

# ***Vantage VUE™***

## **Integrated Sensor Suite Installation Manual**

Model #6357

#### FCC Part 15 Class B Registration Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modification not expressly approved in writing by Davis Instruments may void the warranty and void the user's authority to operate this equipment.

FCC ID: IR2DWW6357

IC: 3788A-6357

EC EMC Compliance

This product complies with the essential protection requirements of the EC EMC Directive 2004/108/EC; Low Voltage Directive 2006/95/EC; and Eco-Design Directive 2005/32/EC >.5 watt no-load adaptor.

## Integrated Sensor Suite Installation Manual

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For Vantage Vue Weather Stations and Systems

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# Introduction

The Vantage Vue™ Wireless Integrated Sensor Suite (ISS) collects outside weather data and sends the data wirelessly to a Vantage Vue console via a low-power radio. The ISS is solar powered and includes a battery back-up.

The Vantage Vue ISS contains a rain collector, temperature/humidity sensor, anemometer, and wind vane. The outside temperature/humidity sensors are mounted in a passive radiation shield to minimize the impact of solar radiation on sensor readings. The anemometer measures wind speed, and the wind vane measures wind direction. See “Choosing a Location for the ISS” on page 8 for siting guidelines.

The Sensor Interface Module (SIM) is housed within the ISS and comprises the “brains” of the Vantage Vue system and the radio transmitter. The SIM collects outside weather data from the ISS sensors and transmits that data to your Vantage Vue console.

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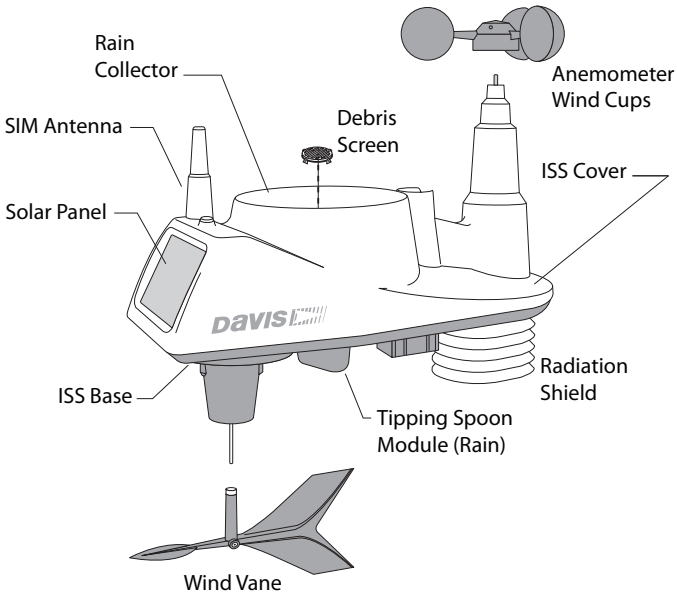
**Note:** Your Vantage Vue ISS can transmit to an unlimited number of consoles, so you can purchase additional consoles to use in different rooms. It can also transmit to Vantage Pro2 consoles as well as Vantage Vue consoles.

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## Included Components and Hardware

The ISS comes with all the components and hardware shown in the following two illustrations.

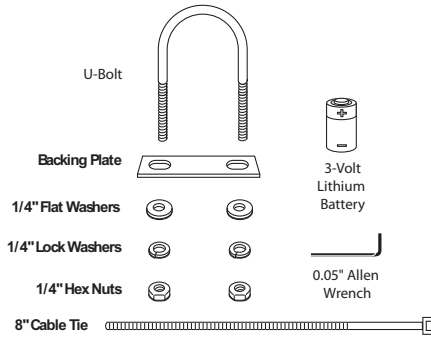
### Vantage Vue ISS Components



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## Hardware

The following hardware is included with the Vantage Vue ISS weather station assembly. Some of the hardware is optional based on how the ISS is assembled and installed. (See “Installing the ISS” on page 10 for more information.)



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**Note:** If any of the hardware components are missing or not included, contact Customer Service toll free at 1-800-678-3669 about receiving replacement hardware or other components.

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## Tools for Setup

The following are additional tools required to set up and install the ISS:

- Adjustable wrench or 7/16" wrench
- Compass or local area map

## Preparing the ISS for Installation

Please follow the steps in the order in which they are presented. Each step builds on tasks completed in previous steps.

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**Note:** Davis Instruments recommends that you use a clean, well-lit work table or work area to prepare the ISS for installation.

