724-1415BL 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 2028, were manufactured in 2018.
- We recommend batteries with an expiration date at least 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 724-1415BL station comes with:
TX14RBL Rain sensor, 433MHz (Can read TX14R rain sensor)
TX141TH-Bv2 Thermo-hygro sensor, 433MHz (can read all versions TX141TH-B sensors)

WHAT ARE THE POWER REQUIREMENTS FOR THIS STATION?

TX141TH-Bv2: 2 AA batteries
TX14RBL: 2-AA batteries
724-1409: 2-AA batteries
Optional: USB180-P11W USB power cord (constant backlight)

SETUP: HOW DO I SETUP MY STATION?

1. Install batteries into each sensor.
2. Install batteries into the station.
3. Let sensors 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, Outdoor Temperature Humidity reading), you can position your sensors outside.

MOUNTING: WHERE DO I MOUNT/POSITION MY SENSOR?

Your sensor reads independently to your station.

TX14RBL:
- 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. Use the bubble level inside the sensor to be sure it is level.
- 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 330 feet (100 meters) in open air, not including walls or floors.

TX141TH-Bv2:
- Mount outdoor temperature sensors vertically and under a bit of an overhang.
- Protect the outdoor sensor from standing rain or snow, and from the overhead sun, which can cause it to read incorrectly. Generally, mounting under an eave or deck rail works well.
- Construct a small roof or box for the sensor if you do not have an overhang. Please be sure it is well vented.
- Mount the sensor on the North side to prevent sun from causing incorrect readings.
- Mount at least 6 feet in the air for a strong signal.
- Outdoor sensors are water resistant and can be outdoors, however they are not water proof.
- Avoid more than one wall between the sensor and the rain station.
- 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.
- Place the outdoor sensor and the rain station in the desired shaded locations and wait approximately 1-hour before permanently mounting the sensor to ensure that there is proper reception.
- Do not mount the sensor on a metal fence. This significantly reduces the effective range.

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 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 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?

24 HOUR RAIN | CURRENT RAIN READING

24 Hour Rain: is the default setting at the top of the station. This is based on the past 24 hours accumulated rain total. At each full hour, 1 hour rainfall is recorded. This is a running total.

Current Rain: The 24 hour rain reading at the top of the station will automatically change to CURRENT rainfall at the start of a new rain event. CURRENT rain will continue to display until there has been no additional rainfall for **15** minutes. At that time the 24 Hour Rain will again display.

Note: Current Rain does not affect the accuracy of the 24 hour rain at the top of the station or in the history. The Current Rain merely **replaces** 24 Rain display temporarily, at the top of the station during a rain event.

RAINFALL HISTORY

Press and release the HISTORY button to toggle through rainfall history readings:

- 1 HOUR
- 24 HOURS
- 7 DAYS
- MONTH
- YEAR
- TOTAL

Rain History will show for 5 seconds (to allow time to reset) and will stay on the last selection if no other action in 5 seconds.

- **1 HOUR:** Last one-hour rain fall (12 consecutive 5 minutes rainfall accumulated total). Example: current time is 6:49, 1HR rain is accumulated total between 5:50 to 6:49. Updates every 5 minutes.

- **24 HOURS**: Based on past 24 hours accumulated rain total. At each full hour, 1 hour rainfall is recorded.
  This is a running total.
  Note: this is the default setting for the readings at the top of the station. Replaced by CURRENT rainfall during a rain event. 24 HOUR rain is also an option is the Rain History section.

- **7 DAYS**: Accumulated last 7 consecutive 24HR rain. At each day 0:00, 24HR rain is recorded. Not a subject to the calendar. Be sure time is set.

- **MONTH: Current Month**. Ex: January 1-January 31. At the first month calendar day 0:00, month rain is reset to 0. Accumulated rain from 1st of xx (month) to current day xx (month). Current month will show in date area.
  Note: Press and release the HISTORY button to view MONTH Rainfall History records. Press and release the PLUS (+) button to toggle through the past 12 monthly history readings. **Must press HISTORY button** first to toggle monthly rainfall readings.

- **YEAR: Current year** January 1-December 31 total. Example: current is date is Nov. 10, 2018. Year rain is Jan 1, 2018 –Oct 31 2018 month totals, plus the current month (Nov 1-10) rain. Current Year will show in time display.

