

WS-7059U  
Wireless 433 MHz  
Temperature Station

Instruction Manual

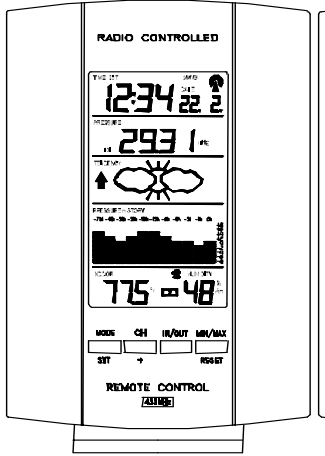


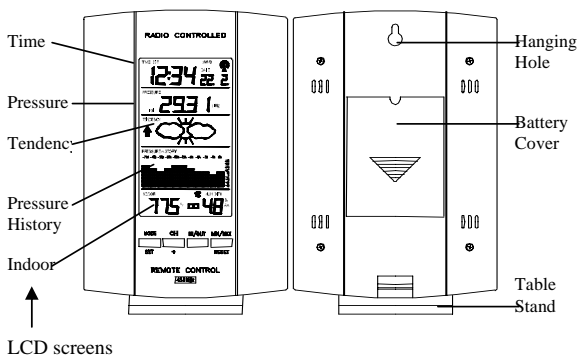
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INVENTORY OF CONTENTS

1. The Indoor Temperature Station (ITS)
2. Instruction Manual and Warranty Card

Figure 1



ADDITIONAL EQUIPMENT (not included)

1. Three fresh AA 1.5V batteries.

ABOUT WWVB

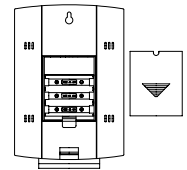
The NIST (National Institute of Standards and Technology—Time and Frequency Division) radio station, WWVB, is located in Ft. Collins, Colorado and transmits the exact time signal continuously throughout the United States at 60 kHz. The signal can be received up to 2 000 miles away through the internal antenna in the Weather Station. However, due to the nature of the Earth's Ionosphere, reception is very limited during daylight hours. The Weather Station will search for a signal every night when reception is best. The WWVB radio station derives its

signal from the NIST Atomic clock in Boulder, Colorado. A team of atomic physicists continually measure every second of every day to an accuracy of ten billionths of a second a day. These physicists have created an international standard, measuring a second as 9,192,631,770 vibrations of a Cesium 133 atom in a vacuum. This Weather Station regulates the WWVB transmitter.

SET-UP GUIDE

I. BATTERY INSTALLATION

1. Remove the battery cover—insert a solid object in the space provided at the lower-central position of the battery cover, push up and pull out on the battery cover.
2. Observe the correct polarity and install 3 AA batteries.
3. Replace the battery cover.

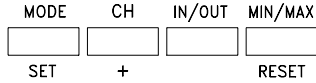


**Note:** Immediately after the batteries have been installed each LCD (Liquid Crystal Display) will flash. Within a few seconds the indoor temperature, indoor relative humidity, and the weather icons (sun and clouds) will be displayed. If not, then remove batteries for 10 seconds and reinstall. The time will show 12:00 am and start searching for the signal. If it successfully receives the time signal (usually at night), it will display the correct time (default is Eastern)

**PROGRAM MODE**

**Programming Note:** If 20 seconds is allowed to pass during programming modes the unit will confirm/set the last information entered—the display will stop flashing and return to normal time-date readings. If for program settings IV through XI, you don't leave the program mode you can advance to step 3 of the following program setting. If you do leave the program setting (or want to program a specific setting) follow each step in the program settings instruction.

**Function Keys:**



**II. TIME**

There are two methods by which the time can be set:

- 1) Automatically via WWVB reception
- 2) Manually (see section III)

**WWVB (Remote Control Time)**

This method requires you to do nothing but wait for the signal to be received, and to select a time zone. Reception usually takes approximately 6-8 minutes during optimal conditions. The best conditions for reception is at night, between midnight and 6:00 am, when there is less atmospheric interference. To keep your time as accurate as possible, the Weather Station conducts a WWVB search every night between these hours, and overrides any time that has been set manually. The WWVB tower icon

**IV. TIME ZONE SETTING**

The default time zone is EST (Eastern Standard Time), to change this setting:

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button four more times; “-5” should flash in the TIME LCD.
3. Select your appropriate time zone using the *CH/+* button. The TIME LCD displays the 3 letter abbreviations for the time zones found in North America. Observe the chart below, showing corresponding abbreviations, time zones, and codes.