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The steps to prepare the ISS for installation are:

- Attaching the wind cups to the anemometer
- Mounting the wind vane
- Installing the debris screen
- Installing the rain collector tipping spoon assembly
- Installing the ISS battery and testing communication with the Vantage Vue console
- Changing the Transmitter ID for wireless communication, if necessary

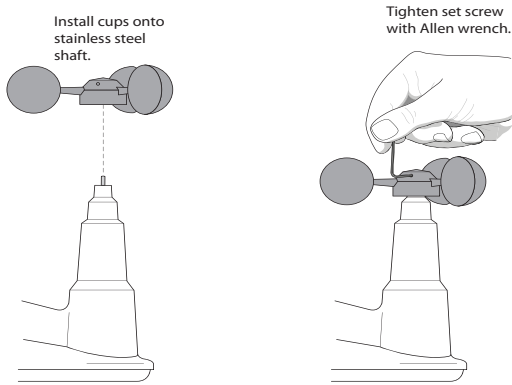
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## Attaching the Wind Cups to the Anemometer

The Vantage Vue anemometer measures wind speed. The wind cups are mounted on the anemometer shaft on the top of the ISS assembly below.

To mount the wind cups on the anemometer shaft, follow these steps:

1. Gently slide the wind cup assembly down onto the anemometer's stainless steel shaft as far as it will go, as shown below.
2. Use the Allen wrench provided to tighten the set screw near the top of the "hub" section of the wind cups, as shown below. Ensure that the set screw is screwed in fully and is very tight.
3. Pull gently on the hub to ensure that the anemometer is securely fastened to the shaft.



4. Spin the wind cups to make sure they spin freely.

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**Note:** If the wind cups don't spin freely, loosen the set screw, remove them from the shaft, and repeat the wind cup installation process.

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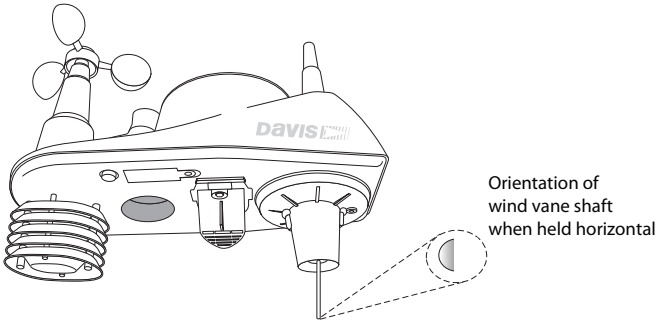
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## Mounting the Wind Vane

The Vantage Vue wind vane measures wind direction. The wind vane is mounted on a stainless steel shaft on the opposite side of the ISS assembly from the anemometer wind cups, as shown in the figure below.

To mount the wind vane on the wind vane shaft, follow these steps:

1. Grasp the ISS assembly so that you are looking at the underside of the assembly. Hold it so that the anemometer and radiation shields are on your left and the wind vane shaft is on the right, as shown below.



2. Carefully tip the ISS assembly so that it is "on its side" and the wind cups are away from you.

When the ISS is held in this manner, the wind vane shaft is horizontal, and will orient itself so that its flat side will be facing *to the right*, as shown above.

3. Holding the ISS assembly with your left hand, grasp the wind vane with your right hand so that the "arrowhead" end is *pointed down*.
4. Gently slide the wind vane onto the wind vane shaft, rotating the wind vane slightly left and right if necessary, until the end of the wind vane shaft is visible and flush with the bottom surface of the wind vane.
5. Secure the wind vane to the shaft by firmly tightening the wind vane set screw. Use the Allen wrench that is shipped with your Vantage Vue ISS.

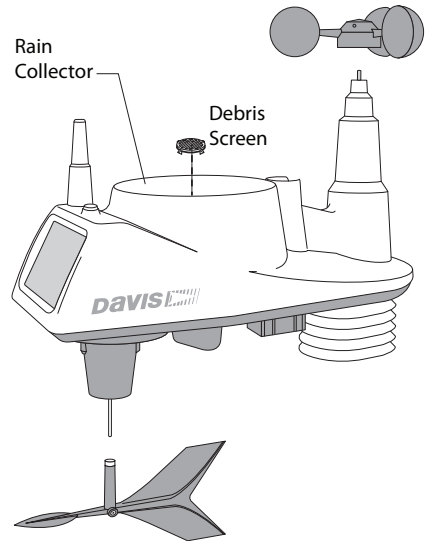


## Installing the Debris Screen

The Vantage Vue ISS rain collector debris screen captures foreign matter or other debris that may otherwise clog your rain collector and adversely affect the accuracy of your rainfall measurements.

To install your debris screen, follow these steps.

