

## WS-8147U-IT FAQs

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## Batteries

- ✓ Half of all warranty issues can be resolved with fresh batteries of the appropriate voltage.
- ✓ We suggest name brand alkaline batteries for indoor displays such as Clocks.
- ✓ Use batteries dated at least six years in advance of the current year. Batteries dated earlier than six years from now may still work, but may be unstable in performance.
- ✓ Alkaline batteries manufactured this year will have an expiration date 10 years in the future. Battery technology has improved and batteries will maintain voltage longer in storage. However, the environment the batteries reside in for the 10 years can deplete the power.
- ✓ Good name brand batteries make less noise, which reduces the chance of RF (radio frequency) interference from the battery compartment. A minimum voltage of 1.48V for each battery is necessary for proper performance.
- ✓ **Outdoor Transmitters:** Use Alkaline batteries (or Lithium for temperatures below - 20°F/- 28.8°C)
- ✓ **Clock:** Use Alkaline batteries. Overpowered or underpowered batteries may cause loss of indoor readings, missing segments, dim display etc.

## Clock Factory Restart

- ✓ Remove all batteries from outdoor sensor and clock.
- ✓ Press one of the buttons on the clock at least 20 times to clear all memory.
- ✓ Verify that the clock is blank before proceeding (there may be lines painted on the screen).
- ✓ Leave both units without power for 15 minutes (very important).
- ✓ Insert fresh batteries into the outdoor sensor.
- ✓ Insert fresh batteries into the clock.
- ✓ Keep the outdoor sensor 5-10 feet from the clock.
- ✓ When RF connection is established, the temperature will appear on the station. Allow the outdoor sensor and clock to sit together for 15 minutes to establish a strong connection.
- ✓ Do not press buttons for 15 minutes.
- ✓ For optimum 915MHz transmission, the outdoor transmitter should be a distance of no more than 330 feet (100 meters, open air) from the Clock.
- ✓ See the section on [mounting](#) and [distance/resistance/interference](#) for details on mounting the outdoor transmitter.

## Outdoor Temperature Transmitter

### Compatible Outdoor Transmitters

- ✓ A TX37U-IT outdoor transmitter comes packaged with this Clock.
- ✓ The TX37U-IT and TX45U-IT (915MHz) transmitters are compatible with this Clock.

### Fahrenheit/Celsius

- ✓ Use the [program menu](#) to select Fahrenheit or Celsius temperature display.

### Flashing Outdoor Temperature

- ✓ The outdoor Temperature reading will flash when the connection is first lost or intermittent between the clock and the outdoor transmitter.
- ✓ Distance/Resistance is generally the cause of intermittent connection or loss of connection between the transmitter and the clock.
- ✓ Check the position of the clock. Turn the clock 90 degrees towards the outdoor transmitter for better reception.
- ✓ Try the quick connect or factory restart.
- ✓ Batteries often resolve the connection issue.

### Dashes shown for Outdoor Temperature

- ✓ Dashes means the connection is lost between the clock and the outdoor transmitter.
- ✓ Batteries often resolve the connection.
- ✓ Distance/Resistance can cause loss of connection between the transmitter and the clock.
- ✓ Reorientation of the clock 90 degrees towards the outdoor transmitter may provide better reception.
- ✓ Try the quick connect or factory restart.

### Inaccurate Outdoor Temperature Reading

- ✓ The outdoor transmitter reads the environment. When mounted in the home it will read inside temperature.
- ✓ When the transmitter reads high during the day but not at night it is a positioning problem.
- ✓ **Side-by-side test:** Bring the outdoor transmitter in the house and place it next to the clock for 2 hours.
- ✓ Compare indoor and outdoor temperature. The temperatures should be within 4 degrees to be within tolerance. See the section on accuracy for details.
- ✓ If the transmitter reads correctly when next to the clock then try a different location outside.
- ✓ Look for heat sources such as sunlight, door or window frames, or reflected heat.

### Intermittent Outdoor Temperature

- ✓ RF (radio frequency) communication may come and go occasionally. This can be normal in some environments (e.g. moister climates). If transmitter signal is lost, please wait 2-4 hours for the signal to reconnect on its own.
- ✓ Move the outdoor transmitter to a closer location.
- ✓ **Freezer test:** Confirm the clock is reading the correct outdoor transmitter. Place the transmitter in the freezer for an hour and watch the temperature drop on the clock.
- ✓ **Indoor distance test:** Please complete the restart with transmitter and clock 5-10 feet apart and inside to establish a strong connection.
- ✓ After 15 minutes if there is a reading in the outdoor temperature area, move the transmitter to another room with one wall between the transmitter and the clock. Observe to see if the Temperature remains on consistently for 1-hour.
- ✓ If the temperature remains on while in the house then it is likely a distance/resistance issue. Move the transmitter to different locations outside to find a location where the temperature reading will hold.
- ✓ Distance/Resistance can cause loss of transmitter signal.
- ✓ Check Batteries.