	GMT	0
	Atlantic	-4
EST;	Eastern	-5
CST;	Central	-6
MST;	Mountain	-7
PST;	Pacific	-8
ALA;	Alaska	-9
HAW;	Hawaii	-10

**Note:** There are more time zones represented by numbers than there are represented by letters. If you live in North America you need only be concerned with the ones in the chart above.

4. Press the *MODE/SET* button to confirm and advance to the Daylight Saving Time setting.

(appearing in the TIME LCD) will flash when a search is in progress, will remain steady when the signal has been received, and nothing will be displayed in all other situations. If the WWVB time has not been received after 10 minutes of battery installation, you may manually set the time or leave the time function alone (reception will occur regardless).

**III. MANUAL TIME SETTING**

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button two more times. The digit representing the hour should be flashing.
3. Press the *CH/+* button to select the appropriate hour.

**Note:** In 12h mode, “PM” will appear to the left of the time during PM hours. If the time is not within the PM hours nothing will be displayed. Be sure to set the time to the correct AM/PM time to ensure automatic reception.

4. Press the *MODE/SET* button to set the minutes. The digits that represent the minutes will flash.
5. Press the *CH/+* button to advance the minutes.
6. Press the *MODE/SET* button to confirm and advance to the time zone setting.

**V. DAYLIGHT SAVING TIME (DST) SETTING**

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button 5 more times to reach the DST selection mode. DST 1 is the default setting and both “DST” and “1” are flashing in the TIME LCD.
3. DST 1 shows that the feature is on and will change times automatically.
4. DST 0 shows that the feature is off and will not change times automatically.

**Note:** Some locations (Arizona and parts of Indiana) do not follow Daylight Saving Time.

5. Press the *MODE/SET* button to confirm and advance to the Year setting mode.

**VI. SETTING THE YEAR**

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button 6 more times to reach the Year setting mode.
3. The default year “2000” appears in the TIME LCD.
4. Press the *CH/+* button to advance the years.
5. Press the *MODE/SET* button to confirm and advance to the numeric date setting mode.

## VII. SETTING THE DATE

**Note:** This is only necessary if you do not wish to wait for the WWVB reception. All manual set data will be overridden by the reception of the WWVB signal.

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button 7 more times to reach the Numeric Date setting mode.
3. “1.1” is the default setting, representing month and date respectively. The digit representing the month should be flashing.
4. Press the *CH/+* button to advance the month.
5. Press the *MODE/SET* button to confirm the month setting and to shift to the numeric day setting. The digit representing the day should be flashing.
6. Press the *CH/+* button to advance the day.
7. Press the *MODE/SET* button to confirm the date and to advance to °F and °C selection.

## VIII. SELECTING °F OR °C

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button 8 times to reach the °F or °C setting mode.
3. “°F” is the default setting, and should be flashing in the TIME LCD.

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for areas with significant air pressure changes.

5. Press the *MODE/SET* button to confirm and advance to set the Relative or Absolute display setting.

## X. DISPLAYING RELATIVE hPa/inHg OR ABSOLUTE hPa/inHg

**Note:** Air pressure can be displayed in four different measures: Relative hPa, Absolute hPa, Relative inHg, and Absolute inHg. The Absolute setting gives a true and real-time air pressure reading (at the users location) that cannot be manually calibrated. However, the Relative air pressure setting must be manually programmed to suit the users needs. Relative air pressure is measured in relation to sea level and is the standard meteorological form of measure. You can retrieve the Relative air pressure from your local weather service. Absolute air pressure decreases by about .01 inHg for every 10 feet in altitude. In higher altitudes (above 6,500 feet), this effect is less noticeable. The WS-7059U will measure absolute pressure reliably up to 7,500 feet. There is no limit for relative air pressure since it is set by the user.

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button 11 additional times to reach the various Relative and Absolute display options.
3. The default setting is “rel hPa” will flash in the PRESSURE LCD.

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4. Press the *CH/+* button to shift °F to °C, and back.
5. Press the *MODE/SET* button to confirm and to advance to the Weather Forecast Sensitivity setting.

## IX. SETTING WEATHER FORECAST SENSITIVITY (hPa)

**Note:** A higher hPa (Hecto Pascal) setting decreases the forecasting sensitivity of the unit, a feature available for persons living in areas where the air pressure changes significantly (not necessarily related to a change of weather). A lower hPa setting is available for areas with a more constant air pressure. This designates that it takes 2 hPa of pressure change to change the forecast icon. Note that 1 hPa change = 0.03 inHg (Inch Column of Mercury) change. 1 hPa = 1 mb (millibar). The hPa options that appear in the PRESSURE LCD are: “2” hPa = 0.06 inHg, “3” hPa = 0.09 inHg, and “4” hPa = 0.12 inHg.