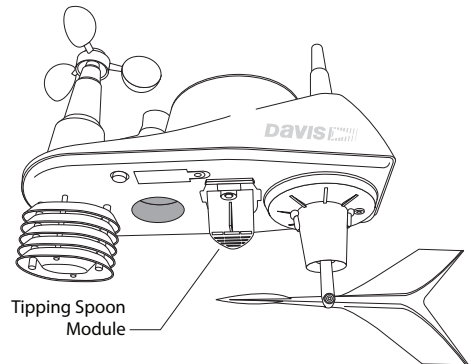
1. Locate the small black plastic ISS debris screen in your hardware package.  
The debris screen has four small tabs that hold it in place in the base of the rain collector.
2. Holding the ISS assembly with one hand, and holding the debris screen by the tab, press the screen into the opening at the bottom of the rain collector until you feel and hear the tabs snap into the opening.  
The screen will now be held securely in the rain collector.



## Installing the Rain Collector Tipping Spoon Assembly

To install the Tipping Spoon Assembly, follow these steps:

1. Locate the Tipping Spoon Assembly slot on the underside of the ISS Base, as shown in the drawing below.
2. Insert the wider end of the Tipping Spoon Assembly into the slot first, sliding it under the lip of the slot.
3. Tighten the thumbscrew securely.



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## Applying Power to the ISS and Verifying Communication with the Vantage Vue Console

The ISS maintains a wireless connection to a Vantage Vue console when the ISS is powered and a wireless communication channel has been established between the ISS and the console. Follow the steps below for powering the ISS and establishing a connection to the console.

- Apply power to your Vantage Vue ISS
- Verify communications with the console
- Verify data is being transmitted from the ISS sensors

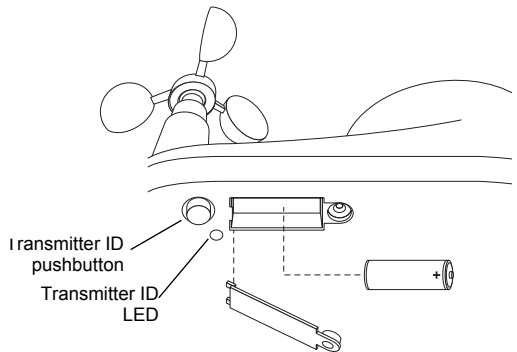
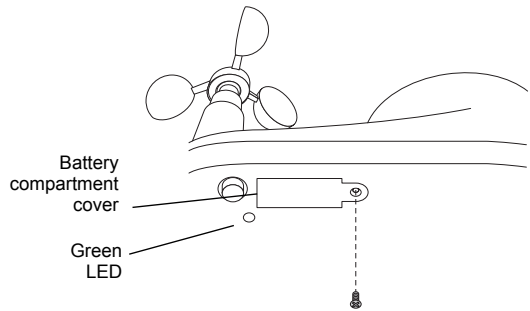
### Apply Power to the ISS

The Vantage Vue ISS SIM board stores energy from the solar panel for power at night. A 3-volt lithium battery is used as a backup power source. The battery compartment cover is located on the underside of the ISS base, as shown in the figure below.

To install the ISS backup battery, follow these steps.

1. Unscrew the thumbscrew securing the battery compartment cover as shown
2. Insert the 3-volt lithium battery into the ISS battery compartment, as shown below, being sure to match the “+” sign on the battery with the “+” sign embossed on the inside of the battery compartment.
3. Ensure that the battery is firmly installed, replace the battery compartment cover, and tighten the thumbscrew.

To verify power, push and release the white Transmitter ID button next to the Battery Compartment. The green Transmitter ID LED next to the Battery Compartment will illuminate when you press the button.



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**Note:** Push the button once and release it. Do not push it multiple times or hold it down

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When you release the button, it will blink one time every 2.5 seconds to show transmission of a data packet. This blinking will stop within a few minutes to conserve battery life.

4. Wait five minutes for console to acquire the radio signal and populate data fields.
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### Confirm the Transmitter ID of the ISS

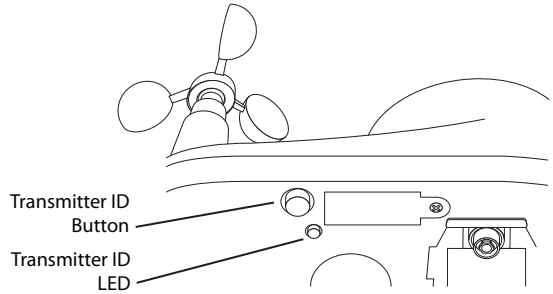
In order to communicate, the console and ISS must have the same Transmitter ID. At the factory, both IDs are set at a default of number 1. If you need to confirm the Transmitter ID of your Vantage Vue ISS, follow these steps.

Looking at the underside of your Vantage Vue ISS, locate the Transmitter ID Pushbutton and the Transmitter ID LED, as shown in the figure below.

