515-1912 FAQS

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Batteries

Explanation: Many problems are resolved with fresh batteries of the appropriate voltage. Many items sent in under warranty work, when tested with fresh batteries. Batteries manufactured this year will have an expiration date 10 years (or more) 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.

- We suggest name brand Alkaline batteries for **indoor displays**.
- A minimum voltage of 1.48V for each battery is necessary for proper performance.
- 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.
- Good name brand batteries make less noise, which reduces the chance of RF (radio frequency) interference from the battery compartment.

Digital Clock Factory Restart

Explanation: The factory restart returns the clock and outdoor sensor to an "out-of-the-box" default state and often resolves an issue.

Factory Restart:
1. Remove all power from outdoor sensor and clock.
2. Press one of the buttons on the clock at least 20 times to clear all memory.
3. Verify that the clock is blank before proceeding (there may be lines painted on the screen that will show when there is no power).
4. **Leave both units without power for 15 minutes** (very important).
5. Insert fresh batteries into the outdoor sensor, then into the clock.
6. Keep the outdoor sensor 5-10 feet from the clock.
7. When RF connection is established, the temperature/humidity will appear on the station. Allow the outdoor sensor and clock to sit together for 15 minutes to establish a strong connection.
8. Do not press buttons for 15 minutes.
- For optimum 433MHz transmission, place the outdoor sensor 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 sensor.

Compatible Outdoor sensors

- The TX191TH Outdoor sensor comes packaged with this atomic clock.
- The TX191TH (433MHz) Outdoor sensor is compatible with this atomic clock.

Power Requirements

- 2-AA batteries power the Outdoor sensor.
- 2-AA batteries power the clock.
- We recommend Alkaline batteries for the Outdoor sensor.

Quick Connect

Explanation: If sensor loses connection to the clock for any reason, the clock will show **NO** in the outdoor temperature area after 30 minutes. The clock will search for 3 minutes every hour to reconnect with sensor.
- Hold the **PLUS (+)** button 2 seconds to search for the outdoor sensor.

Dashes show for Outdoor Temperature

Explanation: Dashes mean the connection is lost between the atomic clock and the Outdoor sensor.

- Batteries often resolve the connection.
- Distance/Resistance can cause loss of connection between the Outdoor sensor and the atomic clock.
- Turn the atomic clock 90 degrees towards the Outdoor sensor to provide better reception. This allows more antenna surface to face the Outdoor sensor signal.
- Try the quick connect or factory restart.

Inaccurate Outdoor Temperature Reading

Explanation: High Outdoor temperature readings are generally a location issue. Low Outdoor temperature readings are power related or a sensor going bad.

- The Outdoor sensor reads the environment where it is mounted. When mounted inside the home, it will read inside temperature.
- When the Outdoor sensor reads high during the day, but not at night, it is a positioning problem.
- Look for heat sources such as sunlight, door or window frames or reflected heat.

Side-by-side test: Place the Outdoor sensor right next to the atomic clock for 2 hours.
- Compare indoor and Outdoor temperature. The temperatures should be within 4 degrees to be within tolerance.
- If the Outdoor sensor reads correctly when next to the atomic clock, try a different location outside.

Intermittent Outdoor Temperature

Explanation: Intermittent problems are the hardest to resolve. RF (radio frequency) communication may come and go occasionally. This can be normal in some environments (e.g. moister climates). If Outdoor sensor signal is lost, please wait 2-4 hours for the signal to reconnect on its own.

- Move the Outdoor sensor to a closer location.
- Distance/Resistance can cause loss of Outdoor sensor signal.
- Check Batteries.

Freezer test: Confirm the atomic clock is reading the correct Outdoor sensor (not a neighbor's sensor). Place the Outdoor sensor in the freezer for an hour and watch the temperature drop on the atomic clock.

Indoor distance test: Please complete the Restart with Outdoor sensor and atomic 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 Outdoor sensor to another room with one wall between the Outdoor sensor and the atomic 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 Outdoor sensor to different locations outside to find a location where the temperature reading will hold.

Outdoor Temperature is stuck or HH.H, LL.L

Explanation: These symbols are error messages indicating the Outdoor sensor is outside of its readable range.

- Check Batteries. Overpowered or underpowered batteries can cause this reading.
- Replace Outdoor sensor.

Outdoor sensor 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.
- Check the distance and resistance between the Outdoor sensor and atomic clock. Outdoor sensors 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 Outdoor sensor.
- Battery life is over 18 months when using reputable battery brands.

