# 724-1409 FAQS

We are weather enthusiasts like you and know proper running equipment is important. These FAQS provide valuable information on setup, positioning, and troubleshooting your station. We recommend Adobe Reader version 10 or greater available at: http://get.adobe.com/reader

# CONTENTS

# GENERAL INFORMATION

## BATTERIES: WHAT DO I NEED TO KNOW ABOUT BATTERIES?

- Good fresh batteries are important for best performance in your sensors and as backup in your station.
- Batteries with an expiration date of 2020, were manufactured in 2010.
- We recommend batteries with an expiration date no more than 6 years in advance of the current year for best performance.
- A minimum voltage of 1.48 volt per battery is required for best performance.
- Lithium batteries may be used in outdoor sensors. Alkaline batteries for the station.

## HARDWARE: SENSORS AND STATION

### Your 724-1409 station comes with:
TX14R Rain sensor, 433MHz
This is the only compatible rain sensor for your station.

## WHAT ARE THE POWER REQUIREMENTS FOR THIS STATION?

**TX14R**: 2-AA batteries
**724-1409**: 2-AA batteries

## SETUP: HOW DO I SETUP MY STATION?

1. Install batteries into your sensor.
2. Install batteries into the station.
3. Let sensor and station sit within 10 feet of each other for several minutes to lock the sensor signals to the station.

Once the sensor is connected (0.00 will show for rain), you can position your sensor outside.

## MOUNTING: WHERE DO I MOUNT/POSITION MY SENSOR?

Your sensor reads independently to your station.

## TX14R:
- Mount your rain sensor in an open area for a more accurate rain count.
- Placing the rain sensor on the ground provides the most accurate rainfall measurement as there is no wind shear. Unfortunately, since insects think of rain gauges as personal hotels, placing the sensor 3-6 feet above ground may deter the insects.
- Be sure your rain sensor is not sitting in a depression that would prevent rain from draining form the sensor properly.
- Your rain sensor should be accessible to allow for periodic cleaning of leaves or other debris that may clog the funnel.
- Install the Rain sensor on a level platform that is stationary and has a direct line of sight to your station.
- Insert mounting screws through the holes in the base of the rain sensor. Do not over tighten.
- Avoid other wireless rain sensors, as this can cause inaccuracy.
- The maximum wireless transmission range to the rain station is over 300 feet (91 meters) in open air, not including walls or floors.

## WHERE TO I PLACE MY STATION?

Your station is designed for placement on a desk or countertop, or wall mounted.
- Best reception occurs when only one wall is between your station and your sensor outside.
- Position you station six feet from other electronics and wireless devices. If you suspect RF (radio frequency) interference, simply move your station a few feet.

## WHAT IS DISTANCE | RESISTANCE | INTERFERENCE?

### Distance:
- The maximum transmitting range in open air is over 300 feet (91 meters) between your sensor and your station.
- Consider the signal path from your station to your sensor as a straight line.
- Consider the distance the station is from other electronics in the home.

### Resistance:
- Each obstacle: walls, windows, vegetation, stucco, concrete, and large metal objects will reduce the effective signal range by about one-half.
- Mounting your sensor on a metal fence can significantly reduce the effective signal range.

### Interference:
- Consider electronics in the signal path between the sensors and your station.
- Simple relocation of the sensors or the station may correct an interference issue.
- Windows can reflect the radio signal.
- Metal will absorb the RF (radio frequency) signal.
- Stucco held to the wall by a metal mesh will cause interference.
- Transmitting antennas from: ham radios, emergency dispatch centers, airports, military bases, etc. may cause interference.
- Electrical wires, utilities, cables, etc. may create interference if too close.

## READINGS: HOW DO I INTERPRET THE RAIN READINGS?

You have the option to have the rainfall timeframe you prefer, to be shown on the station all the time. Simply press and release the RAIN/ALERT button to select:

- **NOW** – Shows rainfall for the current rain event. Starts recording when rain begins and stops recording when there has been no additional rainfall for 30 minutes. After 30 minutes this reading reset to zero.