1. Push the Transmitter ID Pushbutton once.
2. Note the number of times Transmitter ID LED blinks.

Unless you have intentionally changed your transmitter ID, the LED should blink *one time* because the default Transmitter ID for the ISS is

“1.” If you have changed the ID, the LED should blink the number of times equal to the ID you have set (i.e., twice for an ID of ‘2,’ three times for an ID of ‘3,’ etc.).



**Note:** The transmitter on the ISS and receiver on the console will communicate with each other only when both are set to the same Transmitter ID.

### Set a New Transmitter ID on the ISS

**Note:** In most cases, it will not be necessary to change the Transmitter ID. If it is necessary to change the Transmitter ID, **you must use the same ID for the ISS and console.**

To set a new transmitter ID, follow these steps.

1. Push and hold the Transmitter ID button until the LED begins blinking quickly.
2. Release the button, and the LED will stop blinking.
3. Push the button the number of times equal to your desired new transmitter ID. That is, if you want to change the ID to ‘3,’ push the button three times, and for a desired ID of ‘4,’ push the button four times.

After four seconds have elapsed with no further presses, the LED will blink the same number of times as the new transmitter ID.

**Note:** If you hold the button too long and accidentally enter the “set new transmitter ID” mode when you did not want to, simply release the button and wait four seconds. As long as you do not press the button again, the original transmitter ID will remain in effect.

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## Verifying Data from the ISS Sensors

Use these steps to verify reception of ISS data at the wireless Vantage Vue console and to test the operation of the ISS sensors.

1. If the console is in Setup Mode, press and hold DONE until the Current Weather screen displays.  
Sensor readings from the ISS should display on the screen within a few minutes.
2. At the top right corner of the screen, look for the outside temperature.
3. Gently spin the wind cups to check wind speed, pressing WIND if necessary to alternate between speed and direction in the compass rose.
4. Gently turn the wind vane, and allow 5 seconds for the wind direction display to stabilize before moving it again.  
Approximately one minute after acquisition of the signal, the outside relative humidity reading should be displayed on the console, below the outside temperature display.
5. Current weather data displayed on the console confirms successful communication.

## Confirming Rain Display Function on the Console

You can perform this procedure either inside over a sink or outside. You will need your powered-up console as well as the ISS.

1. On your console screen, select for the RAIN DAY display. (See *Vantage Vue Console Manual*.)
2. Carefully hold your ISS over an indoor sink or outdoor grass area and, while watching the RAIN DAY display on your console, slowly pour one-half cup of water into the Rain Collector.

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**Note:** If you take your ISS outdoors to conduct this procedure, you must be within approximately 200-300 feet (75-125 meters) of your Vantage Vue console to properly receive the radio signal. You might want to ask another person to watch the console inside, rather than taking it outside where it could get wet.

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3. Wait two seconds to see if the display registers a rain reading.

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**Note:** In some cases it may take up to one minute for a reading to register at your console.

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**Note:** This method confirms that the rain display is function. It **cannot** be used to verify accuracy.

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If communication problems exist between the wireless ISS and the console, see “Troubleshooting ISS Reception” on page 15 in the Maintenance and Troubleshooting chapter of this manual.

## Choosing a Location for the ISS

To ensure that the Vantage Vue weather station performs at its best, use these guidelines to select the optimum mounting location for the ISS. Be sure to take into consideration ease of access for maintenance and wireless transmission range when siting the station.

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**Note:** When selecting a location for installing your ISS, especially on a rooftop, make sure it is a location far from power lines. Seek professional help if you are uncertain about the safety of your installation.

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## General ISS Siting Guidelines

- Place the ISS away from sources of heat such as chimneys, heaters, air conditioners and exhaust vents.
- Place the ISS at least 100' (30 m) away from any asphalt or concrete roadway that readily absorbs and radiates heat from the sun. Avoid installations near fences or sides of buildings that receive a lot of sun during the day.
- Ideally, mount the ISS so that it is between 5' (1.5 m) and 7' (2.1 m) above the ground in the middle of a gently sloping or flat, regularly mowed grassy or naturally landscaped area that drains well when it rains. You can also mount the ISS on the roof, between 5' (1.5 m) and 7' (2.1 m) above the roof surface. For areas with average maximum yearly snow depths over 3' (0.9 m), mount the ISS at least 2' (0.6 m) above this depth.
- Never install the ISS where it will be directly sprayed by a sprinkler system because the sprinkler water will adversely affect the readings.
- Avoid installations near bodies of water such as swimming pools or ponds.
- Do not locate the ISS under tree canopies or near the side of buildings that create "rain shadows". For heavily forested areas, site the ISS in a clearing or meadow.
- Site the ISS in a location with good sun exposure throughout the day.
- For *agricultural applications*:
  - Install the ISS so that it is between 5' (1.5 m) and 7' (2.1 m) above the ground and in the middle of the farm between similar crop types (i.e. two orchards, two vineyards, or two row crops), if possible.
  - Avoid areas exposed to extensive or frequent applications of agricultural chemicals (which can degrade the sensors).
  - Avoid installation over bare soils. The ISS performs best when installed over well-irrigated, regularly mowed grass.
  - If the last three guidelines cannot be met, install the weather station at the edge of the primary crop of interest.

