

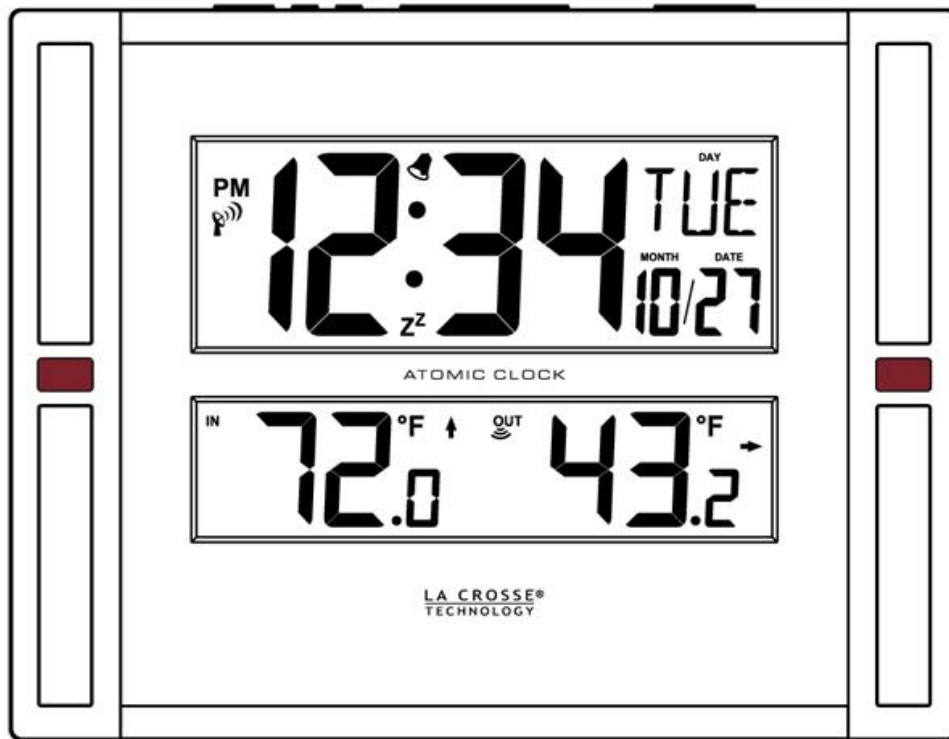
LA CROSSE® TECHNOLOGY

Digital Atomic Wall Clock with Indoor/Outdoor Temperature Model: 513-149 | Instruction Manual

INTRODUCTION:

The Digital Atomic Wall Clock features radio-controlled time, date, indoor and outdoor temperature on an easy to read display. Receives signal from the Atomic Clock in Colorado, for accurate time.

DIGITAL ATOMIC WALL CLOCK



OUTDOOR TEMPERATURE TRANSMITTER TX14

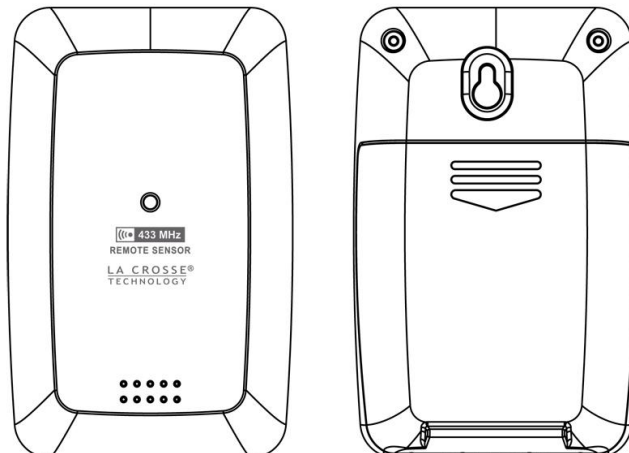


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513-149
 11" W x 1.1" D x 8.54" H (280 x 28 x 21mm)
 2-AA, IEC, LR6 batteries (not included)

TX14
 2.5" L x 3.98" H x 1.42" W (64 x 101 x 36mm)
 2-AA, IEC, LR6 batteries (not included)



FEATURES:

