QUICK SET UP GUIDE

1 Shipping Contents

The shipping contents of the WS-3610 Touch Screen Weather Center include a Base Station (Receiver), a Thermo-Hygro Sensor (433 MHz Transmitter), a Rain Sensor and a Wind Sensor, the respective Connecting Cables, an AC Adapter and a CD-ROM with a Package of PC Software for collected Weather Data.

2 Connections

Connect the Rain Sensor and Wind sensor cables to their respectively marked jacks in the Thermo-Hygro sensor *BEFORE* powering up the Base Station or the Thermo-Hygro Sensor.

The Thermo-Hygro Sensor and Base Station can be directly connected via cable if the wireless 433 MHz radio transmission is not desired, and data transmission free of localized radio interference is an important factor.

(The use of the direct cable connection between the Base Station and Thermo-Hygro Sensor depends on the finally chosen operating mode (see Item **3 Power Supply**).

3 Power Supply

Depending on the type of data transmission from transmitter to receiver the Base Station and Thermo-Hygro Sensor can be supplied with power in the following possible combinations:

- With cable connection or 433 MHz radio transmission: Base Station uses batteries, Thermo-Hygro Sensor uses batteries.
- With 433 MHz radio transmission: Base Station uses AC/DC adapter, Thermo-Hygro Sensor batteries.
- With cable connection: Base Station and Thermo-Hygro Sensor use the AC/DC adapter.

The last mentioned cable connection eliminates the need for batteries (they may still be used as backup if there is a power outage) and provides data transmission that is less prone to interference.

4 To Begin Operation

To begin it is necessary to decide whether to use AC power (adapter included) or batteries to operate the system. Either method will ensure a connection to the Thermo-Hygro Sensor and Base Station by cable or by a 433 MHz wireless radio signal.

> **Note:** When first setting up the Weather Center, it is important to temporarily set up the entire system in close proximity on a table or counter top as it is intended to be used (wired or wireless). This step serves as a test to ensure that all components function correctly prior to final installation.

In all cases the Thermo-Hygro sensor must be powered up prior to the Base Station since the Sensor will send an identification code that must be received and stored by the Base Station within the first few minutes of operation. It is also important to allow the Base Station to operate for at least 15 minutes prior to touching any fields on the display.

5 System Start

After inserting the batteries or connecting the AC adapter, the LCD will display all of the digital segments for a few seconds.

Immediately after this the Base Station will enter a test mode during which all measured and received weather data is cycled through, updated and displayed for a period of approximately 15 minutes.
During this test mode, the unit will not receive the WWVB time signal.

Note: The test mode is designed so that you may check all of the cables for correct connection and all of the components for proper function.

- To manually test the Wind Sensor: manually turn the wind-gauge, moving the weather-vane
- To manually test the Rain Sensor: tilt the rain sensor back and forth in order to hear the impact of the internally moving seesaw
- To manually test the Thermo-Hygro: with both the Base Station and Thermo-Hygro placed next to each other, compare the INDOOR and OUTDOOR sections of the LCD to make sure that they both produce the same data.

After completing the test mode, the Touch Screen Weather Center will automatically switch to the normal display mode in order to perform all other settings. At this point the Base Station will also automatically start searching for the WWVB time signal.

6 Placement

After the Weather Station has been checked for correct function with regard to the above points and found fit, the mounting of the system components can take place. It must be ensured however that all components work properly together at their chosen mounting or standing locations. If there appear to be problems with the 433 MHz radio transmission they can typically be overcome by moving the Thermo-Hygro Sensor.

7 Setting Up

- All actions and functions of the Weather Center begin by slightly touching, ***not pressing***, the Touch Screen. The switchable areas appear with a star (*) symbol in the bottom section of the LCD. or above for the corresponding values.
- The following selections in the bottom section of the LCD are used to set any function, value, or unit within any mode: *ON* or *OFF* ,*UP* or *DOWN*, or by directly selecting the unit.
- When setting any function, value, or unit, *NEXT* will advance the screen to the next menu option; *EXIT* will exit the menu and return to the normal display mode.
- Every programming step activated by touching a switchable area on the screen is acknowledged by an audible beep when the buzzer option is switched to “ON”.
- During any menu operation, if no active area is touched for 20 seconds, the menu is automatically deactivated and the screen will return to the normal display mode.

8 PC Connection

In addition to the LCD monitor, the WS-3610 has the ability to transfer all collected time and weather data to a PC via a Com port connection. The supplied PC software provides complete sets of history data, data graphing, and webpage update capabilities.

An included COM port cable provides the means to connect the Base Station to the PC. The “Heavy Weather Pro 3610” software package (also included) must be installed on the PC.

This software allows the display of all present weather data with graphic symbols. It further allows the display, storage and printing of history data sets, whose volume exceeds the maximum 1750 data sets of the Base Station, and is only limited by the capacity of the PC’s main memory.

Furthermore the present weather data can be uploaded to web sites by means of the “Web Publisher” software. History data can be displayed as diagrams and graphs using the “Weather Review” software.

For further details on the PC Connection please see the Help File on the installation disk for the software.

TOUCH SCREEN WEATHER CENTER
MODEL WS-3610

Operation Manual

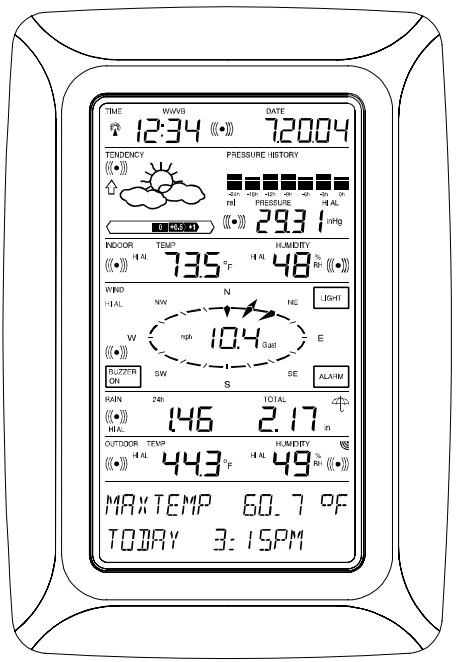

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Table of Contents

1 General

The shipping contents of the WS-3610 Touch Screen Weather Center include a Base Station (Receiver), a Thermo-Hygro Sensor (433 MHz Sensor), a Rain Sensor and a Wind Sensor, the respective Connecting Cables, an AC Adapter and a CD-ROM with a Package of PC Software for collected Weather Data.

The Base Station is equipped with a Touch Screen LCD Monitor, which features a variety of time and weather data via a comprehensive and interactive menu. The following list describes the features in order from top to bottom:

- Radio Controlled Time (Time)
- Perpetual Calendar (Date)
- Weather Forecast with Tendency Arrow (Tendency)
- Barometric Pressure and 72 Hour History Bar Graph (Pressure, Pressure History)
- Indoor Temperature and Humidity (Indoor Temp, Humidity)
- Wind
- Rain (Rain)
- Outdoor Temperature and Humidity (Outdoor Temp, Humidity)

Additional data can by displayed by certain touch screen field combinations that are explained later.