### Siting Guidelines that may Affect the Anemometer

- For best results, mount the ISS so that the anemometer so that it is at least 7' (2.1 m) above surrounding obstructions such as trees or buildings that may obstruct wind flow.
- If mounting the ISS on a roof, mount it so that the anemometer is at least 7' (2.1 m) above the roof apex.
- The standard for meteorological and aviation applications is to place the anemometer 33' (10 m) above the ground. Seek professional help for this type of installation.
- The standard for *agricultural applications* is to place the anemometer 6' (2 m) above the ground. This is important for evapotranspiration (ET) calculations.

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Note: For roof mounting, and ease of installation, we recommend using the optional mounting tripod (#7716). For other installations, use the Mounting Pole Kit (#7717). See "General ISS Installation Guidelines" on page 10

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Note: For more detailed siting suggestions, see Application Note #30 on the Davis Support web site (<http://www.davisnet.com/support/weather>).

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# Installing the ISS

The Vantage Vue ISS is a modular, self-contained weather instrument that is easily installed as a single unit on a pole. It is recommended that you install your ISS on a galvanized steel pole with an outside diameter of between 1.0" and 1.8", similar to the Mounting Pole Kit (part number 7717) or the Mounting Tripod (part number 7716) sold by Davis Instruments.

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**Note:** A mounting pole is not included with your Vantage Vue ISS and must be purchased separately, either from Davis Instruments or from your local hardware retailer.

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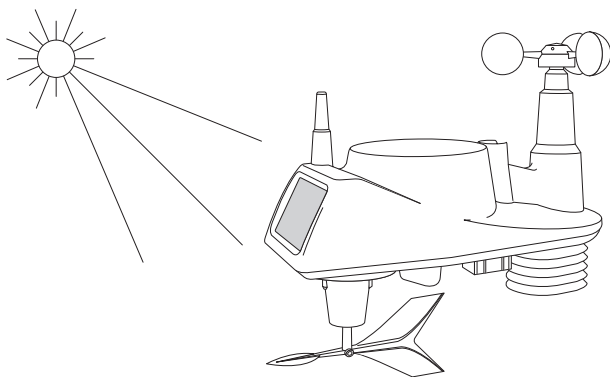
The ISS assembly includes the rain collector, wind vane, anemometer, the temperature and humidity sensors, the radiation shield, and the SIM housing. Use the U-bolts and associated nuts and washers that are included with your ISS mounting hardware package to install the ISS on a pole.

## General ISS Installation Guidelines

- Install the ISS as level as possible to ensure accurate rain and wind measurements. Use the built in bubble level on the top of the ISS, just above the solar panel, to make sure the ISS is level.
- In the northern hemisphere, the solar panel should face south for maximum sun exposure.
- In the southern hemisphere, the solar panel should face north for maximum sun exposure.

In the northern hemisphere the Solar Panel should face south for maximum exposure.

In the southern hemisphere the Solar Panel should face north for maximum exposure.



Orienting the ISS Solar Panel for maximum exposure.

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**Note:** If you install the ISS with the solar panel pointing in a direction other than south, you will need to use the wind direction calibration function in the Vantage Vue Console in order to obtain accurate wind direction readings.

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## Installation Instructions

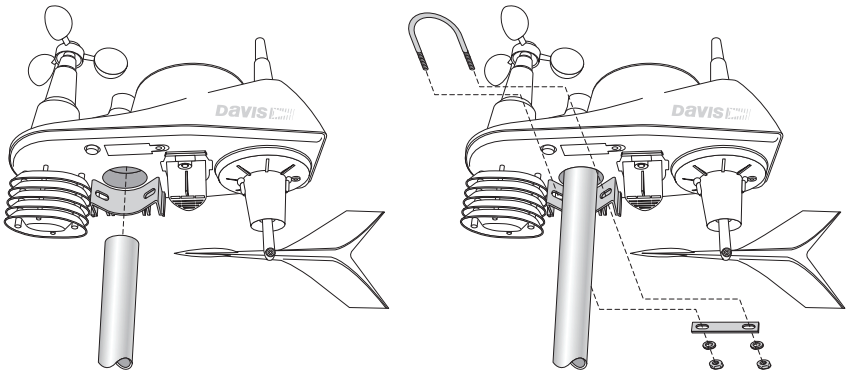
The Vantage Vue ISS can only be mounted on the top of a pole or solid round bar that is between 1.0 and 1.8 inches (25 - 46mm) in outside diameter.