### Outdoor Temperature Is Stuck or OFL

- ✓ The last outdoor reading may remain (not change) for several hours when connection is lost.

- ✓ The outdoor temperature reading will flash when the connection is first lost or intermittent between the clock and the outdoor transmitter.
- ✓ Check batteries. Overpowered or underpowered batteries can cause this reading.
- ✓ Replace outdoor transmitter.

### Outdoor Transmitter Fell and No Longer Works

- ✓ If there is no physical damage to the outdoor transmitter, the fall may not have caused internal damage.
- ✓ An outdoor transmitter that has fallen into a puddle or other standing water or snow may have water damage.
- ✓ Transmitters are water resistant, not waterproof.
- ✓ A fall can shock the transmitter or the batteries in the transmitter.
- ✓ Batteries that have fallen on a hard surface may be damaged and unable to function properly.
- ✓ Complete a restart with fresh batteries.
- ✓ Use batteries dated at least six years in advance of the current year.

### Outdoor Transmitter Drains Batteries Quickly

- ✓ Test a new set of alkaline batteries. Write down the date of installation and the voltage of the batteries.
- ✓ When the batteries fail, please note the date and voltage again. This is helpful in determining the problem.
- ✓ Check the distance and resistance between the transmitter and clock. Transmitters at the end of the range may work while batteries are fresh but not after they drain a bit.
- ✓ Check for leaking batteries, which may damage the transmitter.
- ✓ Battery life is over 24 months when using reputable battery brands for both Alkaline and Lithium batteries.

### Mounting/Positioning Outdoor Transmitter

- ✓ Mount outdoor temperature transmitters vertically and under a bit of an overhang.
- ✓ Protect the outdoor transmitter from standing rain or snow, and from the overhead sun, which can cause it to read incorrectly. Generally, mounting under an eave or deck rail works well.
- ✓ Construct a small roof or box for the transmitter if you do not have an overhang. Please be sure the box is vented.
- ✓ Mount the transmitter on the North side to prevent sun from causing incorrect readings.
- ✓ Mount at least 6 feet in the air for a strong signal.
- ✓ Outdoor transmitters are water resistant but not water proof.
- ✓ Avoid more than one wall between the transmitter and the Clock.
- ✓ Do not mount near electrical wires, transmitting antennas or other items that will interfere with the signal.
- ✓ RF (radio frequency) signals do not travel well through moisture or dirt.
- ✓ Place the outdoor transmitter and the Clock in the desired shaded locations, and wait approximately 1-hour before permanently mounting the transmitter to ensure that there is proper reception.
- ✓ Do not mount the transmitter on a metal fence. This significantly reduces the effective range.

#### MOUNT

- ✓ Choose a location for the transmitter that is within range of the clock and under an overhang for accuracy.
- ✓ Install one mounting screw into a wall leaving approximately ½ inch (12.7mm) extended.

- ✓ Place the transmitter onto the screw, using the hanging hole on the backside.
- ✓ Gently pull the transmitter down to lock the screw into place.

**Note:** Always ensure that the transmitter locks onto the screw before releasing.

### Position Clock

- ✓ Mount the Atomic Digital Wall Clock near an exterior wall with the front or back facing toward Ft. Collins Colorado for best WWVB reception.
- ✓ The clock should be six feet from other electronics or wireless devices to best receive the outdoor temperature transmitter signal.

### Foldout Table Stand:

A foldout table stand is located on the back of the clock.

- ✓ Pull the stand out from the bottom center edge of the clock, below the battery compartment.
- ✓ Extend the foldout table stand and place the clock in an appropriate location.

### Wall Mount

- ✓ Install a mounting screw (not included) into a wall within transmission range of the outdoor transmitter—leaving approximately 3/16 of an inch (5mm) extended from the wall.
- ✓ Place the clock onto the screw, using the hanging holes on the backside.
- ✓ Gently pull the clock down to lock the screw into place.
- ✓ **Note:** Always ensure that the clock locks onto the screw before releasing.

### Distance/Resistance/Interference

#### Distance:

- ✓ The maximum transmitting range in **open air** is over 330-feet (100 meters) between the outdoor transmitter and the clock.
- ✓ Consider what is in the signal path between the clock and the transmitter.
- ✓ Consider the distance the clock is located away from other electronic in the home.