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. Press the *MODE/SET* button 10 additional times to reach the hPa setting.
3. The default hPa setting of “3” will flash.
4. Press the *CH/+* button to select one of the three hPa settings. “2” is the lowest setting, designated for areas with a relatively constant air pressure; “3” is the mid-range setting; “4” is the highest setting, designated

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4. Press the *CH/+* button to toggle through the Absolute and Relative options.
5. Press the *MODE/SET* button to confirm and to advance to the Relative manual program, or to return to normal operation—

## XI. MANUALLY SETTING THE RELATIVE AIR PRESSURE

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD
2. Press the *MODE/SET* button 12 more times to program the Relative air pressure.
3. The numerals in the PRESSURE LCD will flash (only for relative air pressure)
4. Press the *CH/+* to increase the relative air pressure. Refer to your local weather station for an appropriate setting.
5. Press the *MODE/SET* button to confirm.

## XII. SETTING THE LCD CONTRAST

1. Press and hold the *MODE/SET* button for 5 seconds, or until “Lcd 5” flashes in the TIME LCD.
2. There are 7 LCD contrast levels to choose from—“Lcd 1” is the lightest, and “Lcd 7” is the darkest. “Lcd 5” is the default setting.
3. Press the *CH/+* button to toggle through the settings.
4. Press the *MODE/SET* button to confirm and advance to 12/24 hour time setting.

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### XIII. 12 OR 24 HOUR TIME SETTING

1. Press and hold the *MODE/SET* button for 5 seconds, or until the "Lcd #" of your choice flashes in the TIME LCD.
2. Press the *MODE/SET* button once more to reach the 12/24 time setting mode.
3. Press the *CH/+* button to toggle between 12 and 24-hour time.
4. Press either the *IN/OUT* button or the *MIN/MAX/RESET* button to exit the programming mode.

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change to occur quickly. If the symbols do not change then the weather has not changed or the change has been slow and gradual. If this happens on a regular basis, it may be necessary to adjust the weather forecast sensitivity.

#### 2. WEATHER TENDENCY ARROWS

Other possible displays in the TENDENCY LCD are 2 weather tendency arrows, one that points up and one that points down. These arrows reflect current changes in the air pressure: an arrow pointing up indicates that the air pressure is increasing and the weather is expected to improve or remain good, an arrow pointing down indicates that the air pressure is decreasing and the weather is expected to become worse or remain poor. No arrow means the pressure is stable.

A storm can be expected if there is a drop of 4 hPa or more in less than 6 hours, the rain icon is displayed, and the downward pointing arrow is flashing. The flashing will stop when the air pressure stabilizes or begins to rise.

#### II. AIR PRESSURE HISTORY BAR GRAPH

The bar graph shows in hPa the recorded air pressure over the past 72 hours. The horizontal axis shows the hours at the increments of 72h, 48h, 36h, 24h, 18h, 12h, 9h, 6h, 3h, 1h, and 0h (0h is the current hPa). The vertical axis is set by hPa: 0 is the current hPa, and + or - 2,4,6, or 8 shows (in hPa) how high or low past air pressure was as compared to the current one. If the bars are rising (higher on the right side of the graph than the left) then the air pressure has a rising trend, and the weather should

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### FEATURES OF THE WS-7059U

#### I. WEATHER FORECAST

The weather forecasting feature is estimated to be 75% accurate. By adjusting the sensitivity setting, you can achieve a better accuracy of forecast. The weather forecast is based solely upon the change of air pressure over time. In areas where the weather is not affected by the change of air pressure, this feature will be less accurate.

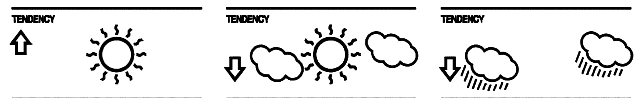
##### 1. WEATHER ICONS

There are 3 possible weather icons that will be displayed in the TENDENCY LCD:

*Sunny*—indicates that the weather is expected to improve (not that the weather will be sunny).

*Sun with Clouds*—indicates that the weather is expected to be fair (not that the weather will be sunny with clouds).

*Clouds with Rain*—indicates that the weather is expected to get worse (not that the weather will be rainy).



The weather icons change when the unit detects a change in air pressure. The icons change in order, from "sunny" to "partly sunny" to "cloudy". It will not change from "sunny" directly to "rainy", although it is possible for the

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improve. If the bars are dropping (lower on the right of the graph than the left) then the air pressure has a falling trend, and the weather should worsen. 2 hPa of change equals 0.06 inHg of change.

