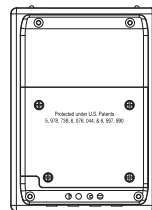
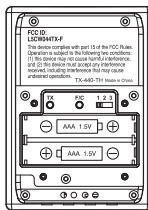
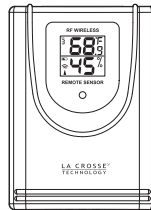
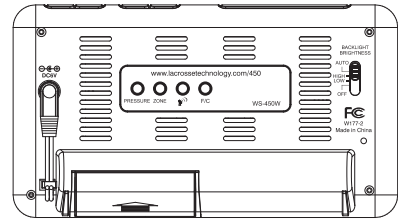
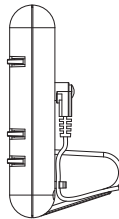
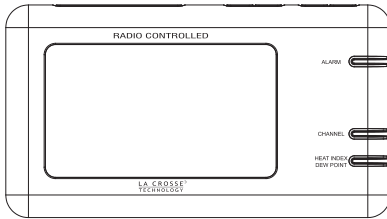
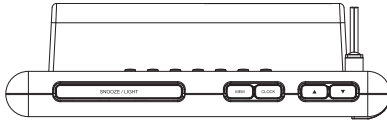




LONG RANGE WIRELESS COLOR WEATHER STATION

Owner's Manual

Thank you for purchasing the new generation color weather station. Designed and engineered with the state-of-art technology and components, this instrument will provide accurate and reliable measurement of barometric pressure, weather forecast, in/ out humidity, temperature, heat index, dew point as well as atomic clock. Read this manual carefully to fully explore the features and functions of the new product.





ABOUT WWVB (Radio Controlled Time)

The NIST (National Institute of Standards and Technology—Time and Frequency Division) WWVB radio station is located in Ft. Collins, Colorado, and transmits the exact time and date 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 is continually measuring every second, of every day, to an accuracy of ten billionths of a second per 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. For more information on the atomic clock and WWVB please see the NIST website at <http://www.boulder.nist.gov/timefreq/stations/wwvb.htm>.





Name and Functions of Buttons:

	<u>Press Functions</u>	<u>Hold 3 seconds</u>
CLOCK	Read time, calendar and day-of-week	Set Clock & Calendar
ALARM	Read alarm time; enable/disable alarm	Alarm time setting
▲ UP	1 step forward in setting	Fast advance
▼ Down	1 step backward in setting	Fast backward
CHANNEL	Select indoor, Channel 1,2,3, auto scroll 	Search for remote sensor
MEM	Read max/min temperatures & humidity	Clear memory record
HEAT INDEX/ DEW POINT	Read Heat Index & Dew Point	
PRESSURE	Toggle pressure unit hPa, inHg & mb	Altitude setting
SNOOZE/LIGHT	Trigger snooze alarm & extend backlight	
ZONE	Select the 4 U.S. time zones	Enter DST setting mode
F/C	Toggle degree F & C unit	
	Search for atomic time signal	

BACKLIGHT (AUTO/ HIGH / LOW / OFF) Slide Switch
(*** AUTO mode is recommended to adjust the brightness automatically) Display brightness setting

BATTERY & ADAPTER INSTALLATION

Home Receiver Unit:

Main Power Source: Plug in the 6.0V adapter into the adapter socket at the back for basic operation and continuous backlight.

Backup Power: Lift off the battery cover, install 3 pieces of AAA backup batteries according to the polarity indicated, close the battery cover.

Remote Sensor:

Loosen the screws on the battery door with a small screwdriver, insert 2 AAA batteries according to the polarity indicated. Replace the cover and tighten the screws.






ALTITUDE SETTING


After inserting batteries or adapter, the main unit will enter altitude setting mode directly. Press “▲” or “▼” to select pressure unit in hPa, mb or inHg. Press “PRESSURE” to confirm. Then press “▲” or “▼” to enter your current altitude in meter or feet. Press “PRESSURE” to confirm and exit the setting. This allows the unit to provide a more accurate barometric pressure & weather forecast reading. (For more information, see “WEATHER FORECAST & BAROMETRIC PRESSURE” section)

SETTING UP THE WIRELESS THERMO-HYGROMETER:

- For the first installation, always turn on the home unit and then the remote sensor. Set Channel 1 for the first remote sensor. Set channel 2 and channel 3 for the 2nd and 3rd sensor.
- Press and hold CHANNEL button on main unit until a beep is sound to search for remote sensor.
- Press the TX button on the back of remote sensor to transmit RF signal.
- When RF connection is established, the respective temperature & humidity of the selected channel will appear on the main unit.

