# LA CROSSE<sup>®</sup> TECHNOLOGY

Once you have set up the Wireless Weather Station with this guide, if you wish to activate the optional remote monitoring and alerts features, visit **www.lacrossealerts.com** to create a personal account and follow the easy, step-by-step online instructions to guide you through activation.

# Wireless Weather Station

Monitor home & backyard weather with the stand-alone Wireless Weather Station, or use included remote monitoring & alerts on your smartphone, tablet or computer.\* Model C84612 | Hardware Quick Setup Guide

The Wireless Weather Station information and full manual are available at: www.lacrossetechnology.com/c84612. The system works as a stand-alone Weather Station or a Remote Monitoring Weather Station when using the included La Crosse Alerts Gateway\*. There is no app. or software to install. All remote monitoring is done on www.lacrossealerts.com with an account that you create if you wish to use these added features.\*



SETUP INSTRUCTIONS STEP BY STEP

**IMPORTANT:** Make sure to observe the correct polarity when inserting batteries. The "+" markings on the batteries must line up with the diagrams inside the battery compartments. **Inserting the batteries incorrectly may result in permanent damage to the units.** During the initial setup process, place the wireless weather station and the outdoor sensors on a surface with 5-10 feet between each sensor and the weather station. **Only use Alkaline batteries, rechargeable batteries may not work:** 

STEP 1: Complete initial setup on a table with all components within 10 feet of each other.

# STEP 2:

- It is important to allow sufficient light to reach the solar panel while activating the wind sensor. Make sure the lights are on in the setup room and the solar panel is facing a 60W light bulb or brighter.
- Ensure the solar panel is <u>not covered</u>, and then remove the black protective foil on the solar panel. Remove the tape covering the reset hole.
- Use the provided plastic reset rod to gently press the reset button once in the hole on the bottom of the sensor.

STEP 3: Insert two "AA" size batteries into rain sensor with correct polarity.

# STEP 4:

• Insert two "C" size batteries into the thermo-hygro sensor with the correct polarity. Note: Allow all sensors to run for two minutes before inserting batteries in the weather station.

#### STEP 5:

- Insert three "C" size batteries into the wireless weather station with the correct polarity.
- Note: Every time the wireless weather station receives data from the sensors, the wireless icons "will blink once and then return to solid if the last transmission was successful. A wind speed or rainfall amount that reads "0" does not mean reception failure. It means that there was no wind or rain at the time of the last measurement. The thermo-hygro sensor syncs with the wind and rain sensors and sends all outdoor sensor data to the weather station. The thermo-hygro sensor tries for 4 minutes to sync to the wind sensor and then 4 minutes for the rain sensor. If not successful within 4 minutes, the thermo-hygro sensor will stop looking for the other sensors.



Press Reset Button on

Bottom of Wind Sensor (Solar Panel Must Face • Wait 10 minutes for reception from all sensors before setting time and date or mounting sensors outside.

#### STEP 6: Set Time and Date. See "Program Menu" below.

Setup Troubleshooting: If the sensor data fails to display for any of the outdoor sensors within 10 minutes, ("- - -"are displayed), remove the batteries from all units for 1 minute and start the Setup procedure again at Step 1.

#### Weather Station Program Menu

There are 5 function buttons located on the unit: SET,  $\blacktriangle$ /DATE,  $\forall$ /RAIN, ALARM, and MIN/MAX. The SET button moves through the program menu. Press and release the  $\blacktriangle$ /DATE or  $\forall$ /RAIN button to change a value. Save changes and exit the program menu at any point by pressing the MIN/MAX button.

