
Ambient Weather WS-0265 8 WiFi 8-Channel Wireless Thermo-Hygrometer User Manual



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1. Introduction

Thank you for your purchase of the Ambient Weather WS-0265 WiFi Wireless Thermo-Hygrometer. The following user guide provides step by step instructions for installation, operation and troubleshooting. To download the latest manual and additional troubleshooting tips, please visit:

<https://www.AmbientWeather.net/help>

2. Getting Started

The Ambient Weather WS-0265 WiFi Wireless Thermo-Hygrometer consists of an indoor display console (receiver + WiFi transmitter) and an indoor / outdoor thermo-hygrometer.

2.1 Parts List

QTY	Item
1	Display Console Dimensions (LxHxW): 67.5 x 90 x 26.8 mm (2.65 x 3.54 x 1.06")
1	Thermo-hygrometer transmitter (WH31B) Dimensions (LxHxW): 122 x 40 x 18 mm (4.80 x 1.57 x 0.71")
1	5V DC Adaptor
1	User manual

2.2 Indoor / Outdoor Thermo-Hygrometer Setup

 **Note:** Do not use rechargeable batteries. We recommend fresh alkaline batteries for outdoor temperature ranges between -4 °F and 140 °F and fresh lithium batteries for outdoor temperature ranges between -40 °F and 140 °F.

1. Remove the battery door on the back of the transmitter(s) by sliding down the battery door, as shown in Figure 1 .

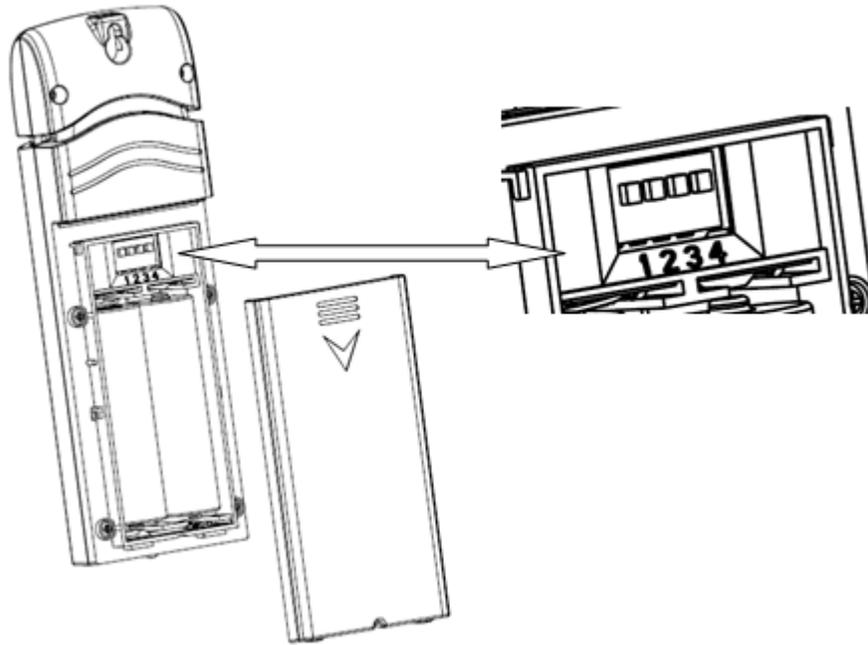


Figure 1

2. **BEFORE** inserting the batteries, locate the dip switches on the inside cover of the lid of the transmitter.
3. **Channel Number:** The WS-3000 supports up to eight transmitters, and includes three transmitters. To set each channel number (the default is Channel 1), change Dip Switches 1, 2 and 3, as referenced in Figure 2.
4. **Temperature Units of Measure:** To change the transmitter display units of measure ($^{\circ}\text{F}$ vs. $^{\circ}\text{C}$), change Dip Switch 4, as referenced in Figure 2.

Switch in down position. Switch in up position.

