

724-2310 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

| | |
|---|---|
| 724-2310 FAQs..... | 1 |
| Contents | 1 |
| General Information..... | 2 |
| BATTERIES: What do I need to know about batteries?..... | 2 |
| HARDWARE: Sensors and Station..... | 2 |
| What are the power requirements for this station? | 2 |
| SETUP: How do I setup my station?..... | 2 |
| MOUNTING: Where do I mount/position my sensor?..... | 3 |
| Where to I place my station? | 3 |
| What is Distance I Resistance I Interference? | 3 |
| READINGS: How do I interpret the Rain Readings? | 4 |
| How do I reset the Rain Readings?..... | 4 |
| How do I view my History by month? | 4 |
| How do I reset the Rain History Readings?..... | 5 |
| Can I view rain on a specific date?..... | 5 |
| ALERT: How do I set a rainfall alert? | 5 |
| How do I Deactivate my alert?..... | 5 |
| How do I Read the Rain Cylinder? | 6 |
| TIME: Does this station have Atomic Time? | 6 |
| How do I manually set the time? | 6 |
| WEEKDAY: How do I correct the day of the week? | 7 |
| Does this station have 12 hour and 24 hour time options?..... | 7 |
| BACKLIGHT: Does this station have a backlight?..... | 7 |
| BATTERY: What do the battery icons mean? | 7 |
| Troubleshooting..... | 7 |
| How do I change batteries in my sensor without losing data?..... | 7 |
| BAR CODE: Why is there a bar code and ID number ON my sensor? | 7 |

| | |
|---|----|
| How do I delete sensor ID numbers? | 8 |
| FACTORY RESET: How do I factory reset my station? | 8 |
| Why am I going through batteries quickly? | 8 |
| RAIN DASHES: Why are there dashes for Rain readings? | 8 |
| RAIN INTERMITTANT: Why do my Rain readings come and go? | 9 |
| RAIN LOW: Why is my rainfall reading low? | 9 |
| RAIN HIGH: Why is my rainfall reading high? | 10 |
| How can I clean the rain sensor? | 10 |
| Why are parts of letters or number missing? | 10 |
| Why is My new rain STATION unreadable? | 10 |

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 724-2310 station comes with:

LTV-R1 Rain sensor, 915MHz

This is the only compatible rain sensor for your station.

WHAT ARE THE POWER REQUIREMENTS FOR THIS STATION?

LTV-R1: 2-AA batteries

724-2310: 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. This provides freedom to position each sensor in the best location available.

LTV-R1:

- 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 from 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 three 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 400 feet (121 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.

- Best reception occurs when only one wall is between your station and each sensor outside.
- Position you station six feet from other electronics and wireless devices. If you suspect RF (radio frequency) interference, simply move your weather station a few feet.

WHAT IS DISTANCE | RESISTANCE | INTERFERENCE?

Distance:

- The maximum transmitting range in open air is over 330 feet (100 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 sensors 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 ALERT/RAIN 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.
- **1 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** - 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** – Shows rainfall for the current month and the past 11 months combined.
- **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?

- Hold the RESET button for 5 seconds to reset all current rainfall readings to 0.00.

HOW DO I VIEW MY HISTORY BY MONTH?

- Press and release the MONTH/HISTORY button to view rain history by the month. "Month Total" will show. A total of 12 months of history can be viewed.
- Press and release the + or - button to view rainfall by the month.
- Press MONTH/HISTORY to exit history mode.

HOW DO I RESET THE RAIN HISTORY READINGS?

- Press and release the MONTH/HISTORY button to view rain history by the month. “Month Total” will show.
- Hold the RESET button 5 seconds to reset individual month’s history. Dashes will show.

CAN I VIEW RAIN ON A SPECIFIC DATE?

You can view your rainfall by date range.

1. Hold the FIND/DATA button for 3 seconds to select rain history total. “Date Since” will show.
2. Press the + or – button to select the month at the **start** of your date range.
3. Press and release the FIND/DATA button to select your starting date. Press the + or – button to adjust.
4. Press and release the FIND/DATA button for 3 seconds to select rain history total. “Date To” will show. Press the + or – button to select the month at the **end** of your date range.
5. Press and release the FIND/DATA button to select your ending date. Press the + or – button to adjust.
6. Press and release the FIND/DATA button to view the total rainfall for the selected date range. “Range Total” will show with the rainfall.
7. Hold the FIND/DATA button for 3 second to exit.

