

# Ambient Weather WS-8482 8-Channel Wireless Internet Remote Monitoring Weather Station with Indoor / Outdoor Temperature & Humidity User Manual



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## 1. Introduction

Thank you for your purchase of the Ambient Weather WS-8482 7-Channel Wireless Internet Remote Monitoring Weather Station with Indoor / Outdoor Temperature & Humidity.

The following user guide provides step by step instructions for installation, operation and troubleshooting. To download the latest full sized manual and additional troubleshooting tips, please visit:

<http://ambientweather.wikispaces.com/ws8482>

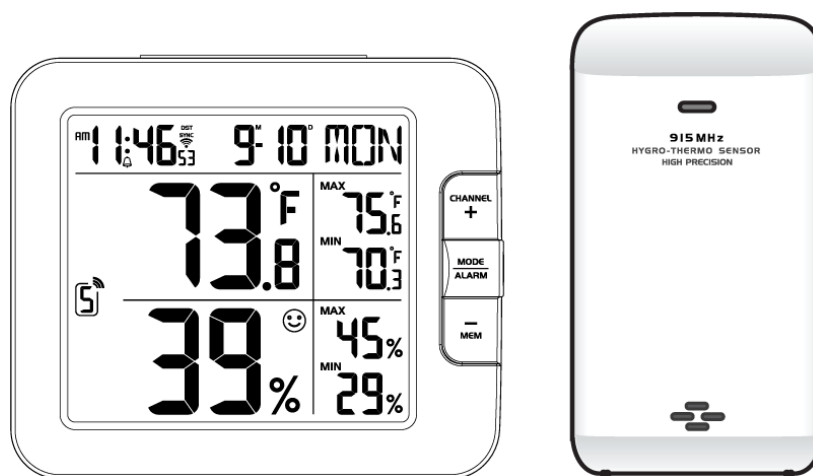


Figure 1

## 2. Warnings

⚠ **Warning.** Only use the included approved AC adapter.

### 3. Getting Started

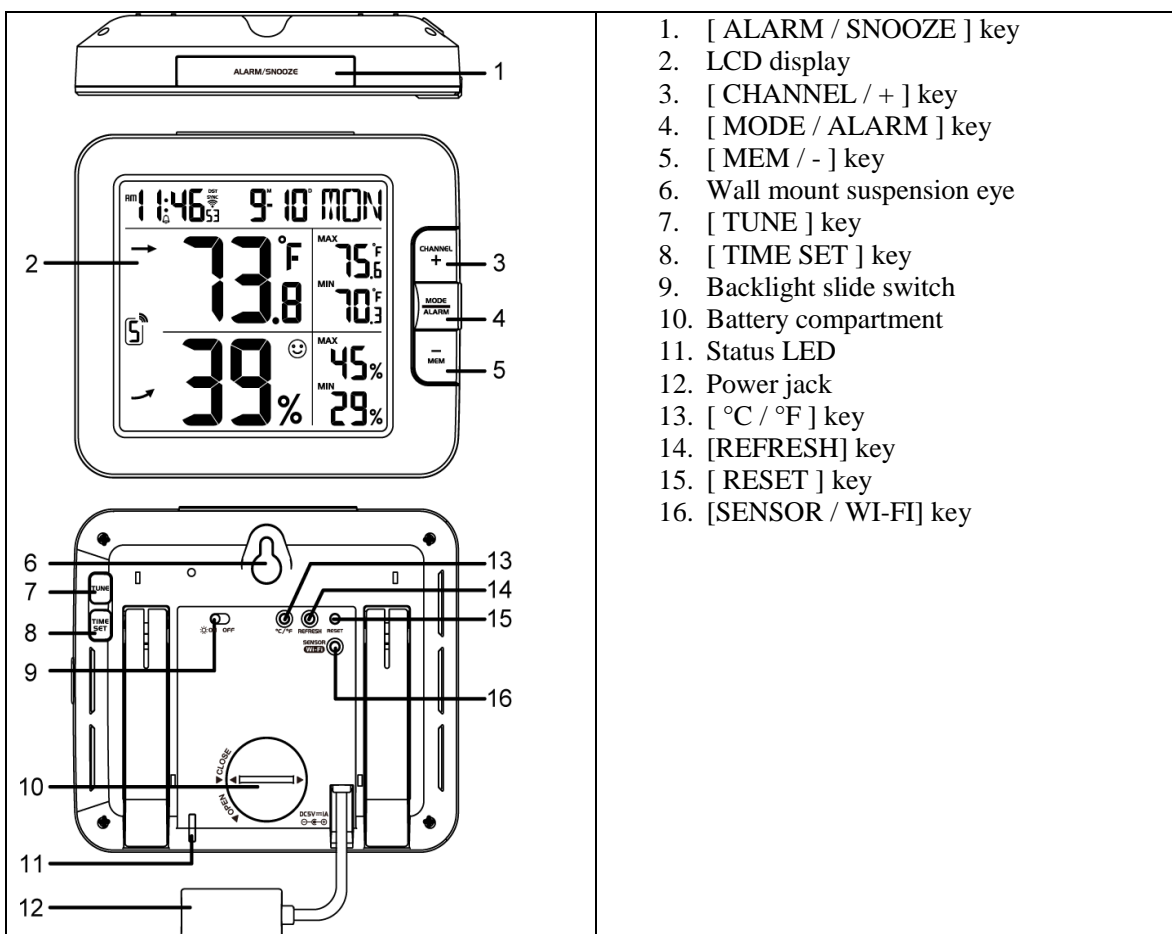
Note: Remove the plastic film from the console face before getting started.

#### 3.1 Parts List

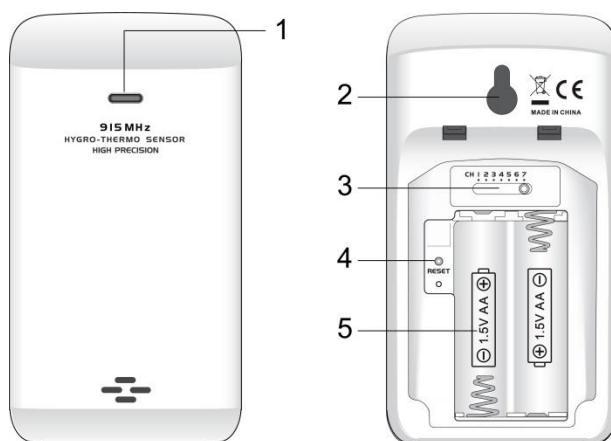
QTY	Item
1	Display Console Frame Dimensions (L x W x H): 130 x 112 x 27.5mm (5.1 x 4.4 x 1.1 in)
1	Wireless Indoor/Outdoor Thermo-Hygrometer (L x W x H): 4.5 x 2.5 x 1.5"
1	UL Rated Class 5 AC Adapter
1	User Manual

#### 3.2 Product Features

##### 3.1.1 Display



### 3.1.2 Wireless Indoor/Outdoor Thermo-Hygrometer Transmitter




**Figure 2**

No	Description	No	Description
1	Transmitter LED (flashes when the remote is transmitting)	4	[RESET] button
2	Suspension eye for hanging	5	2 x AA battery compartment
3	Transmitter channel (assign the transmitter to 1, 2, 3, 4, 5, 6, or 7 default = 1)		

**Note:** The WS-8482 supports seven wireless channels. If you have one sensor, leave the transmitter channel at Channel 1. If you have more than one sensor, set the appropriate channel, then power down and up the sensor (by removing and reinserting batteries).

### 3.3 Powering Up

#### 3.3.1 Power Up Sequence

 **Note:** The power up sequence must be performed in the order shown in this section (remote transmitters **FIRST**, Display Console **SECOND**) to avoid sensor synchronization time out.


##### **The Indoor/Outdoor Wireless Transmitter(s):**

1. Remove the battery door on the sensor(s)
2. If you have more than one sensor, make sure each sensor is on a different channel (reference Figure 2).
3. Insert CR2032 battery into the battery compartment.
4. Replace the battery door.

##### **The Console:**

**Important Note: The power up sequence must be performed in this order (battery first, AC adapter second) to prevent a low battery indication at power up.**

1. Place the wireless sensor(s) about 5 to 10 feet from the display console.
2. Remove the battery door of the main console and insert the fresh CR2032 battery.
3. Replace the battery door.
4. Plug the AC adaptor into the DC jack of the console.
5. After power up, all of LCD segments will be displayed. The console will enter access point (AP) mode, and the status LED on the back of the console will flash green.
6. **Do not touch any buttons until sensor synchronization is complete.**

 **Note:** If no display is present after powering up the console, press the **[RESET]** button on the back of the console with an open ended paper clip or sharp tool.