- **One Hour** – Shows rainfall in the past 60 minutes. This is a rolling value for the past 60 minutes and not a set time. As time passes without rain, this values will count down to zero.

- **24 Hours** – Shows rainfall in the past 24 hours as a rolling value that updates every hour to show the past 24 hours. As time passes without rain, this values will count down to zero.

- **7 Days** – Rainfall for the past 7 days. This is a rolling 7 day period, not a Monday through Sunday record. Updates at midnight each day. As time passes without rain, this values will count down to zero.

- **Month** – Current month. Record is from the first day of the month to the last day of the month. When in the middle of the month, it will show the readings from the first day of the month to the last full day. Example. If today is the 15th of the month, the top speed is from the 1st to the 14th. After midnight, the 15th will be included.

- **Year** – Current year starting January 1.

- **Total** – Shows all rainfall from the time the station was setup until the station was powered down or the value was reset. The total rainfall can show years' worth of data.

## HOW DO I RESET THE RAIN READINGS?

1. Press the RAIN/ALERT button to view rain readings: (Now, One Hr, 24 Hrs., 7 Days, Month, Year or Total)
2. While viewing individual rain readings, hold the -/REHISTORY/TIME SET Button for 5 seconds to reset that rainfall reading.

**Note:** This will not affect the 12 month history readings which are stored in memory.

## HOW DO I VIEW MY HISTORY BY MONTH?

- Rainfall History is viewable by the month for the past 12 months.
- Press the HISTORY/TIME HISTORY/TIME SET Button to view previous month's rainfall totals.
- HIST, Month, Year and Rainfall amount will show.

**Note:** The History by the month cannot be reset.

## HOW DO I READ THE RAIN CYLINDER?

The rain cylinder has 10 segments that change with the rainfall total. The numbers next to the cylinder graph will change with increased rainfall amounts.

## Up to 1 inch of rainfall:
- Each segment indicates 0.1 inch of rainfall.
- The graph will represent 1 inch.

## Over 1 inch of rainfall:
- The graph will represent 2 inches of rainfall at a time.
- Each segment indicates 0.4 inches of rainfall.
- Cylinder graph will read up to 70 inches of rain. Over 70 inches of rain, the graph will show full.

## ALERT: 24 HOUR RAINFALL ALERT

Your station offers a programmable 24-hour rainfall alert.

1. Hold the RAIN/ALERT button for 3 seconds to enter the alert settings mode.
2. Alert OFF will show. Use the - or +/MODE button to turn ON the rainfall alert.
3. When ON is selected the 24-hour rain alert value will show. Use the - or +/MODE buttons to Adjust alert value.
4. Press the RAIN/ALERT button to confirm and exit.

## ALERT SOUNDS | DISARM ALERT

o When armed alert value is reached, station will beep 5 times each minute, until out of alert range.
o The flashing alert icon will indicate alert.
o Press any button to stop the temp alert sound.

## Disarm alert:
1. Hold the RAIN/ALERT button for 3 seconds, until you see Alert ON.
2. Press the - or +/MODE button to turn alert OFF.
3. Press RAIN/ALERT to exit.

## NOW RAIN ALERT

o At the beginning of a rain event (NOW), the rain drop icons will flash indicating current rainfall.
o The drops will continue to flash until the NOW reading reaches zero.
o This is a silent alert. Your station will not beep, just the raindrops will flash.
o This silent alert cannot be deactivated.

## HOW DO I MANUALLY SET THE TIME?

- Hold the HISTORY/TIME HISTORY/TIME SET Button to enter the settings menu.
- Move through settings with the TIME HISTORY/TIME SET Button.
- The +/MODE or - button will adjust settings.