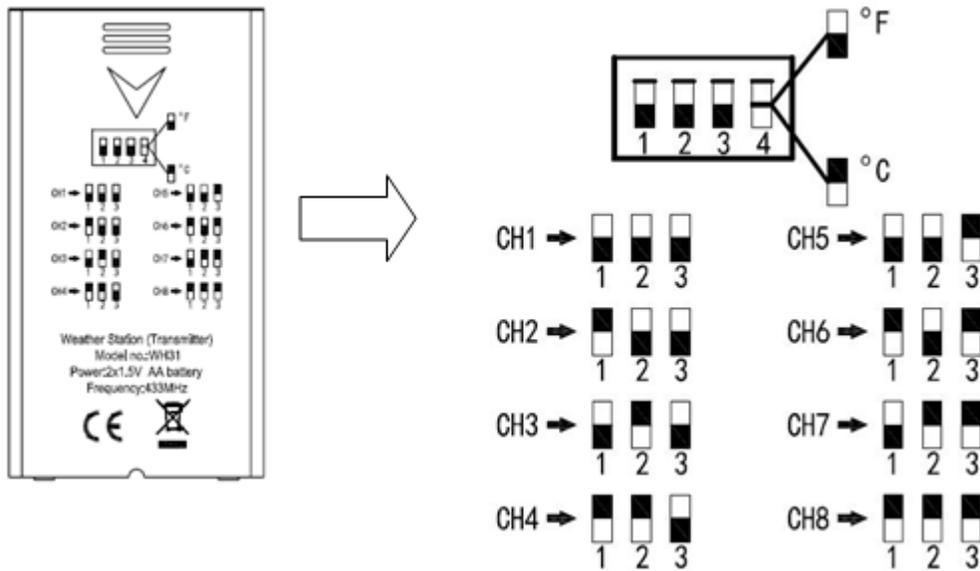


Figure 2

5. Insert two AA batteries.
6. Verify the correct channel number (CH) and temperature units of measure (°F vs. °C) are on the display, as shown in Figure 3.

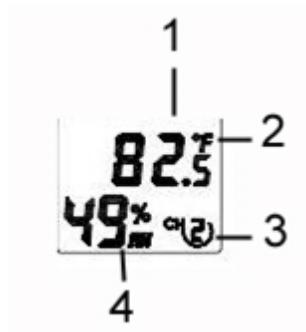


Figure 3

- (1) temperature
- (2) temperature units (°F vs. °C)
- (3) channel number
- (4) relative humidity

7. Close the battery door.
8. Repeat for the additional remote transmitters, verifying each remote is on a different channel.

2.3 Sensor Placement

It is recommended you mount the remote sensor outside on a north facing wall, in a shaded area, at a height at or above the receiver. If a north facing wall is not possible, choose a shaded area, under an eave.

Direct sunlight and radiant heat sources will result in inaccurate temperature readings. Although the sensor is weatherproof, it is best to mount in a well-protected area, such as an eave.

1. Use a screw or nail to affix the remote sensor to the wall, as shown in Figure 4.
2. Hang the remote sensor up on string or zip tie, as shown in Figure 5.

 **Note:** Make sure the sensor is mounted vertically and not lying down on a flat surface. This will insure optimum reception. Wireless signals are impacted by distance, interference (other weather stations, wireless phones, wireless routers, TVs and computer monitors), and transmission barriers, such as walls. In general, wireless signals will not penetrate solid metal and earth (down a hill, for example).

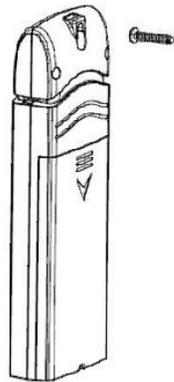


Figure 4

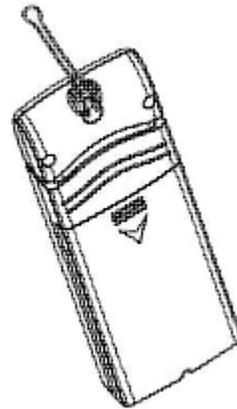


Figure 5

2.4 Best Practices for Wireless Communication

Wireless communication is susceptible to interference, distance, walls and metal barriers. We recommend the following best practices for trouble free wireless communication.

1. **Electro-Magnetic Interference (EMI).** Keep the console several feet away from computer monitors and TVs.
2. **Radio Frequency Interference (RFI).** If you have other 915 MHz devices and communication is intermittent, try turning off these other devices for troubleshooting purposes. You may need to relocate the transmitters or receivers to avoid intermittent communication.
3. **Line of Sight Rating.** This device is rated at 300 feet line of sight (no interference, barriers or walls) but typically you will get 100 feet maximum under most real-world installations, which include passing through barriers or walls.
4. **Metal Barriers.** Radio frequency will not pass through metal barriers such as aluminum siding. If you have metal siding, align the remote and console through a window to get a clear line of sight.