#### 3.3.2 Initial Sensor Synchronization

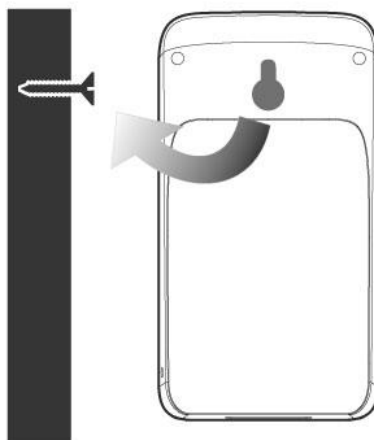
The console will automatically search for and connect to the sensors after it is powered up. You can also press **[WI-FI / SENSOR]** button to force the console to search for the sensors, and the console's status LED will flash blue during the sensor(s) searching mode.

Once the sensor connection is successful, the antenna mark and readings for temperature & humidity will appear on the display.

### 3.4 Mount the Sensor

The sensor can be free standing on a table, or mounted on a vertical wall with a nail ore screw. For best results, place between 10 and 100 feet of the display console.

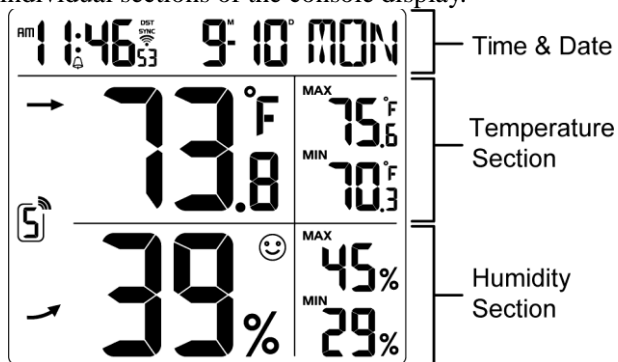
Although the sensor is water resistant, it is best to mount in a well-protected area, such as under an eve.



**Figure 3**

#### 4. Console Display

Figure 4 references the individual sections of the console display.



**Figure 4**

#### 5. Console LED Status Light

The console LED status light is on the back of the console. Reference Figure 5 for explanation of the colored LED.

Status	LED Light
AP Mode (WiFi access point mode)	Flashing green LED
Connected to WiFi router	Solid blue LED
WiFi search failed	Flashing blue LED
Firmware updating	Flashing red LED
Manual sensor pairing mode by pressing the [SENSOR / WI-FI] key	Flashing cyan LED
Refresh the upload data and sync internet time by pressing the [ Refresh ] key	Flashing purple LED

**Figure 5**

#### 6. Battery and Memory Backup

The battery is intended for backup power only, and will not operate the display console.

The following parameters are saved with back up battery if AC power is disconnected:

- Date and Time
- Max and Min Records
- Alarms

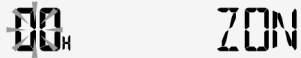






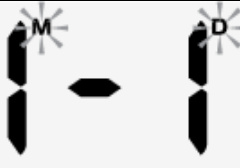
The following parameters are stored in memory when AC and battery power is disconnected:

- Router settings
- Weather server settings
- Time server settings
- Time zone offset
- Sensor pairing




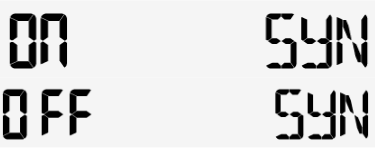
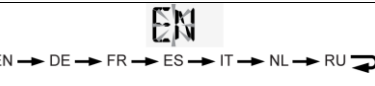
## **7. Settings**

### **7.1 Time Settings**

While in normal time mode, perform the following operations to set the time.

Command	Mode	Settings	Image
[TIME SET] + 2 seconds	Enter Time Zone Settings	Press [+] to increase, [-] to decrease. Reference Figure 7.	 00H → 01H...23H → -23H...-01H → 00H
[TIME SET]	Enter Daylight Savings Time <b>OFF</b> (AZ and HI) or <b>ON</b> (everywhere else).	Press [+] or [-] to turn ON or OFF.	
[TIME SET]	Hour Format	Press [+] to toggle between 12 Hr and 24 Hr format.	
[TIME SET]	Hour	Press [+] to increase, [-] to decrease.	
[TIME SET]	Minute	Press [+] to increase, [-] to decrease.	
[TIME SET]	Second	Press [+] to reset to 0.	
[TIME SET]	Year	Press [+] to increase, [-] to decrease.	
[TIME SET]	Month Day Format	Press [+] or [-] to switch between M-D (month-day) and D-M (day-month)	



			
[TIME SET]	Month	Press [+] to increase, [-] to decrease.	
[TIME SET]	Day	Press [+] to increase, [-] to decrease.	
[TIME SET]	Enable or disable the internet time sync	Press [+] or [-] to turn ON or OFF	
[TIME SET]	Language	Press [+] or [-] to change between EN (English), DE (German), FR (French), ES (Spanish), IT (Italian), NL (Dutch), and RU (Russian)	
[TIME SET]	Exit Time Settings		

[TIME SET] + 2 seconds means press and hold the **TIME SET** button on the back of the display console for two seconds.

[TIME SET] means press but do not hold the **TIME SET** button.

**Figure 6**

### 7.1.1 Time Zone Settings

The following table provides times zones throughout the world. Locations in the eastern hemisphere are positive, and locations in the western hemisphere are negative.

Hours from GMT	Time Zone	Cities
-12	IDLW: International Date Line West	---
-11	NT: Nome	Nome, AK
-10	AHST: Alaska-Hawaii Standard CAT: Central Alaska HST: Hawaii Standard	Honolulu, HI
-9	YST: Yukon Standard	Yukon Territory
-8	PST: Pacific Standard	Los Angeles, CA, USA
-7	MST: Mountain Standard	Denver, CO, USA
-6	CST: Central Standard	Chicago, IL, USA
-5	EST: Eastern Standard	New York, NY, USA
-4	AST: Atlantic Standard	Caracas
-3	---	São Paulo, Brazil

Hours from GMT	Time Zone	Cities
-2	AT: Azores	Azores, Cape Verde Islands
-1	WAT: West Africa	---
0	GMT: Greenwich Mean WET: Western European	London, England
1	CET: Central European	Paris, France
2	EET: Eastern European	Athens, Greece
3	BT: Baghdad	Moscow, Russia
4	---	Abu Dhabi, UAE
5	---	Tashkent
6	---	Astana
7	---	Bangkok
8	CCT: China Coast	Beijing
9	JST: Japan Standard	Tokyo
10	GST: Guam Standard	Sydney
11	---	Magadan
12	IDLE: International Date Line East NZST: New Zealand Standard	Wellington, New Zealand


**Figure 7**

## 7.2 Sensor Pairing with the Display Console

The console will automatically search and connect to your wireless sensor(s). You can also press the **[Wi-Fi / SENSOR]** key to search for your sensor(s) manually. Once your sensor(s) pair up successfully, the sensor(s) signal strength indication and sensor information will appear on your display console.

**Note:** The status LED will flash cyan after you press the **[Wi-Fi / SENSOR]** key to search the sensor(s) manually.

## 7.3 WiFi Connection Status

When the console successfully connects to your Wi-Fi router, the Wi-Fi signal icon  will appear on the LCD display, next to the time. If the Wi-Fi signal is not stable or the console is trying to connect to the router, the icon will flash. If the icon disappears, it means the console is not connected to the Wi-Fi router.

## 7.4 Time Server Sync Status

After the console has connected to the internet, it will attempt to connect to the internet time server to obtain the time. Once the connection succeeds and the console's time has updated, the **SYNC** icon will appear on the LCD. The time will automatically synchronize to the internet twice per day (noon and midnight).

Also you can press the **[REFRESH]** key to obtain the internet time manually.

## 7.5 Daylight Savings Time Adjustment

The clock will automatically adjust to Daylight Savings Time, unless turned off in the Time Settings.

## 7.6 Alarm Settings

### 7.6.1 Setting the Alarm Time

While in normal time mode, perform the following operations to set the alarm time.

Command	Mode	Settings
[MODE/ALARM] + 2 seconds	Enter Alarm Settings Alarm Hour	Press [+] to increase, [-] to decrease.
[MODE/ALARM]	Alarm Minute	Press [+] to increase, [-] to decrease.
[MODE/ALARM]	Exit Alarm Settings	


[MODE/ALARM] + 2 seconds means press and hold the ALARM button on the side of the display for two seconds.