## Settings Menu Order:
1. Beep ON |OFF
2. Set Hours
3. Set Minutes
4. 12 | 24 Hour time format
5. Set Year
6. Set Month
7. Set Date
8. Month/Day or Day Month order
9. Inches |Millimeters of rain
10. Fahrenheit | Celsius temperature

## Full Program Menu:
1. Hold the HISTORY/TIME HISTORY/TIME SET Button 3 seconds. BEEP ON will show. Press and release the +/MODE or – button if you want the Beep sound OFF.
2. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to the hour. 12: and HOUR will show. Press and release the +/MODE or – button to adjust the hour.
3. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to the minutes. : 00 and MINUTES will show. Press and release the +/MODE or – button to adjust the minutes.
4. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to the year. 2017 and YEAR will show. Press and release the +/MODE or – button to adjust the year.
5. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to the month. 01 and MONTH will show. Press and release the +/MODE or – button to adjust the month.
6. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to the date. 01 and DATE will show. Press and release the +/MODE or – button to adjust the date.
7. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to Month/Day or Day/Month selection. M/DAY will show. Press and release the +/MODE or – button to select.
8. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to select INCHES or MILLIMETERS
9. UNITS INCHES will show. Press and release the +/MODE or – button to select MILLIMETERS for rainfall.
10. Press and release the HISTORY/TIME HISTORY/TIME SET Button to confirm and move to select Fahrenheit or Celsius.
   TEMPERATURE °F will show. Press and release the +/MODE or – button to select Celsius (°C).
11. Press and release the HISTORY/TIME HISTORY/TIME SET Button to exit.

   **Note:** The weekday will adjust automatically when the year, month and date are set.

   **Note:** If no buttons are pressed for 20 seconds, the station will return to normal rain display

## WEEKDAY: HOW DO I CORRECT THE DAY OF THE WEEK?

- The day of the week will set when the Year, Month, and Date are set.  If your day of the week is incorrect, yet the month and date are correct, please go the program menu and check the YEAR setting.

## DOES THIS STATION HAVE 12 HOUR AND 24 HOUR TIME OPTIONS?

- Yes, you can select 12 hour or 24 hour time format in the program menu.

## HOW DO I VIEW CALENDAR OR INDOOR TEMPERATURE?

- Press and release the +/MODE button to select Calendar or Indoor Temperature to be displayed.
- You cannot show both calendar and indoor temperature at the same time.

## BACKLIGHT: DOES THIS STATION HAVE A BACKLIGHT?

- No. Since your rain station is battery operated there is not a backlight.

## BATTERY: WHAT DO THE BATTERY ICONS MEAN?

- A battery icon will appear near your rain reading when you need to change batteries in your rain sensor.
- A battery icon will appear near your indoor temperature reading when you need to change batteries in your station.
- See how to change batteries under troubleshooting.

# TROUBLESHOOTING

## HOW DO I CHANGE BATTERIES IN MY SENSOR WITHOUT LOSING DATA?

We designed this station for convenience, so that a simple change of batteries does not lose data or require you to power down your station.

- If you have a low battery icon on your station, you need to replace the batteries in the sensor or in the station as indicated.
- Simply install fresh batteries into your sensor then hold the SENSOR button for 3 seconds to search for rain sensor.
- It is recommended to change batteries in the rain station and rain sensor at the same time.

## FACTORY RESET: HOW DO I FACTORY RESET MY STATION?

A Factory Restart returns the station to its default settings (erases history) and to "out of the box" condition.

1. Remove batteries from your sensor and batteries from your station.
2. Press any button 20 times.
3. After 15 minutes insert fresh batteries into your sensor, and into your rain station.
4. Wait 15 minutes to establish a strong connection.
5. Place sensor outside.

## WHY AM I GOING THROUGH BATTERIES QUICKLY?

- Test a new set of 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 sensor.