The following is a table of reception loss vs. the transmission medium. Each “wall” or obstruction decreases the transmission range by the factor shown below.

Medium	RF Signal Strength Reduction
Glass (untreated)	5-15%
Plastics	10-15%
Wood	10-40%
Brick	10-40%
Concrete	40-80%
Metal	90-100%

2.5 Display Console

- (1) Connect the display console power jack to AC power adapter with the included power adapter, as shown in Figure 6a.
- (2) Remove the battery door on the back of the console, and insert 2xAAA batteries per Figure 6b.
- (3) Wait several minutes for the remote sensor(s) to synchronize with the display console. Make sure the remote sensor is powered up and about 5 to 10 feet away while waiting for synchronization. The remote search icon  will be present while searching.

If you have more than one sensor, the channel number will displayed next to the remote search icon.

Do not touch any buttons until the remote sensor(s) report in, otherwise the remote sensor search mode will be terminated and the search icon will turn off. When the remote sensor has been received, the console will automatically switch to the normal mode, and all further settings can be performed.

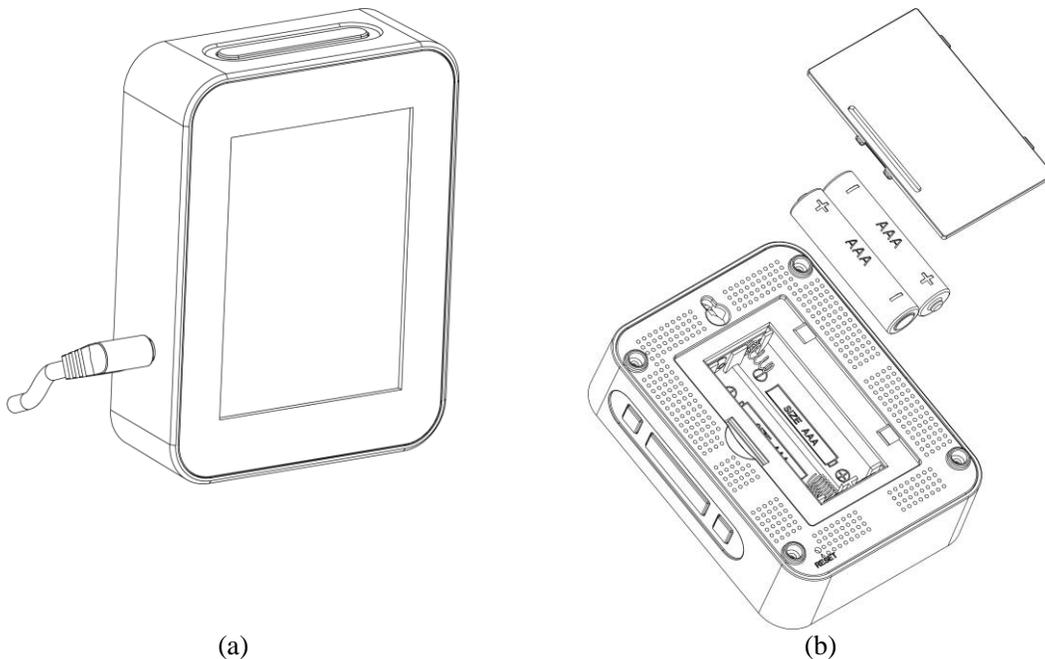


Figure 6

2.6 Display Console Probe

The display console includes a 90 cm (about 3 feet) dry probe to accurately measure air temperature, since the console generates heat. The probe should not be touching any surface to accurately measure air temperature.