Note: When the menu is touched and activated, the “active menu steps” *temporarily replace* all of the “standard indications” as mentioned in the list above.

In addition to the LCD monitor, the WS-3610 has the ability to transfer all collected time and weather data to a PC via a Com port connection. The supplied PC software provides complete sets of history data, data graphing, and webpage update capabilities.

2 Important Notes for Operating the Touch Screen (Generally Applicable)

- All actions and functions of the Weather Center begin by slightly touching, ***not pressing***, the Touch Screen.
- The switchable areas appear with a star (*) symbol in the bottom section of the LCD or above the corresponding values.
- The following selections in the bottom section of the LCD are used to set any function, value, or unit within any mode: *ON* or *OFF* ,*UP* or *DOWN*, or by directly selecting the unit.
- When setting any function, value, or unit, *NEXT* will advance the screen to the next menu option; *EXIT* will exit the menu and return to the normal display mode.
- Every programming step activated by touching a switchable area on the screen is acknowledged by an audible beep when the buzzer option is switched to “ON”.
- During any menu operation, if no active area is touched for 20 seconds, the menu is automatically deactivated and the screen will return to the normal display mode.

3 To Begin Operation

To begin it is necessary to decide whether to use AC power (adapter included) or batteries to operate the system. Either method will ensure a connection to the Thermo-Hygro Sensor and Base Station by cable or by a 433 MHz wireless radio signal.

Note: When first setting up the Weather Center, it is important to temporarily set up the entire system in close proximity on a table or counter top as you intend to use the system (wired or wireless). This step serves as a test to ensure that all components function correctly prior to final installation.

3.1 Wiring the System

Connect the Rain Sensor and Wind sensor cables to their respectively marked jacks in the Thermo-Hygro sensor *BEFORE* powering up the Base Station or the Thermo-Hygro Sensor.

> The Thermo-Hygro Sensor and Base Station can be directly connected via cable if the wireless 433 MHz radio transmission is not desired, and/or data transmission free of localized radio interference is an important factor.

3.2 Power Supply

Power can be supplied to the Weather Center using batteries or the AC adapter. In the case that the AC adapter is used, it will provide all required power to the system if the Base Station and Thermo-Hygro Sensor are wired directly together.

3.2.1 Use Batteries for Power:

- First insert two Type C alkaline 1.5 V batteries into the battery compartment of the Thermo-Hygro-Sensor.
- Immediately after, insert three Type AA alkaline 1.5 V batteries into the battery compartment of the Touch Screen Base Station.

3.2.2 Use AC Adapter for Power:

- First insert two Type C alkaline 1.5 V batteries into the battery compartment of the Thermo-Hygro-Sensor.
- Immediately after, connect the AC adapter to the Base Station, and then plug it into an AC outlet.
- When the AC adapter is used, batteries may also be placed in the Base Station to serve as a backup power supply if there is a power outage.

Note: In either case, it is important to observe this order of succession because the Sensor will send an identification code that must be received and stored by the Base Station within the first few minutes of operation.

It is also important to allow the Base Station to operate for at least 15 minutes prior to touching any part of the Touch Screen display.

Once these steps have been completed, the correct operation of the entire weather system is ensured.

3.2.3 Cable Connection:

When operating a completely wired system, (cable connection between Base Station and Thermo-Hygro, as well as a connection between the individual sensors) power will be supplied not only to the Base Station but to the all of the sensors as well when the AC adapter is used.

Note: Operating the system directly wired while powering the Base Station solely by batteries is not recommended due to the considerably higher power consumption of the wired configuration. The batteries may however remain in the Base Station for emergency supply in case of a power failure.

A change from cable operation to 433 MHz radio transmission or vice versa is possible in any case since the Base Station will recognize this change and will automatically switch to the appropriate operating mode.

3.3 System Start

After inserting the batteries or connecting the AC adapter, the LCD will display all of the digital segments for a few seconds.

Immediately after this the Base Station will enter a test mode during which all measured and received weather data is cycled through, updated and displayed for a period of approximately 15 minutes.
During this test mode, the unit will not receive the WWVB time signal.

Note: The test mode is designed so that you may check all of the cables for correct connection and all of the components for proper function.

- To manually test the Wind Sensor: manually turn the wind-gauge, moving the weather-vane.
- To manually test the Rain Sensor: tilt the rain sensor back and forth in order to hear the impact of the internally moving seesaw.
- To manually test the Thermo-Hygro: with both the Base Station and Thermo-Hygro placed next to each other, compare the INDOOR and OUTDOOR sections of the LCD to make sure that they both produce similar data (within the specifications of the units).

After completing the test mode, the Touch Screen Weather Center will automatically switch to the normal display mode in order to perform all other settings. At this point the Base Station will also automatically start searching for the WWVB time signal.

3.4 Placement

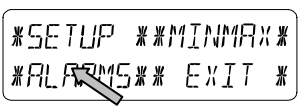
Once the Base Station and Sensors have been checked and validated for correct function as mentioned in **3.3**, all the system components are ready to be permanently mounted.

It is critical to ensure that all components work properly together at their chosen mounting or standing location. If it appears that the Base Station is not receiving the wireless 433 MHz radio transmission, moving the Thermo-Hygro Sensor to a different location will usually fix the problem.

Note: The radio communication between receiver and sensor can reach distances of up to 330 ft providing that there are no interfering obstacles such as buildings, trees, vehicles, high voltage lines, or similar obstructions.
If possible, PC monitors, radios, TV sets, and other sources of radio interference should also be avoided.

Note: Because of the default settings already determined by the manufacturer, it may not be necessary to alter the basic settings other than Relative Air Pressure (see further down) If changes to the settings are needed, they can easily be made if desired.

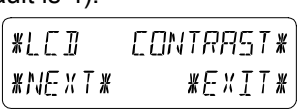
Touching the screen in the center of the text display within the bottom two lines of the LCD will enter into the menu shown below.

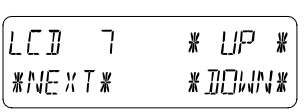


Touching the *SETUP* field will enter the setup mode.

The basic settings can now be performed in the following successive order:

LCD Contrast → Contrast can be set in 8 steps from 0 to 7 (Default is 4).

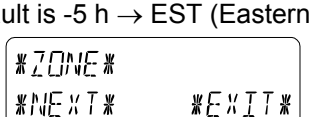


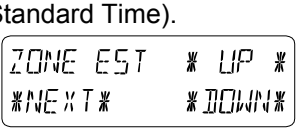


Time Zone → Time Zones can be set in a range from -12 to +12 hours.