**Note:** The air pressure history is taken every hour by averaging the last 11 readings (taken every minute).

#### III. INDOOR TEMPERATURE AND HUMIDITY

The current Indoor Temperature and Humidity is displayed in the INDOOR LCD. However, with a keystroke the recorded MINIMUM AND MAXIMUM Indoor Temperature and Humidity will be displayed.

**Note:** When you are done viewing the Minimum or Maximum data, press either the *IN/OUT* or the *MIN/MAX/RESET* button to exit or wait 20 seconds for the unit to return automatically to the current settings.

##### 1. VIEWING THE MINIMUM INDOOR TEMPERATURE AND HUMIDITY

- a. Press the *MIN/MAX/RESET* button.
- b. The minimum temperature and humidity is now displayed in the INDOOR LCD and the time and date of that temperature is displayed in the TIME LCD. This information is confirmed and indicated by the "MIN" icon appearing in the top-center portion of the INDOOR LCD.

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- c. The minimum temperature will be displayed for a period of 20 seconds before the unit returns to the current time, date, temperature, and humidity readings.

## 2. VIEWING THE MAXIMUM INDOOR TEMPERATURE AND HUMIDITY

- a. Press the MIN/MAX/RESET button twice (once if pressed while “MIN” appears in the INDOOR LCD).
- b. Follow a and b above, substituting any reference to minimum with maximum.

## 3. RESETTING THE MINIMUM AND MAXIMUM RECORDS

- a. Press and hold the MIN/MAX/RESET button for 3 seconds. This will reset all data in both the minimum and maximum records to the current data.

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## B. VIEWING AND OPERATING WITH MULTIPLE RCS UNITS

1. To view the outdoor data, press the *IN/OUT* button. If there is more than one RCS unit in use a squared in number will appear between the outdoor temperature and the humidity.
2. To shift to a different RCS unit (if more than one is in use) press the *CH/+* button.
3. To view the Minimum/Maximum temperature: first select which RCS to read data from, then press the *MIN/MAX/RESET* button. Pressing this button once will display the minimum temperature, minimum humidity, and the date and time the

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## IV. ADDING OUTDOOR REMOTE CONTROL SENDERS (OPTIONAL)

The WS-7059U is able to receive signals from 3 different Remote Control Senders (RCS). The RCS model(s) that you choose will come with their own set of instructions—follow these instructions for a complete guide to setting up. When the RCS units are set up, INDOOR LCD also becomes the OUTDOOR LCD, however it will only be referenced as the former. The outside humidity will only register if a temperature/humidity RCS is used. Following are some brief instructions for the basic set-up of RCS units with the WS-7059U. These extra sensors can be purchased through the same dealer as this unit, or by contacting La Crosse Technology directly. A TX4U will monitor the temperature and humidity, a TX3U will monitor temperature only, and the TX3UP will monitor the temperature via a probe for use in pools, spas, etc.

**Note:** *When setting up multiple units it is important to insert batteries first into all the RCS units, and in numeric sequence. Second install batteries into the Indoor Temperature Station. Transmission problems will arise if this is not done correctly and if the total time for set-up exceeds 6 minutes.*

### A. SET-UP OF MULTIPLE UNITS

**Note:** *If there are no RCS units “- - - °F” and “- - %” will appear in the INDOOR LCD, or only the indoor temperature and humidity.*

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1. It is necessary to remove the batteries from all units currently in operation.
2. Remove the battery covers to all RCS units.
3. Place all RCS units in a numeric sequential order (if more than one unit is to be installed).
4. In sequential order, install batteries.
5. Install batteries into the Indoor Temperature Station.
6. Follow the Set-Up Guide for programming and operating instructions.

data was recorded. Pressing this button a second time will display the same data for the maximum recordings.

## V. MOUNTING

**Note:** *Before permanently mounting ensure that the Indoor Temperature Station is able to receive WWVB signals from the desired location. Also, extreme and sudden changes in temperature will decrease the accuracy of the Weather Station, and changes in elevation will result with inaccurate weather forecasting for the next 12 to 24 hours. These changes will require a 12 to 24 hour wait before obtaining reliable data. Also, be sure reception of any outdoor sensors is good before mounting.*

The Indoor Temperature Station can be mounted in two ways:

- with the table stand or,
- on the wall with the use of a wall hanging screw (not included).

### A. USING THE TABLE STAND

1. The Indoor Temperature Station comes with the table stand already mounted. If you wish to use the table-stand all that is required is to place the Indoor Temperature Station in an appropriate location.