## RAIN DASHES: WHY ARE THERE DASHES FOR RAIN READINGS?

Dashes indicate the connection is lost between your station and the rain sensor.
- My first thought is always to check that my batteries are good. If it has been working and now is not, low batteries are the most common connection problem.
- Next, check your distance, resistance and interference. If everything was working previously at the same location, this is likely not the issue. However sometimes there is new growth on trees or bushes that cause another barrier. Radio Frequency (RF) signal does not travel well through foliage due to the moisture content.
- Occasionally adding a new wireless electronic device to the home will cross the signal path for the sensor. If this occurs try moving your station a few feet or turning the station 90 degrees for a better angle to receive the sensor signal.
- When you have good batteries, and good location, hold the SENSOR button for three seconds to search for your sensors. If you regain connection while the sensor is mounted, great. If you do not regain connection, bring the sensor within 10 feet of the station and search again.

## RAIN INTERMITTANT: WHY DO MY RAIN READINGS COME AND GO?

- RF (radio frequency) communication may come and go occasionally. This can be normal in some environments (e.g. moister climates).
- If a sensor goes out, please wait 2-4 hours for it to reconnect on its own. Please be patience – these stations can reconnect on, after many hours out.
- RF (radio frequency) communication is not always 100% on. Certain temporary conditions can cause it to go out for a time (e.g. 100% humidity).

**If a miss happens:**
- If your rain sensor loses connection to your station for any reason, the station will show dashes after 30 minutes.
- The station will search for 5 minutes every hour to reconnect with rain sensor.
- Be sure you have good [batteries](). Manually search for your sensor.

**Try this:**
- Bring your rain sensor within 10 feet of your station and make sure it is connected to the station. Your station will show 0.00 for rain when connected and no rain has occurred.
- After 15 minutes move the rain sensor into the next room with a wall between the sensor and the station for 1 hour.
- If there is no loss of signal in that hour, move the rain sensor just outside.
- Continue moving the rain sensor back to its original location.
- If you lose connection, look for sources of [interference]().

## RAIN LOW: WHY IS MY RAINFALL READING LOW?

- Low rain readings indicate the rain sensor and station are connected.
- Check that the rocker tips freely.
- Check the funnel and the inside of the rain sensor for insect nests or debris that may cause loss of rocker motion.
- Be sure to mount the rain sensor level.

**Complete a Tip Test:**
Write down the Total Rain reading or reset the Rain Total to 0.00. With rain sensor mounted slowly pour water into the funnel to tip the rocker of the rain sensor 10 times. Wait at least 2 minutes for all the rain to collect. Repeat three times.

- Compare these tests. If they are the same, then your rain is reading correctly. If the rain readings are different, repeat the test 3 times to avoid human error. Then look for causes such as mounting too tight or debris clogging the funnel.

## RAIN HIGH: WHY IS MY RAINFALL READING HIGH?

- Check for sources of RF (radio frequency) interference such as other wireless rain sensors, ham radios or electric transformers.
- Keep the station six feet from cordless phones or wireless routers etc.

**Complete a Tip Test:**
Write down the Total Rain reading or reset the Rain Total to 0.00. With rain sensor mounted slowly pour water into the funnel to tip the rocker of the rain sensor 10 times. Wait at least 2 minutes for all the rain to collect. Repeat three times.

- Compare these tests. If they still read high then contact support.

## HOW CAN I CLEAN THE RAIN SENSOR?

1. Remove rain funnel (open locking tabs on both sides and pull off funnel)
2. Gently remove debris or insects inside the rain sensor.
3. Clear debris from drain vents.
4. Clear debris from the rain funnel.
5. Reinstall the rain funnel.

**Note:** Do not oil the rain sensor.

## WHY ARE PARTS OF LETTERS OR NUMBER MISSING?

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

## WHY IS MY NEW RAIN STATION UNREADABLE?

- On a brand new rain station, check for thin plastic films of printed scratch guard that may be on the screen. This thin piece of plastic has printed numbers for store displays.
- With all power removed the rain station should be blank.
- If numbers still appear, please check for scratch guard.
- Check that the batteries polarity is correct.
- This is generally a power related issue.
- Batteries may be overpowered or underpowered. Remove batteries from Rain station.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.