default is 60 minutes.

4.   Click on *Get Date and Time* to see the date and time stored in the WeatherHawk station (3 of Figure 5). If the WeatherHawk's date or time is incorrect, click on *Synchronize to Computer Time Now* to set the WeatherHawk's date and time to the computer's date and time (3 of Figure 5).
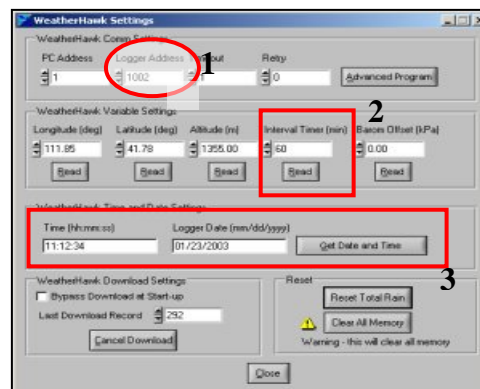
Figure 5: The Settings Screen of Virtual Weather Station Software.

5.   Enter the *Longitude*, *Latitude*, and *Altitude* (1 of Figure 6).

Longitude, Latitude, and Altitude can be determined with a GPS Receiver, a Good Topographical Map, or found at: http://weather.noaa.gov/weather/ccus.html (Figure 7).

The latitude and longitude must be entered as decimal numbers. To convert the values to decimal, ignore the seconds, divide the minutes by 60, then add that value to the degrees.

Example:
Latitude in Figure 6 is 41 degrees, 46 minutes, 58 seconds.
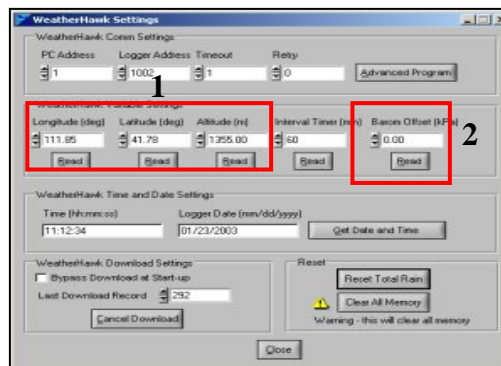Decimal value = 41 + (46/60) = 41.78

Figure 6: The Settings Screen of Virtual Weather Station Software. Circled are the settings for the longitude, latitude, altitude, and barometric pressure offset.

6.   Enter the *Barometric Pressure Offset* (2 of Figure 6). To calculate, use the following equation:

Barometric Pressure Offset = _____ - _____=_____
                                                Current   VWS

WHERE:

Current—the current barometric pressure (in Hg) obtained from a Radio or Television Weather Program or from the Web site: http://weather.noaa.gov/weather/ccus.html (Figure 7).

VWS—the barometric pressure (in Hg) found in the Virtual Weather Station Software on the Broadcast Display screen (Figure 8).

Zero, negative numbers, and very small numbers are possible and acceptable as the Barometric Pressure Offset.

Figure 7: NOAA Website. To find the information for your site, select your state then the nearest location to the site.
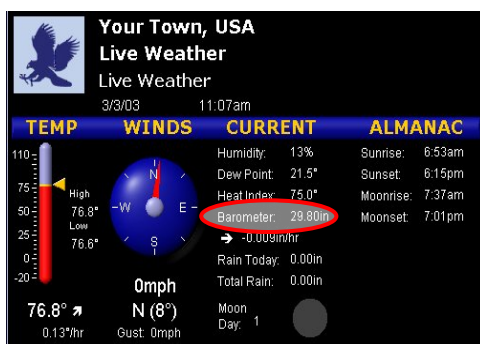

Figure 8: Virtual Weather Station (VWS) Broadcast Display screen. The VWS Barometric pressure value is circled in red.

7.   Close the WeatherHawk Settings Window and exit the Virtual Weather Station Software.

WeatherHawk™

Radio Setup

1.   Attach the antenna or cable to the radio connector labeled Antenna (Figures 9 and 10).

Figure 9: The WeatherHawk antenna may be a 900 MHz surface mount antenna (left), a 2.5 GHz whip antenna(right) that connects directly to the radio, or a tri-band surface mount antenna (not shown).

Figure 10: The connector labeled Antenna on an RF400-series radio is where the antennas attach.

2.   Connect the serial cable male connector to the radio connector labeled RS232 and the female connector to a computer serial port (Figure 11).

3.   Plug the RF400 AC Adapter into a grounded AC wall outlet.

4.   Connect the other end of the AC adapter to the RF400 connector labeled DC Pwr input (Figure 11). The red Pwr/Tx status light should illuminate.

5.   Start your applications software.

6.   Monitor the sensor displays. After a few minutes, numeric values should appear if the WeatherHawk and radio are communicating. Also indicator lights on both the RF400-series radio and the WeatherHawk will blink.

Figure 11: Radio connections. The serial cable (left) connects to the port labeled RS232 and the AC adapter connects to the port labeled DC Pwr input.

NOTE   If the radio is not communicating properly, you may be experiencing interference from nearby equipment such as wireless phones, other spread spectrum radios, or another WeatherHawk. Changing some settings on your radio and WeatherHawk station should rectify this situation. The procedure for changing these settings is provided in the WeatherHawk Advanced Radio Settings.

---

7.   If your radio is working properly, close the software and turn the key to the off position. You are now ready to install your WeatherHawk station at the site (see Site Installation Guide).

Help and Support

For product support, specifications, and installation troubleshooting, refer to the WeatherHawk Site Installation Guide or the Frequently Asked Questions (FAQ) on our website (www.WeatherHawk.com). Customers may also call us at 435-866-670-5982 (toll-fee in US) or 435-750-1802 (international) or email us at service@weatherhawk.com.

Notes

1.   WeatherHawk[TM] and WeatherHawk XP/X [TM] are trademarks of Campbell Scientific Inc.
2.   Virtual Weather Station Software[TM] is a trademark of Ambient L.L.C., used by permission.