- Wireless outdoor temperature (°F or °C) with trend arrow
- Monitors indoor temperature (°F or °C) with trend arrow
- Atomic time and date with manual setting
- Automatically updates for Daylight Saving Time (on/off option)
- Time display (hour / minute)
- Perpetual calendar (month / date / weekday)
- Seven Time zones:
 - Atlantic Time (AST)
 - Eastern Time (EST)
 - Central Time (CST)
 - Mountain Time (MST)
 - Pacific Time (PST)
 - Alaskan Time (AKT)
 - Hawaiian Time (HAT)
- Time alarm with snooze
- Wall hanging or free standing
- Low battery icon for clock and sensor

INITIAL SET UP:

1. Insert 2 AA batteries (not included) into the Digital Atomic Clock (**see Install Batteries in the Digital Atomic Clock**). The Digital Atomic Clock then shows time and indoor temperature.
2. Insert 2 fresh AA batteries into the transmitter, observing the correct polarity (**see Install Batteries in the Outdoor Transmitter**).
 - **Do Not Mix Old and New Batteries**
 - **Do Not Mix Alkaline, Standard, Lithium or Rechargeable Batteries**
3. Keep the transmitter 5-10 feet from the Digital Atomic Clock for 15 minutes to establish a good connection.
4. Within 3 minutes the outdoor temperature should be displayed on the Digital Atomic Clock. If the outdoor temperature is not displayed after 3 minutes remove batteries from the transmitter and the Digital Atomic Clock for 60 seconds and start again from step 1.
5. For optimum 433 MHz transmission, the outdoor transmitter should be placed within 200 feet (60 meters, open air) from the Digital Atomic Clock.

Note: The Digital Atomic Clock will start searching for the WWVB time signal for 2-10 minutes at start up.

WWVB RADIO CONTROLLED TIME

The NIST 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 Digital Atomic Wall Clock. However, due to the nature of the Earth's Ionosphere, reception is very limited during daylight hours. The Digital Atomic Clock 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.



WWVB RECEPTION ICON with full signal strength will appear on screen if the reception of atomic time is successful.

- The tower icon will show solid when the Digital Atomic Clock has received the WWVB signal.
- No tower icon displayed. The Digital Atomic Clock was unable to receive a signal at this time.
- Reposition the Digital Atomic Clock for better signal reception or try again at bedtime.
- The Digital Atomic Clock will start searching at UTC: 07:00 and if no reception on the first attempt it will try again at 08:00, 09:00, 10:00, and 11:00. Each attempt will be at least 2 minutes and the most will be 10 minutes.
- If there is no signal or too much interference the receiver will only be on for 2 minutes.
- If the signal is good it may catch in ABOUT 2-3 minutes.
- If the signal is marginal it will try to receive a signal for up to 10 minutes.
- **Manual Search:** Hold the -/TIME button to start a manual signal search.

Note: In case the Digital Atomic Clock is not able to detect the WWVB signal (disturbances, transmitting distance, etc.); the time can be manually set using the Program Menu.

BUTTON FUNCTIONS:

Button	Press and Release Functions	Hold 2 seconds
°F/°C	Move through program menu (setup) Select temperature in °F/°C	Enter program menu, set time, date, etc. (setup)
+	1 step forward (setup)	Search for outdoor Transmitter Fast advance (setup)
-	1 step backward (setup)	Fast backward (setup) WWVB Search
SNOOZE	Trigger snooze alarm (ringing)	
ALARM	Once: View Alarm Twice: Activate or Deactivate Alarm	Alarm set

BUTTONS:



PROGRAM MENU:

The °F/°C button will move through the program menu. The **+** or **-** button will change a value as needed.

- WWVB reception ON or OFF
- Time Zone (Seven Time Zones)
- Daylight Saving Indicator
- 12/24 hour time format
- Manual time set (Hour, Minutes)
- Calendar set (Year, Month, Date)

WWVB RECEPTION:

The WWVB time reception defaults to ON. To turn the WWVB reception OFF:

1. Hold the °F/°C button for 5 seconds.
2. **WWVB** and **ON** will flash.
3. Press and release the **+** or **-** button to turn this OFF.
4. Confirm with the °F/°C button and move to the **Time Zone**.



TIME ZONE:

This station offers seven time zones listed in letter format (default is EST):

- AST Atlantic Time
- EST Eastern Time
- CST Central Time
- MST Mountain Time
- PST Pacific Time
- AKT Alaskan Time
- HAT Hawaiian Time



1. **EST** will flash.
2. Press and release the **+** or **-** button to select a different Time Zone.
3. Confirm with the °F/°C button and move to **Daylight Saving Indicator**.

