Installation Instructions

I. Introduction

Thank you for purchasing a Maximum Wireless Weather instrument. Maximum Wireless Instruments are designed with the customer in mind. Ease of installation and operation enable the “Do It Yourselfer” to install these instruments. If you need assistance, consult a contractor, electrician, or satellite dish installer.

II. Components

Receiver

Wind Tx

Temperature Tx

Rain Tx

III. Test Wiring

It is important to pre-wire and test operation from different locations prior to final installation.

A. Receivers

1. Merlin and/or Mystic

- Connect the AC power wires from the Receiver (Red and Green wires) to the AC power terminals (polarity does not matter) on either Merlin or Mystic instrument (**Do Not** apply power).
- Connect the White wire from the Receiver to terminal #1 (In) of the same instrument.
- Connect the Black wire from the Receiver to terminal #2 (GND) of the same instrument.
- The Yellow and Brown wires are used only if you are installing a Rainwatch.
- If both Merlin and Mystic are being installed, use the jumper wire enclosed with Mystic for connection between these two instruments.
    - Connect one end of the White wire to terminal #3 (Out) of the instrument wired to the Receiver, and the Black wire to terminal #2 (GND).
    - Connect the other end of the White wire to terminal #1 (In) of the second Instrument, and the Black wire to terminal #2 (GND).

A. Receivers (cont.)

2. Rainwatch

- Connect the Yellow wire from the receiver to terminal #4 of the Rainwatch.
- Connect the Brown wire from the receiver to terminal #5 of the Rainwatch.

B. Transmitters

1. Temperature

- The Temperature transmitter operates on two AA Alkaline batteries (supplied).
  - **Do Not** install the batteries yet.
- Open the thumb-latch on the Temperature transmitter case, and place the circuit board Jumper in the test position (see Diagram A). This will ensure that the Receiver recognizes the Temperature transmitter when batteries are eventually installed.