### Recommended Accessories for Pole Mounting

- Use the Mounting Tripod (#7716) for easy roof-mounting.
- Use the Mounting Pole Kit (#7717) to raise the installation height of the ISS by up to 37.5" (0.95 m).

### General Guidelines for Installing on a Pole

- With the supplied U-bolt, the ISS can be mounted on a pole having an outside diameter ranging from 1" to 1.8" (25 – 46mm).
- To mount on a smaller pole, obtain a U-bolt that fits the base openings but that has a longer threaded section. If mounting the ISS on a smaller pole with the included U-bolt, the threaded sections of the U-bolt will be too short to securely mount the ISS.



### Installing the ISS on a Pole

1. If you are mounting your ISS on a Davis Mounting Tripod (product number 7716) or the pole included with a Davis Mounting Pole Kit (product number 7717), follow the instructions included with those Davis products for proper installation. If you are not using one of these Davis products, mount any galvanized steel pole having an outside diameter ranging from 1" to 1.8" (25 – 46mm), following the guidelines explained in "General ISS Siting Guidelines" on page 9.
2. Using the illustration above as a guide, hold the ISS so that the Wind Cups and Radiation Shields are on the left and gently place the ISS on top of the steel pole.
3. While holding the mounting base of the ISS against the pole, place the two ends of the U-bolt around the pole and through the two holes in the C-shaped bracket on the base.

4. Slide the metal backing plate over the bolt ends as they stick out from the far side of the bracket.
5. Secure the backing plate with a flat washer, lock washer, and hex nut on each of the bolt ends, as shown in the illustration.
6. Tighten the hex nuts **with your fingers only** so that the ISS is just secure enough on the pole for you to release your grip.

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Note: Do not tighten the hex nuts with a wrench yet. Tighten the hex nuts enough to safely hold the ISS on the mounting pole, but leave them loose enough to swivel the ISS base on the pole.

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7. If you are in the northern hemisphere, rotate the ISS on the pole so that the solar panel is facing south; if you are in the southern hemisphere, rotate the ISS so that the solar panel is facing north. The more precisely the solar panels face due south or north, the more accurate your wind direction readings will be.

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Note: Do not rely on a compass unless it is properly calibrated. In North America there can be up to 15° variation between true north and a raw compass reading.

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## Finishing the Installation

The ISS is designed with the assumption that the solar panel faces due south. The wind vane relies on this orientation to correctly assign wind direction. After the ISS has been permanently mounted, you may need to correctly calibrate your console so that you receive accurate wind direction readings from the ISS. Refer to your *Vantage Vue Console Manual* to calibrate your console.

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Note: This must be done if you are in the southern hemisphere, or if you are in the northern hemisphere, and for some reason, cannot install in your ISS with the solar panel facing south.

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### Clearing Data Collected During Testing and Installation

Now that the ISS is mounted outside, any data that was collected and stored in the console during testing and mounting can be cleared.

To clear all the collected data on the console:

1. Press WIND so that selection arrow appears adjacent to the wind data on the display. Confirm that wind speed is displayed on the compass rose.
2. Press 2ND, then press and hold CLEAR for at least six seconds and until you see "CLEARING NOW" in the weather center.



# Maintenance and Troubleshooting

## Maintenance

### Cleaning the Radiation Shield

The outer plating of the radiation shield should be cleaned when there is excessive dirt and build-up on the plates. Use a damp cloth to clean the outer edge of each ring.

**Note:** Spraying down or using water excessively to clean the radiation shield can damage the sensitive sensors or alter the data the ISS is transmitting.

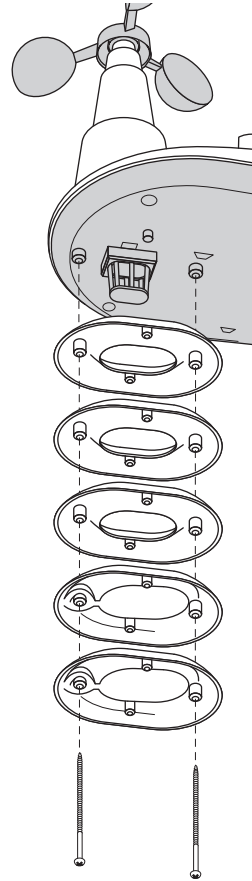
Check the radiation shield for debris or insect nests at least once a year and clean when necessary. A buildup of material inside the shield reduces its effectiveness and may cause inaccurate temperature and humidity readings.