Note: U.S.A. time zones will be displayed (not in hours) but in the respective time zone abbreviations:
-4 h → ATL (Atlantic Time)
-5 h → EST (Eastern Standard Time)
-6 h → CST (Central Standard Time)
-7 h → MST (Mountain Standard Time)
-8 h → PST (Pacific Standard Time)
-9 h → ALA (Alaska Time)
-10 h → HAW (Hawaiian Time)

(Default is -5 h → EST (Eastern Standard Time).

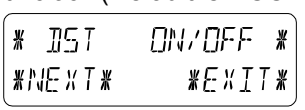


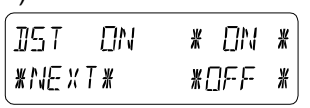


Daylight Saving Time (DST) → Daylight Saving time can be set to on or off. The “ON” setting will automatically change the WWVB Time Display from summer time to wintertime and vice versa when it is activated. (Default is DST “ON”).

To proceed, touch *NEXT*.

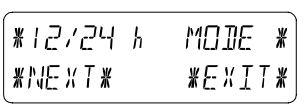
WWVB Radio Controlled Clock (RCC) → ON/OFF. When the “OFF” setting is selected, the clock is operates as a normal Quartz clock (Default is RCC “ON”).





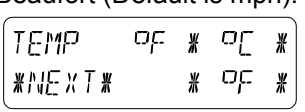
12/24 hour Time Display Format

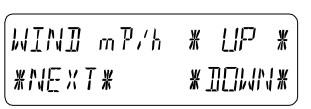
When 12h format is selected, the hour is shown with « A.M » between midnight and noon, and « PM » between noon and midnight. (Default is 12-hour format).



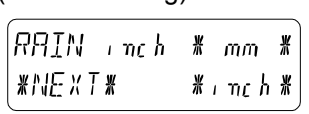
Units

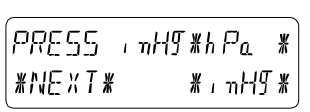
- Temperature (Temp) is displayed in °F or °C (Default is °F).
- Wind Speed (Wind) is displayed in mph, km/h, m/s, knots or Beaufort (Default is mph).



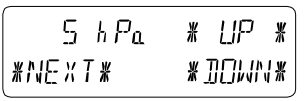


- Rain Amount (Rain) is displayed in inch or mm (Default is inch).
- Air Pressure (Press) is displayed in inHg or hPa (Default is inHg).

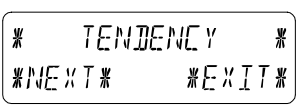


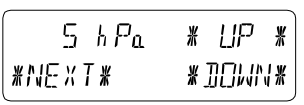


Relative Air Pressure (Rel. Pressure) → This should be set locally to ensure a valid reference for air pressure in regards to the local height above sea level (Default is 29.91 inHg).

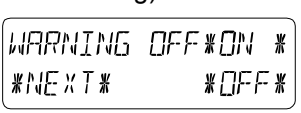


Weather Tendency (Tendency) → The Weather Tendency sensitivity has 3 steps of sensitivity: 0.06 inHg, 0.09 inHg, and 0.12 inHg. (Default 0.09 inHg) In most cases the default works well; however this should be set to 0.06 near the ocean and 0.012 in desert areas.



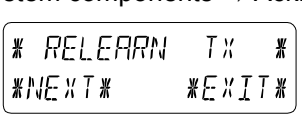


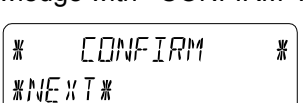
Storm Warning (Storm) → Storm Warning sensitivity has 7 steps of sensitivity: increments of 0.03 inHg from 0.09 inHg to 0.27 inHg, for storm warning display at a decrease of air pressure over 6 hours (Default 0.18 inHg).



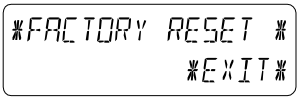
Activate or Deactivate storm warning alarm with *ON* / *OFF* (Default is ON).

Relearn Mode (Relearn Tx) → Allows the WS-3610 to relocate the outdoor sensor (for example, after a changing a battery in the Thermo-Hygro) without the necessity of a complete re-setup of all system components → Acknowledge with *CONFIRM*.





Default Settings (Factory Reset) → Allows the reset of all settings and/or stored values to the factory default → Acknowledge with *CONFIRM*.

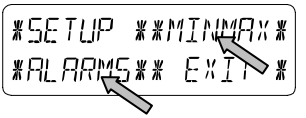


Once all of the settings have been made, touch *EXIT* to leave the basic setup mode.

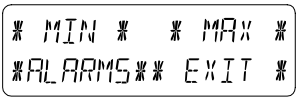
5 Display of stored Min/Max Values and Alarm Value Settings

Upon recall, named values will display and flash in their respective sections.

Min/Max and alarm values are recalled from the menu shown below which must be activated by touching the Touch Screen in the center of the text display section (last two lines at the bottom of the LCD). Touching the *MINMAX* or *ALARMS* field will display the corresponding values.

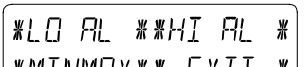


The Min/Max values can also be recalled individually by touching the respective area of the display. Example: Touching the “Indoor” section of the display will activate the menu shown below. Min, Max, and Alarm values can then be displayed by touching the corresponding field.



Note: When individual Min/Max values are displayed; the top line of the LCD screen will automatically display the time and date that the data was recorded.

The following menu item will appear upon touching the *ALARMS* field. Low and high alarms are displayed via the



corresponding *LO AL* and *HI AL* fields; the individual values are displayed in the same manner as individual Min/Max values. (See above)

At any time the opposite respective menu (MIN/MAX or ALARM) can be accessed via its corresponding field.

Touching the *EXIT* field at any time will return the LCD to its normal display.

6 Radio Controlled WWVB Signal Reception and Clock

The NIST (National Institute of Standards and Technology—Time and Frequency Division) WWVB radio station is located in Ft. Collins, Colorado. A tower located there transmits the exact time and date signal continuously throughout the United States at 60 kHz. The signal can be received up to 2,000 miles away through the internal antenna in the Base Station.

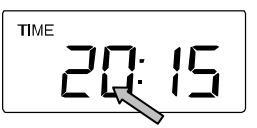
The WWVB radio station derives its signal from the NIST Atomic clock in Boulder, Colorado. A team of atomic physicists is continually measuring every second, of every day, to an accuracy of ten billionths of a second per day. These physicists have created an international standard, measuring a second as 9,192,631,770 vibrations of a Cesium-133 atom in a vacuum. For more information on the atomic clock and WWVB please see the NIST website at http://www.boulder.nist.gov/timefreq/stations/wwvb.htm.

Due to the nature of the earth's ionosphere, WWVB signal reception is very limited during daylight hours. The base station will search for the signal every night when the reception is the strongest.

The WWVB Radio Controlled Clock in the Base Station is normally controlled by the radio signal of the WWVB time code sensor and will thus set time and date automatically. Under bad reception conditions however both time and date can be set manually:

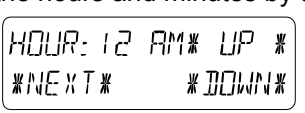
Setting the Time

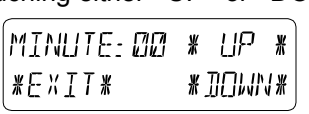
To set the time, touch the time display.