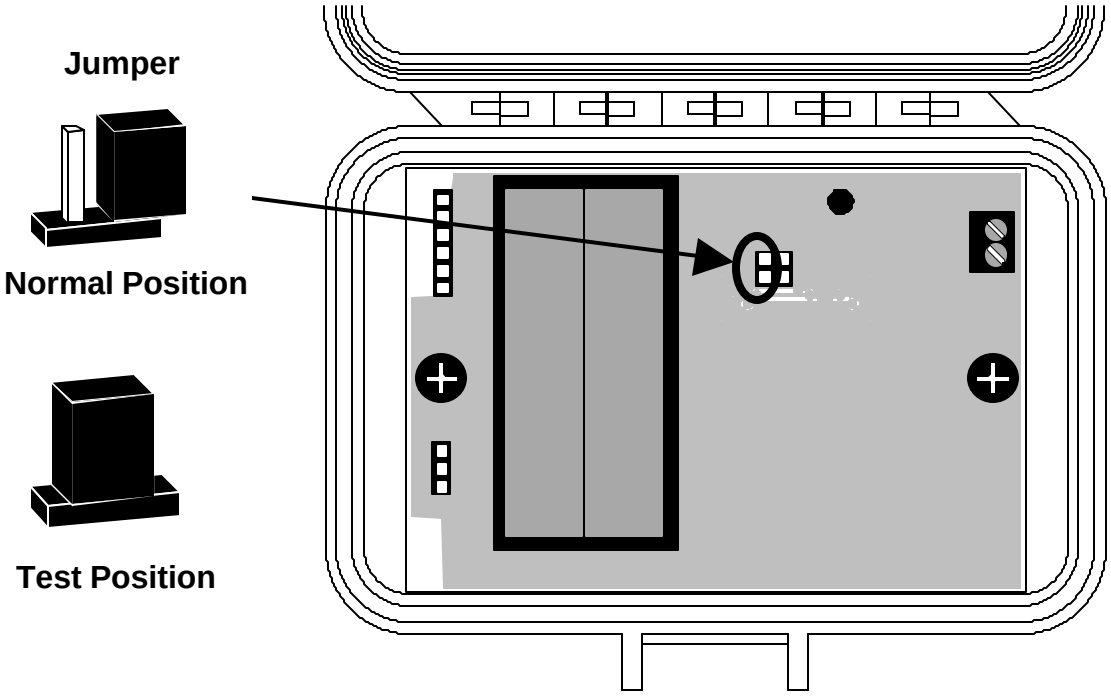

Diagram A

2. Rain Transmitter

- The Rainfall transmitter operates on two AA Alkaline batteries (supplied).
  - **Do Not** install the batteries yet.
- Remove the top of the Rain Collector by loosening the four Phillips head screws and rotating the top counter-clockwise.
- Remove the blue cover to access the circuit board, and place the circuit board Jumper in the test position (see Diagram B). This will ensure that the Receiver recognizes the Rainfall transmitter when batteries are eventually installed.

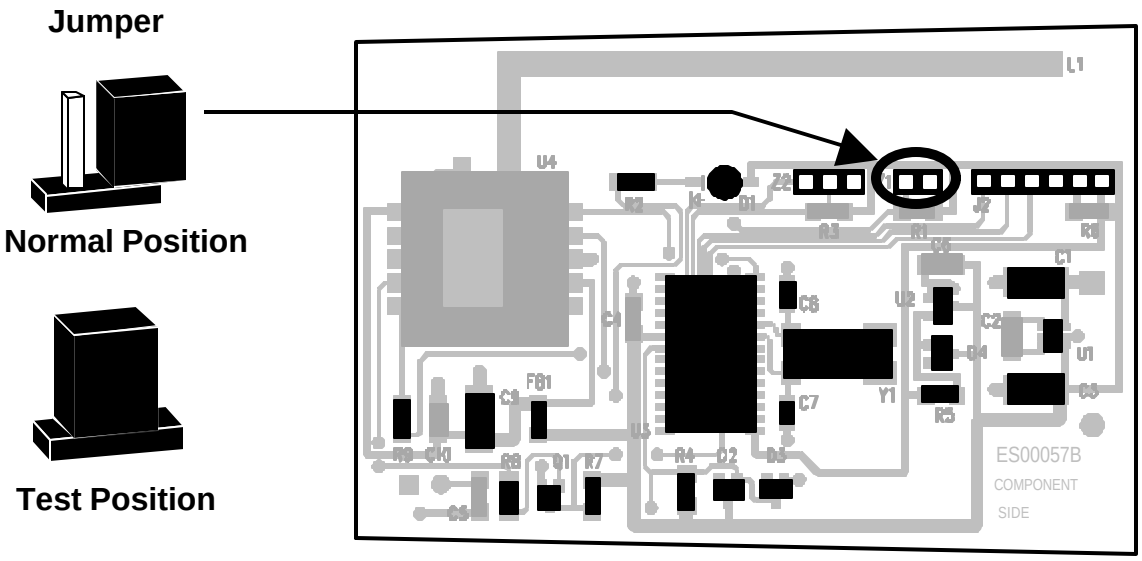

Diagram B

3. Wind Transmitter

- Insert two AA NiCad batteries (supplied) into the enclosed battery charger (be sure to observe Polarity) and charge batteries for 12 hours.
    - Note: Do not attempt to charge batteries other than NiCad batteries, as they could explode, causing physical damage and/or fire.
- Feed the terminal lug end of the Yellow and Brown wires through one of the rubber boots and connect the lugs to the terminals on the bottom of the wind speed sensor using the brass nuts provided. The polarity does not matter.
    - Note: **Do Not** adjust the nuts that are already on the sensor.
- Feed the terminal lug ends of the remaining 5 wires through the other rubber boot and connect to the terminals on the bottom of the wind direction sensor using the brass nuts provided.
    - Connect the 5 wires to the wind direction sensor as follows:
        - White wire to Terminal 1
        - Orange wire to Terminal 2
        - Black wire to Terminal 3
        - Red wire to Terminal 4
        - Green wire to Terminal 5
    - Note: **Do Not** adjust the nuts that are already on the sensor.
- Slide the straight stub mast through the rubber boot and insert it into the bottom of the wind speed sensor. Secure the sensor to the mast with the supplied cotter pin.
- Slide the formed (“Z” shaped) stub mast through the other rubber boot and insert it into the bottom of the wind direction sensor with the #3 terminal aligned over the mast arm. Secure the sensor to the mast with the supplied cotter pin.
    - Note: If the sensor is not installed with the #3 terminal aligned over the mast arm, wind direction readings will be incorrect.

