

WS-6003U

Atomic Clock

Instruction Manual



LA CROSSE *tools and technology*
TECHNOLOGY *for home and office*

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INVENTORY OF CONTENTS

- 1) WS-6003U
- 2) Instruction manual and warranty card.

ADDITIONAL EQUIPMENT (not included)

- 1) Two fresh 1.5V AA batteries.
- 2) Three wall-hanging screws.
- 3) Appropriate screwdriver for screws.

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 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 Atomic Clock. However, due to the nature of the Earth's Ionosphere, reception is very limited during daylight hours. The 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. 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. This Atomic Clock regulates the WWVB transmitter.

QUICK SET-UP GUIDE

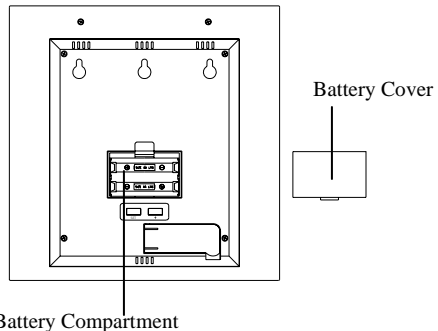
- 1) Insert two AA batteries into the Atomic Clock.
- 2) Wait 15 minutes for WWVB reception.
- 3) If there is no WWVB reception, manually set the time and date (instructions in the Program Mode).
- 4) Program the settings.
- 5) Mount the WS-6003U in a suitable location, where WWVB signals can be received.

DETAILED SET-UP GUIDE

I) BATTERY INSTALLATION

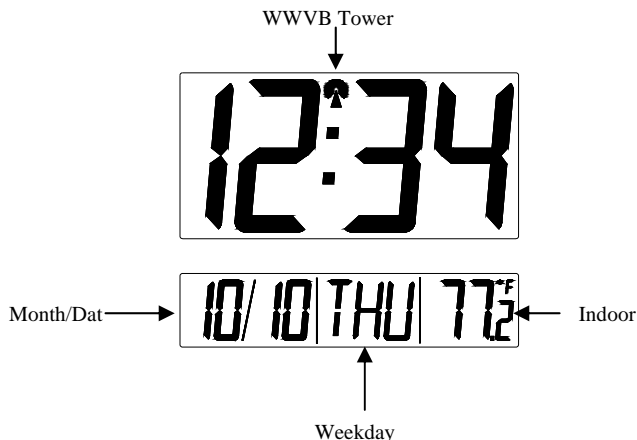
Note: To avoid start-up problems make sure that the batteries do not spring free.

A) ATOMIC CLOCK



- 1) Remove the battery cover, located on the backside of the unit and directly above the function buttons.
- 2) Observe the correct polarity, and install 2 AA batteries.
- 3) Replace the battery cover.

Note: After the batteries have been installed all the LCD's (Liquid Crystal Display) will briefly light up. Then the indoor temperature, the date as "1/1" and the weekday as "MON" will be displayed. Also, the time will appear as "-:--" for approximately 1 minute. Then the WWVB search is automatically initiated, and a tower icon appears and flashes with the time colon (no tower icon will appear if the WWVB is too weak to be detected). While the WWVB search is being conducted various numbers will appear in the time display. The numbers "0", "1", or "8" will appear in the hour position and the seconds will appear in the minute display. The Atomic Clock will either display the WWVB time, or discontinue the search after 10 minutes if the time is not found. When the search is cancelled "-:--" will appear in the time LCD. The Atomic Clock will conduct a WWVB search every hour until the first signal is found. Once the WWVB time is found, a search is automatically conducted nightly at midnight. If the signal is found at midnight, the tower icon will remain, if not, another search will take place every hour (up to 6:00 am) until the signal is found successfully. If no signal is found during this period, the tower icon will not appear and the clock will search again at 12:00 am the next night.



PROGRAM MODE

To enter the Program Mode hold down the "SET" button for 2 seconds, until "-5EST" flashes in the Date LCD. The Program Mode is laid out in a manner that allows you to

program each function separately, or you can follow the instructions entirely to program the Atomic Clock. Complete programming is usually done for the initial set-up, and will require you to skip step 1 of programming sections III through VIII. Wait approximately 15 seconds for the Atomic Clock to automatically return to normal operation.

I) FUNCTION BUTTONS

There are 2 function buttons located on the backside of the Atomic Clock. The function buttons are labeled: *SET* and +.