ATOMIC CLOCK

The unit will start synchronizing the clock after battery/adapter installation or reset. In normal mode, press “” on the back of the display, to enforce searching of atomic clock signal. The antenna icon will appear during synchronization, if the icon disappears afterwards, atomic time signal is not available at the moment. Try other locations later. Place the unit away from source of interference such as mobile phones, appliances, TV etc. Place the front or back of the unit toward Colorado for best signal reception.

Antenna icon with full signal strength  will appear on screen if the reception of atomic time is successful. The atomic clock will have a daily synchronization at 02:03 and 03:03 everyday. Each reception cycle is minimum 2.5 minutes and maximum 10 minutes.

WEATHER FORECAST & BAROMETRIC PRESSURE

The unit predicts weather condition of the next 12 – 24 hours based on the change of atmospheric pressure. Allow 48-60 hours after set up for the unit to acclimate to your environment. The coverage area is around 18.5 – 31 miles. The weather forecast is based on atmospheric pressure change and is about 70-75% correct. As weather conditions cannot be 100% correctly forecasted, we cannot be responsible for any loss caused by an incorrect forecast.



SUNNY



PARTLY CLOUDY



CLOUDY



RAINY



STORMY

The current weather forecast is the one highlighted by a black-outlined square box.

To obtain an accurate weather forecast & barometric pressure reading, you need to input your current altitude. After the reset of the unit, it will enter altitude setting mode. Press “▲” or “▼” to set the pressure unit in hPa, mb or inHg. Press “PRESSURE” to confirm. Then enter your current altitude in meter or feet. Press “PRESSURE” to confirm and exit the setting. You can also hold “PRESSURE” button to enter altitude setting mode during normal use.

Press PRESSURE button to select pressure unit between hPa, inHg & mb.





IN/OUT TEMPERATURE & HUMIDITY

Temperature reading is located on the upper left of the display and humidity is on the right of the temperature.

Press “F/C” button to select temperature unit F/C.

Press CHANNEL button to select indoor, Ch1, Ch2, Ch3 and auto-channel scrolling display modes.

IN/OUT HEAT INDEX

Heat Index combines the effects of heat and humidity. It is the apparent temperature of how hot the heat-humidity combination makes it feels.

Press “Heat Index/Dew Point” button once to show the respective indoor or outdoor heat index on the upper left display. “HEAT INDEX” icon will appear.

HEAT INDEX ALERT INDICATOR

During conditions indicating a high heat index, a Heat Index Alert Indicator will appear on screen.

Caution	Exercise more fatiguing than usual
Extreme caution	Heat cramps, exhaustion possible
Danger	Heat exhaustion likely
Extreme danger	Heat stroke imminent

IN/OUT DEW POINT

Dew point is the saturation point of the air, or the temperature to which the air has to be cooled in order to get condensation.

In normal mode, press HEAT INDEX / DEW POINT button twice to show the respective indoor or outdoor dew point reading on the upper left display. “DEW POINT” icon will appear.

IN/OUT COMFORT LEVEL

In/Out Comfort indicator combines the effect of temperature & humidity and displays in 3 levels:

COMF:	Comfortable level, ideal range for both temperature & humidity
WET:	Contain excess moisture
DRY:	Contain inadequate moisture

ANIMATED COLOR GRAPHS

The circular color graphs are designed as an intuitive way to gauge the weather at a glance. The left color graph represents the respective In/Out temperature, heat index or dew point of the current display mode. The right graph represents the respective In/Out humidity. The higher the temperature & humidity, the more color portion of the color graph appears. Lower temperature & humidity show less color portion of the color graph.

MAXIMUM / MINIMUM MEMORY

Press MEM button repeatedly to view the maximum & minimum values of temperature, humidity, heat index or dew point readings. To clear the memory record, hold MEM button while the respective values are displaying on screen.





TEMPERATURE & HUMIDITY TREND INDICATOR

The icons (arrow) will indicate Rising, Steady, Falling if the temperature or humidity change is more than 2 degrees F (or 1 degree C) within an hour.

CLOCK & CALENDAR

Press "CLOCK" to toggle display between time, calendar and day of the week.