3. Wind Transmitter (cont.)

- Remove the bottom portion of the black bracket on the back of the Wind transmitter case, by loosening the four black screws.
- Place the Wind transmitter case on the horizontal section of the formed wind direction mast with the antenna situated above the mast arm.
- Place the bottom portion of the black bracket behind the mast arm and secure it in place with the four black screws that were removed.
- Secure both sensor stub masts to your antenna mast (not supplied) with the two hose clamps provided.
- Open the Wind transmitter case by lifting the two thumb latches, and place the circuit board Jumper in the test position (see Diagram C). This will ensure that the Receiver recognizes the Wind transmitter when batteries are eventually inserted.

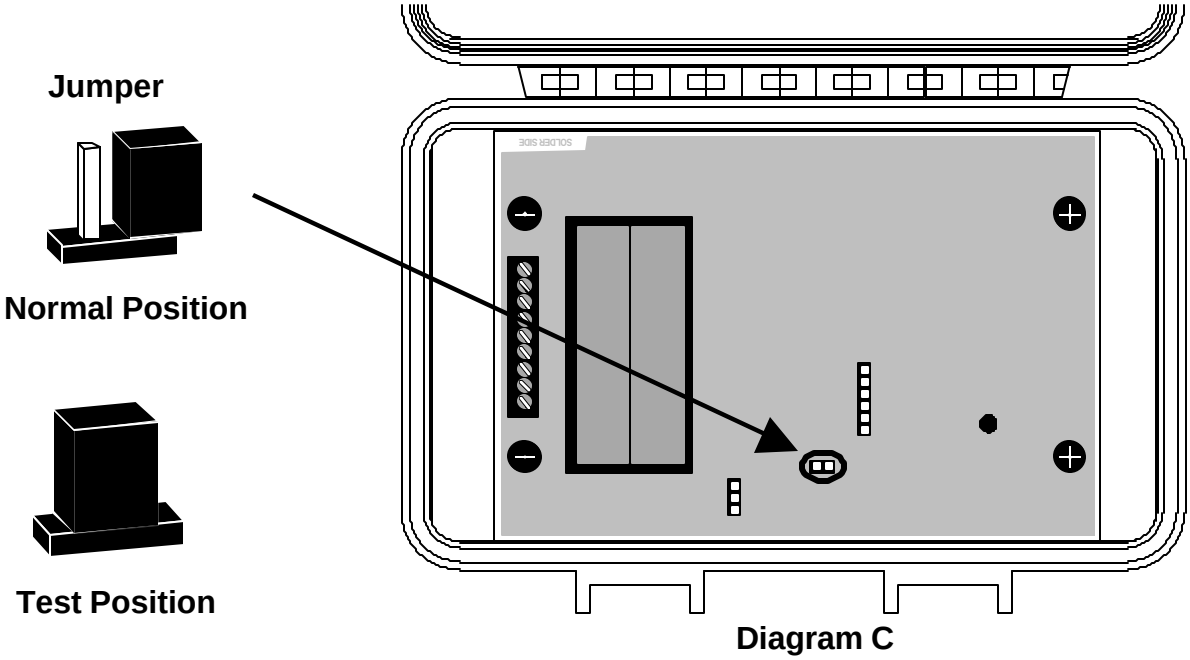

Diagram C

IV. Transceiver Testing & Sensor Installation (please follow directions in the order shown)

A. Instrument Display

- Move the instrument display and the individual sensors nearby the desired installation location (the display may lie on a table or floor for testing purposes).
  - This step is necessary to determine whether or not proper signals can be obtained for each component, prior to final installation.
- Connect the AC adaptor(s) provided, to the instrument(s).
  - If you have more than 1 instrument, wire 1 AC adaptor to each instrument.
- Plug in all the AC adaptors.

A. Instrument Display (cont.)

- The following should display on each instrument upon power-up:
    - Merlin: all LEDs will illuminate, then "**0**" will display in the window and the **North** LED will light.
    - Mystic: all LEDs will illuminate, then a **barometer reading** will display in the window.
    - Rainwatch: "**00.00**" will display in the window.
    - Cronus: all LEDs will illuminate, then **current time** will display in the window.

