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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 series outdoor sensor comes packaged with this projection alarm.

- All versions of the TX141 (433MHz) outdoor sensors (no A or B) are compatible with this projection alarm.

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.

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.

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 the box has vents.
- Mount the outdoor sensor on the North side to prevent the 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 the 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 1.18 inches tall.

Power Requirements

- This projection alarm is powered by a 5 volt AC power adapter
- Alternatively, optional 2-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

- Use 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 indicating 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 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 your 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 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 ALARM button to confirm and switch to minutes.
2. MINUTES: The **Minutes** will flash, use the ARROW buttons to set the minutes, and press ALARM button to confirm.
3. Press the SETTINGS button to return to normal mode.

Note: When no buttons are pressed for ten seconds, the forecast station will save the last change and default back to normal mode

Activate/Deactivate time alarm

- In normal mode, press and release the ALARM button once to show alarm time.
- Press and release the 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 be repeated three times.
- The alarm icon  will flash while the snooze feature is active.
- **Note:** while the alarm sounds press any button **except** the ALARM button to turn the alarm off.

USB Charge Port

Explanation: The forecast station has an integrated USB charging port (on back) that will charge a device when the forecast station is plugged into a power outlet.

Note: This is a power-output charging port. It does not supply power to the projection alarm.

- Connect your external device's USB charging cable (not included) to the USB charging port.
- Charging times will vary.
- USB Power Output: 0.5A maximum current. Charge 0.5A devices or devices that are self-regulating.

Note: Some USB cables are for data transfer only and cannot be used for charging. Make sure that the USB cable you use will charge your device. Most USB cables included with mobile devices will work for charging.

Note: Many devices may require more power to charge than provided by this forecast station.

Projection not working

When operating on A/C power and no constant projection shows, yet it works when you press the SNOOZE button please check:

ON/OFF: Place your hand about 2" from the projection lens. You should see a red dot. If not, hold and release SNOOZE/LIGHT button once to check that the projection was not accidentally turned off.

A/C CORD: The projection will continuously display if the A/C cord is attached correctly, and the projection is turned on.

- Check that the A/C cord attached properly. Line up the cord and push it in the clock.
- Once you are sure it is in correctly, *remove the batteries*. If the display goes blank, the A/C cord needs adjustment.
- Check that the outlet or power strip has power.

Note: When you **adjust the projection, you adjust the backlight** at the same time.

IMPORTANT: When operating on A/C power, **the backlight, projection and USB charging port** will turn off while the Projection Alarm searches for the WWVB signal, to avoid interference. The backlight and projection will return after the 2-10 minute search (which occurs during the late night or early morning hours). The USB charging port will then resume working.

Projection Adjustments

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

Operating on a/c power:

Projection is displayed constantly when operating on A/C power, unless manually shut off.

Rotate Projection Image: When you place the clock and the projection looks upside down or sideways, you can rotate the image to make it readable.

- Press and release the PROJECTION button to rotate the projection image 90 degrees.
- Press and release the PROJECTION button again to rotate another 90 degrees.

Change Projection Mode: Hold, then release the PROJECTION button to switch projection modes. You will need to watch the projection image to view the changes.

- **Time and Outdoor Temperature:** alternate every 5 seconds (default)
- **Time:** Hold and release PROJECTION button
- **Outdoor Temperature:** Hold and release PROJECTION button again

Projection and Backlight Intensity: The brightness of the projection is adjustable in two settings: High, and Low.

- **HIGH:** The projection is defaulted to HI (brightness) when the A/C adapter is in use.
- **LOW:** Press and release the SNOOZE/LIGHT button to dim the brightness of the projection.
- Press and release the SNOOZE/LIGHT button to return projection to full strength (HIGH).

Turn Off: Hold the SNOOZE/LIGHT button to turn the projection Off or On.

Note: The backlight on Low is difficult to see in a well-lit room.

Note: When the Adapter is NOT in use, the High/Low feature is not available.

Note: When you **adjust the projection, you adjust the backlight** at the same time.

Battery Power: Press and release the SNOOZE/LIGHT button to show the projection for 10 seconds. The projection will **not** stay on when operation on battery power only.

Daylight Saving Time

- Depending 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.

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.