Hold "CLOCK" button to enter clock setting mode. Using "▲" or "▼" to adjust and "CLOCK" to confirm, the following values can be set in sequence:

12/24hr format > Hr > Min > Yr > D/M or M/D format > Month > Date > EXIT

U.S. ZONE TIME & DST

Press "ZONE" button to select U.S. time zone between Pacific "PA", Mountain "MO", Central "CE" and Eastern "EA".

Hold "ZONE" to enter DST (Daylight Saving Time) setting mode. Press "▲" or "▼" to enable or disable the DST setting. Press "ZONE" to confirm and exit.

ALARM SETTING

Press "ALARM" to show alarm time and "AL." icon will appear. Press again to enable or disable the alarm. Bell icon "🔔" appears when alarm is enabled.

Hold "ALARM" to enter alarm time setting mode. Press "▲" or "▼" to enter the desired Hr/Min values and press "ALARM" to confirm setting.

SNOOZE & BACKLIGHT

When alarm is going off, press SNOOZE/ LIGHT to trigger snooze alarm and "Zz" icon will appear. To stop alarm for one day, press "ALARM" key. Press SNOOZE/LIGHT for an extended backlight if adapter is not connected.

BACKLIGHT BRIGHTNESS CONTROL

Select display brightness mode with the slide switch on the back casing.

- AUTO:
Display brightness is adjusted automatically according to the surrounding brightness detected by the light sensor located on the left of the Snooze/Light button. In a bright environment, display brightness will increase. As the environment turns dark, display brightness will reduce.
(**Note:** Auto mode is recommended for power saving, display lifetime and convenient purpose)
(**Important:** Avoid having obstacle above the light sensor window for an accurate light sensing result. Otherwise, the display will turn dim even in bright environment)
- High: Turn to high brightness mode
- Low: Turn to low brightness mode
- Off Turn off display backlight

LOW BATTERY INDICATION

Low battery indication is available for the home unit itself and all of the 3 remote channels. Replace the batteries and follow the setup procedure in this instruction manual.

BATTERY DISPOSAL

Replace only with the same or equivalent type recommended by the manufacturer.

Please dispose of old, defective batteries in an environmentally friendly manner in accordance with the relevant legislation.





SPECIFICATIONS

Indoor Temperature	: +32 °F to +122 °F (0 °C to + 50 °C)
In/Out Humidity	: 20% - 99% H
Remote sensor	: -4 °F to +140 °F (-20 °C to +60 °C)
Channel	: max. 3 remote sensors
Transmission	: up to 75M (246 ft.) in open area, RF434 MHz
Resolution	: 0.1 degree C for temperature, 1% for humidity
Heat Index	:
Indoor	: 23°F to 122°F (-5°C to 50°C)
Outdoor	: -4F to 140°F (-20C to 60°C)
Elevation	: -160 ft. to 3,940 ft. (-50M to 1,200M)
Clock	: WWVB Atomic Clock, Quartz back-up
Power	: 6.0V adapter & AAA x 3 pcs for main unit AAA x 2 pcs for remote sensor

Trouble shooting for WS 450

Batteries are our #1 warranty issue. Please be sure you are using plain alkaline batteries dated at least 6 years in advance or reading at least 1.48 on a voltmeter. Be sure that your a/c cord is properly plugged into the base.

Outdoor Temperature/Humidity

Shows dashes or is inaccurate-

- Check placement of sensor and obstructions such as windows, stucco, metal, trees etc.
- Did sensor get wet? Bring in, remove, batteries allow to dry and try restart.
- The sensor will read the temperature in the location where it is placed. Check for sources of heat or reflected heat. Position your sensor under an eave or window ledge etc. on North side of home.
- Check the channel button to be sure you are reading the correct sensor.
- Please note the humidity range is 20-99%. Below 20% you may see dashes.
- Check Batteries-and complete a restart.

Adjust to Fahrenheit or Celsius

- On the sensor, remove the battery cover and press the button for F/C
- On the base station press the button for F/C

Restart

- Bring both units inside and have the units at least 5 feet apart with nothing between them.
- Remove all power from both units.
- Press one of the buttons on the display at least 20 times to clear all memory. Verify that the display is blank before proceeding.
- Let the all units sit with batteries out for 10 minutes.
- Be sure to use a new, Brand Name Alkaline battery dated at least 6 years in advance (super, ultra, max, heavy duty and rechargeable types should be avoided).
- Plug in a/c cord and/or insert batteries in the display unit, then Insert batteries into the sensor.
- Press and hold CHANNEL button on display unit until a beep is sound to search for remote sensor.
- Press the TX button on the back of remote sensor to transmit RF signal.
- When RF connection is established, the respective temperature & humidity of the selected channel will appear on the main unit.