B. Temperature Transmitter

- Install two AA alkaline batteries into the Temperature transmitter.
    - The red LED on the Receiver box should blink every 4 seconds.
- Toggle the switch on the bottom of the Mystic instrument until current temperature is displayed.
    - The instrument will display the temperature from the sensor location.
- Move the Temperature transmitter to desired installation location. (A North exposure, 6' off the ground, out of direct sunlight, is recommended).
- The red LED on the Receiver box should continue to light every 4 seconds.
    - The sensor may take up to 2 hours to acclimate to outside temperature.
- If the signal is lost (LED does not blink), try moving the Temperature transmitter.
- Once a suitable location has been established, remove the batteries and place the test jumper back in the normal position (leave batteries disconnected for now).

C. Rain Transmitter

- Install two AA alkaline batteries into the Rain Collector transmitter.
    - The red LED on the Receiver box should blink every 4 seconds.
- Manually tip the dipper on the Rain Collector Base to one side.
- Rainwatch should display "00.01".
- Move the Collector to desired installation location.
- The red LED on the Receiver box should continue to blink every 4 seconds.
- Manually tip the dipper on the Rain Collector Base and the Rainwatch should display "**00.02**".
- If the signal is lost (LED does not blink), try rotating or moving the Rain Collector.
- Once a suitable location has been established, remove the batteries and place the test jumper back in the normal position (leave batteries disconnected for now).

D. Wind Transmitter

- Once fully charged, remove the NiCad batteries from the battery charger, and install them into the Wind transmitter.
    - The red LED on the Receiver box should blink every 2 seconds.
- Bring the mast to the desired installation location (rooftop).
- The red LED on the Receiver box should continue to blink every 2 seconds.
- Mount the mast to your mounting bracket (not supplied).
- Choose a location with at least 8' of vertical clearance above objects on the roof.
- The LED on the receiver should continue to blink every 2 seconds. If the signal is lost (LED does not blink), try an alternate mounting location or alternate receiver location.
- Move the test jumper back to the normal position.
- Remove one battery, wait a few seconds and, then re-install the battery. This will restart the unit in normal mode.
- Align the wind direction Z-mast arm so it is pointing to the EAST and the Solar Panel is facing SOUTH and angled 22.5° above the horizon. Then secure the mast per the instructions supplied with your mounting bracket.

V. Display Installation

- When deciding upon a location your weather instrument display, be aware of possible interference from cordless phones, computer monitors, and other household appliances.
- To lessen the chance of interference, mount the wireless Receiver at least 12' away from such appliances.
- For best reception, avoid installation near large metallic surfaces.

VI. Receiver Installation

- Re-install the batteries in the rain and temperature transmitters.
- Cut a hole in the wall large enough for the Receiver to pass through.
- Place the Receiver inside the wall, either above or below the instruments.
- Anchor the instruments or wood panel to the wall using wood screws.
- Check all functions to ensure that instruments are displaying data.
- If you are having difficulty receiving transmissions, it may be necessary to move either the Receiver or the Transmitter for an individual sensor.
- It is possible to connect the receiver up to 50' away from the display. This may help you locate the best signal reception.

VII. Battery Information

- The AA alkaline batteries in the Temperature and Rain Collector transmitters should last from 1 – 2 years depending on changes in condition. We recommend replacing the batteries annually to avoid loss of data.
- The AA NiCad batteries in the Wind transmitter will continually recharge via the internal solar charging system. The characteristics of NiCad batteries are such that they could need replacement every 2 -3 years. The life expectancy varies depending on many factors, including temperature and amount of sunshine at your location.

VIII. Error displays

When no data is received at the "In" terminal of a Merlin or Mystic the display will show a series of dashes.

If a transmitter is no longer responding to the receiver, Merlin and/or Mystic will display "**NS**" (No Signal) followed by one or more bars indicating which transmitter is not responding. The top bar is wind, the middle bar is temperature and the bottom bar is rain.
Examples:

Wind not responding

Temperature not responding

Wind and rain not responding

IX. User Notes

X. Information for the Wireless Instrument user

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 off and on, 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.

MAXIMUM
Samuel Barnett Boulevard
New Bedford, MA 02745
(508) 995-2200