Next, touch the *TIME* field in the bottom section of the LCD.

Set the hours and minutes by touching either *UP* or *DOWN*.



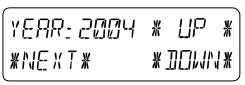


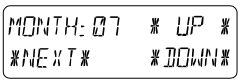
To leave the mode, touch *EXIT* or wait for automatic time-out.

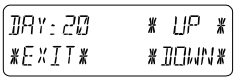
Setting the Date

To set the date, touch the date display.

Set the year, month and date by touching either *UP* or *DOWN*.







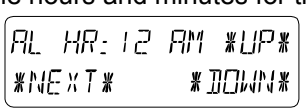
To leave the mode, touch *EXIT*.

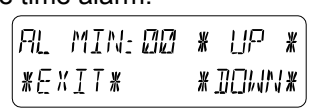
Note: By twice touching the DATE section, the display will toggle between the following:

- Date in MM.DD.YY format
- Weekday (abbrev.), Date of Day, Month
- Seconds
- Set Alarm Time

Setting the Time Alarm

To set the Time Alarm, first touch the time field. Then touch the *ALARM* field in the bottom section of the LCD.
Set the hours and minutes for the time alarm.



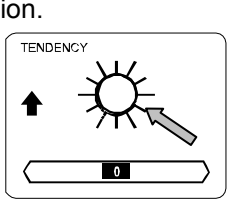


To leave the mode, touch *EXIT*.

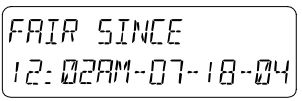
Note: The time alarm is activated or deactivated by touching the TIME section of the LCD twice. The alarm symbol (((•))) will show or disappear. To leave the mode, touch *EXIT* or wait for the automatic time-out.

7 Weather Tendency

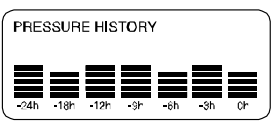
Call up the tendency display by touching the weather symbol in the TENDENCY section.



The text fields at the bottom of the LCD will display the weather condition (with time and date) that corresponds to the presently displayed weather symbol Sunny, Fair (Cloudy with sunny intervals) or Rainy.



8 Barometric Pressure History Bar Graph (Pressure History)



The air pressure history bar graph shows the progress of the barometric air pressure over a time period of 24 or 72 hours in the form of a 7-step bar graph. The length of the right-most bar represents the present air pressure, and the remaining bars to the left show the progress of the air pressure in regards to the present air pressure.

Note: The time resolution of the bar graph can be changed from fine (0 to -24 h) to coarse (0 to -72 h) and back by touching the PRESSURE HISTORY section once.

9 Operating and Setting of the following Functions:

- **Air Pressure** (Pressure), Relative and Absolute
- **Indoor Temperature** (Indoor Temp)
- **Indoor Humidity** (Indoor Humidity)
- **Outdoor Temperature** (Outdoor Temp), **Wind Chill**, **Dew Point**
- **Outdoor Humidity** (Outdoor Humidity)
- **Wind Speed**, **Wind Gust**

Important Note!
Since operating and settings procedures are identical for all of the functions mentioned in the list above, you will use the *same process* described below for "Air Pressure" to set all of the functions mentioned in the list above.

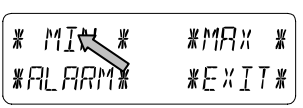
9.1 **Air Pressure** (Pressure)

Example for Activating the Displays of Stored Maximum Values

Call up the corresponding menu in the bottom section of the LCD by touching the PRESSURE field.

Start by touching in the bottom section of the LCD.

Note: It is possible to display the stored minimum values in the bottom section of the LCD in the same fashion by touching the *MIN* field.



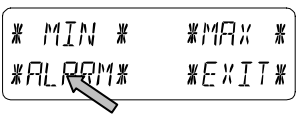
After touching *MAX*, the stored value is displayed. Proceed by touching the *MAX PRESSURE* field.

The displayed value can be reset to the current value by touching *CONFIRM*. To advance without resetting, touch *EXIT*.

This completes the Example

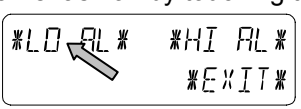
Example for Setting of Alarms by means of the HI Alarm

As in the example above, call up the corresponding menu in the bottom section of the LCD by touching the PRESSURE field. Proceed by touching *ALARM* in the section at the bottom of the LCD.



Proceed with *HI AL* in the menu section.

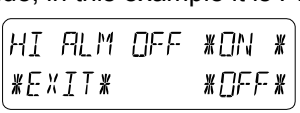
Note: Setting of the low alarms is possible from here in the same fashion by touching the *LO AL* field.



Set the high alarm value with *UP* or *DOWN*.
Proceed with *ON/OFF*.

Activate or deactivate the alarm with *ON* or *OFF*.
Return to normal display by touching *EXIT*.

Note: Activation or deactivation of the alarm (Display or deletion of the (((•))) symbol) only pertains to the presently displayed value, in this example it is PRESSURE.



This completes the Example

Note: Touching the PRESSURE section twice toggles the display between Relative (rel) and Absolute (abs) air pressure.

All setting and display options only pertain to the presently displayed value.

10 Operating and Setting the Rain Function

Note: Besides the direct setting of the units for the rain amount in the basic setup procedure, it is possible to toggle between the following displays by touching the left part of the RAIN section twice:

- Rain amount for the last hour
- Rain amount for the last 24 hours
- Rain amount for the last week
- Rain amount for the last month

Note: The rain amounts for the last week and the last month do not represent the amounts collected up to the present point of time, but to those for the last complete week or the last complete month.
All setting and display functions pertain only to the presently displayed value.

Important Note!
Operation and settings of the Rain function are essentially identical to the ones described in Item 9 above. Therefore a short description of the minor differences in regards to Item 9 will be a sufficient enough explanation.

- Since it is not necessary to display minimum rain values, the menu does not offer the item *MIN* but *MAX* only to display the various maximum rain amounts.

- Since no minimum rain values are stored, upon activating the *ALARM*, the display will immediately proceed to the high alarm setting as described in section 9 above.

Note: The alarm option is only offered during display of the last hour and last 24-hour rainfall amounts. No exact definition of alarm time is possible for weekly and monthly rain amounts; therefore these alarm functions have been omitted.

- When touching the TOTAL field in the RAIN section, the total rain amount accumulated since the last deletion is displayed. This can be erased by touching *RAIN TOTAL* in the bottom section of the LCD, followed by *CONFIRM*.

11 Additional Information regarding the Outdoor Temperature Display (Outdoor Temp)

Note: Touch the OUTDOOR field to toggle the display between the following:

- Outdoor Temperature (Outdoor Temp)
- Wind Chill
- Dew Point

All setting and display options only pertain to the presently displayed value.