To thoroughly clean the radiation shield:

1. Using a Phillips head screwdriver, loosen the two 4" screws holding the five radiation shield plates together, as shown in the figure at right.
2. Taking care to maintain the order in which the five plates are assembled, separate the plates as shown and remove all debris from inside the shield.
3. Reassemble the plates in the same order in which they were disassembled, and fasten them together using a Phillips head screwdriver to tighten the 4" screws, as shown in the illustration.

### Cleaning the Rain Collector, Debris Screen, and Tipping Spoon Module

To maintain accuracy, thoroughly clean the rain collector cone and debris screen as needed or at least once a year.



**Note:** Cleaning the rain collector and tipping spoon may cause false rain readings. See your *Vantage Vue Console Manual* for instructions on clearing weather data if you suspect this is occurring.

1. Use a damp, soft cloth to remove any debris from the Rain Collector and Debris Screen.
2. Use pipe cleaners to clear any debris remaining in the screen.
3. When all parts are clean, rinse with clear water.

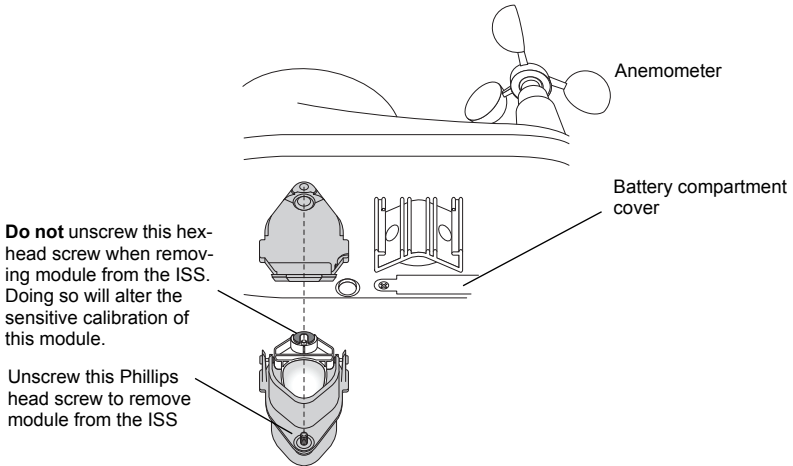
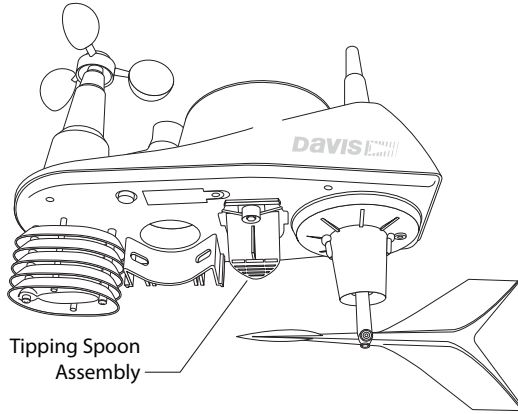
To clean the Tipping Spoon module, it must first be removed from the ISS base. To remove this module from the base, follow these steps:

1. Unscrew the thumbsscrew securing the Tipping Spoon assembly to the ISS base. This screw is on the “slightly pointed” side of the assembly and will be on the “down” side of the ISS base when the ISS is held with the Wind Vane on the right.

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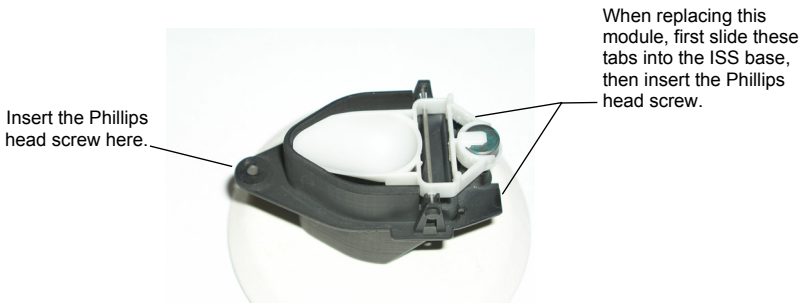
Note: Do not unscrew the hex-head screw on the opposite “flat” side of the module (see second drawing, below).

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View of Tipping Spoon module after removal from underside of ISS base.

2. Let the “pointed” side of the module drop away from the ISS base, and slide the module down and away from the base, as shown above.
3. Use a damp, soft cloth to gently remove any debris from the Tipping Spoon module, being careful not to damage any moving parts or scratch the spoon.
4. When all parts are clean, rinse with clear water, and replace the module into the bottom of the ISS base as follows:
  - a) Tilting the module at a slight angle relative to the ISS base, insert the two tabs on the “flat” side of the module (under the tipping magnet, as noted in the figure below) into the “flat” side of the opening of the ISS base.
  - b) Rotate the “pointed” side of the module up to the base, and tighten the Phillips head screw.



Replacing the Tipping Spoon module in the ISS base.