- CONTRAST: Press and hold the SET button. LCD and a number from 1-8 will flash. Press and release the ▲/DATE or ▼/RAIN button to adjust the Contrast of the LCD. Press and release the SET button to confirm and continue.
- HOUR: The Hour will flash. Press and release the ▲/DATE or ▼/RAIN button until the correct Hour is shown. Press and release the SET button to confirm and continue.
- Note: When in 12h mode, there is only a 'PM' display, which appears under the word TIME. During the 'AM' hours this area will be blank.
- MINUTES: The Minutes will flash. Press and release the ▲/DATE or ▼/RAIN button until the correct Minutes are displayed. Press and release the SET button to confirm and continue.
- 12/24-HOUR TIME: 12h or 24h will flash. To change between 12h and 24h, press and release the ▲/DATE or ▼/RAIN button. Press and release the SET button to confirm and continue.
- Note: When in 24-hour time the date will display Day first, then Month.
- YEAR: The Year will flash. Press and release the ▲/DATE or ▼/RAIN button to set the correct Year. Press and release the SET button to confirm and continue.
- MONTH: The Month will flash. Press and release the ▲/DATE or ▼/RAIN button to set correct Month. Press and release the SET button to confirm and continue.
- DATE: The Date will flash. Press and release the ▲/DATE or ▼/RAIN button to set the correct Date. Press and release the SET button to confirm and continue.
- FAHRENHEIT/CELSIUS: °F will flash in the wind chill, indoor temperature and outdoor temperature areas. Press and release the ▲/DATE or ▼/RAIN button to select between Fahrenheit and Celsius. Press and release the SET button to confirm and continue.
- WIND SPEED UNIT: Wind Speed unit **MPH** will flash. Press and release the ▲/DATE or ▼/RAIN button to select from mph, m/s, knots, Beaufort, or km/h. Press and release the SET button to confirm and continue.
- RAIN UNIT: Rainfall Inches will flash. Press and release the ▲/DATE or ▼/RAIN button to select in or mm. Press and release the SET button to confirm
  and continue.
- PRESSURE UNIT: The Air Pressure unit inHg will flash. Press the ▲/DATE or ▼/RAIN button to select inHg or hPa. The default setting is inHg. Press and release the SET button to confirm and continue.
- RELATIVE PRESSURE SETTING: The **Relative Air Pressure** will flash. Press the ▲/DATE or ▼/RAIN button to adjust the Relative Air Pressure. Press and release the SET button to confirm and continue.
- Note: Refer to your local weather reporting station for an appropriate setting. It is important that this setting be adjusted for local conditions to ensure forecast accuracy.
- FORECAST SENSITIVITY: The Forecast Sensitivity will flash. The default setting of .09 works well in most areas of the country, however in areas with relatively constant pressure this should be set to .06, (within 30 miles of the coast) and in areas with significant pressure changes this should be set to 0.12 (within 30 miles of the desert). Press the ▲/DATE or ▼/RAIN button to adjust. Press and release the SET button to confirm and continue.
- STORM ALARM SENSITIVTY: The Storm Alarm Sensitivity will flash. The default setting of .15 works well in most areas, however you may need to adjust this level up or down depending on your local conditions. Use the ▲/DATE or ▼/RAIN button to adjust. Press and release the SET button to confirm and continue.
- STORM ALARM: AON or **AOFF** will flash. This will turn the Storm Alarm ON or OFF. Use the ▲/DATE or ▼/RAIN button to toggle the Storm Alarm ON (AON) and OFF (AOFF). Press and release the SET button to confirm and continue.
- WIND DIRECTION DISPLAY: The **Dash** in the wind compass will flash. Use the ▲/DATE or ▼/RAIN button to select the Wind Direction to be shown in degrees (dash) or letters NNW. Press and release the SET button to confirm and continue.
- FACTORY RESET: Res off will be displayed. Use the ▲/DATE or ▼/RAIN button to select:
- Res LO to reset the Internet connection only (all weather station readings remain unchanged) Weather station will need to be re-registered.
  - **Res ALL** only if you wish to Factory Reset the Weather Center.

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- Res OFF If you do not wish to restart the weather center, but were only changing settings (time date etc.).
- Press and release the SET button to complete the program menu.

Note: To Factory Reset the weather center, select **Res All** and press the SET button to confirm. The station will begin to count down numbers in the date area. When it is complete it will say **Done**. Then remove the batteries and follow the Restart up procedure.



#### Weather Station Display Modes

#### Press and release the SET button to toggle between the display of Mode 1 or Mode 2:

MODE 1: Wind Speed

24 hr. Pressure History Graph

MODE 2: Wind Gust 72 hr. Pressure History Graph

#### Other Buttons Provide Multiple Functions

# ▲/DATE:

- Press and release to switch between Date and Seconds display.
- Press and hold until the station beeps to search for remote sensors.