[MODE/ALARM] means press but do not hold the ALARM button on the side of the display.

**Note:** Setting the alarm time will automatically turn the alarm on.

**Figure 8**

### 7.6.2 Turning On and Off the Alarm Feature

1. While in normal time mode, press the **MODE/ALARM** button to display the alarm time set in Section 7.6.1.
2. Press the **MODE/ALARM** button again to turn on and off the alarm. The time alarm icon  will be present when the alarm is set, and will disappear when the time alarm is off.
3. When the alarm time is reached, the alarm will sound.

### 7.6.3 Using the Alarm and Snooze Functions

When the alarm sounds, press and hold the **ALARM / SNOOZE** button (on the top of the console) for two seconds to turn off the alarm sound. The alarm bell will stop flashing. The alarm will sound again in 24 hours.

If no button is pressed during the alarm period, the alarm will turn off automatically after two minutes.

To temporarily silence the alarm, press the **ALARM / SNOOZE** button on the top of the console. The alarm bell icon will keep flashing.

If the snooze function is turned on, the 4-step crescendo alarm will sound every 5 minutes. Press and hold the **ALARM / SNOOZE** button for two seconds to turn off the alarm sound. The alarm bell will stop flashing.

## 7.7 Temperature and Humidity Display and Settings

### 7.7.1 Temperature Units of Measure

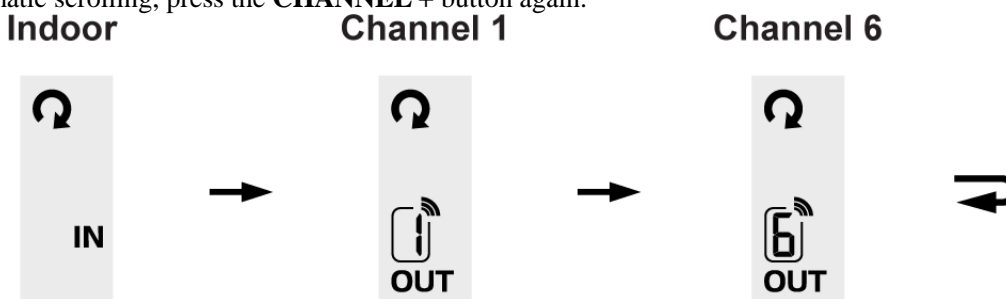
Press the °F / °C button on the back of the display to change the temperature units of measure.

#### 7.7.1.1 Changing Sensor Channel Numbers

The console supports up to seven wireless indoor/outdoor sensors. If you have two or more sensors, press the **CHANNEL +** button to switch to different channels.

Press and hold the **CHANNEL +** button for two seconds to automatically scroll between the sensor channels every four seconds. The scroll icon will appear, as shown in Figure 9. To stop the

automatic scrolling, press the **CHANNEL +** button again.




**Figure 9**

### 7.7.1.2 Indoor Comfort Icon

The comfort indication is a pictorial indication calculated from the indoor air temperature and humidity. Each indoor channel displays a comfort icon.

The comfort indication can vary at the same temperature, depending on the humidity. There is no comfort Indication when the temperature is below 0°C (32°F) or over 60°C (140°F).


To hide or unhide the comfort icon, press and hold the [**CHANNEL / +**] and [**MEM / -**] keys at the same time for 2 seconds.

		
<b>Too cold</b>	<b>Comfortable</b>	<b>Too hot</b>

**Figure 10**

### 7.7.2 Temperature and Humidity Trend

The temperature trend arrow indicator displays the current rate of change of the indoor and outdoor temperature and humidity.

Arrow indicator			
Trend	Rising	Steady	Falling

**Figure 11**

### 7.7.3 Temperature and Humidity Measurements Limits

When temperature is below -40 °C, (-40 °F), the LCD will display “Lo”. If temperature is above 80 °C (176 °F), LCD will display “HI”.

When humidity is below 1%, the LCD will display “Lo”. If humidity is above 99%, the LCD will display “HI”.

This can also indicate there is a problem with the temperature and humidity sensor.

### 7.8 Max / Min Temperature and Humidity Record

The console can display the daily or all time (since the last reset) MAX/MIN temperature and humidity records.

1. In normal mode, press the **MEM / -** key to switch between the daily (D) and all time (S) (since last reset) MAX/MIN temperature and humidity values on the right side section of

- LCD display, as shown in Figure 12.
- When the MAX/MIN records are shown, the display will return to normal mode after 5 seconds.

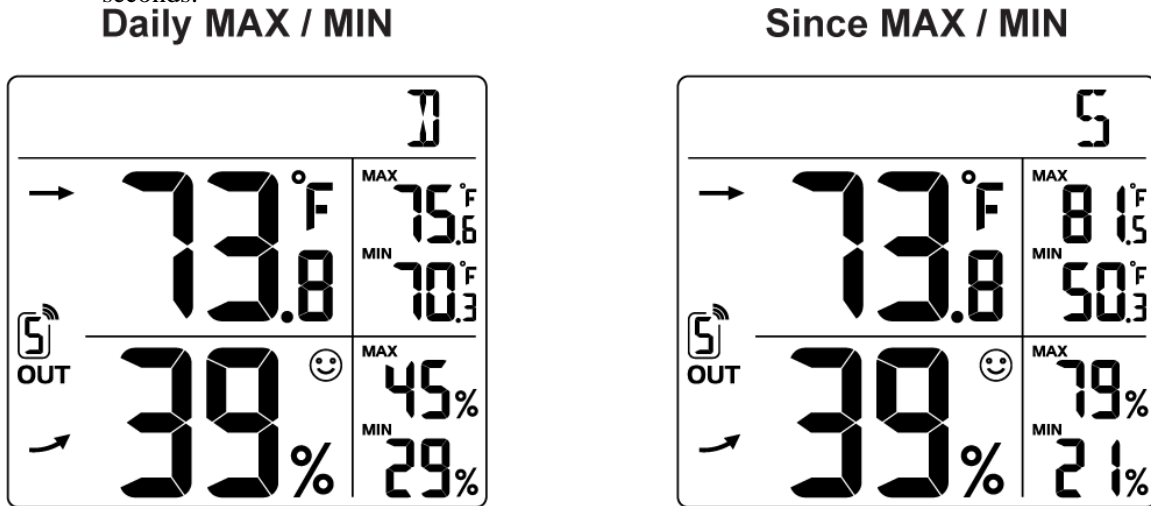


Figure 12

- Press and hold the **MEM/-** button for two seconds to clear the all-time Max/Min records. The display will update as shown in Figure 13.

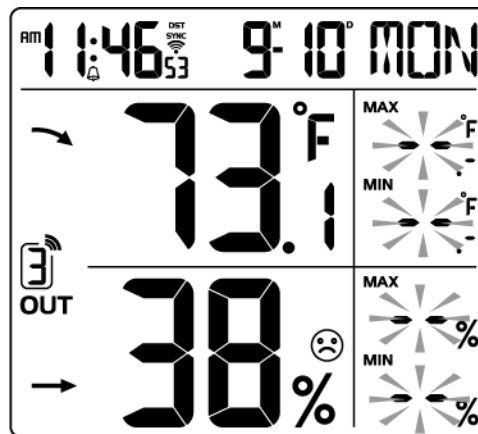
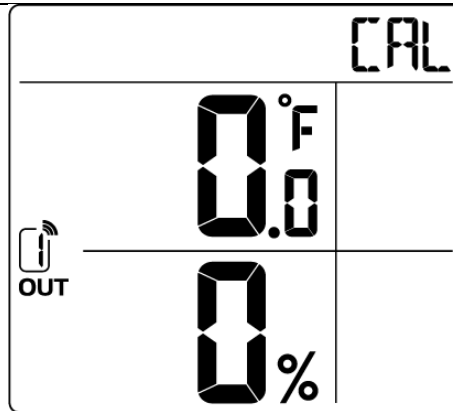


Figure 13

## 7.9 Calibration

To calibrate the temperature and humidity:

- In the normal time mode, Press the **TUNE** key on the back of the console to enter the calibration mode.
- Press **CHANNEL / +** or **MEM / -** key to select the channel.