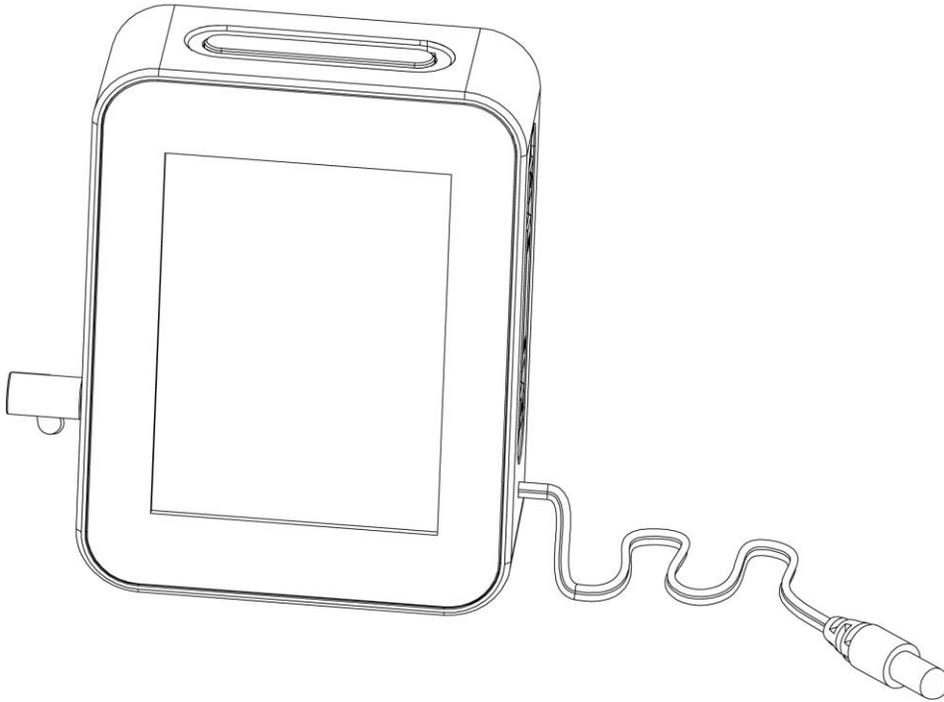


Figure 7

3. Display Console Operation

3.1 Screen Display

The display console home screen layout is shown in Figure 8.

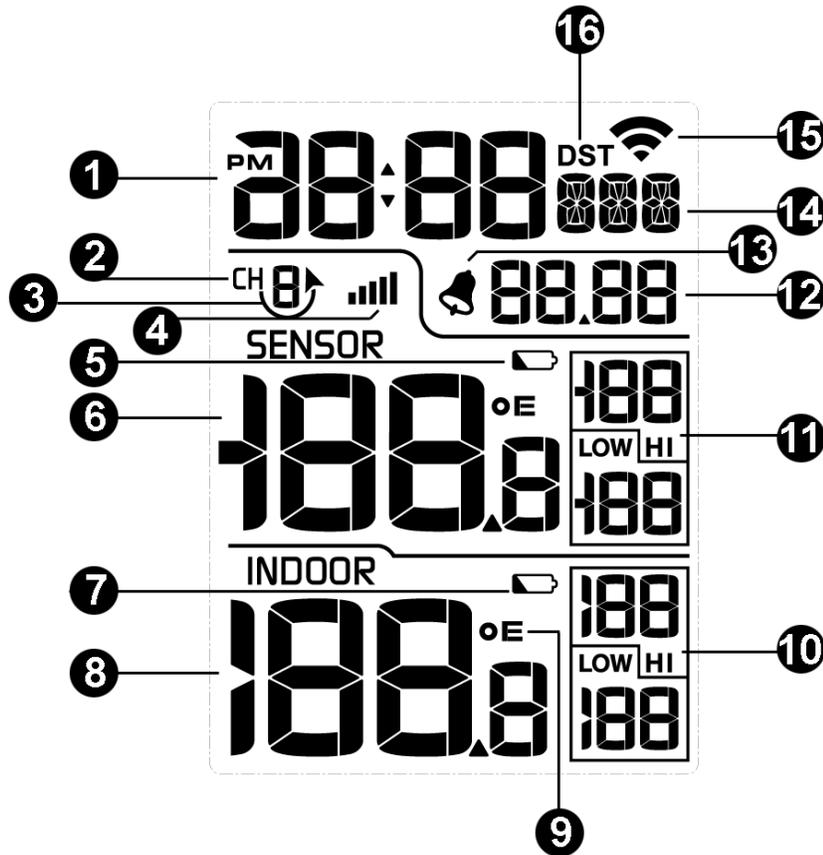


Figure 8

No	Description	No	Description
1	Time	9	Temperature Units of Measure
2	Sensor Channel Number	10	Indoor Hi/Low Temperature
3	Sensor Scroll Icon	11	Sensor Hi/Low Temperature
4	RF Reception	12	Date
5	Sensor Low Battery Indicator	13	Alarm icon
6	Sensor Temperature	14	Day of Week
7	Indoor Low Battery Indicator	15	WIFI icon
8	Indoor Temperature	16	DST

3.2 Console Initialization

After the console is connected to AC power, the console will display the software version number two seconds after power up, as shown in Figure 9.