## Troubleshooting

### Troubleshooting ISS Reception

If the console isn't displaying data from the ISS, perform the following steps:

1. Verify that the console is powered and is not in Setup Mode.
2. Make sure that the ISS battery is properly installed.
3. Walk around the room with the console, standing for a few moments in various locations, to see if you are picking up signals from the ISS. Look on the screen's lower left quadrant for the small graphic of a radio antenna. Small “radio wave semi-circles” display above the antenna and toggle on and off when the console receives a transmission.

If you do not see the antenna's radio wave graphic slowly blinking, regardless of where you stand with the console, you should call the Davis Technical Support Department. See “Contacting Davis Instruments” on page 17 for more information.

4. If the Transmitter ID LED remains unlit, there is a problem with the ISS transmitter. Call Technical Support. See “Contacting Davis Instruments” on page 17.

5. If the Transmitter IDLED flashes repeatedly but your console isn't picking up a signal anywhere in the room, it could be related to one of the following causes:
  - You changed the ISS Transmitter ID at the ISS or console, but not at both.
  - Reception is being disrupted by frequency interference from outside sources, or the distance and barriers are too great.  
Interference has to be strong to prevent the console from receiving a signal while in the same room as the ISS.
  - There is a problem with the Vantage Vue console.
6. If a problem with receiving the wireless transmission still exists, please contact Technical Support. See "Contacting Davis Instruments" on page 17.

### **When to Change the ISS Transmitter ID**

The Vantage Vue ISS transmits weather information to the Vantage Vue Console using one of eight selectable Transmitter IDs.

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**Note:** The transmitter on the ISS and receiver on the console will communicate with each other only when both are set to the same ID.

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The default Transmitter ID for both the ISS and the Vantage Vue console is 1, and should work fine for most situations. Change the Transmitter ID if any of the following issues are true:

- Another Davis Instruments wireless weather station operating nearby already uses Transmitter ID 1.
- An additional wireless transmitting station has been purchased for use with the Vantage Vue and it has been designated as Station No. 1 instead of the selected ISS.

On the ISS, the Transmitter ID is set using the Transmitter ID Pushbutton located on the underside of the ISS base. To see a drawing showing this button's location and a procedure for changing the ISS transmitter ID, refer to "Set a New Transmitter ID on the ISS" on page 7.

Set the Vantage Vue console to the same ID as the transmitters, as described in the *Vantage Vue Console Manual*.

### **Using Two Transmitting Stations**

A single Vantage Vue console can receive signals from one ISS, either a Vantage Vue or a Vantage Pro2 ISS, and an optional anemometer transmitter kit. See your *Vantage Vue Console Manual* for information on configuring Transmitter IDs.

### **If a Sensor Functions Intermittently**

Carefully check all connections from the sensor to the ISS. .

If the sensor still functions intermittently contact Technical Support.

### **Most Common Rain Collector Problem**

If the rain collector seems to be under-reporting rainfall, clean the debris screen and tipping spoon module to clear out any debris.

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## Most Common Anemometer Problems

*“The wind cups are spinning but my console displays 0 mph.”*

The signal from the wind cups may not be making it back to the display.

Remove the cups from the anemometer (loosen the set screw). Put the cups back onto the shaft and make sure to slide them down the shaft as far as possible.

*“The wind cups don’t spin or don’t spin as fast as they should.”*

The anemometer may be located where wind is blocked by something, or there may be friction interfering with the cups’ rotation. Remove the wind cups (loosen the set screw) and clear out any bugs or debris which may be interfering with the cup rotation. Turn the shaft the cups rotate on. If it feels gritty or stiff, contact Davis Technical Support.

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Note: Do not lubricate the shaft or bearings in any way. When replacing the cups, make sure they are not rubbing against any part of the anemometer head.

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*“Readings aren’t what I expected them to be.”*

Comparing data from your ISS to measurements from TV, radio, newspapers, or a neighbor is NOT a valid method of verifying your readings. Readings can vary considerably over short distances. How you site the ISS and anemometer can also make a big difference. If you have questions, contact Davis Technical Support.

## Contacting Davis Instruments

If you have questions about the ISS or Vantage Pro2 system, or encounter problems installing or operating the weather station, please contact Davis Technical Support.

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Note: Please do not return items to the factory for repair without prior authorization.

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**(510) 732-7814** – Technical Support phone, Monday – Friday, 7:00 a.m. – 5:30 p.m. Pacific Time.

**(510) 670-0589** – Technical Support Fax.

**support@davisnet.com** – E-mail to Technical Support.

**info@davisnet.com** – General e-mail.

**www.davisnet.com** – Download manuals and specifications from the Support section. Watch for FAQs and other updates. Subscribe to the e-newsletter.