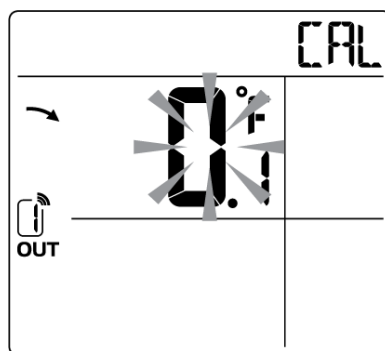
**Figure 14**

3. Press the **MODE / ALARM** key to switch between temperature and humidity. The parameter will flash when selected.
4. In the temperature calibration mode, press the **CHANNEL** /+ or **MEM**/- key to increase or decrease the calibrated temperature offset in 0.1° increments. Press and hold the **CHANNEL** /+ or **MEM**/- key to change rapidly, where:

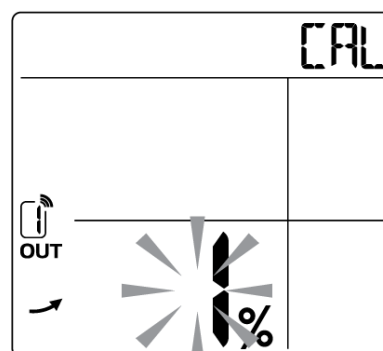
$$\text{Calibrated Temperature} = \text{Measured Temperature} + \text{Temperature Offset}$$

5. In the humidity calibration mode, press the **CHANNEL** /+ or **MEM**/- key to increase or decrease the calibrated humidity offset in 1% increments. Press and hold the **CHANNEL** /+ or **MEM**/- key to change rapidly, where:

$$\text{Calibrated Humidity} = \text{Measured Humidity} + \text{Humidity Offset}$$



Temperature Calibration



Humidity Calibration

**Figure 15**

6. Press the **TUNE** key again to exit the calibration mode.

**Notes:**

- The comfort icon is based on calibrated temperature and humidity values.
- To clear the calibration for a specific channel and parameter, press and hold **MODE/ALARM** key for 2 seconds during the temperature or humidity calibration mode.

## 7.9.1 Calibration Discussion

The purpose of calibration is to fine tune or correct for any sensor error associated with the devices margin of error. Errors can occur due to electronic variation (example, the temperature sensor is a resistive thermal device or RTD, the humidity sensor is a capacitance device), or degradation (contamination of sensors).

Calibration is only useful if you have a known calibrated source you can compare it against, and is optional. This section discusses practices, procedures and sources for sensor calibration to reduce manufacturing and degradation errors. Do not compare your readings obtained from sources such as the internet, radio, television or newspapers. The purpose of your weather station is to measure conditions of your surroundings, which vary significantly from location to location.

Parameter	Type of Calibration	Default	Typical Calibration Source
Temperature	Offset	Current Value	Red Spirit or Mercury Thermometer (1)
Humidity	Offset	Current Value	Sling Psychrometer (2)

**Figure 16**

- (1) Temperature errors can occur when a sensor is placed too close to a heat source (such as a building structure, the ground or trees).

To calibrate temperature, we recommend a mercury or red spirit (fluid) thermometer. Bi-metal (dial) and digital thermometers (from other weather stations) are not a good source and have their own margin of error. Using a local weather station in your area is also a poor source due to changes in location, timing (airport weather stations are only updated once per hour).

Place the sensor in a shaded, controlled environment next to the fluid thermometer, and allow the sensor to stabilize for 48 hours. Compare this temperature to the fluid thermometer and adjust the console to match the fluid thermometer.


- (2) Humidity is a difficult parameter to measure electronically and drifts over time due to contamination. In addition, location has an adverse effect on humidity readings (installation over dirt vs. lawn for example).




Official stations recalibrate or replace humidity sensors on a yearly basis. Due to manufacturing tolerances, the humidity is accurate to  $\pm 5\%$ . To improve this accuracy, the indoor and outdoor humidity can be calibrated using an accurate source, such as a sling psychrometer.

## 8. Additional Console Features

### 8.1 Wireless Signal Strength and Signal Loss

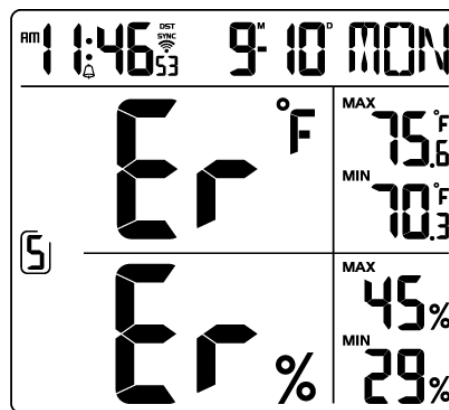
1. The signal strength is displayed for each wireless channels as follows:

	The icon blinks every time the signal is received, or once per minute.
---	--

 <b>OUT</b>	Strong wireless signal
 <b>OUT</b>	Fair wireless signal
 <b>OUT</b>	Weak wireless signal



**Figure 17**



2. If the signal for a specific channel has discontinued and does not recover within 15 minutes, the temperature and humidity will display “Er” for the corresponding channel, as shown in Figure 18.
3. If the signal does not recover within 48 hours, the “Er” display will be constantly displayed. You need to replace the batteries in the sensor and then press **SENSOR / WI-FI** key to pair up with the sensor again, as described in Section 7.2.



**Figure 18**

## 8.2 Low Battery Indication

If the console or sensor battery is low, the low battery icon  will display. The icon will only appear when the corresponding channel is displayed. For example, if the Channel 2 sensor battery is low, the low battery icon  is displayed when Channel 2 is displayed.

Indoor Low Battery Icon	Channel 2 Low Battery Icon
	

**Figure 19**



### 8.3 Low Temperature Icon

When the temperature is less than 3 °C (37.4 °F), the LO temperature icon will be displayed. The purpose of this icon is ice can begin forming at this temperature.

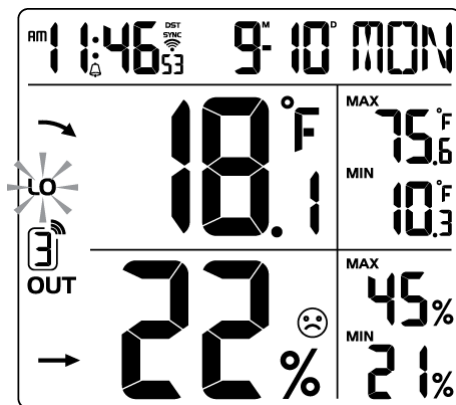


Figure 20

### 8.4 Remove Sensor from Console

To de-link a sensor from the console unit, press the **CHANNEL** / + key or **MEM** / - key to the desired channel, then press and hold the °C/°F key for 2 seconds.

## 9 WiFi Connection and Weather Servers

### 9.1 Register at Wunderground.com (Weather Underground)

Note: The Weather Underground website is subject to change.

1. Visit [Wunderground.com](https://www.wunderground.com), and select the [Join](#) link in the upper right and corner and create a Free Account.
2. From the menu, Select **More | Add a Weather Station**, or visit: <https://www.wunderground.com/personal-weather-station/signup>
3. Click **Send Validation Email**. Respond to the validation email from Wunderground (it may take a several minutes).
4. Revisit **More | Add a Weather Station**, or visit: <https://www.wunderground.com/personal-weather-station/signup> again and enter all of the information requested.
5. Once registered, you receive a station ID and password. Make a note of this. You will need to enter it into your weather station web interface shown in Figure 28 (Figure 21 is an example and your station ID and password will be different).

Congratulations. Your station is now registered with Wunderground!

You are almost done. Now go to your weather station software and add the following:

Your Station ID:

**KAZPHOEN424**

Your Station Key/Password:

**mdreeley**

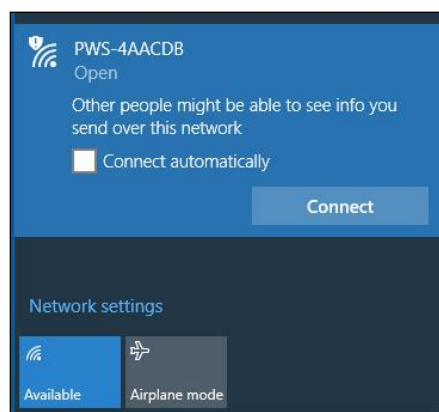
**Figure 21**

**Note:** Your station ID will have the form: KSSCCCC###, where K is for USA station (I for international), SS is your state, CCCC is your city and ### is the station number in that city.



In the example above, KAZPHOEN424 is in the USA (K), State of Arizona (AZ), City of Phoenix (PHOEN) and #424.