#### ▼/RAIN:

- Press and release to view 1-hour, 24-hour, 1-week, 1-month or Total Rainfall.
- Press and hold to sync the weather station with the gateway.

#### Rain Display

#### For all measurements, it is important time and date are set correctly on your weather station.

- 1-HOUR RAIN: The 1-hour rain reflects rain that has fallen from current time and back 1-hour. It updates every four minutes (15 measurements). The hour is not a fixed clock time measurement. It is literally an ongoing "last 60 minutes" timer.
- 24-HOUR RAIN: The 24-hour rain reflects the rain that has fallen from current time and back 24-hours. This is not a midnight to midnight measurement. The day is <u>not</u> a fixed clock time measurement. It is literally an ongoing "last 24 hours" timer.
- WEEKLY RAIN: The amount of rainfall of the previous week. Week: Rain total for the week is reset every 7 days. Week begins 1 day before the day the
  batteries are first inserted into the weather station. For example, if the batteries are inserted on a Thursday, the start of the weekly totals will be Wednesday
  of each week.
- MONTHLY RAIN: Monthly rain reflects the previous month's rain and will update 12AM the first day of the month.
- TOTAL RAIN: Total rain will remain until you manually reset this value. Total rain reflects the rain from time of weather station set-up until you manually reset the total rain.

#### Proper Placement of Weather Station, Sensors and Optional Gateway with Mounting Instructions

**IMPORTANT:** Ensure that all of the sensor data can be received at the intended mounting locations before you drill mounting holes. The outdoor sensors have a wireless range of **200-feet**. Keep in mind that the **200-foot** range equates to an open-air scenario with no obstructions. Each obstruction (roof, walls, floors, ceilings, etc.) will reduce the range.

The thermo-hygro sensor measures outdoor temperature & humidity and collects the data from the wind and the rain sensors and sends all outdoor weather data to the wireless weather station, so the thermo-hygro sensor must be within the **200-foot** wireless range of the wireless weather station. This allows the wind and rain sensors to be placed relative to the thermo-hygro sensor rather than the wireless weather station. See the **Wireless Connection Diagram** below.

- The wind and rain sensors must be mounted within the 200-foot wireless range of the thermo-hygro sensor and on the same side of the house. In
  addition, 915 MHz sensors transmit better at a minimum mount height of 6 feet.
- The wireless weather station must be within the 200-foot wireless range of the gateway to upload weather data to the Internet.

If the sensor wireless reception icons  $\mathcal{C}$  drop from the weather station as you move them into their intended locations, the sensors may be too far from the wireless weather station. Try moving the wireless weather station or the sensors closer and wait a few minutes to see if the wireless reception icons  $\mathcal{C}$  display again. If the wireless reception icons  $\mathcal{C}$  are still not displayed after re-positioning the sensors or the wireless weather station, hold the  $\blacktriangle$ /DATE button for 2 seconds to re-synchronize the wireless weather station with the sensors.



#### Wireless Self-Emptying Rain Sensor (TX58UN-IT)

The rain sensor should be mounted on a level surface in an open area within the 200-foot wireless range of the thermo-hygro sensor and on the same side of the house. Mount the rain sensor at least 6 feet off the ground level for optimum wireless transmission. The rain sensor should be accessible to allow for periodic cleaning of debris or insects. Do not over tighten mounting screws. They should be snug not tight to prevent inaccurate readings.

#### Wireless Solar Powered Wind Sensor (TX63U-IT)

The wind sensor must be installed with the front of the sensor (the solar panel) facing true south, or the reported wind direction will not be accurate. Mount within the 200-foot wireless range of the thermo-hygro sensor and on the same side of the house at a minimum height of 6 feet. The roof may or may not be an ideal mounting location. Secure the main unit to the shaft of the mast holder. Use the right-angle adaptor if the wind sensor will be mounted on a horizontal mast or surface.

Fasten the wind sensor to a suitable mast using the U-bolt, washers and nuts included. Note: Mount the wind sensor onto a mast so the wind can reach the sensor unobstructed from all directions for an accurate reading. The ideal mast is between 0.62" and 1.3" in diameter. The wind sensor DOES NOT have replaceable batteries - it consumes solar power and charges the internal battery pack automatically.