- **TOTAL**: Total rainfall since powered on or reset.

Note: As time passes without rain, the 1 hour, 24 hour, and 7 day rain totals will count down to zero.
Note: The Rain Cylinder Graph will not change with Rainfall History.

1. Press the HISTORY button to view rain readings:
2. While viewing individual rain readings, hold the (–) MINUS button for 5 seconds to reset that rainfall reading.

Your station offers a programmable 24-hour rainfall alert.

1. Hold the **HISTORY** button 2 seconds to enter settings mode.
2. Press the + or – button to Arm or Disarm the Rain Alert. Alert icon ⚠ will show when armed.
3. Press the **HISTORY** button to move to Alert value.
4. Press the **+** or **-** button to adjust the flashing value. Hold to adjust quickly.
5. Press the **HISTORY** 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 rain alert sound.

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

HOW DO I MANUALLY SET THE TIME?

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 **LIGHT** button at any time to exit.

Settings order:
• Language (English, Español, Français)
• Beep ON/OFF
• 12/24 Hour Format
• Hour
• Minutes
• Year
• Month
• Date
• Temperature Fahrenheit/Celsius
• Rainfall Inches/Millimeters

To begin:
1. Hold the SET button for 2 seconds to enter setting mode. **ENGLISH** will flash. Press the + or - button to select language.

2. Press SET to confirm and move to the 12/24 hour time format. **FORMAT** will show and **12Hr** will flash. Press the + or - button to select 24 hour time.
3. Press SET to confirm and move to the hour. The **HOUR** will flash. Press the + or - button to choose the hour.
4. Press SET to confirm and move to the minutes. The **MINUTES** will flash. Press the + or - button to choose the minutes.
5. Press SET to confirm and move to the year. The **YEAR** will show. **2019** will flash. Press the + or - button to change the year.
6. Press SET to confirm and move to the month. The **MONTH** will flash. Press the + or - button to change the month.
7. Press SET to confirm and move to the date. **DATE** will show. Date number will flash. Press the + or - button to change the date.
8. Press SET to confirm and move to the temperature unit. **TEMP °F** will show. °F will flash. Press the + or - button if you prefer °C (Celsius).
9. Press SET to confirm and move to rainfall units. RAINFALL **INCHES** will flash. Press the + or – button if you prefer RAINFALL MM (millimeters).
10. Press SET to confirm and move to Rainfall AVERAGE, HIGH, or LOW. **AVERAGE** will flash. Press the + or – button to select HIGH or LOW if your region of the country receive more or less rain than average.
11. Press SET to confirm and exit.

FLOWER: WHAT DOES IT MEAN?

Days With Rain and **Days Without Rain** are represented in numbers and with a Flower graphic.

This will update at midnight each day and at the start of any Rain Event.

Example: If the station is showing 3 Days Without Rain at 2:00PM and a New Rain Event occurs, the station should immediately update to 0 Days Without Rain. At midnight, that reading would change to 1 Day **With** Rain.

- If there was Additional Rainfall after midnight, then the following day at midnight, the reading would change to 2 Days **With** Rain.
- If there was NO Additional Rainfall after midnight, then the following day at midnight, the reading would change to 1 Day **Without** Rain.
- If DAYS WITHOUT RAIN exceed 199, the station will show **+199** and remain until rain occurs. This is the only time the PLUS (+) sign will show.

The Flower Graphic will change by rainfall and by AVERAGE, HIGH, LOW selected in the program menu.

FLOWER ICON CHART   Default

ICON	Low Regional Rainfall	Average Regional Rainfall	High Regional Rainfall
	7+ days of Rain	4+ days of Rain	4+ days of Rain
	0-24 Days Without Rain & 0-6 Days of Rain	0-9 Days Without Rain & 0-3 Days of Rain	0-6 Days Without Rain & 0-3 Days of Rain
	25-49 Days Without Rain	10-14 Days Without Rain	7-10 Days Without Rain
	50-99 Days Without Rain	15-19 Days Without Rain	11-17 Days Without Rain
	100+ Days Without Rain	20+ Days Without Rain	17+ Days Without Rain

- 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.