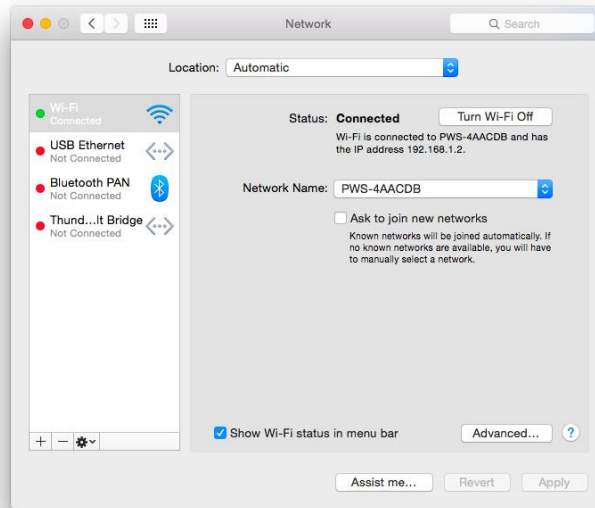
## 9.2 WiFi Setup

1. When you first power up the console, or press and hold the **WI-FI / SENSOR** button for six seconds in normal mode, the console **green LED will flash** to signify that it has entered WAP (wireless access point) mode, and is ready to enter for WIFI settings.
2. Use your smart phone, tablet, or computer to connect to the console through WiFi. Note that when the console programming is complete, you will resume your default WiFi connection. Note that you cannot connect two devices at the same time when programming.
  - a) **Example 1: Connect to the console WiFi server with a PC.** Choose WiFi network settings from Windows (or search “Change Wi-Fi Settings” from Windows), and Connect to the PWS- WiFi network, as shown in Figure 22 (your WiFi network name may be slightly different, but will always begin with PWS-).




**Figure 22**

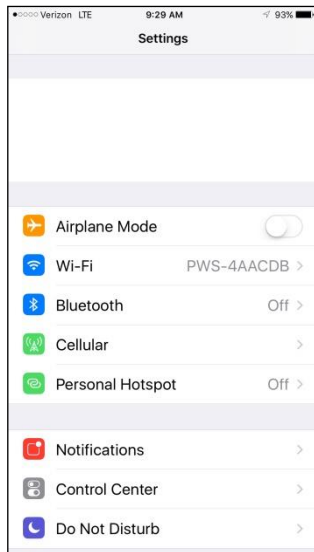
- b) **Example 2. Connect to the console WiFi server with a Mac.** Choose the Settings icon  and Network . Connect to the PWS- WiFi network, as shown in Figure 23 (your WiFi network name may be slightly different, but will always begin with PWS-).



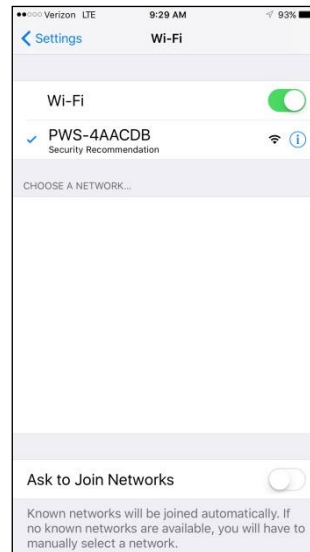
**Figure 23**

- c) **Example 3. Connect to the console WiFi server with an iPhone or iPad.** Choose the

Settings icon  and Wi-Fi (Figure 24). Connect to the PWS- WiFi network, as shown in Figure 25 (your WiFi network name may be slightly different, but will always begin with PWS-).




**Figure 24**



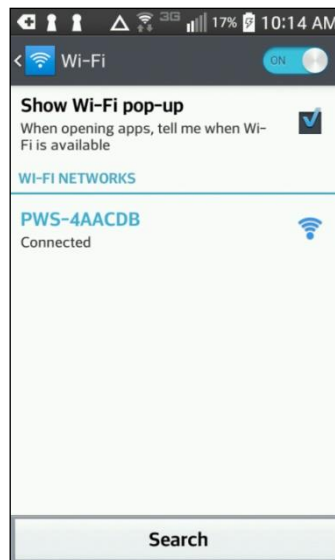
**Figure 25**

- d) **Example 4. Connect to the console WiFi server with an Android.** From the Apps

icon, choose the Settings icon  and Wi-Fi (Figure 26). Connect to the PWS- WiFi network, as shown in Figure 27 (your WiFi network name may be slightly different, but will always begin with PWS-).



**Figure 26**



**Figure 27**

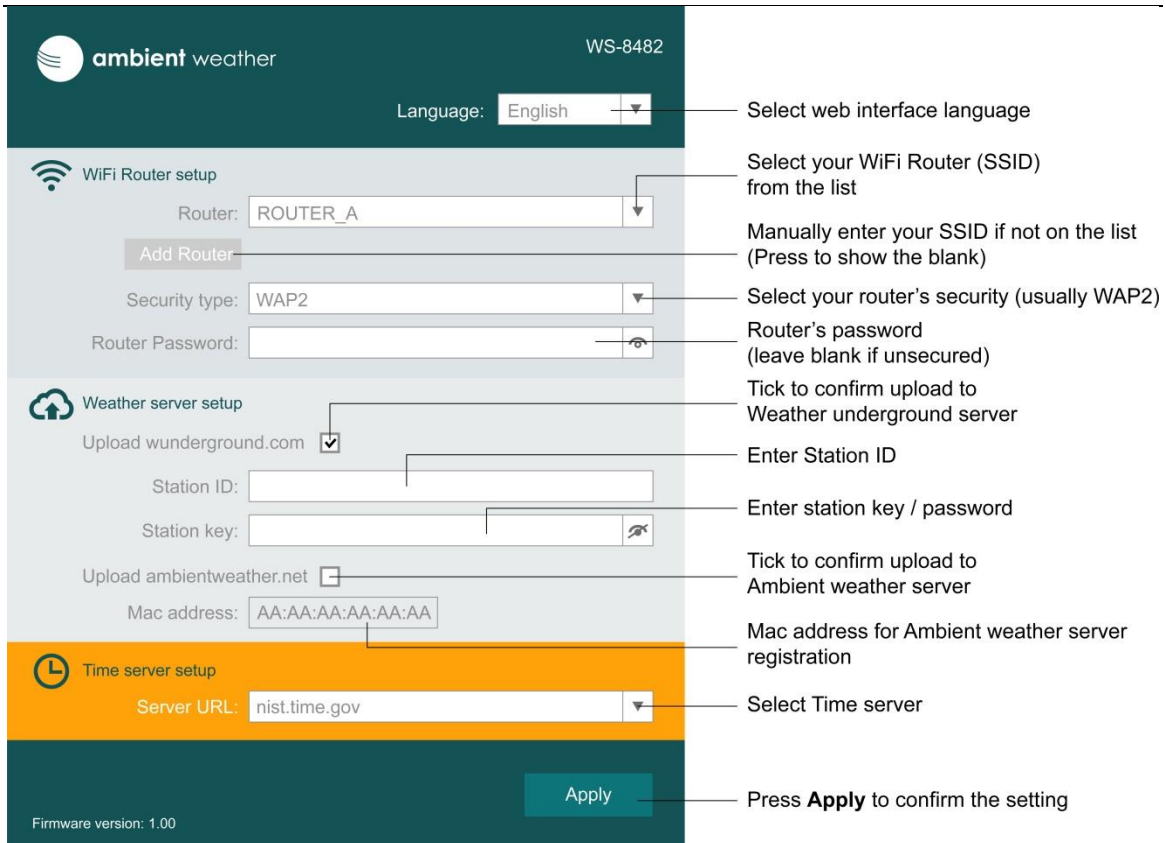
3. Once connected, enter the following IP address into any browser's address bar:

http://192.168.1.1  
to access the console's web interface:

**Note:** Some browsers will treat 192.168.1.1 as a search, so make sure you include the header http://, or:

http://192.168.1.1 not 192.168.1.1

4. Enter the following information into the web interface (Figure 28). Make sure all of the information is entered prior to selecting Apply. If you choose not to use Wunderground.com or AmbientWeather.net, leave the check boxes unchecked.