#### Wireless Thermo-Hygro (Sensor TX59UN-1-IT)

The thermo-hygro sensor is "weather resistant", but not "water proof". To ensure an extended life of your sensor, mount it in a semi-covered

place out of the elements. Minimum height is 6 feet; under the eaves on the North side of the house can be ideal to avoid the effects of sunlight. Mount the sensor 18" down from the eaves to ensure optimum performance. This will assure the temperature of the air coming out of the attic will not affect data collected by the sensor.

To wall mount the thermo-hygro sensor, fix the wall holder onto the desired wall using the included screws, plug the sensor firmly into the wall holder and replace the rain cover if it is not already in place. Note: After mounting the sensors, if the weather data is not received, press and hold the ▲/DATE button for 2 seconds to synchronize the wireless weather station to the sensors.

#### Wireless Weather Station (C84612)

The Wireless Weather Station is free standing with the fold out base stand or can be wall mounted.

#### Wall mount:

- Fix a screw (not supplied) into the desired wall, leaving the head extended out the by about 0.2 inches (5mm).
- Hang the weather station onto the screw. Ensure that it locks into place before releasing the professional weather station.

Free standing: Simply pull out the stand to the back of the weather station and place on a flat surface.

#### Position:

- Choose a location 6 feet or more from electronics such as cordless phones, gaming systems, televisions, microwaves, routers, baby monitors, etc., which can prevent signal reception.
- Place within range of the outdoor transmitters. The maximum transmitting range in open air is 200-feet (60 meters).
- Be aware of electrical wires and plumbing within a wall. This will interfere with signal reception.
- Obstacles such as walls, windows, stucco, concrete, and large metal objects can reduce the range.

#### La Crosse Alerts Gateway Set (OPTIONAL: Used ONLY if you want to use the remote monitoring and alert features.)

- The Gateway should be installed indoors in an easy-to-reach location near your network router, A/C power outlet and within range of the wireless weather station (200 feet in open space).
- After you complete the activation on www.lacrossealerts.com, you may mount the gateway to the wall with the included mounting plate and drywall anchors.
- Online registration requires that you press the gray button on the Gateway during setup.

Stand-Alone Weather Station OR Internet Connected Weather Station with Remote Monitoring & Alerts

#### Use the weather station as:

- (OPTION 1) Stand-alone weather station with wireless backyard weather sensors. Included Gateway Set and Activation Card is not required. Wireless weather station information and manual are available at: www.lacrossetechnology.com/c84612
- (OPTION 2) Internet-connected weather station with remote monitoring and alerts uses the included Gateway Set and Activation Card to enable the included Remote Monitoring & Text/E-mail Alerts from www.lacrossealerts.com
  - Remote Monitoring & Text/E-mail Alerts are included to remotely monitor your home & backyard weather on www.lacrossealerts.com using your smartphone, tablet or computer.\*
    - Set & receive custom e-mail & text alerts for:\*
      - Outdoor temperature & humidity •
        - Wind & rain •

High: Wind Gust

- Barometric pressure
- Indoor temperature & humidity
- High-speed Internet access, network router & Internet-enabled device with web browser required (not included)
- E-mail account and/or SMS text ability for remote monitoring & alerts required (not included)
- Connect the gateway to your router (not included) with the LAN cable, for wireless connection to the weather station.

Note: See the included Activation Card for the activation key to enable remote monitoring and alerts.\* There is no app. or software to install. All remote monitoring is done on www.lacrossealerts.com with an account that you create if you wish to use these added features.\*

#### Weather Station Features 14 Alarms

- High/Low: Pressure, Indoor Temperature, Indoor Humidity, Outdoor Temperature and Outdoor Humidity
- 24-hour Rainfall
- Storm Warning Alarm



Main Unit











#### Set Alarms

- From the normal time display mode, press and release the ALARM button repeatedly, until you see the alarm value you wish to set. 1.
- 2. Hold the SET button for 2 seconds and the selected value will flash.
- Press and release the ▲UP ARROW button or ▼DOWN ARROW button to set the alarm value. 3.
- Note: Hold an arrow button in to change the alarm value faster. 4
- Press the ALARM button to confirm the value set. The digit will stop flashing. Repeat these steps with each alarm value you wish to set. 5.