#### Resistance:

- ✓ Obstacles such as walls, windows, stucco, concrete, and large metal objects can reduce the range.
- ✓ When considering the distance between the transmitter and the clock (330 feet open air) cut that distance in half for each wall, window, tree, bush or other obstruction in the signal path.
- ✓ Closer is better.
- ✓ Do not mount the transmitter on a metal fence. This significantly reduces the effective range.

#### Interference:

- ✓ Consider items in the signal path between the transmitter and the clock.
- ✓ Sometime a simple relocation of the transmitter or the clock will correct the interference issue.
- ✓ Windows can reflect the radio signal.
- ✓ Metal will absorb the RF (radio frequency) signal.
- ✓ Stucco is held to the wall by a metal mesh.
- ✓ Transmitting antennas (ham radio, emergency dispatch center, airports, military base etc.)
- ✓ Electrical wires (utilities, cable etc.)
- ✓ Vegetation is full of moisture and reduces signal.
- ✓ Dirt: Trying to receive a signal through a hill is difficult.

## Clock

### How tall are the Time Numbers?

The time numbers are 2 inches tall.

### Supported Time Zones

This clock offers 25 time zones: 0 (GMT) +12 to -12

### 12-Hour or 24-Hour Time Format

- ✓ Display the time in 12-hour or 24-hour format
- ✓ Default is 12-hour time.
- ✓ Use the [program menu](#) to switch time formats.

### Power Requirements

- ✓ 2-AA alkaline batteries power the clock

### Does the Clock Have a Backlight?

- ✓ No, this clock does not have a backlight.
- ✓ Generally, an a/c power cord is required for products to have a backlight.
- ✓ This clock does not use a/c power cord.

### Dashes, OFL or Stuck Indoor Temperature

- ✓ This is generally a power related issue.
- ✓ [Batteries](#) may be overpowered or underpowered. Remove batteries from clock.
- ✓ Press any button 20 times. Leave the clock unpowered for 1-2 hours.
- ✓ Insert fresh alkaline batteries with correct polarity.
- ✓ If the indoor temperature is still dashes or OFL, the clock may need replacement.

### Inaccurate Indoor Temperature Reading

- ✓ **Side-by-side test:** Bring the outdoor transmitter in the house and place it next to the clock for 2 hours.
- ✓ Compare indoor and outdoor temperature. The temperature should be within 4 degrees to be within tolerance. See the section on [accuracy](#) for details.
- ✓ Look for heat sources such as sunlight, door or window frames, or reflected heat of cold.

### Time is off by hours

- ✓ Check to see if the [WWVB](#) Tower icon appears on the clock. If not, the clock has not received a WWVB time signal in the past 24-hours.
- ✓ Reposition the clock with the front or back facing Colorado.
- ✓ Check that the [Time Zone](#) selected correctly reflects your location. Adjust the time zone in the [Program Menu](#).
- ✓ Check that the DST indicator is correct for your location (most areas observe DST so this should be ON). Adjust the DST indicator in the [Program Menu](#).
- ✓ Large buildings, metal roofed buildings and buildings or rooms full of electrical and/or radio equipment make it difficult to receive the WWVB time signal.

## Daylight Saving Time

- ✓ Dependent on your location, position of the clock in your home, and atmospheric interference, it may take up to 5 nights for the change from Daylight Savings Time to Standard Time and vice-versa to occur.
- ✓ Check for a WWVB Tower Icon showing on your Clock. The tower icon indicates you have received the WWVB signal from Ft Collins CO in the past 24-hours.
- ✓ Check that the clock is in the correct Time Zone.
- ✓ Check whether the DST indicator is ON or OFF. If the indicator is OFF the clock will not change.
- ✓ Check for fresh batteries. Without proper batteries, the antenna will have a harder time picking up the signal.
- ✓ Position the Clock in a window (with the front or back) facing Ft. Collins, Colorado and leave for up to five nights. If you do not have a window facing this direction, locate the Clock near an outside wall and point the unit in this general direction.

## Is There a Booster Antenna

- ✓ No. There is not a booster antenna available for the WWVB time signal.
- ✓ There is not a signal booster available for the outdoor transmitter signal.

## Can the Clock Attach to a Timer?

- ✓ No timer circuit can be attached to the clock. Modifications will void the warranty.

## Set Time Alarm

- ✓ ALARM HOUR: Press and 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.
- ✓ ALARM MINUTE: The Alarm Minutes will flash. Use the + or - button to set the Minutes. Press and release the ALARM button to exit.

## Activate/Deactivate Time Alarm

### ACTIVATE:

- ✓ Press and release the ALARM button to activate the alarm.
- ✓ The alarm icon (bell) appears when alarm is active.