ALERT: HOW DO I SET A RAINFALL ALERT?

Your station offers a programmable 24-hour rainfall alert.

1. Hold the ALERT/RAIN button 3 seconds to set your 24 hr rain alert.
 2. The RAIN ALERT and ON/OFF will appear. Press and release the + or - button to turn ON/OFF.
 3. Press the ALERT/RAIN button to confirm and select the rain alert value.
 4. The rain alert value and SET VALUE will show. Press and release the + or - button to adjust the alert value.
 5. Press the ALERT/RAIN button to confirm and exit.
- When armed alert value is reached, station will beep 5 times, once per minute, until out of alert range.
 - The flashing alert icon will indicate alert.
 - Press any button to stop the temp alert sound. The alert icon will flash while value is in alert range.

HOW DO I DEACTIVATE MY ALERT?

1. Hold the ALERT/RAIN button for 3 second to view your alert.
2. Use the + or - button to turn the alert off.
3. Press and release RAIN/ALERT button to exit.

HOW DO I READ THE RAIN CYLINDER?

- The cylinder graph is a visual representation of rain readings.
- The graph will change appearance according to rain reading you are viewing.
- When rainfall exceeds 2 inches, the graph remains at full.

TIME: DOES THIS STATION HAVE ATOMIC TIME?

- No, your rain station does not have atomic time.

HOW DO I MANUALLY SET THE TIME?

Settings menu order:

1. Language (English, Spanish)
2. Beep ON/OFF
3. Time Format
4. Hour
5. Minute
6. Year
7. Month
8. Date
9. Unit (Inches/Millimeters of Rain)
10. Temperature Fahrenheit/Celsius

Full Program Menu:

1. Hold the SET button for 3 seconds to enter settings. LANGUAGE ENG will show. Press and release the + or – button to select English or Español.
2. Press the SET button to move to the next item. BEEP ON will show. Press and release the + or – button if you want the Beep sound OFF.
3. Press and release the SET button to confirm and move to select 12/24 hour time format. 12H FORMAT will show. Press and release the + or – button if you want 24 hour time format.
4. Press and release the SET button to confirm and move to the hour. 12: and HOUR will show. Press and release the + or – button to adjust the hour.
5. Press and release the SET button to confirm and move to the minutes. :00 and MINUTES will show. Press and release the + or – button to adjust the minutes.
6. Press and release the SET button to confirm and move to the year. 2017 and YEAR will show. Press and release the + or – button to adjust the year.
7. Press and release the SET button to confirm and move to the month. 01 and MONTH will show. Press and release the + or – button to adjust the month.
8. Press and release the SET button to confirm and move to the date. 01 and DATE will show. Press and release the + or – button to adjust the date.
9. Press and release the SET button to confirm and move to select INCHES or MILLIMETERS
10. UNITS INCHES will show. Press and release the + or – button to select MILLIMETERS for rainfall.
11. Press and release the SET button to confirm and move to select Fahrenheit or Celsius. TEMPERATURE °F will show. Press and release the + or – button to select Celsius (°C).

12. Press and release the 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](#).

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 press the SENSOR button to view ID 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.

BAR CODE: WHY IS THERE A BAR CODE AND ID NUMBER ON MY SENSOR?

- Did you know that your sensor will “lock” into your station?
- This ensures that the sensor readings are from your sensor and not a neighbors’.

- When you press and release your SENSOR button you will see your rain sensor ID.
- The sensor ID on the station should match your first six numbers on the barcode of your rain sensor.
- These sensor will remain locked to your station until you manually delete it.

HOW DO I DELETE SENSOR ID NUMBERS?

In the rare event you need to replace your sensor, you will first need to delete the old sensor ID from your station.

1. Remove batteries from your old sensor.
2. Press and release the SENSOR button to view your sensor ID number.
3. While viewing your sensor ID, hold the RESET button for 5 seconds to delete your old sensor ID. Dashes will show for the ID number.
4. Your station will automatically begin searching for the new sensor.
5. Install batteries in your new sensor and allow up to three minutes for your new sensor readings and ID to appear on your station.

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. Be sure you have fresh batteries in sensor and station.
2. Bring the sensor within 15 feet of the station.
3. Hold the SENSOR and RESET buttons together for 5 seconds to reset the station.
4. Keep sensor close to station for 15 minutes, to sync properly.
5. After 15 minutes, return the sensor to its outdoor location.

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.