12 Additional Information regarding the Wind Display

Note: Touch the WIND field to toggle the display between the following:

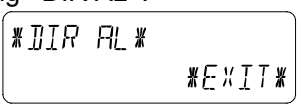
- Wind Speed
- Wind Direction (Abbreviations of the compass rose descriptions)
- Wind Direction (Degrees)
- Wind Gust

All setting and display options only pertain to the presently displayed value.

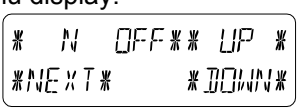
12.1 Operating and Setting the Wind Direction Alarm

In the Wind Direction display, the display of minimum or maximum values is unnecessary. However it is possible to set wind direction alarms.

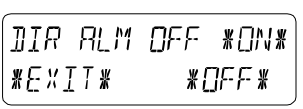
Call up the corresponding menu in the bottom section of the LCD by touching the center of the WIND field.
Proceed by touching *DIR AL*.



In the following menu up to 16 separate alarms can be set clockwise around the compass rose from N through NNW in steps of 22.5°. (0° through 337.5°) Here the wind direction can be selected by touching *UP* or *DOWN* and switched ON or OFF with (Wind Direction) by touching *ON/OFF* in the upper left part of the menu display.



The wind alarm feature can be enabled, or completely deactivated by touching the *ON* and *OFF* fields in the menu shown below.



Touch *EXIT* to return to normal display.

13 Operating and Setting the EL Backlight (light), Buzzer (sound), and Alarm history (fields in the WIND Section)

13.1 EL Backlight (Light)

For enhanced readability of the LCD the EL backlight can be switched ON or OFF by touching the LIGHT field once. When the backlight is switched to “Enabled”, it will glow for approximately 20 seconds every time any of the LCD sections is touched.

The switching condition (Enabled/Disabled) is shown in the bottom section of the LCD for about 20 seconds.

Note: In case that the Base Station is battery operated, repeated use of the EL backlight will result in a considerable decrease of the life of the batteries. It is recommended either to operate the Base Station with the included AC adapter, or deactivate the EL backlight (see above).

13.2 Buzzer

The keypad beep and the audible alarms of the Base Station can be switched ON or OFF by touching the BUZZER section.
The switching condition ON or OFF is displayed directly in the BUZZER section as well as in the bottom section of the LCD for about 20 seconds (Enabled/Disabled).

13.3 Alarm

Upon touching the ALARM field in the WIND section, all set and activated alarms (except time alarm) will be shown numbered and sorted according to time of appearance, along with *NEXT* and *EXIT*. For each alarm preset, the time and date can be displayed by touching the center of the bottom section of the LCD.

14 PC Connection

In addition to the LCD monitor, the WS-3610 has the ability to transfer all collected time and weather data to a PC via a Com port connection. The supplied PC software provides complete sets of history data, data graphing, and webpage update capabilities.

14.1 Data Storage

For a comprehensive weather history, the Base Station allows the internal storage of up to 1750 complete sets of weather data with the recorded time and date. These data sets are stored in non-volatile ring buffer memory (EEPROM) and will not be lost even in case of an interruption of power supply (e. g. change of batteries).
In the case that the memory capacity of the Base Station is exhausted, the oldest data sets stored will be overwritten by the new ones recorded.

14.2 Data Recall

The weather data stored can only be output, processed and displayed on a PC. The user selectable storage interval of 1 minute to 12 hours for data sets can also only be performed on a PC.

14.3 Connections and Software

An included COM port cable provides the means to connect the Base Station to the PC. The “Heavy Weather Pro 3610” software package (also included) must be installed on the PC.

This software allows the display of all present weather data with graphic symbols. It further allows the display, storage and printing of history data sets, whose volume exceeds the maximum 1750 data sets of the Base Station, and is only limited by the capacity of the PC’s main memory.

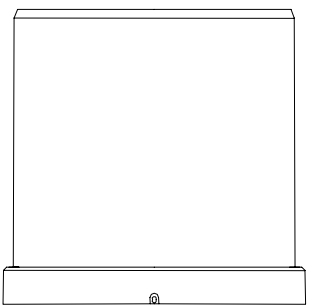
Furthermore the present weather data can be uploaded to web sites by means of the “Web Publisher” software. History data can be displayed as diagrams and graphs using the “Weather Review” software.

For further details on the PC Connection please see the Help File on the installation disk for the software.

16 TX11U Rain Sensor

The TX11U rain sensor is used in conjunction with the TX12U wind sensor and TX13U thermo/hygro sensor to gather and transmit information to the wireless weather station.

INVENTORY OF CONTENTS



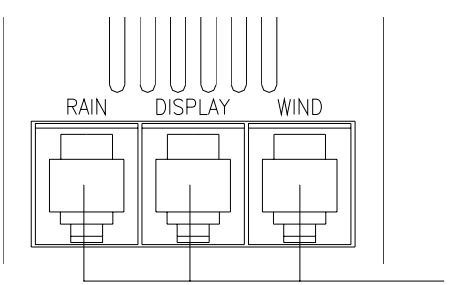
1. TX11U rain sensor
2. Mounting hardware

SETTING UP

BATTERY INSTALLATION

The first step to powering up the weather station is to insert the connector (RJ11) at the end of the wire attached to the wind speed sensor to the remote thermo/hygro sensor. Please ensure when doing this that the connector is inserted with the proper orientation. When seated properly you will hear the connector 'click' in place.

The Rain Sensor does not need batteries to operate. Simply insert the telephone plug (RJ-11) of the rain sensor into the receptacle on the remote thermo/hygro sensor.



Sensor sockets

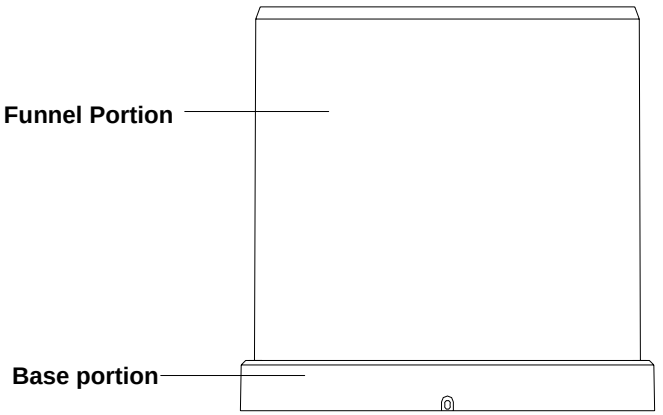
Important: To avoid operating problems, please take note of battery polarity if inserting any batteries. Also do not press any buttons after start up until all sensor information has been displayed and the radio controlled time has set. Doing so may interrupt communication between the sensors and display or interrupt the WWVB time reception.