### DEACTIVATE:

- ✓ Press and release the ALARM button to deactivate the alarm.
- ✓ The alarm icon will disappear when alarm is deactivated.

## Snooze Alarm

- ✓ When the alarm sounds, press the SNZ button to trigger snooze alarm for 5 minutes.
- ✓ The snooze icon Zz will flash when the snooze feature is active.
- ✓ To stop alarm for one day, press AL button, while in snooze mode.
- ✓ The alarm icon (bell) will remain solid.

## Manually Set Time/Date: Program Menu

### PROGRAM MENU:

There are four function keys located on the reverse of the unit: SET, + (PLUS), ALM, and SNZ. Begin by holding the SET button until the display flashes. Press and release the PLUS button to change a value. When you press and release the SET button after each step, you will move to the next step.

- ✓ TIME ZONE SETTING: The Time Zone will flash, showing a number following by the letter h. Use the PLUS to change the Time Zone. Please note North American Time Zones are Negative Numbers: -4h ATL, -5h EST, -6h CST, -7h MST, -8h PST, -9h ALA and -10h HAW. Press and release the SET button once.
- ✓ DAYLIGHT SAVINGS TIME: DST will show with either ON or OFF flashing. Most states use DST, so this should be set to ON. However if your location does not use DST, use the PLUS button to turn it OFF. Press and release the SET button once.
- ✓ HOUR: The Hour will flash. Use the PLUS button to set the Hour. If using 12-hour Time Mode, be sure to set the Hour for am or pm. Press and release the SET button once.
- ✓ MINUTES: The Minutes will flash. Use the PLUS button to set the Minutes. Press and release the SET Button once.
- ✓ YEAR: The Year will flash. Use the PLUS button to set the Year. Press and release the SET button once.
- ✓ MONTH: The Month will flash. Use the PLUS button to set the Month. Press and release the SET button once.
- ✓ DATE: The numeric day will flash. Use the PLUS button to set the date correctly.
- ✓ WEEKDAY: The alphabetic Day will flash. Use the PLUS button to set to the correct Day.
- ✓ 12/24-HOUR TIME MODE: Either 12 or 24 will flash on the display. Use PLUS button to change from 12-hour to 24-hour time. Press and release the SET button once.
- ✓ FAHRENHEIT OR CELSIUS: A degree symbol will flash, followed by F or C. Use the PLUS button to change to your preference. Press and release the SET button once.

#### No WWVB Tower Icon

- ✓ The clock has not received a WWVB time signal in the past 24-hours.
- ✓ Position the clock for better reception.
- ✓ Hold the - button to send the clock on a signal search at night.
- ✓ Allow up to 5 nights to receive the time signal.

#### Clock Has Missing Segments

- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from clock.
- ✓ Press any button 20 times. Leave the clock unpowered for 1-2 hours.
- ✓ Insert fresh alkaline batteries with correct polarity.

#### Clock Is Dim

- ✓ Most clocks have a gray background. Place the clock at eye level. Is it still dim?
- ✓ Clocks that sit in the sunlight can develop a cloudy film over time.
- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from clock.
- ✓ Press any button 20 times. Leave the clock unpowered for 1-2 hours.
- ✓ Install fresh alkaline batteries with correct polarity.



### Clock Has Distorted Display

- ✓ On a brand new clock check for thin plastic films of printed scratch guard that may be on the upper and lower screen of the clock. This thin piece of plastic has printed numbers for store displays.
- ✓ This film will be easy to peel off the LCD.
- ✓ With all power removed the clock should be blank.
- ✓ If numbers still appear, please check for scratch guard.
- ✓ Check that the batteries are installed correctly.
- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from the clock.
- ✓ Press any button 20 times. Leave the batteries out of the display for 2 hours.
- ✓ Insert fresh alkaline batteries into the clock.

### Clock Display Is Frozen

- ✓ On a brand new clock check for thin plastic films of printed scratch guard that may be on the upper and lower screen of the clock. This thin piece of plastic has printed numbers for store displays. This can make the clock display appear “frozen”.
- ✓ With all power removed the clock should be blank.
- ✓ If numbers still appear, please check for scratch guard.
- ✓ Check that the batteries are installed correctly.
- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from clock.
- ✓ Press any button 20 times. Leave the batteries out of the display for 2 hours.
- ✓ Insert fresh alkaline batteries into the clock.

### Clock is Blank: No Letters, Numbers or Dashed Lines

- ✓ Check that the batteries are installed correctly.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from clock.
- ✓ Press any button 20 times. Leave the batteries out of the display for 2 hours.
- ✓ Insert fresh alkaline batteries into the clock.