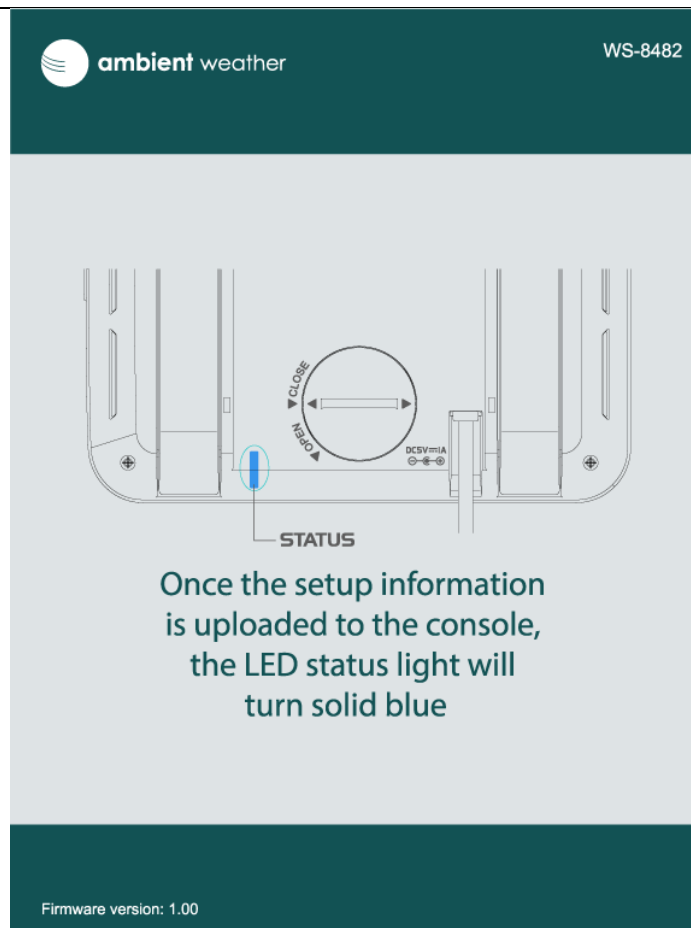


The screenshot shows the ambient weather web interface setup page. The page is divided into three main sections: WiFi Router setup, Weather server setup, and Time server setup. The WiFi Router setup section includes fields for Router (ROUTER\_A), Security type (WAP2), and Router Password. The Weather server setup section includes checkboxes for Upload wunderground.com (checked) and Upload ambientweather.net (unchecked), along with fields for Station ID, Station key, and Mac address (AA:AA:AA:AA:AA:AA). The Time server setup section includes a field for Server URL (nist.time.gov). The page also features a Language dropdown menu set to English, an Apply button, and a Firmware version of 1.00. Annotations with arrows point to various elements: 'Select web interface language' points to the Language dropdown; 'Select your WiFi Router (SSID) from the list' points to the Router dropdown; 'Manually enter your SSID if not on the list (Press to show the blank)' points to the 'Add Router' button; 'Select your router's security (usually WAP2)' points to the Security type dropdown; 'Router's password (leave blank if unsecured)' points to the Router Password field; 'Tick to confirm upload to Weather underground server' points to the 'Upload wunderground.com' checkbox; 'Enter Station ID' points to the Station ID field; 'Enter station key / password' points to the Station key field; 'Tick to confirm upload to Ambient weather server' points to the 'Upload ambientweather.net' checkbox; 'Mac address for Ambient weather server registration' points to the Mac address field; 'Select Time server' points to the Server URL dropdown; and 'Press **Apply** to confirm the setting' points to the Apply button.


**Figure 28**

Notes:

- **Make a note of your Mac address.** You will need this to register at AmbientWeather.net.
  - **Hidden SSIDs.** If you have a hidden SSID, enter the SSID manually.
5. If all of the information you entered, and is correct, the console LED will change from flashing blue to solid blue. If it keeps flashing, check your web interface information again.

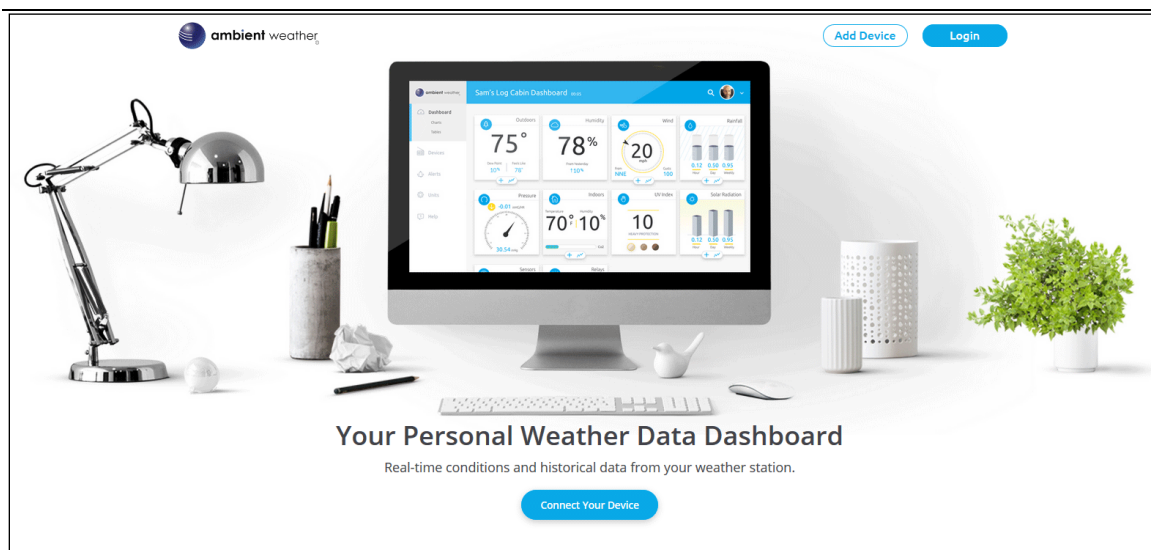


**Figure 29**

6. Once the setup is completed, the Wi-Fi console will disconnect from your computer or smart phone's Wi-Fi connection, and search for the assigned router. If the connection is successful, the Wi-Fi console's status LED will change to blue and the Wi-Fi icon  will stop flashing and remain on.

### 9.3 Register with AmbientWeather.net

Visit: [www.AmbientWeather.net](http://www.AmbientWeather.net) to create an account and select Add Device, as shown in Figure 30.



**Figure 30**

Next, enter the MAC address found on your Weather Station Web Interface (Figure 28). Note that this is an example only and your MAC address will be different.

## Connect your device

Enter your MAC address

55:55:55:55:55:55|

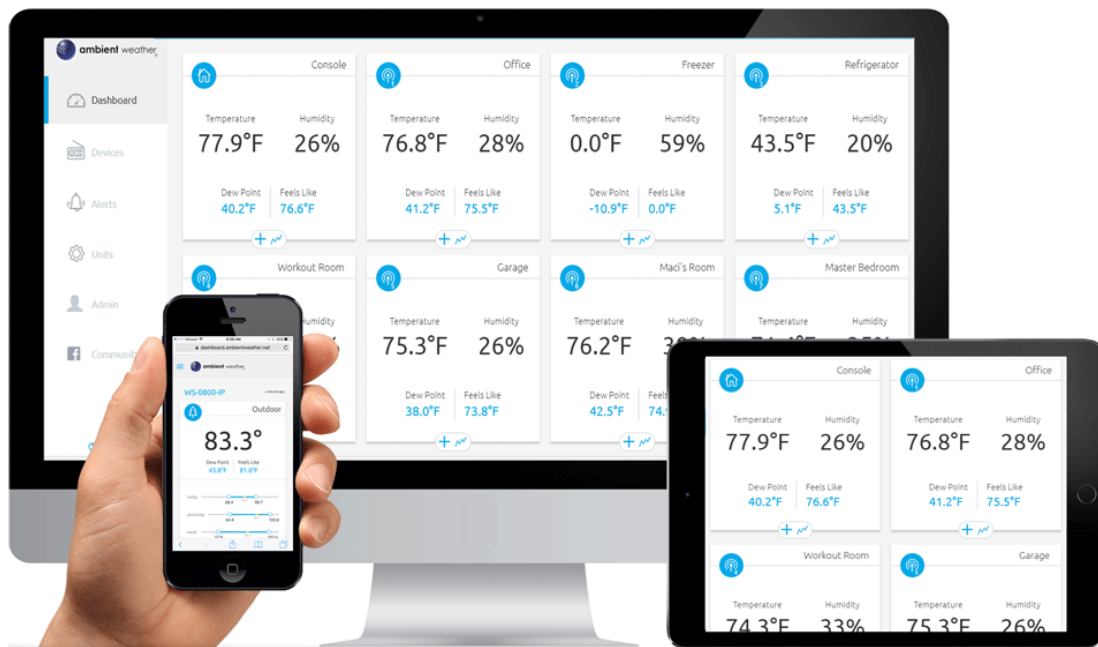
Looks good!