1. Pull away the rain cover of the thermo-hygro sensor to reveal the three sockets (for the wind sensor, rain sensor and the base station)
2. Connect the attached cables of wind and rain sensors to the corresponding sockets of the thermo-hygro sensor by clicking them into place
3. Open the battery cover of the thermo-hygro sensor located below the three sockets and insert 2 x AA, IEC LR6, 1.5V batteries and close the cover
4. Open the base station's battery cover located at the back of the unit and insert 3 x AA, IEC LR6, 1.5V batteries into the battery compartment and close the battery cover

Every time the thermo-hygro sensor is powered up (for example after a change of batteries), a random security code is transmitted and this code must be synchronized with the base station to receive weather data.

Note for WWVB Radio Controlled Time:
The time and date display is based on the signal provided by the highly accurate government operated atomic clock in Ft. Collins, Colorado. This radio-controlled clock does not only provide for the weather station's time and date display but also functions as the time and date source for all of this weather station's memory values using time and date information.

Mounting the Rain Sensor



For accurate results, the rain sensor should be securely mounted onto a horizontal surface about 2-3ft above the ground and in an open area away from trees or other coverings where rainfall may be reduced causing inaccurate readings.

When securing into place, check that rain excess will not collect and store at the base of the unit but can flow out between the base and the mounting surface (test by pouring clean water).

After mounting the rain sensor, connect the cable to the thermo-hygro sensor at the corresponding socket so power supply can be received and data be transmitted to the base station

The rain sensor is now operable. For testing purposes, very slowly pour a small amount of clean water into the rain sensor funnel. The water will act as rainfall and will be received and displayed at the base station after about 2 minutes delay i.e. when the reading interval is reached.

MAINTENANCE AND CARE

1. Extreme temperatures, vibrations, and shock should be avoided to prevent damage to the units

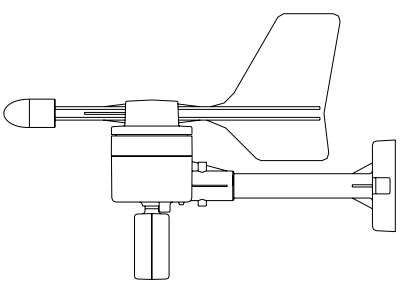
2. Clean displays and units with a soft, damp cloth. Do not use solvents or scouring agents, they may mark the displays and casings
3. Do not submerge in water.
4. Do not subject the units to unnecessary heat or cold by placing them in the oven or freezer.
5. Opening the casings invalidates the warranty. Do not try to repair the unit. Contact La Crosse Technology for repairs.
6.

17 TX12U Wind Sensor

The **TX12U** wind sensor is used in conjunction with a thermo/hygro sensor to gather and transmit information to the wireless weather station. The **TX12U** wind sensor measures the wind speed and direction and sends the information to the remote sensor. This sensor then sends all outdoor weather information from the outdoor sensor(s) to the display indoors.

INVENTORY OF CONTENTS

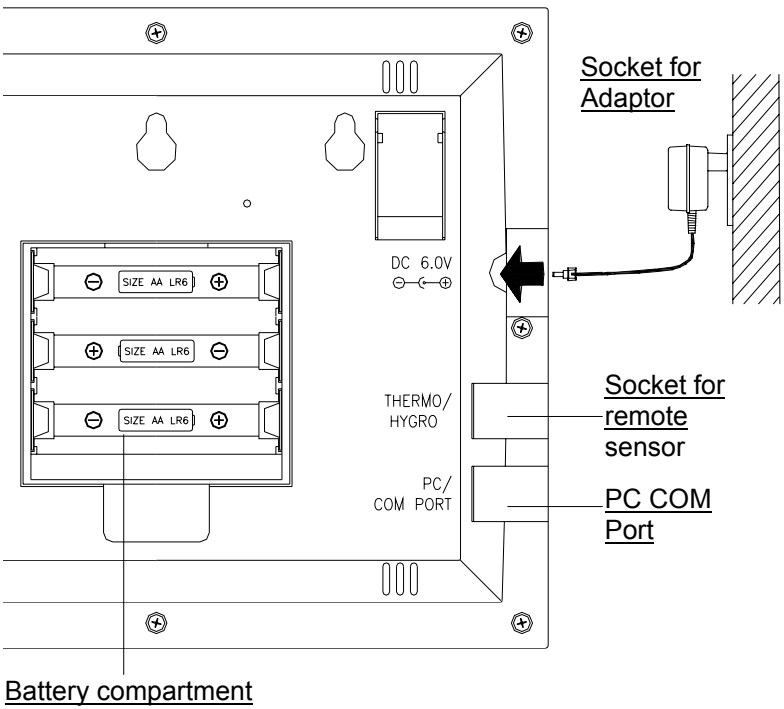
3. **TX12U** wind sensor
4. Mounting bracket
5. Mounting hardware



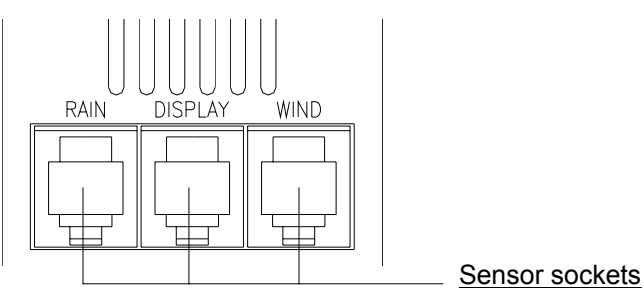
SETTING UP

First, choose to use the adaptor (included in this set) or batteries for operation. Both these methods allow for operation using wireless 433MHz transmission or cable connection between the base station and the sensor(s) and sensor. Setting up for both methods is as follows:

Base Station:



Setting up using batteries:



Important:
To avoid operating problems, please take note of battery polarity if inserting any batteries. Also do not press any buttons after start up until all sensor information has been displayed and the radio-controlled time has set. Doing so may interrupt communication between the sensor(s), sensor, and display or interrupt the WWVB time reception.

1. Pull away the rain cover of the thermo/hygro sensor to reveal the 3 sockets (for the wind sensor, rain sensor (if applicable), and the base station)
2. Connect the attached cables of the wind sensor to the corresponding sockets of the thermo/hygro sensor by clicking them into place
3. Open the battery cover of the thermo/hygro sensor located below the 3 sockets and insert 2 x AA, 1.5V batteries and close the cover
4. Open the base station's battery cover located at the back of the unit and insert 3 x AA, 1.5V batteries into the battery compartment and close the battery cover

Setting up using the AC adaptor:

1. Power up the sensor(s) and sensor as described in **setting up using batteries**
2. Using the AC adaptor (included), plug it into the mains outlet and power up the base station by inserting the adaptor jack into the DC 6.0V socket located on the side of the base station

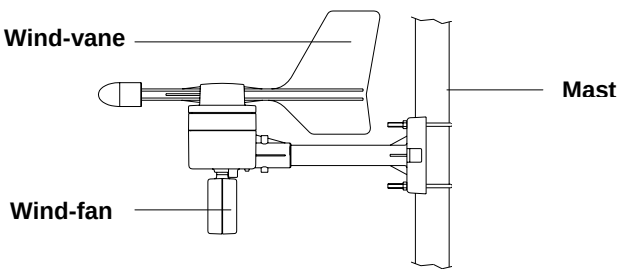
Every time the thermo/hygro sensor is powered up (for example after a change of batteries), a random security code is transmitted and this code must be synchronized with the base station to receive weather data.