#### Activate/Deactivate Alarms

- Press and release the ALARM button until you see the alarm value to activate/deactivate.
- Press the SET button to switch the Alarm On or Off. 2.
- The alarm icon next to the value indicates the alarm is switched ON. 3.

# Indicates Alarm is Active

#### Storm Alarm

There is a Storm Warning Alarm in the program menu that can be turned on (AON) or off (AOFF)

- Hold the SET button to enter the program menu. LCD and a number will flash on the bottom of the display. 1.
- Press and release the SET button 13 more times and your will see a down arrow and a number from 0.09 to 0.27 flashing. This is the Storm Alarm 2. sensitivity (how many hPa the pressure falls before an alarm sounds). Use the ARROW buttons to select the setting desired.
- Press and release the SET button and AOFF or AON will show. Use the ARROW button to turn the alarm on (AON) or off (AOFF). Release all buttons 3. and allow the display to come back to a normal display. This will take about 15 seconds.

# MIN/MAX Data

Reset MIN/MAX Data

The weather station will automatically record the maximum and minimum value of the various weather data with time and date of recording.

#### View MIN/MAX data

Press the MIN/MAX button to view:

- MIN/MAX Indoor Temperature
- MIN/MAX Indoor Humidity
- MIN/MAX Outdoor Temperature
- MIN/MAX Dew Point Temperature
- MIN/MAX Outdoor Humidity
- MAX Wind Gust
- Total Rainfall

Weather Forecast Icons



The weather forecast icons indicate pressure trends in the next 12 hours not what you see out your window. Every time a new average pressure value has been obtained (once per minute); this value is compared with an internal reference value. If the difference between these values is bigger than the selected weather tendency sensitivity, the weather icon changes, either for worse or for better. In this case, the current pressure value becomes the new weather tendency reference. If the icons do not change, either the air pressure has not changed or the change has been too small for the weather station to register.

Each MIN and MAX value must be reset independently.

Press ▲/DATE button. The stored value will be

reset to the current value and current time.

desired Min or Max values to be reset.

Press and release the MIN/MAX button to show the

Working together with the weather icons are the weather tendency indicators (arrows located on the left and right sides of the weather icons). When the indicator points upwards, it means that the air-pressure is increasing and the weather is expected to improve, but when the indicator points downwards, the air -pressure is dropping and the weather is expected to become worse.

# SPECIFICATIONS

#### Wireless Weather Station (C84612)

- (Option 1) Works as a stand-alone Weather Station with manual set time or (Option 2) Works as a Remote Monitoring Weather Station with Alerts and Internet time/date sync when using the included gateway set
- Indoor Temp.: 41°F to 104°F (5°C to 40°C)
- Indoor Humidity: 3% to 99% RH
- Wind Chill: down to -40°F (-40°C)
- Pressure (inHg/hPa): Preset range 27.10 to 31.90 inHg
- Stores over 1750 weather records in 15 min. to 2 hr. intervals
- 3 "C" Alkaline batteries (included)
- 200 ft. wireless range
- 8.665" L x 1.594" W 6.795" H (220.1 x 40.5 x 172.6 mm)

#### Wireless Solar-Powered Wind Sensor (TX63U-IT)

- 100% solar-powered
- (built-in power cell, no batteries necessary)
- Wind speed: 0 to 111.8 mph
- (km/h, m/s, knots & Beaufort scale)
- High-efficiency solar panels maintain operation in every season 200 ft. wireless range
- 9.84" L x 5.74" W x 7.57" H (250 x 145.9 x 192.3 mm) without mounting base

#### Wireless Thermo-Hygro Sensor (TX59UN-1-IT)

- Outdoor Temp.: -40°F to 139.8°F (-40°C to 59.9°C)
- Outdoor Humidity: 3% to 99% RH
- 200 ft. ireless range
- 2 "C" Alkaline batteries (included)
- 3.13" L x 3.54" W x 7.45" H (79.4 x 89.8 x 189.3 mm)

