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Projection Alarm Factory Restart

Explanation: The factory restart returns the projection alarm and outdoor sensor to an “out-of-the-box” state and often resolves an issue.

Factory Restart:

1. Remove all power (batteries and AC) from outdoor sensor and projection alarm.
2. Press one of the buttons on the projection alarm at least 20 times to clear all memory.
3. Verify that the projection alarm is blank before proceeding (some lines are painted on the screen and will show with batteries out).
4. **Leave unpowered for 15 minutes** (very important).
5. Insert the AC cord into the wall outlet then into the projection alarm.
6. Insert fresh batteries into the outdoor sensor.
7. Press the TX button on the outdoor sensor to transmit RF signal.
8. Keep the outdoor sensor 5-10 feet from the projection alarm.
9. When RF connection is established, the temperature will appear on the station. Allow the outdoor sensor and projection alarm to sit together for 15 minutes to establish a strong connection.
10. 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 projection alarm.
 - ✓ See the section on [mounting](#) and [distance/resistance/interference](#) for details on mounting the outdoor sensor.

Outdoor Temperature Sensor

Compatible Outdoor Sensors

- ✓ The TX141-**B3**, TX141-B or TX141 outdoor sensor comes packaged with this projection alarm. These sensors are **not** interchangeable. Be sure to check the model before ordering.
- ✓ The TX141B (**all versions**), and TX141-A (433MHz) outdoor sensors are compatible with the projection alarm sold with the TX141-Bv2 sensor.

Quick Connect

Explanation: The quick connect is used for a projection alarm and outdoor sensor that have been working but lost connection due to interference or low batteries. This is not a thorough factory reset.

1. Bring the outdoor sensor and projection alarm together inside and place the units 5-10 feet apart with nothing between them.
 2. Hold the **+TEMP** button on the projection alarm. The outdoor temperature area will flash.
 3. Remove battery cover from the outdoor sensor and press and release the TX button to send the signal.
 4. Wait for 2 minutes for the outdoor temperature to appear on the projection alarm.
- ✓ [Factory Restart](#): If the above procedure does not work, please try the factory reset.

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.

- ✓ Use Alkaline or Lithium batteries in the **outdoor sensors**.
- ✓ 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.

Power Requirements

- ✓ 2-AA [batteries](#) power the outdoor sensor.
- ✓ We recommend Alkaline batteries for the outdoor sensor.
- ✓ You may choose to use Lithium batteries for temperatures below -20°F/-28.8°C.

Dashes show for Outdoor Temperature

Explanation: Dashes mean the connection is lost between the projection alarm and the outdoor sensor.

- ✓ [Batteries](#) often resolve the connection.
- ✓ [Distance/Resistance](#) can cause loss of connection between the outdoor sensor and the projection alarm.
- ✓ Turn the projection alarm 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 sensors 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: Bring the outdoor sensor in the house and place it next to the projection alarm 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 projection alarm, 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 projection alarm is reading the correct outdoor sensor. Place the outdoor sensor in the freezer for an hour and watch the temperature drop on the projection alarm.

Indoor distance test: Please complete the Restart with outdoor sensor and projection alarm 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 projection alarm.
- ✓ 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.

Note: 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.

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 projection alarm. 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 24 months when using reputable battery brands for both Alkaline and Lithium batteries.

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

Replacement Outdoor Sensors

- ✓ Visit your local Retailer or La Crosse Technology® Store <http://store.lacrossetechnology.com/>
Note: Be sure to order the correct model and frequency to avoid receiving the incorrect item.
- ✓ Call La Crosse Technology® Store at **608-785-7939** or e-mail from our website if you are unsure about the correct item to order. Each item carries the original new product warranty and includes access to La Crosse Technology technical support.

Mounting/Positioning Outdoor sensor

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

POSITION

- ✓ Mount outdoor temperature outdoor sensors **vertically**.
- ✓ 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.
- ✓ Outdoor sensors are water resistant, not waterproof.
- ✓ Avoid more than one wall between the outdoor sensor and the projection alarm.
- ✓ The maximum transmitting range in open air is over 330 feet (100 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.
- ✓ Do not mount the outdoor sensor on a metal fence. This significantly reduces the effective range.

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).