DAYLIGHT SAVING INDICATOR:

DST will default to the ON position as most of the country observes the DST change. If you live in an area does not observe the DST change, switch this to the OFF position.

1. **DST** and **ON** will flash.
2. Press and release the **+** or **-** button to turn DST to OFF.
3. Confirm with the °F/°C button and move to **12/24 hour time format**.



12 OR 24 HOUR TIME FORMAT:

The Time may be displayed in 12-hour or 24-hour format. Default is 12-hour time.

Note: When in 12-hour format AM or PM will show in front of the hour.

12Hr

1. **12H** will flash.
2. Press and release the **+ or -** button to select 24-hour time.
3. Confirm with the °F/°C button and move to **Set Time**.

SET TIME:

To set the time manually:

1. The **hour** digit will flash.
2. Press and release the **+ or -** button to select the hour.
3. Press and release the °F/°C button to set the **minutes**.
4. The **minute's** digit will flash.
5. Press and release the **+ or -** button to select the minutes.
6. Confirm with the °F/°C button and move to **Set Calendar**.

12:34

SET CALENDAR:

The date default of the Digital Atomic Clock is 1. 1. 2010.

To set the calendar:

1. The **year** will flash.
2. Press and release the **+ or -** button to set the year (between year 2010-2039).
3. Press the °F/°C button again to confirm and to enter the **month** setting.
4. The **month** will flash.
5. Press and release the **+ or -** button to set the month.
6. Press the °F/°C button again to confirm and enter **date** setting.
7. The **date** will flash.
8. Press and release the **+ or -** button to set the date.
9. Confirm all calendar settings with the °F/°C button to confirm and **exit** the program menu.

2010

Month Date
1 / 1


Note: The day of the week will set automatically once the year, month and date are set.

FAHRENHEIT/CELSIUS:

1. Press and release the °F/°C button once to switch from Fahrenheit to Celsius.


ALARM SET:

- **Alarm Hour:** Hold the ALARM button to enter alarm time setting mode. The Alarm Hour will flash. Use the **+ or -** button to set the Hour. Press and release the ALARM button to confirm and move to the minutes.
- **Alarm Minute:** The Alarm Minutes will flash. Use the **+ or -** button to set the Minutes. Press and release the ALARM button to exit.



Note: When the alarm sounds the alarm icon  will flash.



ALARM ACTIVATION ICON:




- Press and release the ALARM button once to show Alarm Time.
- With the Alarm time showing, press and release the ALARM button to **activate** the alarm. The alarm icon  appears when alarm is activated.
- With the Alarm time showing, press and release the ALARM button to **deactivate** the alarm. The alarm icon will disappear when alarm is activated.

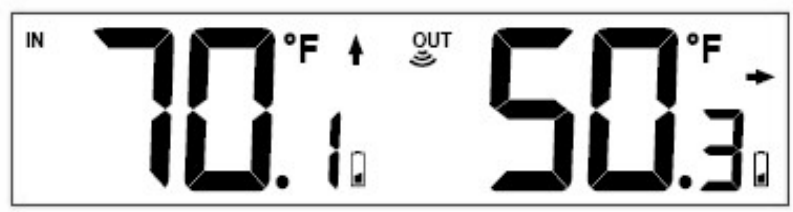
SNOOZE:

- When the alarm sounds, press the SNOOZE button to trigger snooze alarm for 10 minutes. The snooze icon **Zz** and the alarm icon  will flash when the snooze feature is active.
- To stop alarm for one day, press AL button, while in snooze mode. The alarm icon  will remain solid.



TEMPERATURE TREND ICONS:

The temperature trend indicators are shown behind the indoor temperature and outdoor temperature readings. The indoor and outdoor temperature trend indicators are updated every 30 minutes. Trends arrows represent temperature changes over the past three hours. **Example:** At 3:00pm compare temperature readings to 12:00pm. At 3:30pm compare to 12:30pm readings.

-  Temperature rose more than 2°F (1°C) in the past three hours
-  Temperature did **not change** more than 2°F (1°C) in the past three hours
-  Temperature fell more than 2°F (1°C) in the past three hours



LOW BATTERY:

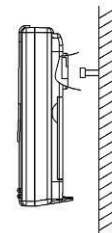
- When this icon  appears in the indoor (IN) reading section, replace the batteries in the Digital Atomic Clock.
- When this icon  appears in the outdoor (OUT) readings section, replace the batteries in the outdoor transmitter.