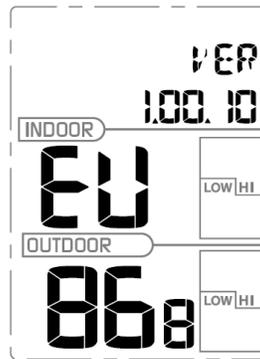


Figure 9

The console will display all of the LCD segments for three seconds after power up as shown in Figure 10, the indoor conditions will immediately update, and the remote sensors array will register within a few minutes.

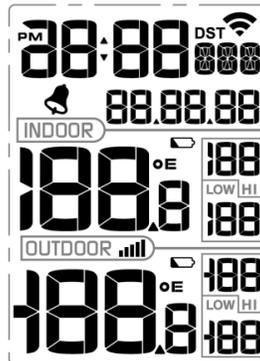
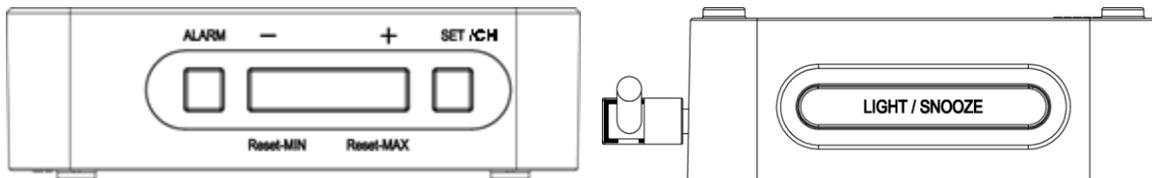


Figure 10

3.2.1 Button Operation

The operation buttons are on the side and top of the console, as shown in Figure 11:

- (a) ALARM, -/Reset-MIN, +/Reset-MAX, SET/CH
- (b) LIGHT / SNOOZE



(a) Side View

(b) Top View

Figure 11

The console has 5 buttons at the bottom for easy operation:

Key	Description
SET/CH	<ul style="list-style-type: none"> • Press the SET/CH button to change between channels 1-8. • Press and hold the SET/CH button for two seconds to enter Set Mode.
+ / Reset-MAX	<ul style="list-style-type: none"> • Press the + / Reset-MAX button for five seconds, and the maximum indoor and outdoor temperature will reset to the current value on the display console. • While in SET mode, press to increase the value. Press and hold for two seconds to increase the value rapidly.
- / Reset-MIN	<ul style="list-style-type: none"> • Press the - / Reset-MIN button for five seconds, and the minimum indoor and outdoor temperature will reset to the current value on the display console. • While in SET mode, press to decrease the value. Press and hold for two seconds to decrease the value rapidly.
ALARM	<ul style="list-style-type: none"> • Press and release the ALARM button to enter alarm mode. • Press and hold the ALARM button for two seconds to enter the alarm setting mode.
LIGHT/SNOOZE	<ul style="list-style-type: none"> • When connected to AC power, press and hold for three seconds to turn on backlight permanently. With the backlight turned on, press and hold for five seconds to turn off the backlight. • When powered by batteries, press to turn on the backlight for 3 seconds.

3.3 Set Mode

Press and hold the **SET/CH** button for two seconds to enter the SET Mode. To proceed to the next setting, press (do not hold) the **SET/CH** button.

To exit the SET mode at any time, press the **LIGHT / SNOOZE** button.

Figure 12 summarizes the set mode sequence and commands.

Command	Mode	Description	Settings
SET/CH + 2 seconds	BEEP	Turns on or off the beep with each keystroke.	Press +/ Reset-MAX to toggle OFF and ON
SET/CH	DST	Observe Daylight Savings Time (set to OFF in Arizona and Hawaii, ON everywhere else)	Press +/ Reset-MAX to toggle OFF and ON
SET/CH	ZON	Time Zone (TZ)	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease (reference Figure 13).
SET/CH	12H	12/24 Hour Format	Press +/ Reset-MAX to toggle between 12 hour (12h) and 24 hour (24h) format
SET/CH	HR	Hour of Day	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	MIN	Minute of Day	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	M-D	Month Day Format	Press +/ Reset-MAX to toggle between M-D (month/day) format and D-M (day/month) format
SET/CH	Y	Year	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	M	Month of Year	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	D	Day of Month	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	°F	Temperature Units of Measure	Press +/ Reset-MAX to toggle between °F and °C
SET/CH	Exit Set Mode		

SET/CH + 2 seconds means press and hold the SET/CH button for two seconds.
SET/CH means press the SET/CH button.