### B. WALL MOUNTING

1. Remove the table-stand. To do this, pull down on the stand from the rear and rotate forward.

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2. Fix a screw (not included) into the desired wall, leaving approximately 3/16 of an inch (5mm) extended from the wall.
3. Place the Indoor Temperature Station onto the screw using the hanging hole on the backside. Gently pull the Station down to lock the screw into place.

**MAINTENANCE AND CARE INSTRUCTIONS**

- Extreme temperatures, vibration, and shock should be avoided to prevent damage to the units.
- Clean displays and units with a soft, damp cloth. Do not use solvents or scouring agents; they may mark the displays and casings.
- Do not submerge in water.
- Immediately remove all low powered batteries to avoid leakage and damage.
- Opening the casings invalidates the warranty. Do not try to repair the unit. Contact La Crosse Technology for repairs.

**TROUBLESHOOTING**

**Problem:** No reception of WWVB time signal.

- Solution:**
- 1) Wait overnight for signal.
  - 2) Be sure Weather Station is at least 6 feet from any electrical devices, such as televisions, computers, or other radio-controlled clocks.
  - 3) Remove batteries for five minutes, reinsert and leave alone without pressing buttons overnight.
  - 4) If there are still problems, contact La Crosse Technology

**Problem:** Hour is incorrect (minute and date are correct)

**Solution:** Be sure correct time zone and daylight saving time are selected.

**Problem:** The LCD is faint

- Solution:**
- 1) Set the LCD contrast to a higher number
  - 2) Replace batteries

**Problem:** No outdoor temperature is displayed when optional remote sender is used.

- Solution:**
- 1) Remove all batteries, reinsert into sender first, then display.
  - 2) Place remote sender closer to display.
  - 3) Be sure all batteries are fresh.

*NOTE: For problems not solved, please contact La Crosse Technology.*

**SPECIFICATIONS**

Radio controlled time signal:	WWVB
<b>Recommended operating temperature:</b>	
Weather Station:	32°F to 122°F (0°C to 50°C)
LCD contrast:	8 levels
<b>Temperature measuring range:</b>	
Indoor:	32°F to 122°F with 0.2°F resolution. (0°C to 50°C with 0.1°C resolution) (“OFL” displayed if outside this range)
Relative indoor humidity range:	19% to 95% with 1% resolution
If the indoor temperature is outside the range “OFL”:	Indoor relative humidity will display “- -”
If the indoor relative humidity is less than 20% or greater than 95%:	Indoor relative humidity will display 19% or 96%
<b>Air pressure:</b>	
Absolute inHg:	20.67 inHg to 32.45 inHg
Relative hPa (optional):	970 hPa to 1030 hPa
Relative inHg (optional):	28.60 inHg to 30.45 inHg
Sensitivity setting hPa:	2,3, and 4 hPa
Air pressure history:	For the past 72 hours at -72, -48,-36, -24, -18, -12, -9, -6, -3, -1, and 0.

<b>Data checking intervals:</b>	
Indoor temperature:	Every 10 seconds
Indoor relative humidity:	Every 20 seconds
Power supply (alkaline batteries recommended):	3 x AA, IEC LR6, 1.5V Battery
Dimensions (L x W x H):	4.53 x 7.05 x 1.18 inches (115 x 179 x 30 mm)

**WARRANTY INFORMATION**

La Crosse Technology provides a 1-year warranty on this weather station. Contact La Crosse Technology immediately upon discovery of any defects covered by this warranty.

Before sending the Weather Station in for repairs, contact La Crosse Technology. The Weather Station will be repaired or replaced with the same or similar a similar model.

This warranty does not cover any defects resulting from improper use, unauthorized repairs, faulty batteries, or the Weather Stations inability to receive a signal due to any source of interference.

LA CROSSE TECHNOLOGY WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS WEATHER STATION. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION.

THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDRENS' REACH.

This warranty gives you specific legal rights. You may also have other rights specific to your State. Some States do not allow the exclusion of consequential or incidental damages therefore the above exclusion of limitation may not apply to you.

For warranty work, technical support, or information, contact La Crosse Technology at:

La Crosse Technology  
1116 South Oak Street  
La Crescent, MN 55947  
Phone: 507.895.7095  
Fax: 507.895.8000

e-mail: [support@lacrossetechnology.com](mailto:support@lacrossetechnology.com) (warranty work)  
[sales@lacrossetechnology.com](mailto:sales@lacrossetechnology.com) (information on other products)  
web: [www.lacrossetechnology.com](http://www.lacrossetechnology.com)

FCC ID: OMO-01RX

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

1. THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
2. THIS DEVICE MUST ACCEPT INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.