OUTDOOR TRANSMITTER RECEPTION ICON:

- When the signal is successfully received from the outdoor transmitter, the reception icon will be solid.
- The reception icon will flash when searching for the outdoor transmitter signal.
- If reception is not successful, the icon will not be shown in LCD.
- Hold the +/TEMP button to search for the outdoor transmitter.

Wall Mount

- Choose a shaded location (under an overhang) for the transmitter that is within the confirmed wireless reception range of the Digital Atomic Clock for accuracy.
- Install one mounting screw (not included) into a wall leaving approximately ½ of an inch (12.7mm) extended.
- Place the hanging hole (on the back of the transmitter) onto the mounting screw and gently slide the transmitter down onto the mounting screw to secure it into place.



IMPORTANT: For true temperature readings, mount the transmitter out of direct sunlight on a North-facing wall or in any other well shaded area like under an eave or deck rail. The maximum transmitting range in open air is over 200-feet (60 meters). Obstacles such as walls, windows, stucco, concrete, and large metal objects can reduce the range. Place the transmitter at least 6 feet in the air to improve signal transmission.

CARE AND MAINTENANCE:

• Do Not Mix Old and New Batteries

• Do Not Mix Alkaline, Standard, Lithium or Rechargeable Batteries

- Do not expose the Digital Atomic Clock to extreme temperatures, vibration or shock.
- Keep Digital Atomic Clock dry.
- Clean Digital Atomic Clock with a soft damp cloth. Do not use solvents or scouring agents.
- The Digital Atomic Clock is not a toy. Keep it out of reach of children.
- The Digital Atomic Clock is not to be used for medical purpose or for public information, but is determined for home use only.
- The specifications of this Digital Atomic Clock may change without prior notice.
- Improper use or unauthorized opening of housing will void the warranty.
- If the Digital Atomic Clock does not work properly, change the batteries.

SPECIFICATIONS:

Indoor:

Temperature Range: +32°F to +122°F (0°C to 50°C)
Interval: About every 30 seconds

Outdoor:

Temperature Range: -40°F to 140°F (-40°C to 60°C)

Alkaline Batteries: -20°F to 140°F (-28.8°C to 60°C)

Lithium Batteries: -40°F to 140°F (-40°C to 60°C)

Temperatures below - 20°F (-28.8°C) require Lithium batteries in the outdoor sensor.

Distance: Over 200 ft. (60 meters) RF 433MHz (open air)
Interval: About every 30 seconds

Power:

Digital Atomic Clock: 2-AA, IEC, LR6 batteries (not included)
TX14 Transmitter: 2-AA, IEC, LR6 batteries (not included)

Battery Life:

TX14 Transmitter

Battery Life: Battery life is over 24 months when using reputable battery brands for both Alkaline and Lithium batteries

Digital Atomic Clock

Battery Life: Over 12 months.

Dimensions:

Digital Atomic Clock: 11" W x 1.1" D x 8.54" H (280 x 28 x 217 mm)
TX14 Transmitter: 2.5" L x 3.98" H x 1.42" W (64 x 101 x 36mm)

ACCURACY:

Indoor Temperature:

- 1) Measure range=32°F to 140°F (0°C to 50°C)
- 2) Accuracy ± 1 degree Fahrenheit at room temperature (68°F to 75°F)(20°C to 24°C)
- 3) Accuracy ± 2 degrees Fahrenheit 32°F to 122°F (0°C to 50°C)
- 4) Resolution=0.1°F or 0.1°C
- 5) When above 122 °F (50°C) the temperature should continue to read the correct temperature as long as the LCD display continues to function
- 6) When below 32 °F (0°C) the temperature should continue to read correctly as long as the LCD display continues to function
- 7) Temperature Cycle: 30 seconds

Outdoor Temperature:

- 1.) Measure range = -40 °F to 158 °F (0°C to 70°C)
- 2.) Accuracy ± 1 degree Fahrenheit at room temperature (68F-to-75F) (20°C-to-24°C)
- 3.) Accuracy ± 2 degrees Fahrenheit 32 F to 122 F (0°C to 50°C)
- 4.) Accuracy ± 4 degrees Fahrenheit otherwise
- 5.) Resolution = 0.1 degree F