Outdoor sensor fell. The sensor no longer works

Explanation: If there is no physical damage to the Outdoor sensor, the fall may not have caused internal damage. A fall can shock the Outdoor sensor or the batteries in the Outdoor sensor. 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. Batteries dated earlier than six years from now may still work but may be unstable in performance.

Note: A Outdoor sensor that has fallen into puddle, snow, or other standing water, will likely have water damage and need to be replaced. Outdoor sensors are water resistant, not waterproof.

Mounting/Positioning Outdoor sensor

First: Place the Outdoor sensor in the desired shaded location and the atomic clock in the home. Wait approximately 1 hour before permanently mounting the Outdoor sensor to ensure that there is proper reception.

POSITION
Outdoor:
- Protect the Outdoor sensor from standing rain or snow and from the overhead sun, which can cause it to read incorrectly.
- Mounting under an eave or deck rail works well.
- If you choose, you can construct a small roof or box for the Outdoor sensor. Be sure a box has vents.
- Mount the Outdoor sensor on the North side where to prevent sun from causing incorrect readings.
- Mount at least 6 feet in the air for a strong RF (radio frequency) signal.
- Do not mount the Outdoor sensor on a metal fence. This significantly reduces the effective range.
- Outdoor sensors are water resistant, not waterproof.

Indoor or Outdoor:
- Mount Outdoor temperature sensor **vertically**.
- Avoid more than one wall between the Outdoor sensor and the atomic clock.
- 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.
- 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.

MOUNT
Option 1:
- Install one mounting screw (not included) into a wall.
- Place the Outdoor sensor onto the screw (hanging hole on the backside).
- Gently pull down to lock the screw in place.

Option 2:
- Insert the mounting screw through the front of the Outdoor sensor and into the wall.
- Tighten the screw to snug (do not over tighten).

Fahrenheit/Celsius

- Use the program menu to switch from Fahrenheit to Celsius.

Supported Time Zones

- This clock has 7 Time Zones: **AST**=Atlantic, **EST**= Eastern, **CST**= Central,

MST= Mountain, **PST**= Pacific, **AKT**= Alaska, **HAT**=Hawaiian The digital clock works in North America.

- Outside of North America, the digital clock will not receive a WWVB signal, but will keep time like a quartz clock.

Dashes, HHH, LLL or Stuck Indoor Temperature

Explanation: These symbols are error messages indication the indoor sensor is outside of its readable range. For indoor readings, this is generally a power related issue.

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

Does the clock have a backlight?

- No, as this clock is battery operated there is no backlight.

Time is off by hours

- Check to see if the WWVB Tower icon appears on the atomic digital clock. If not, the digital clock has not received a WWVB time signal in the past 24 hours.
- Reposition the digital 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

Some states are considering going to year around Daylight Saving Time. We have built in options to accommodate this feature into the program menu.
DST ON: (Automatically gain 1 hour in spring, lose 1 hour in fall)
DST OFF: (Remain in Standard Time all year long)
DST ALWAYS ON: (Remain in Daylight Saving Time all year long)

- 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 the atomic digital 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, OFF or ALWAYS ON. If the indicator is OFF or ON the clock will not change seasonally.
- Check for fresh batteries. Without proper batteries, the antenna will have a harder time picking up the signal.
- Position the digital 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, position the clock near an outside wall and point the unit in this general direction.

Manually Set Time/Date: Program Menu

1. Hold the **SET** button 2 seconds to enter settings mode.
2. Press the **+** or **-** button to adjust the flashing values.
3. Hold the **+** or **-** buttons to adjust quickly.
4. Press the **SET** button to confirm adjustments and move to the next item.
5. Press the **TIMER** button at any time to exit.

IMPORTANT: Some states in the USA are considering keeping Daylight Saving Time all year long. We are including an additional DST setting of DST ALWAYS ON.