II) TIME ZONE SETTING

- 1) Hold down the “*SET*” button for 2 seconds, the default setting “-5EST” will flash in the Date LCD.
- 2) Press and release the “+” button to select the appropriate time zone. There are 13 time zones to choose from:

-5EST	Eastern Time (default setting)
-6CST	Central Time
-7MST	Mountain Time
-8PST	Pacific Time
-9ALA	Alaskan Time
-10HAW	Hawaiian Time
-11	
-12	
GMT	Greenwich Mean Time
-1	
-2	
-3	
-4ATL	Atlantic Time

- 3) Press and release the “*SET*” button to confirm the time zone setting, and to advance to DST (Daylight saving time) setting.

III) DST (DAYLIGHT SAVING TIME) SETTING

Note: *The DST default is “On”, meaning that the WWVB will automatically change the time according to Daylight Saving Time in the spring and fall. For areas that do not recognize DST changes (Arizona and parts of Indiana) turn the DST “OFF”.*

- 1) Hold down the “*SET*” button for 2 seconds (the selected time zone will flash), press the “*SET*” button once more until “On” flashes in the time LCD and “DST” flashes where the Weekday normally appears.
- 2) Press and release the “+” button to turn the DST off, as will be indicated by the display of “OFF” in the time LCD.

- 3) Press and release the “SET” button to confirm the DST setting, and to advance to select the language for the weekday.

IV) LANGUAGE SELECTION FOR THE WEEKDAY

- 1) Hold down the “SET” button for 2 seconds (the selected time zone will flash), press the “SET” button 2 more times, until the default language “US” flashes in the time LCD.
- 2) Press and release the “+” button to toggle through and to select the desired language. There are 3 languages to select from:

US	English
F	French
E	Spanish

- 3) Press and release the “SET” button to confirm the language setting, and to advance to manually set the time.

V) TIME SETTING

Note: When the WWVB signal is found, that time will over-ride the manually set time.

- 1) Hold down the “SET” button for 2 seconds (the selected time zone will flash), press the “SET” button 3 more times, until the hour “12:00” flashes in the time LCD.
- 2) Press and release the “+” button to select the hour. **Note:** when setting the hour, “PM” will appear to the left of the hour display, if it is AM nothing will be displayed.
- 3) Press and release the “SET” button to confirm the hour setting, and to shift to select the minutes.
- 4) Press and release the “+” button to select the minutes.
- 5) Press and release the “SET” button to confirm the time setting, and to advance to manually set the calendar.

VI) CALENDAR SETTING

Note: When the WWVB signal is found, that date will over-ride the manually set date.

- 1) Hold down the “SET” button for 2 seconds (the selected time zone will flash), press the “SET” button 5 more times, until the default year “00” flashes in the date LCD.
- 2) Press and release the “+” button to select the year.
- 3) Press and release the “SET” button to confirm the year, and to set the month.

- 4) The default month “1” will flash. Press and release the “+” button to select the appropriate month.
- 5) Press and release the “SET” button to confirm the month, and to set the date.
- 6) The default date “1” will flash. Press and release the “+” button to select the appropriate date.
- 7) Press and release the “SET” button to confirm the date, and to set the weekday.
- 8) The default weekday “MON” (depends on selected language) will flash. Press and release the “+” button to select the appropriate weekday.
- 9) Press and release the “SET” button to confirm the calendar settings, and to advance to select either 12 or 24-hour time display.

VII) 12/24-HOUR SETTING

- 1) Hold down the “SET” button for 2 seconds (the selected time zone will flash), press the “SET” button 9 more times, until the “12” hour time display flashes in the time LCD.
- 2) Press and release the “+” button to toggle between 12 and 24 hour time.
- 3) Press and release the “SET” button to confirm the 12/24-hour time display, and to advance to select either °F or °C.

Note: The “24 hour time” option is not recommended. The LCD display will not show the first digit “2”.

VIII) SELECTING °F OR °C

- 1) Hold down the “SET” button for 2 seconds (the selected time zone will flash), press the “SET” button 10 more times, until the default “°F” flashes in the time LCD.
- 2) Press and release the “+” button to toggle between °F and °C.
- 3) Press and release the “SET” button to confirm the °F or °C selection, and exit the Program Mode.

FEATURES & OPERATIONS

I) CHANGING DISPLAY MODE (DAY, SECONDS, AND TEMPERATURE)

There are three possible display modes to view the day, seconds, and temperature. The *month & date/ weekday/ indoor temperature* is the default.