Next

**Figure 31**

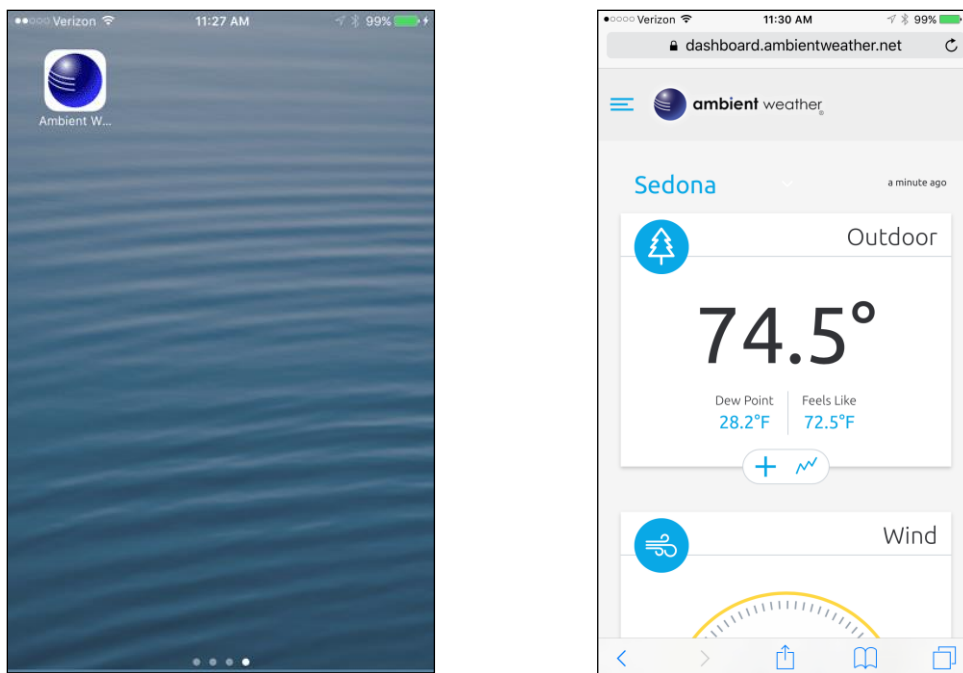
Register an account on AmbientWeather.net (email address and password).

Once registered, select the dashboard to view your data, as shown in Figure 32.



**Figure 32**

AmbientWeather.net is a responsive design and mobile friendly, so there is no need for a mobile app. Simply open your mobile devices web browser, browse to AmbientWeather.net, and bookmark your dashboard. If you save the bookmark to your desktop, it will automatically save the Ambient Weather icon, as shown in Figure 33.



**Figure 33**



## 9.4 Viewing your Data on Weather Underground

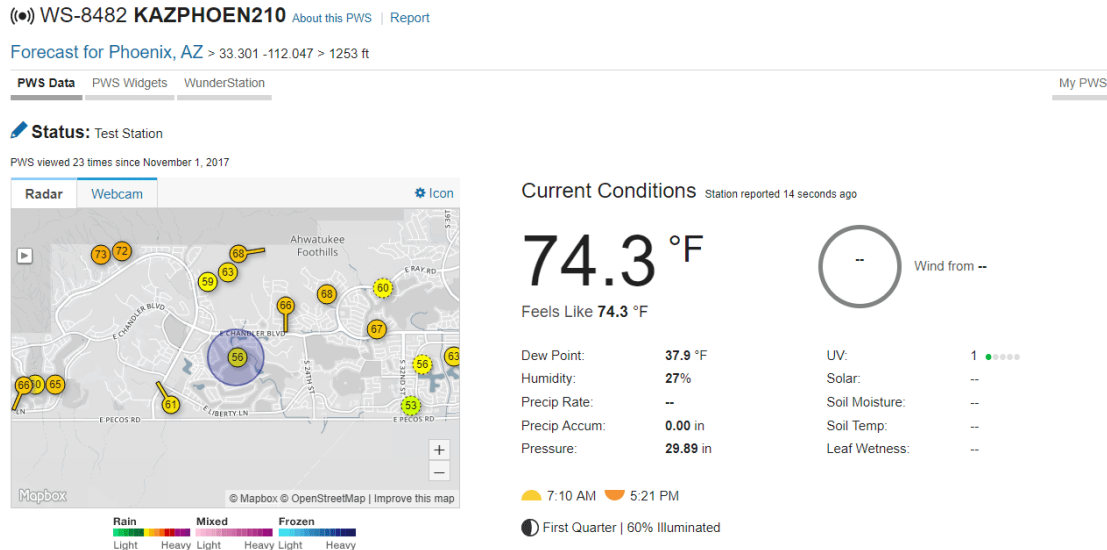
There are several ways to view your data on Wunderground:

### 9.4.1 Web Browser

Visit:

<http://www.wunderground.com/personal-weather-station/dashboard?ID=STATIONID>

where **STATIONID** is your personal station ID (example, KAZPHOEN210).



**Figure 34**

### 9.4.2 WunderStation iPad Application

Visit:

<http://www.WunderStation.com>

to download the WunderStation iPad app.



**Figure 35**

### 9.4.3 Mobile Apps

Visit:

<http://www.wunderground.com/download/index.asp>

for a complete list of Mobile apps for iOS and Android. Alternately, you can find your data on your mobile device's web browser.



**Figure 36**

## 9.5 Additional AmbientWeather.net Features

### 9.5.1 IFTTT

The AmbientWeather.net service connects to IFTTT, the platform that allows devices and services to work together seamlessly.

Here are a few things you can do with IFTTT:

- Turn off your Rachio sprinklers when it rains, there is too much wind, or below freezing.
- Close your Hunter blinds when the sun is too intense.
- Close your garage door when it is too windy.
- Blink your hue lights when it starts raining.
- Connect to other web services, such as Gmail, Facebook, Instagram, or Pinterest.

For more information on IFTTT and how it can work for you, visit:

[https://ifttt.com/ambient\\_weather](https://ifttt.com/ambient_weather)

### 9.5.2 Compatible with Alexa

The Ambient Weather skill provides Ambient Weather personal weather station owners with the ability to get real-time, and past weather information generated by the devices they have set up at AmbientWeather.net.

Enable the skill and get started: say "Alexa, ask Ambient Weather for a weather report.". This will provide you with your outdoor weather report, but you can ask for your indoor weather report as well by saying, "Alexa, ask Ambient Weather about the indoor conditions." You can also ask for a report about a specific day, month or year! Just say "Alexa, ask Ambient Weather about the weather yesterday." or "Alexa, ask Ambient Weather about the weather in May".

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For more information and to enable this skill, visit:

<https://www.amazon.com/dp/B074PGCM1D/>

### 9.5.3 Works with Google Assistant

The Ambient Weather Google Assistant app provides Ambient Weather personal weather station owners with the ability to get real-time, and past weather information generated by the devices they have set up at AmbientWeather.net

Link your account to get started: say 'hey google, Ambient Weather... weather report.' This will provide you with your outdoor weather report. You can ask for your indoor weather report as well by saying, 'indoor conditions'.

You can also link the Ambient Weather app by downloading the Google Assistant.

Here are some sample commands:

- Weather Report
- Outdoor conditions
- Indoor conditions
- Yesterday's weather
- Conditions for October 15, 2017
- Conditions for September 2017
- Conditions for 2016

For more information and to enable this app, visit:

<https://assistant.google.com/services/a/id/668e6f3369f27209/>

## 10 Maintenance

### 10.1 Adding or Subtracting Multiple Sensors

If you add or subtract multiple wireless sensors, you will need to synchronize the sensors.

#### 10.1.1 Adding or Subtracting Sensors

1. Make sure each sensor is on a different channel and in sequence (1, 2, 3, ..) before powering up. Insert the batteries.  
If already powered up, press the reset button inside the battery compartment. Reference Section 3.1.2 for details.
2. Place each sensor about 5 to 10 feet from the console.
3. Press the **SENSOR** button on the back of the console to begin synchronization. Reference Section 3.1.1 for details.
4. Do not touch any buttons until synchronization is complete.

#### 10.1.2 Multiple Sensor Features

The console will scroll through the multiple channels, so there is no need to press the Channel button. Reference Section 7.7.1.1 for details.

Wunderground.com does not support multiple sensor channels. However, AmbientWeather.net does support multiple channels.

The AmbientWeather.net dashboard allows you to rename the sensor description, as shown in Figure 37.