- DST ON- Clock gains 1 hour in spring and loses 1 hour in the fall
- DST OFF- Clock remains in Standard Time all year long
- DST ALWAYS ON- Clock remains in Daylight Saving Time all year long

Settings Menu Order:
- Beep ON/OFF
- Atomic ON/OFF
- DST (Daylight Saving Time)
  - o DST ON
  - o DST OFF
  - o DST ALWAYS ON
- Time Zone
- Hour
- Minutes
- Year
- Month
- Date
- Fahrenheit/Celsius

To begin:
1. Hold the SET button for 2 seconds to enter setting mode. **BEEP ON** will show. ON flashes. Press the + or - button to turn the button beep sound off.
2. Press SET to confirm and move to the atomic time ON/OFF. **The tower icon and ON** will show. ON flashes. Press the + or - button if you do not want Atomic Time signal (OFF).
3. Press SET to confirm and move to the Daylight Saving Indicator. **DST ON** will show. ON flashes. Press the + or - button to turn DST OFF if you do not observe Daylight Saving Time changes, or to DST ALWAYS ON if your state has selected year around DST.

4. Press SET to confirm and move to the Time Zone. **EST** will flash. Press the + or - button to select your time zone.
5. Press SET to confirm and move to the hour. The **HOUR** will flash. Press the + or - button to choose the hour.
6. Press SET to confirm and move to the minutes. The **MINUTES** will flash. Press the + or - button to choose the minutes.
7. Press SET to confirm and move to the year. The **Year number** will flash. Press the + or - button to change the year.
8. Press SET to confirm and move to the month. **Month number** will flash. Press the + or - button to change the month.
9. Press SET to confirm and move to the date. **Date number** will flash. Press the + or - button to change the date.
10. Press SET to confirm and move to the temperature unit. **°F** will flash. Press the + or - button if you prefer °C (Celsius).
11. Press SET to confirm and exit.

- No button press for 10 seconds-clock will resume normal time display.
- Weekday will set automatically as year, month and date are set.

No WWVB Tower Icon

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

Timer

A timer can be set from 1 minute (minimum) to 99 Minutes (maximum).

1. Hold the TIMER button for 2 seconds. The Minutes will flash. Press and release the + or – button to adjust the minutes.
2. Press and release the TIMER button to confirm and exit.

Start/Pause/Restart Timer:
- Timer will start automatically once it is set.
- Press the TIMER button at any time to pause the timer. Stopwatch icon will flash.
- Press the TIMER button again to resume the timer countdown.

Stop Timer:
- While timer is showing, press any button except Timer button, to stop timer.
- The Timer will automatically return to the last countdown time set. This value will show for 3 seconds then clock will default to normal clock display with Temp/Humidity.
Example: If Timer was set for 15 minutes and stopped before it reached zero, the Timer will automatically reset to 15 minutes. Remaining time for the Timer will no longer be saved.

- User will need to enter TIMER SETTINGS to change the Timer duration.
- Press TIMER at any time to start or stop the timer countdown.

Timer Sounds

- When count down reaches 0, the timer will sound 5 beeps every 15 seconds for up to 1 minute.
- The timer to be at 72db heard from 1 foot away from the front of the clock.
- The timer icon.

Custom Date Display

Indoor Temperature & Seconds or Outdoor Temperature/Humidity Display:

- Press the MINUS (-) button to toggle between Indoor Temperature & Seconds Counting and Outdoor Temperature/Humidity Display.

Position Clock

- Use the slot on the battery cover to mount your clock with a screw, or insert the suction cup attachment into the slot and mount on a clean, smooth surface.
- When using suction cup, occasionally press and hold the clock to be sure it is secure.
- Position the digital clock for better Atomic Time Signal reception. The front or back should face toward Colorado.

Digital clock has distorted or frozen display

Explanation: On a brand new digital clock, check for thin plastic film of **printed scratch guard** that may be on the screen of the digital clock. This thin piece of plastic has printed numbers for store displays. When the batteries are installed, the "real" numbers show behind the printed scratch guard and create distortion.

- With all power removed, the digital clock should be blank.
- If numbers still appear, please check for scratch guard.

Power:
- Check that the batteries are installed correctly.
- This is generally a power related issue.
- Batteries may be overpowered or underpowered.
- Remove batteries from digital clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert batteries into the digital clock.

Digital 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 digital clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert batteries into the digital clock.

Day of the week is incorrect.

- Check the year setting in the program menu. The day of the week sets automatically based on the setting of the year, month and date.

Digital clock 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 for leaking batteries, which may damage the digital clock.

Digital clock has missing segments

Explanation: When parts of numbers, letters, or pictures are missing on the display, it is often power related.
- With all power removed, the digital clock should be blank.
- If numbers still appear, please check for scratch guard.

Power:
- Check that the batteries are installed correctly.
- This is generally a power related issue.
- Batteries may be overpowered or underpowered.
- Remove batteries from digital clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert batteries into the digital clock.