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

- Press and release the (+) PLUS button to select Outdoor or Indoor Temperature/Humidity to be displayed.

BATTERIES ONLY: Press LIGHT button to active backlight for 10 seconds (100%) when operating on batteries only.

ADJUSTABLE BACKLIGHT ONLY AVAILABLE WITH POWER CORD USE:
Press and release the LIGHT button to adjust the backlight 5 levels of intensity.
Intensity Levels: 0FF | 1.5% | 20% | 50% | 100%.

USB Power Cord (Required):

Program your backlight to automatically dim to 1.5% at a set hour, and return to 100% at a set hour.

Set Auto Dim Times:
1. **Hold** the LIGHT button 2 seconds to enter dimmer set mode. **AUTO DIM OFF** will show.
2. Press the + or – buttons to turn dimmer (ON). **AUTO DIM ON** will show.
3. Press the LIGHT button to select start time (Hour) for dimmer. **START TIME** and the **hour** will flash.
4. Press the + or – buttons to change the hour for the dimmer to be low light level.
5. Press the LIGHT button to select start time for dimmer to be on High light level.
    STOP TIME and the **hour** will flash.
6. Press the + or – buttons to change the hour for the dimmer to be high light level.
7. Press the LIGHT button to confirm and exit.

BATTERY: WHAT DO THE BATTERY ICONS MEAN?

- When the Battery Indicator appears near the Time, replace batteries in the Station.
- When the Battery Indicator appears near the Rain reading, replace batteries in the Rain Sensor.
- When the Battery Indicator appears near the Outdoor Temperature, replace batteries in the Outdoor Sensor.

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 (+) PLUS button for 2 seconds to search for both sensors.
- It is recommended to change batteries in the rain station and both 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.
- Hold the LIGHT and (+) PLUS button together for 5 seconds to Factory restart the station.
- Your Rain station will search for both sensors again.
- If batteries are old, replace them.

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 SHOWS NO?

- If either sensor loses connection, the station will show **NO** after 30 minutes of no reception.
- The station will automatically search for 3 minutes every hour to try and reestablish the sensor connection.
- To manually search for both sensors, hold the PLUS (+) button until the Reception Icon begins to flash. Dashes will show while searching.

- 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 (+) PLUS button for two 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.

NO FOR TEMPERATURE

- If either sensor loses connection, the station will show **NO** after 30 minutes of no reception.
- The station will automatically search for 3 minutes every hour to try and reestablish the sensor connection.
- To manually search for both sensors, hold the PLUS (+) button until the Reception Icon begins to flash. Dashes will show while searching.
- 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 causing 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 PLUS (+) button for two seconds to search for your sensor. 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 complete a factory reset.

WHY DON'T MY TEMPERATURE READINGS MATCH THE WEATHER REPORT?

- Your temperature readings are from your sensor at your location. Your local reporting station can be miles away, so readings may differ.

TEMPERATURE ACCURACY

- The Temperature sensor reads the environment. If your sensor reads high during the day but not at night, it is a mounting problem.
- **Side-by-side test**: Bring the Temperature sensor in the house and place it next to your station for 2 hours.
- Compare indoor and outdoor temperature. The temperatures should be within 4 degrees to be within tolerance.
- If the sensor reads correctly when next to your station, then try a different location outside.
- Look for heat sources such as sunlight, door or window frames, or reflected heat that may cause inaccurate readings.
- If your temperature is reading low, and location is not an issue, you may have a bad sensor.

WHAT DOES A READING OF "HI" OR "LO" MEAN?

- If your outdoor temperature reading shows "HI" or "LO", check that your batteries are good.
- Overpowered or underpowered batteries can cause this reading.
- If batteries are good, replace the outdoor sensor.

TEMPERATURE INTERMITTANT: WHY DOES MY TEMPERATURE 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 patient – 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 sensor loses connection to the station for any reason, the station will show dashes after 30 minutes.

- The station will search for 5 minutes every hour to reconnect with sensor.
- Be sure you have good batteries. Manually search for your sensor by holding the PLUS (+) button for three seconds.

Try this:
- Bring your sensor within 10 feet of your station and make sure it is connected to the station.
- After 15 minutes move the 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 sensor just outside.
- Continue moving the sensor back to its original location.
- If you lose connection, look for sources of interference.

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.