When the base station is powered up, a short beep will sound and all LCD segments will light up for about 5 seconds before it enters into a 15 minute learning mode to learn the sensors security code. After the learning mode (or by pressing the

"MIN/MAX" key at anytime), the base station will start the WWVB radio-controlled time reception.

Note for WWVB Radio-Controlled Time:
The time and date display is based on the signal provided by the highly accurate government operated atomic clock in Ft. Collins, Colorado. This radio-controlled clock does not only provide for the weather station's time and date display but also functions as the time and date source for all of this weather station's memory and history values using time and date information.

Mounting the wind sensor onto a mast



First, check that the wind-fan and the wind-vane can rotate freely before mounting the unit. For correct and accurate readings it is important to mount the sensor so that the front (marked E) is pointing in East-West direction. The wind sensor should now be mounted using the screws provided onto a mast to allow the wind to travel around the sensor unhindered from all directions (ideal mast size should be from Ø.63" – Ø1.3").

Once the wind sensor is fixed onto the mast, connect the cable to the corresponding remote sensor socket so that operating power can be supplied and data can be transmitted to the base station.

MAINTENANCE AND CARE

1. Extreme temperatures, vibrations, and shock should be avoided to prevent damage to the units

2. Clean displays and units with a soft, damp cloth. Do not use solvents or scouring agents, they may mark the displays and casings
3. Do not submerge in water.
4. Do not subject the units to unnecessary heat or cold by placing them in the oven or freezer.
5. Opening the casings invalidates the warranty. Do not try to repair the unit. Contact La Crosse Technology for repairs.

18 TX13U Thermo/Hygro Sensor

The TX13U Thermo/Hygro Sensor is used in conjunction with the TX12U wind sensor and TX11U rain sensor to gather and transmit information to the WS-3610 series wireless weather station. The TX13U Thermo/Hygro sensor measures the temperature and humidity of the location it is mounted. This sensor then transmits all outdoor weather information from the three outdoor sensors to the display indoors.

INVENTORY OF CONTENTS

1. TX13U Thermo/Hygro Sensor
2. Mounting hardware

Figure A

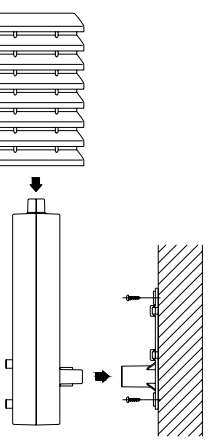
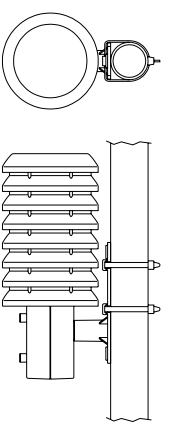
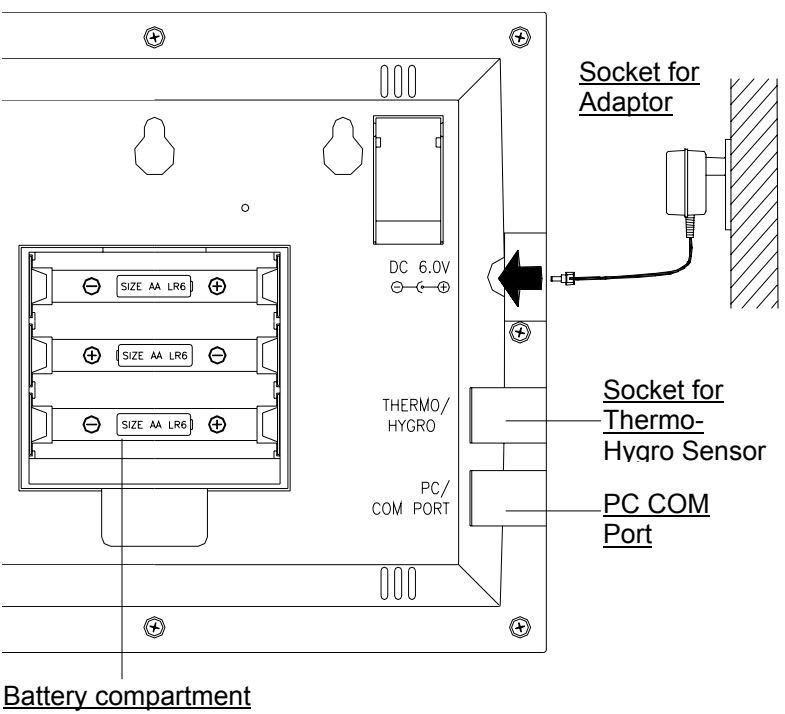


Figure B

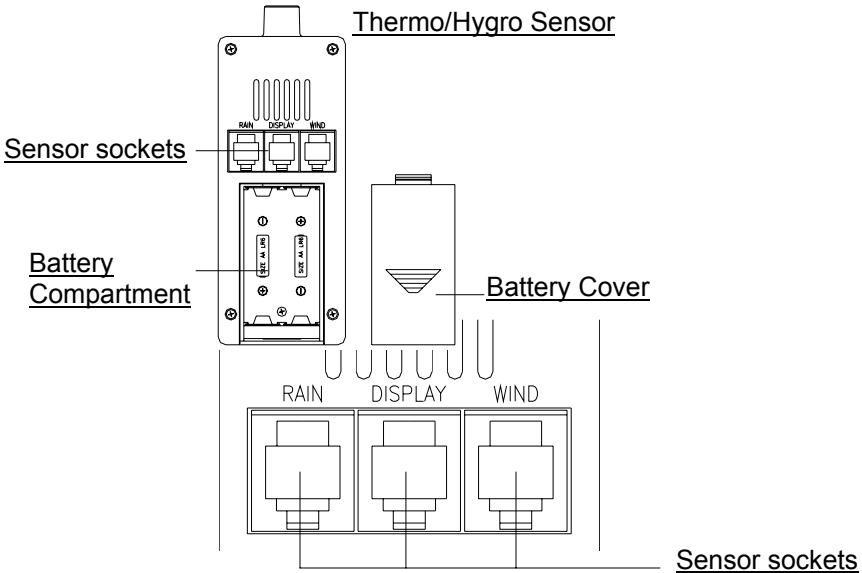


SETTING UP

First, choose to use the adaptor (included in this set) or batteries for operation. Both these methods allow for operation using wireless 433MHz transmission or cable connection between the base station and the sensors and setting up for both methods is as follows:



Setting up using batteries:



Important:
To avoid operating problems, please take note of battery polarity if inserting any batteries. Also do not press any buttons after start up until all sensor information has been displayed and the radio controlled time has set. Doing so may interrupt communication between the sensors and display or interrupt the WWVB time reception.