Figure 12

3.3.1 Time Zones

The following table summarizes time zones around the world.

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
-2	AT: Azores	Azores, Cape Verde Islands
-1	WAT: West Africa	---

Hours from GMT	Time Zone	Cities
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 13

3.3.2 Auto Set Time

When the console is connected to WiFi and the Internet, the time will automatically set.

3.3.3 Setting Time Alarm

To view the alarm time, press the **ALARM** button.

Press and hold the **ALARM** button for two seconds to enter the ALARM Set Mode. To save and proceed to the next alarm setting, press (do not hold) the **SET/CH** button.

To exit the alarm mode at any time, press the **LIGHT / SNOOZE** button.

The time alarm will sound for 120 seconds, and can be disabled by pressing the **LIGHT / SNOOZE** button.

Figure 14 summarizes the alarm mode sequence and commands.

Command	Mode	Settings
ALARM + 2 seconds	Turns alarm ON or OFF	Press +/ Reset-MAX to toggle OFF and ON When the alarm is on, the alarm time icon  will appear.
SET/CH	Alarm Hour	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	Alarm Minute	Press +/ Reset-MAX to increase or -/ Reset-MIN to decrease
SET/CH	Exit alarm settings mode.	

ALARM + 2 seconds means press and hold the ALARM button for two seconds.

SET/CH means press the SET/CH button.

Figure 14

3.4 Max/Min Mode

The minimum and maximum temperature values are displayed on the console for the past 24 hours.

3.4.1 Viewing Max/Min Values

Press the + / **Reset-MAX** button for five seconds, and the maximum indoor and outdoor temperature will reset to the current value on the display console.

Press the - / **Reset-MIN** button for five seconds, and the minimum indoor and outdoor temperature will reset to the current value on the display console.

3.5 Multiple Channels and Scroll Mode

If you have multiple wireless sensors, while in normal mode, press the **SET/CH** button to the different channels. Temperature, humidity, and MAX/MIN records will be displayed for each channel.

To scroll automatically, press the **SET/CH** button again, and the scroll icon  will be displayed next to the channel number, and will scroll every 5 seconds.

3.6 Resynchronize Wireless Sensor

Press and hold the +/**Reset-MAX** and -/**Reset-MIN** buttons at the same time for five seconds, and the display will search for a new transmitter for three minutes. Dashes will be displayed in the outdoor temperature field.

Alternately, you can power down and up the console by removing AC power and batteries.

3.7 Backlight Operation

3.7.1 With AC Adapter

The backlight can only be continuously on when the AC adapter is permanently on. When the AC adapter is disconnected, the backlight can be temporarily turned on.

Press the **LIGHT SNOOZE** button to adjust the brightness between High, Low and Off.

3.7.2 Without AC Adapter

To reduce power consumption, the console will sleep on battery power only, and will not send data to the Internet.

To temporarily turn on the back light for 15 seconds, press the **LIGHT SNOOZE** button.

4. Live Internet Publishing

The WS-0265 sends data to three free hosting services:

Hosting Service	Website	Description
Ambient Weather	AmbientWeather.net	AmbientWeather.net is the most user friendly design for monitoring your data across different platforms. Quickly view detailed information with our animated expandable modules. Supports email and text alerts.
Weather Underground	WeatherUndeground.com	Weather Underground is a free weather

		hosting service that allows you to send and view your weather station data real-time, view graphs and gauges, import text data for more detailed analysis and use iPhone, iPad and Android applications available at Wunderground.com. Weather Underground is a subsidiary of The Weather Channel and IBM.
Weather Cloud	WeatherCloud.net	Weathercloud is a real-time weather social network formed by observers from around the world.

The WS-0265 weather station sends data to the Internet using your WiFi connection.

4.1 Connecting the Weather Station Console to WiFi

 **Note:** The WiFi feature only works when plugged into AC power due to higher energy requirements.

 **Note:** MiFi broadcasts a 2.4 GHz signal. If you own a dual band router (2.4 GHz and 5.0 GHz), make sure your router's 2.4 GHz band is on.