To change the display:

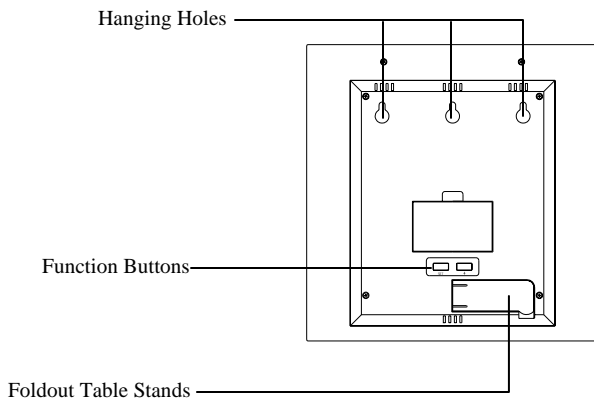
- 1) Press and release the “+” button. The display should now show the *month & date/ weekday/ seconds*.
- 2) Press and release the “+” button a second time and the display will now show the *month & date/ seconds/ indoor temperature*.

- 3) Press and release the “+” button a third time and the display will return to the normal display.

II) INDOOR TEMPERATURE

The Indoor Temperature appears on the right side of the Date LCD. The temperature is checked every 10 seconds, and updated whenever there is a change.

MOUNTING



There are two possible ways to mount the atomic clock:

- use of the foldout table stands, or
- wall mounting.

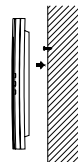
I) FOLDOUT TABLE STAND

The foldout table stand leg is located on the backside, directly below the battery cover and function buttons. The hinge is towards the center of the atomic clock, and the end (with no hinge) needs to be folded in towards the center. Once the foldout table stand is extended, place the atomic clock in an appropriate location.



II) WALL MOUNTING

- 1) Using a straightedge, horizontally space at 3-15/16 of an inch (100.58mm) three screw positions on a wall.
- 2) Install three mounting screws (not included) into a wall within transmission range—leaving approximately 3/16 of an inch (5mm) extended from the wall.



- 3) Place the Atomic Clock onto the screws, using the hanging holes on the backside. Gently pull the Atomic Clock down to lock the screws into place.

MAINTENANCE & CARE

- Extreme temperatures, vibrations, 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 and damage the displays and casings.
- Do not submerge in water.
- Immediately remove all low powered batteries to avoid leakage and damage. Replace with new batteries only, and of recommended size.
- Opening the casings invalidates the warranty. Do not try to repair the units. Contact La Crosse Technology for Repairs.

TROUBLESHOOTING

Problem:	The LCD is faint.
Solution:	1) Replace the batteries.
Problem:	“OFL” appears in the LCD.
Solution:	1) Move unit to an area with warmer or cooler surrounding temperature. Current surrounding temperatures are outside measuring range.
Problem:	No reception of WWVB signal.
Solution:	<ol style="list-style-type: none"> 1) It may help reception to face the front of the Atomic Clock in the general direction of Ft. Collins, Colorado. 2) Wait overnight for signal. 3) Be sure the Atomic Clock is at least 6 feet from any electrical devices, i.e. TV sets, computers, or other radio controlled clocks. 4) Remove batteries for five minutes, reinsert and leave the unit alone overnight without pressing buttons. 5) If problems persist contact La Crosse Technology.
Problem:	Hour is incorrect (minute and date are correct).
Solution:	1) Be sure correct time zone and daylight saving time are selected.

Note: For any questions not answered, contact La Crosse Technology with the contact information found at the end of this instructional manual.

SPECIFICATIONS

Temperature:	
Measuring range:	32°F to 122°F with 0.2°F resolution (0°C to 50°C with 0.1°C resolution)
Outside range:	“OFL” will be displayed
Checking intervals:	Every 10 seconds
Power source:	
Battery type:	2 x AA, IEC LR6, 1.5V (Alkaline)
Battery life:	Approximately 12 months
Dimensions (L x W x H):	8.3 x 1.2 x 8.4 in (211.8 x 30.5 x 214.4mm)

WARRANTY INFORMATION

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

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

This warranty does not cover any defects resulting from improper use, unauthorized repairs, faulty batteries, or the Clocks 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 ATOMIC CLOCK. 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, 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

FCC ID: OMO-01RX (receiver)

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 UNDESIRED OPERATION.**

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