Position Projection Alarm

- ✓ The projection alarm has a wide base to sit on a desk or table.
- ✓ Place within range of the outdoor sensor.
- ✓ The maximum transmitting range in open air is 330 feet (100 meters).
- ✓ Obstacles such as walls, windows, stucco, concrete and large metal objects can reduce the range.
- ✓ Choose a location 6 feet or more from electronics such as cordless phones, wireless gaming systems, televisions, microwaves, routers, baby monitors, etc., which can prevent signal reception.
- ✓ Be aware of electrical wires and plumbing within a wall. This will interfere with RF (radio frequency) signal reception.

Distance/Resistance/Interference

Distance:

- ✓ The maximum transmitting range in open air is over 330 feet (100 meters) between the outdoor sensor and the projection alarm. This range is in open air with ideal conditions.
- ✓ Consider what is in the signal path between the projection alarm and the outdoor sensor.
- ✓ Avoid placing electronic in the signal path between the projection alarm and the outdoor sensor.

Resistance:

- ✓ Obstacles such as walls, windows, stucco, concrete and large metal objects can reduce the range.
- ✓ When considering the distance between the outdoor sensor and the projection alarm (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.
- ✓ Windows reflect the RF (radio frequency) signal.
- ✓ Metal absorbs the signal and reduces the range.
- ✓ Stucco has a metal mesh that absorbs the signal.
- ✓ Do not mount the outdoor sensor on a metal fence. This significantly reduces the effective range.

Interference:

- ✓ Consider items in the signal path between the outdoor sensor and the projection alarm.

- ✓ Sometimes a simple relocation of the outdoor sensor or the projection alarm will correct the interference.
- ✓ Windows can reflect the radio signal.
- ✓ Metal will absorb the RF (radio frequency) signal.
- ✓ Stucco has a metal mesh that absorbs signal.
- ✓ Avoid transmitting antennas: (ham radios, emergency dispatch centers, airports, military bases, etc.)
- ✓ Electrical wires (utilities, cable, etc.)
- ✓ Vegetation is full of moisture and reduces signal.
- ✓ It is difficult for RF (radio frequency) signal to travel through a hill.

Projection Alarm

How tall are the time numbers?

- ✓ The time numbers are 0.75 inches tall.

Power Requirements

- ✓ This projection alarm is powered by a 5 volt AC power adapter
- ✓ Alternatively, optional 3-AAA alkaline batteries may be used.

12-Hour or 24-Hour time format

- ✓ Time can display in 12-hour (am, pm) or 24-hour format.
- ✓ Default is 12-hour time.
- ✓ Use the [Program Menu](#) to switch time formats.

Fahrenheit/Celsius

- ✓ Press and release the SET/°F/°C button to select temperature readings in Fahrenheit or Celsius.

Dashes, HH.H, LL.L 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.

- ✓ [Batteries](#) may be overpowered or underpowered. Remove batteries from the projection alarm.
- ✓ Press any button 20 times. Leave the projection alarm unpowered for 1-2 hours.
- ✓ Install fresh Alkaline batteries with correct polarity.
- ✓ If the indoor temperature is still shows dashes, HH.H or LL.L, the projection alarm may need replacement.

Inaccurate Indoor Temperature Reading

Explanation: When the indoor temperature is inaccurate, it is often due to the location of the display or overpowered/under powered batteries. You can test the accuracy at you home.

Side-by-side test: Bring the outdoor sensor in the house and place it next to the projection alarm for 2 hours.

- ✓ Compare indoor and outdoor temperature. The temperature should be within 4 degrees to be within tolerance.
- ✓ Look for heat sources such as sunlight, door or window frames or reflected heat or cold near the projection alarm.

Check [batteries](#).

Time is off by hours

- ✓ Check to see if the [WWVB](#) Tower icon appears on the Atomic Projection Alarm. If not, the Atomic Projection Alarm has not received a WWVB time signal in the past 24-hours.
- ✓ Reposition the Atomic Projection Alarm 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.

Supported Time Zones

Explanation: This atomic projection alarm offers a choice of seven time zones:

- ✓ AST=Atlantic
- ✓ EST= Eastern
- ✓ CST= Central
- ✓ MST= Mountain
- ✓ PST= Pacific
- ✓ AKT= Alaska
- ✓ HAT=Hawaiian

The atomic projection alarm works in North America. Outside of North America, the projection alarm will not receive a WWVB signal, but will keep time like a quartz clock.