4.1.1 Download the awnet Console Configuration App



To connect the weather station to WiFi and the Internet, you must first download the **awnet** console configuration app from one of the following choices:

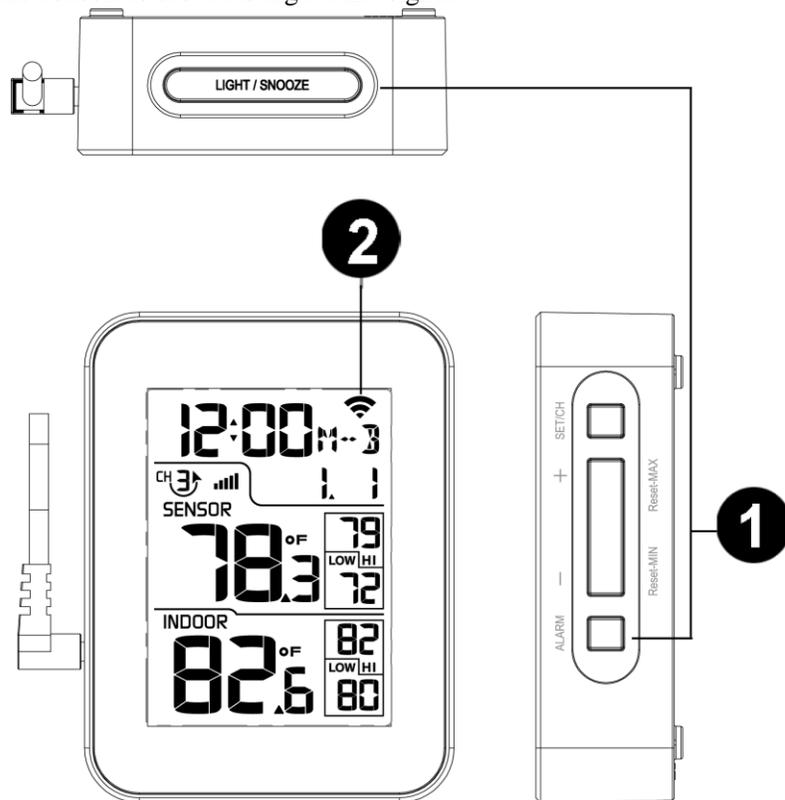
- Apple App Store
<https://itunes.apple.com/us/app/awnet/id1341994564>
- Google Play Store
<https://play.google.com/store/apps/details?id=com.dtston.ambienttoolplus>

From your mobile device, visit the Apple App Store or Google Play Store and search for the “**awnet**” application with the Ambient Weather Logo. Download this application to your mobile device.

Note: This is only a configuration app. It is not used to remotely view your data from the Ambient Weather Dashboard.

4.1.2 Place the Console in WiFi Broadcast Mode

Reference Figure 15. (1) Press and hold the **ALARM** and **LIGHT/SNOOZE** buttons at the same time for four seconds. (2) The WiFi icon will begin flashing rapidly and the **characters M-B will flash**, indicating the console is broadcasting a MiFi signal.



1. Figure 15

4.1.3 awnet Connection Wizard

If you own an Apple iOS device, refer to Section 4.1.3.1.

If you own an Android device, refer to Section 4.1.3.2.

4.1.3.1 Apple iOS

Open the WiFi settings on your phone or tablet by selecting the Settings Icon . Connect your phone to the 2.4 GHz WiFi router. Figure 16 is an example. Your router's name or SSID will be different.

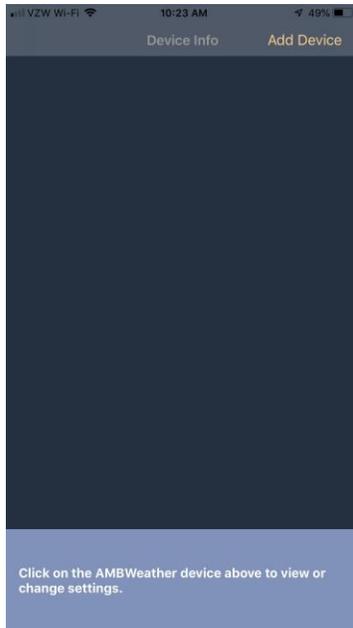


Figure 16

Most dual band routers (2.4 GHz and 5.0 GHz) use the same name (SSID) for both bands. If your router does have two different SSIDs for the two different bands, make sure your iPhone or iPad is connected to the 2.4 GHz hand,

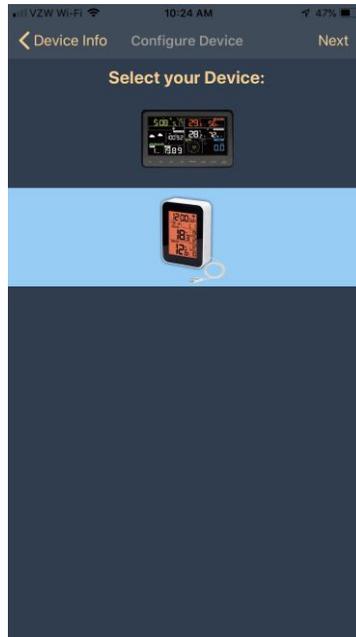
If you own repeaters, or a Mesh Network, turn off all of the repeaters or secondary nodes. We want the console to connect to the primary node.