# Wireless Self-Emptying Rainfall Sensor (TX58UN-IT)

- Rainfall for last hour, 24hr., week, month & total: 0 to 393.7 inches (0 to 9999.9 mm)
- 200 ft. wireless range 2 "AA" Alkaline batteries (included) 5.2" DIA. x 7.2" H (131.6 DIA. x 182.7 mm)

#### Gateway Set for Included Remote Monitoring & Text/E-mail Alerts (Optional, not needed for use as a stand-alone Weather Station)

- Gateway Set (includes Gateway, AC adapter & LAN cable) High-speed Internet access & network router required
- (not included) 200 ft. wireless range to Weather Station
- Internet-enabled smartphone, tablet or computer with web browser, E-mail account and/or SMS text ability for remote monitoring & alerts required (not included)\*

La Crosse Technology, Ltd provides a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and used in North America and only to the original purchaser of this product. To receive warranty service, the purchaser must contact La Crosse Technology, Ltd for problem determination and service procedures. Warranty service can only be performed by a La Crosse Technology, Ltd authorized service center. The original dated bill of sale must be presented upon request as proof of purchase to La Crosse Technology, Ltd or La Crosse Technology, Ltd's authorized service center.

La Crosse Technology, Ltd will repair or replace this product, at our option and at no charge as stipulated herein, with new or reconditioned parts or products if found to be defective during the limited warranty period specified above. All replaced parts and products become the property of La Crosse Technology, Ltd and must be returned to La Crosse Technology, Ltd. Replacement parts and products assume the remaining original warranty, or ninety (90) days, whichever is longer. La Crosse Technology, Ltd will pay all expenses for labor and materials for all repairs covered by this warranty. If necessary repairs are not covered by this warranty, or if a product is examined which is not in need or repair, you will be charged for the repairs or examination. The owner must pay any shipping charges incurred in getting your La Crosse Technology, Ltd product to a La Crosse Technology, Ltd authorized service center. La Crosse Technology, Ltd will pay ground return shipping charges to the owner of the product to a USA address only.

Your La Crosse Technology, Ltd warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (including the lack of reasonable and necessary maintenance); (2) damage occurring during shipment (claims must be presented to the carrier); (3) damage to, or deterioration of, any accessory or decorative surface; (4) damage resulting from failure to follow instructions contained in your owner's manual; (5) damage resulting from the performance of repairs or alterations by someone other than an authorized La Crosse Technology, Ltd authorized service center; (6) units used for other than home use (7) applications and uses that this product was not intended or (8) the products inability to receive a signal due to any source of interference.. This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.

LA CROSSE TECHNOLOGY, LTD WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION. THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDREN'S REACH.

This warranty gives you specific legal rights. You may also have other rights specific to your State. Some States do not allow the exclusion of consequential or incidental damages therefore the above exclusion of limitation may not apply to you.

#### Limited 1-year Warranty

For warranty work, technical support or info contact: La Crosse Technology, Ltd 2817 Losey Blvd. S. La Crosse, WI 54601



The complete instruction manual is available at: www.lacrossetechnology.com/c84612

Contact Support: 1-608-782-1610

Product Registration: www.lacrossetechnology.com/support/register

Scan QR code with smartphone for product registration

# Scan QR code with smartphone for info & complete manual

#### DISCLAIMERS

\* Disclaimers: La Crosse Technology, LTD. ("La Crosse") provides various alert and monitoring services to aid users. (1) Service providers may charge users for alert services. Standard messaging and data rates apply and will be billed to the customer's wireless account. Customers may be unable to receive text messaging or data service in some areas due to unavailability of service. (2) La Crosse shall not be liable for accuracy, usefulness or availability of data transmitted via the service. Users are solely responsible for damages to persons or property by service use.

#### FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device must not be co-located or operating in conjunction with any other antenna or transmitter. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

**Caution!** The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment. All rights reserved. This manual may not be reproduced in any form, even in part, or duplicated or processed using electronic, mechanical or chemical process without the written permission of the publisher. This booklet may contain errors or misprints. The information it contains is regularly checked and corrections are included in subsequent editions. We disclaim any responsibility for any technical error or printing error, or their consequences.

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