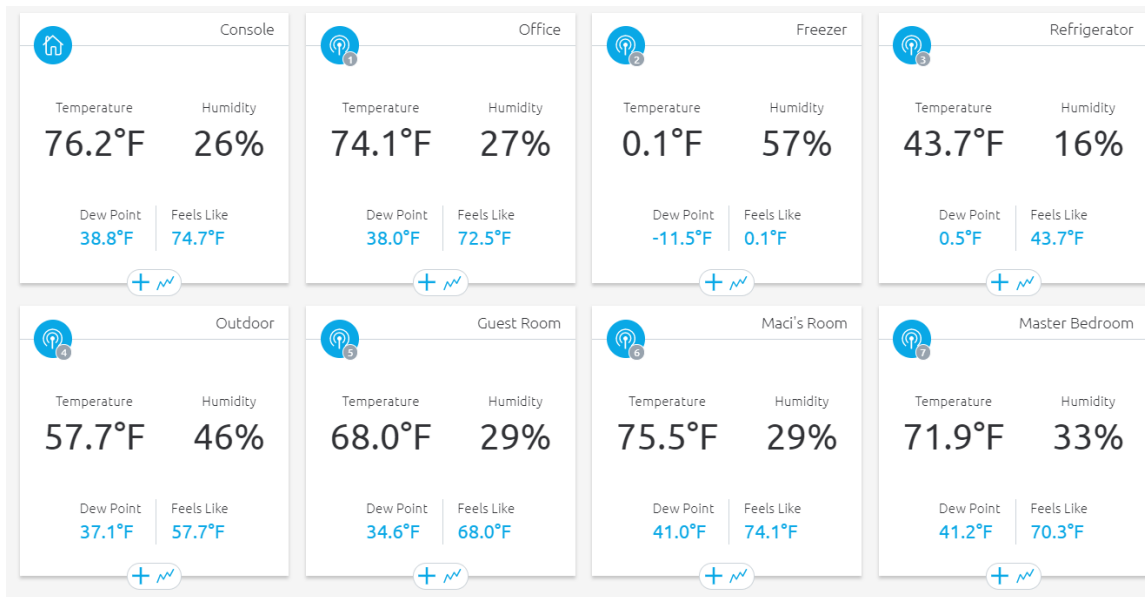


Figure 37

## 11 Specifications

### 11.1 Wireless Specifications

- Indoor/Outdoor Thermo-Hygrometer: 300 feet line of sight, 100 feet under most conditions.
- Frequency: 915 MHz

## 11.2 Measurement Specifications

The following table provides specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Indoor and Outdoor Temperature	-4 to 140 °F alkaline batteries  -40 to 140 °F Lithium e2 Energizer batteries	131 to 140°F: $\pm 0.9^{\circ}\text{F}$ (55 to 60°C: $\pm 0.5^{\circ}\text{C}$ )  50 to 131°F: $\pm 0.7^{\circ}\text{F}$ (10 to 55°C: $\pm 0.4^{\circ}\text{C}$ )  - 4 to 50°F: $\pm 2.3^{\circ}\text{F}$ (-20 to 10°C: $\pm 1.3^{\circ}\text{C}$ )  - 40 to - 4°F: $\pm 3.4^{\circ}\text{F}$ (-40 to -20°C: $\pm 1.9^{\circ}\text{C}$ )	0.1 °F/°C
Indoor and Outdoor Humidity	1 to 99%	0 to 90% RH $\pm 2.5\%$ RH @ 77°F (25°C)  90 to 100% RH $\pm 3.5\%$ RH @ 77°F (25°C)	1%

## 11.3 Power Consumption

- Display backup power: 1 x CR2032 button cell (included)
- Display: DC 5V, 1.0A 100-240V 50 / 60 Hz UL rated Class 5 adaptor
- Indoor/Outdoor Thermo-Hygrometer Sensor: 2 x AA Alkaline or Lithium e2 Energizer for cold weather batteries (not included)

## 11.4 WiFi Specifications

- WIFI Standard: 802.11 b/g/n
- Wi-Fi Operating frequency: 2.4G
- Setup User Interface (UI) support setup device: Build-in WiFi with WAP mode smart device, including laptops, computers, smart phones and smart pads.
- Recommend web browser for setup UI: Web browser support of HTML 5, such as the latest versions of Chrome, Safari, IE, Edge, Firefox or Opera.

## 11.5 Other Specifications

- Time synchronize method: Synchronized through internet UTC time server
- Console Temperature Limits of Operation: 23 °F to 122 °F (-5°C to 50°C)

## 11.6 Weight Specifications

- Console: 0.5 lbs (220 grams) with battery
- Wireless Sensor: 0.32 lbs (144 grams) with batteries

## 12 Troubleshooting Guide

If your question is not answered here, you can contact us as follows:

1. Email Support: [support@ambientweather.com](mailto:support@ambientweather.com)
2. Technical Support: 480-346-3380 (M-F 8am to 3pm Arizona Time). Note that Arizona does not observe Daylight Savings Time.

Problem	Solution
The wireless sensor communication has been lost or is intermittent or will not sync up.	<ul style="list-style-type: none"> <li>• Make sure the transmitter is powered up and the LED is flashing about once per minute. For cold weather environments, install lithium batteries. If the transmitter is not flashing, replace the batteries.</li> <li>• Resync the console. Reference Section 3.3.2.</li> <li>• The maximum line of sight communication range is 300' (100' under most conditions). Move the sensor closer to the console.</li> <li>• If the sensor is too close (less than 5-10'), move the sensor away from the console.</li> <li>• Make sure the remote sensors are not transmitting through solid metal (acts as an RF shield), or earth barrier (down a hill).</li> <li>• Move the console away from electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers.</li> <li>• Radio Frequency (RF) Sensors cannot transmit through metal barriers (example, aluminum siding) or multiple, thick walls.</li> </ul>
The console does not respond to commands.	<ul style="list-style-type: none"> <li>• Press the reset button on the back of the console with an open ended paper clip or sharp tool.</li> </ul>
Cannot connect the console to WiFi	<ul style="list-style-type: none"> <li>• Check your WiFi password is correct.</li> <li>• Make sure your device (desktop, laptop, tablet or phone) is connected to your WiFi router.</li> <li>• If you own a dual band router (2.4 and 5 GHz), make sure your WiFi 2.4 GHz band is turned on.</li> </ul>
AmbientWeather.net is not updating	<ul style="list-style-type: none"> <li>• Make sure your MAC address was entered correctly.</li> </ul> <p>Make sure the checkbox is checked in the web panel (reference Figure 28).</p>
Wunderground.com is not updating	<ul style="list-style-type: none"> <li>• Make sure the checkbox is checked in the web panel (reference Figure 28).</li> <li>• Make sure your station ID and Station Key are correct (reference Figure 30).</li> <li>• DO NOT copy and paste your station key into the console's web display, as it will add a lagging space. Make sure you type it in. Also, it is easy to confuse the lower case letter l, upper case I and the number 1, as well as the number 0 and the letter O.</li> </ul>
Console Time is off by increments of hours.	Make sure your time zone and Daylight Savings Time are set properly (Reference Section 7.1.1).

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### **13 Liability Disclaimer**

Please help in the preservation of the environment and return used batteries to an authorized depot. The electrical and electronic wastes contain hazardous substances. Disposal of electronic waste in wild country and/or in unauthorized grounds strongly damages the environment.

Reading the “User manual” is highly recommended. The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place.

This product is designed for use in the home only as indication of weather conditions. This product is not to be used for medical purposes or for public information.

The specifications of this product may change without prior notice.

This product is not a toy. Keep out of the reach of children.

No part of this manual may be reproduced without written authorization of the manufacturer.

Ambient, LLC WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT.

### **14 FCC Statement**

#### **Statement according to FCC part 15.19:**

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

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

#### **Statement according to FCC part 15.21:**

Modifications not expressly approved by this company could void the user's authority to operate the equipment.

#### **Statement according to FCC part 15.105:**

NOTE: 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.

The Responsible party:

Company Name: Ambient, LLC

Address : 6845 W. Frye Road Chandler, AZ 85226



## 15 Warranty Information

Ambient, LLC 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 only to the original purchaser of this product. To receive warranty service, the purchaser must contact Ambient, LLC for problem determination and service procedures.

Warranty service can only be performed by an Ambient, LLC. The original dated bill of sale must be presented upon request as proof of purchase to Ambient, LLC.

Your Ambient, LLC warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (lack of reasonable and necessary maintenance); (2) damage resulting from failure to follow instructions contained in your owner's manual; (3) damage resulting from the performance of repairs or alterations by someone other than an authorized Ambient, LLC authorized service center; (4) units used for other than home use (5) applications and uses that this product was not intended (6) the products inability to receive a signal due to any source of interference or metal obstructions and (7) extreme acts of nature, such as lightning strikes or floods.

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.