Indoor Temperature readings-

Shows dashes or is missing-

- Please note the humidity range is 20-99%. Below 20% you may see dashes.
- Check A/C connection and Batteries-This is almost always a power issue.

Time and Date information-

Time is not accurate of "jumps" time.

- Be sure your Time Zone is correct.
- Remove scratch guard.
- Has it connected with WWVB? Allow up to 5 nights for this to connect due to atmospheric interferences.

Date changes at noon rather than midnight

- Time Zone is incorrect.

Weather Station Beeps-

- Alarm is on.
- Low power
- Button is depressed.

Forecast Icons Incorrect

- Set your elevation in the Pressure area.
- Allow 48-60 hours after set up to acclimate to your area.

Display Information

Display is blank

- Check A/C cord and Batteries. Is A/C cord plugged into a live outlet and not one that must be turned on with a switch.
- Be sure batteries have not leaked

Missing segments-

- Check A/C connection and Batteries
- This is almost always a power issue.
- Complete a restart.

Black spot on LCD

- This is likely due to impact and not a warranty issue.



WARRANTY INFORMATION

La Crosse Technology, Ltd provides a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and used in North America and only to the original purchaser of this product. To receive warranty service, the purchaser must contact La Crosse Technology, Ltd for problem determination and service procedures. Warranty service can only be performed by a La Crosse Technology, Ltd authorized service center. The original dated bill of sale must be presented upon request as proof of purchase to La Crosse Technology, Ltd or La Crosse Technology, Ltd's authorized service center.

La Crosse Technology, Ltd will repair or replace this product, at our option and at no charge as stipulated herein, with new or reconditioned parts or products if found to be defective during the limited warranty period specified above. All replaced parts and products become the property of La Crosse Technology, Ltd and must be returned to La Crosse Technology, Ltd.

Replacement parts and products assume the remaining original warranty, or ninety (90) days, whichever is longer. La Crosse Technology, Ltd will pay all expenses for labor and materials for all repairs covered by this warranty. If necessary repairs are not covered by this warranty, or if a product is examined which is not in need or repair, you will be charged for the repairs or examination.

The owner must pay any shipping charges incurred in getting your La Crosse Technology, Ltd product to a La Crosse Technology, Ltd authorized service center.

Your La Crosse Technology, Ltd warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (including the lack of reasonable and necessary maintenance); (2) damage occurring during shipment (claims must be presented to the carrier); (3) damage to, or deterioration of, any accessory or decorative surface; (4) damage resulting from failure to follow instructions contained in your owner's manual; (5) damage resulting from the performance of repairs or alterations by someone other than an authorized La Crosse Technology, Ltd authorized service center; (6) units used for other than home use (7) applications and uses that this product was not intended or (8) the products inability to receive a signal due to any source of interference.

This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.

LA CROSSE TECHNOLOGY, LTD WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION. THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDREN'S 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, Ltd
2809 Losey Blvd S.
La Crosse, WI 54601
Phone: 608.782.1610
Fax: 608.796.1020

e-mail:
support@lacrossetechnology.com
(warranty work)

sales@lacrossetechnology.com
(information on other products)

web:
www.lacrossetechnology.com/450

All rights reserved. This handbook must not be reproduced in any form, even in excerpts, or duplicated or processed using electronic, mechanical or chemical procedures without written permission of the publisher.

This handbook may contain mistakes and printing errors. The information in this handbook is regularly checked and corrections made in the next issue. We accept no liability for technical mistakes or printing errors, or their consequences.
All trademarks and patents are acknowledged.

NOTE:

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER AUTHORITY TO OPERATE THE EQUIPMENT



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.

For Outdoor Temperature and Humidity Sensor:

FCC ID: L5CW044TX-F

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 ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

FREQ. 433.92 MHz

LA CROSSE TECHNOLOGY

MADE IN CHINA

MODEL: TX-440-TH

Protected under U.S. Patents

5,978,738; 6,076,044; & 6,597,990