1. Pull away the rain cover of the thermo/hygro sensor to reveal the three sockets (for the wind sensor, rain sensor and the base station)
2. Connect the attached cables of wind and rain sensors to the corresponding sockets of the thermo/hygro sensor by clicking them into place
3. Open the battery cover of the thermo/hygro sensor located below the three sockets and insert 2 x AA, IEC LR6, 1.5V batteries and close the cover

4. Open the base station's battery cover located at the back of the unit and insert 3 x AA, IEC LR6, 1.5V batteries into the battery compartment and close the battery cover

Setting up using the AC adaptor:

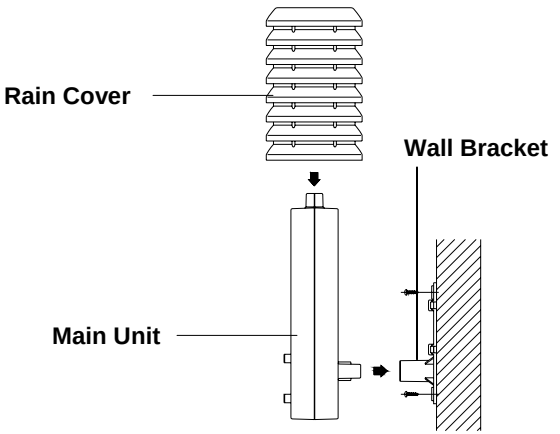
1) Power up all the sensors as described in setting up using batteries above
2) Using the AC adaptor (included), plug it into the mains outlet and power up the base station by inserting the adaptor jack into the DC 6.0V socket located on the side of the base station

Every time the thermo/hygro sensor is powered up (for example after a change of batteries), a random security code is transmitted and this code must be synchronized with the base station to receive weather data.

When the base station is powered up, a short beep will sound and all LCD segments will light up for about 5 seconds before it enters into a 15 minute learning mode to learn the sensors security code. After the learning mode (or by pressing the MIN/MAX key at anytime), the base station will start the WWVB radio controlled time reception.

Note for WWVB Radio Controlled Time:
The time and date display is based on the signal provided by the highly accurate government operated atomic clock in Ft. Collins, Colorado. This radio controlled clock does not only provide for the weather station's time and date display but also functions as the time and date source for all of this weather station's memory and history values using time and date information.

Mounting the thermo/hygro Sensor



An ideal mounting place for the thermo/hygro sensor would be the outer wall beneath the extension of a roof, as this will protect the sensor from direct sunlight and other extreme weather conditions.

To wall mount, use the 2 screws to affix the wall bracket to the desired wall, plug in the thermo/hygro sensor to the bracket and secure both parts by the use of the supplied screw and ensure that the cables from the wind and rain sensors are correctly plugged in otherwise data transmission errors could occur.

NOTE: For best 433 MHz reception mount the thermo/hygro sensor on an outside wall near the location of the base station.

MAINTENANCE AND CARE

1. Extreme temperatures, vibrations, and shock should be avoided to prevent damage to the units

2. Clean displays and units with a soft, damp cloth. Do not use solvents or scouring agents, they may mark the displays and casings
3. Do not submerge in water.
4. Do not subject the units to unnecessary heat or cold by placing them in the oven or freezer.
5. Opening the casings invalidates the warranty. Do not try to repair the unit. Contact La Crosse Technology for repairs.
6. Place the outdoor sensor in a well-shaded area that is protected from direct rainfall as it will read high if exposed to the sun. If the sensor gets too wet it won't receive accurate humidity readings. Take care to ensure that it will not be exposed to heavy rainfall.

15 Technical Data

15.1 Outdoor Data:

Transmission Range in Open Field:	up to. 330 ft max.
Measuring Interval Outdoor Data:	every 20 s
Temperature Range:	-40 °F to 139.8 °F (Display "OFL" outside this range)
Resolution:	0.1 °F
Measuring Range Rel. Humidity:	1% to 99%
Resolution:	1%
Rain Volume Display:	0 to 39.4 in (1 hr, 24 hrs.) 0 to 98.4 in (last week, last month) 0 to 393.7 in (total volume)
Resolution:	approx. 0.02 in
Wind Speed	0 to 111.8 mph or 1 to 50 m/s
Resolution:	0.1 m/s
Wind Direction:	Graphic Resolution 22.5 Degrees, Numeric Resolution Character Format

15.2 Data Transmission by 433 MHz Signal:

Measuring Interval Thermo-Hygro Sensor:.....
128 s (at Wind speed ≤ 6.2 mph) or 32 s (at Wind speed > 6.2 mph, or on Wind Gust display); 10 Min. (if the Base Station does not receive any data after 5 successive attempts all outdoor displays except the rain amount revert to "---")

15.3 Data Transmission by Cable:

Measuring Interval Thermo-Hygro Sensor:.....32 s

15.4 Indoor Data:

Measuring Interval Indoor Data:	every 20 s
Temperature Range:	14.2 °F to 139.8 °F (Display “OFL” outside this range)
Resolution:	0.1 °F
Measuring Range Rel. Humidity:	1% to 99%
Resolution:	1%
Measuring Range Air Pressure:	8.86 inHg to 32.45 inHg
Resolution:	0.003 inHg
Alarm Duration:	about 2 minutes

15.5 Power Supply:

Base Station:

Batteries:	3 ea. 1.5 V Batteries Type AA, IEC LR6 (Alkaline Batteries recommended, Life Cycle without EL backlight approx. 1 year)
or AC power:	AC Adapter INPUT 120VAC / 60HZ (use only the included AC Adapter. **Recommended for PC Connection and frequent use of EL Backlight**)

Thermo/Hygro Sensor:

Batteries:	2 ea. 1.5 V Batteries Type C (Alkaline Batteries recommended, Life Cycle approx. 2.5 years)
or	Power provided via Cable from the Base Station by using the AC Adapter

15.6 PC Connection:

Wiring:	COM Port Cable (included)
Data Processing:	by PC only
Software:	“Heavy Weather Pro 3600“ (included)
Storage Intervals:	1 min through 12 h, settable
Data Volume:	
Base Station:	1750 Data Sets max. in Ring Buffer EEPROM
PC:	Volume of Main Memory max.

15.7 Dimensions:

Base Station:	8.86 x 6.10 x 1.38 in
Thermo-Hygro-Sensor:	5.35 x 2.87 x 2.81 in
Rain Sensor:	5.51 x 5.39 x 2.76 in
Wind Sensor:	11.46 x 7.76 x 2.36 in

WARRANTY INFORMATION

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 no allow the exclusion of consequential or incidental damages therefore the above exclusion of limitation may not apply to you.

For warranty work, technical support, or information contact:

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Phone: 608.782.1982
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www.lacrossetechnology.info/3610