Manually Set Time/Date: Program Menu

The SET/°F/°C button will move through the program menu. The +/TEMP or -/TIME buttons will change a value.

1. WWVB ON/OFF: Hold the SET/°F/°C button 5 seconds and **WWVB** and the word **ON** will flash. Press and release the +/TEMP or -/TIME button to turn this to OFF if you do not wish WWVB reception. Confirm with the SET/°F/°C button and move to the next item.
2. TIME ZONE: **EST** will flash. Press and release the +/TEMP or -/TIME button to select a different Time Zone: AST=Atlantic, EST= Eastern, CST= Central, MST= Mountain, PST= Pacific, AKT= Alaska, HAT=Hawaiian time zone. Confirm with the SET/°F/°C button and move to the next item.
3. DAYLIGHT SAVING TIME: **DST** will flash and the word **ON**. Press and release the +/TEMP or -/TIME button to turn this to OFF if you do not observe DST. Confirm with the SET/°F/°C button and move to the next item.
4. 12/24 HOUR TIME: **12H** will flash. Press and release the +/TEMP or -/TIME button to select 24H. Confirm with the SET/°F/°C button and move to the next item.
5. HOUR: The **hour** will flash. Press and release the +/TEMP or -/TIME button to select the correct hour. Confirm with the SET/°F/°C button and move to the next item.
6. MINUTES: The **minutes** will flash. Press and release the +/TEMP or -/TIME button to select the correct minutes. Confirm with the SET/°F/°C button and move to the next item.
7. YEAR: The **year** will flash. Press and release the +/TEMP or -/TIME button to select the correct year. Confirm with the SET/°F/°C button and move to the next item.
8. MONTH: The **month** will flash. Press and release the +/TEMP or -/TIME button to select the correct month. Confirm with the SET/°F/°C button and move to the next item.
9. DATE: The **date** will flash. Press and release the +/TEMP or -/TIME button to select the correct date. Confirm with the SET/°F/°C button and exit the program menu.
10. Note: The Day of the Week will SET automatically after the year, month and date are set.
11. Note: If no buttons are pressed in a 20-second period the projection alarm will return to a live display reflecting whatever adjustments were made before it timed out.


Set Time Alarm

In normal mode, hold the TIME ALARM button for three seconds to enter alarm set mode.


1. HOUR: The **Hour** will flash, use the ARROW buttons to set the hour, and press TIME ALARM button to confirm and switch to minutes.

2. MINUTES: The **Minutes** will flash, use the ARROW buttons to set the minutes, and press TIME ALARM button to confirm.
 3. Press the SETTINGS button to return to normal mode.
- Note:** When no buttons are pressed for ten seconds, the projection alarm will save the last change and default back to normal mode

Activate/Deactivate time alarm

- ✓ In normal mode, press and release the TIME ALARM button once to show alarm time.
- ✓ Press and release the TIME ALARM button repeatedly to turn ON/OFF alarm.
- ✓ The alarm icon  appears when alarm is active.
- ✓ **Note:** The alarm will ring for 2 minutes then turn off if no buttons are pressed.

Snooze Alarm

- ✓ When the alarm sounds, press the HI/LOW/OFF button to snooze the alarm for 10 minutes.
- ✓ The snooze option can repeat three times.
- ✓ The alarm icon  will flash while the snooze feature is active.
- ✓ **Note:** while the alarm sounds press any button **except** the TIME ALARM button to turn the alarm off.

Projection not working

Projection only shows when SNOOZE/LIGHT button is pressed:

- ✓ Check the Projection ON/OFF switch, to be sure it is in the ON position.
- ✓ Check that the a/c cord is properly plugged in. Line it up and push it in. Once you are sure it is in correctly, *remove the batteries*. If the display goes blank, the a/c cord needs adjustment.

Projection Adjustments

When operating on A/C power the projection will display constantly unless projection is turned off or when the clock is searching for WWVB signal.

Operating on a/c power:

- **Projection ON/OFF:** Use the PROJECTION ON/OFF **slide switch** on the back of the clock to turn the projection off when operating on a/c power.
- **Rotate Projection:** Press and release the PROJECTION/DIRECTION button to rotate projection image 180 degrees as viewed on the wall or ceiling.
- **Focus Projection:** Use the focus wheel on the projection arm to adjust the clarity of the projection on the wall or ceiling.
- **Time/Outdoor Temperature Projection:** The projection will alternate between time and outdoor temperature every 5 seconds. This projection cannot change to just time or just temperature. The projection will always alternate.



Operating on battery power only:

Press and release the SNOOZE/LIGHT button on top of the Atomic Projection Alarm to show the projection for 5 seconds.

Note: Projection will not display constantly when operating on battery power.

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 Atomic Projection Alarm 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.

No WWVB Tower Icon

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

Moon Phase

The eight phases of the moon shown below are determined by the year, month, and date set on the Atomic Projection Alarm.

Note: With the moon shown against a light colored background, the phases will show opposite to a paper calendar. **The segments that are highlighted portray the part of the moon that is lit.** For instance, the moon will be blank during a new moon and dark during a full moon.

- ✓ **New Moon** occurs when the moon is between the earth and sun so the illuminated portion of the moon is on the backside facing the sun and we cannot see it. After a new moon, the illuminated portion will increase or wax until the full moon occurs.
- ✓ **Full Moon** occurs when the earth, moon, and sun are in approximate alignment, with the moon and the sun on opposite sides of the earth. The illuminated portion of the moon faces the earth, giving us complete visibility of one side of the entire moon. After a full moon, the illuminated portion will decrease or wane until the new moon occurs.
- ✓ **First Quarter** and **Last Quarter** moons occur when the moon is at a 90-degree angle to the earth and sun. Therefore, we see half of the moon illuminated and half is in shadow.
- ✓ **Waxing** means growing or expanding illumination and happens after a new moon.
- ✓ **Waning** means decreasing illumination and occurs after a full moon.
- ✓ **Crescent** refers to the moon being less than half-illuminated. Crescents can be waning or waxing.
- ✓ **Gibbous** describes a moon phase when more than half is illuminated. Gibbous can be waxing or waning.

Backlight: Projection Alarm with TX141-Bv2 sensor

- ✓ The backlight will come on for 5 seconds when the SNOOZE/LIGHT button is pressed.
- ✓ The backlight does not stay on permanently.

Backlight: Projection Alarm with TX141 sensor

This backlight is Sound Controlled (S/C) and will not display continually. This sound can be voice, music, a clap etc. There is a slide switch on the back of the Atomic Projection Alarm to turn the Sound Control ON or OFF. Press the SNOOZE/LIGHT button at any time to activate the backlight for 5 seconds.

With A/C power adapter:

- S/C ON: The backlight will come on for 5 seconds when it hears a sound (60db).
- **Note:** The sound needs to be close to the atomic projection alarm.
- S/C OFF: Press the SNOOZE/LIGHT button to activate the backlight for 5 seconds.

Battery only operation:

- Press the SNOOZE/LIGHT button to activate the backlight for 5 seconds. Sound activation is not available.

Projection alarm is dim

Explanation: Most projection alarms have a gray background. Place the projection alarm at eye level, to determine if it is dim. Projection alarms 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 projection alarm.
- ✓ Press any button 20 times. Leave the projection alarm unpowered for 1-2 hours.
- ✓ Install fresh alkaline batteries with correct polarity.

Projection alarm has distorted or frozen display

Explanation: On a brand new projection alarm, check for thin plastic film of **printed scratch guard** that may be on the screen of the projection alarm. 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 projection alarm 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 projection alarm.
- ✓ Press any button 20 times. Leave the batteries out of the display for 2 hours.
- ✓ Insert batteries into the projection alarm.

Projection alarm is blank: No letters, numbers or dashed lines

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

Projection alarm 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 projection alarm.
- ✓ Battery life is over 12 months when using reputable battery brands.

Projection alarm has missing segments

Explanation: When parts of numbers, letters, or pictures are missing on the display, it is often power related.

- ✓ Batteries may be overpowered or underpowered. Remove batteries from projection alarm.
- ✓ Press any button 20 times. Leave the projection alarm unpowered for 1-2 hours.
- ✓ Install fresh alkaline batteries with correct polarity.