Run the **awnet** app  from your mobile device's home screen. The following configuration wizard will appear.



(a)

Click **Add Device**.



(b)

Select your weather station type.

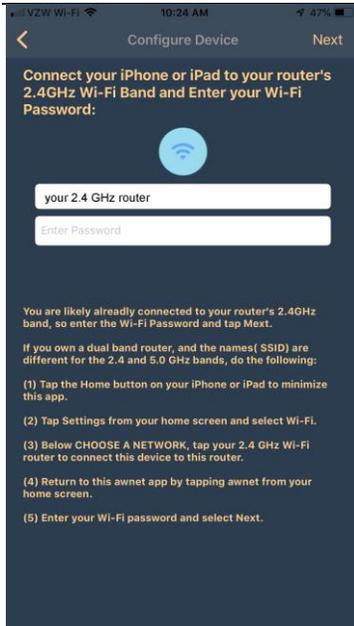
Tap **Next**.



(c)

Make sure the WiFi icon is flashing rapidly. If not, press and hold the **WIND+** and **PRESSURE-** buttons for four seconds.

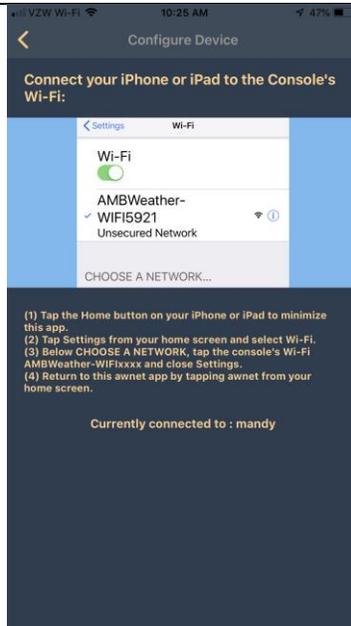
Tap **Next**.



(d)

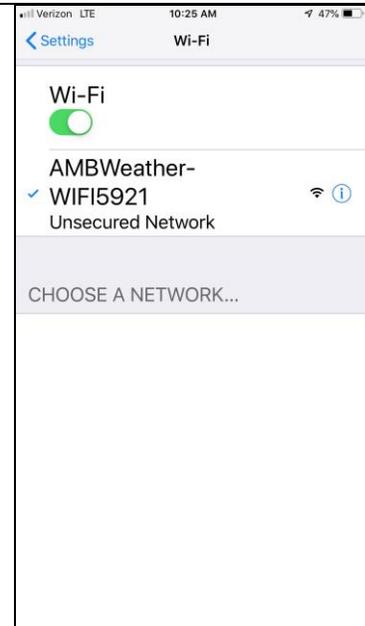
Enter your WiFi password for your 2.4 GHz band router.

Tap **Next**.



(e)

Tap the Home button on your iPhone or iPad to minimize this app.



(f)

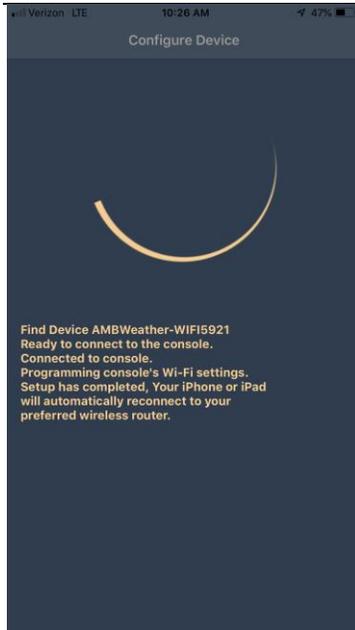
Tap Settings  from your home screen and select Wi-Fi.

Below **CHOOSE A NETWORK...**, tap the console's **AMBWeather-WIFIxxxxx**

and close Settings.

Return to the **awnet** app



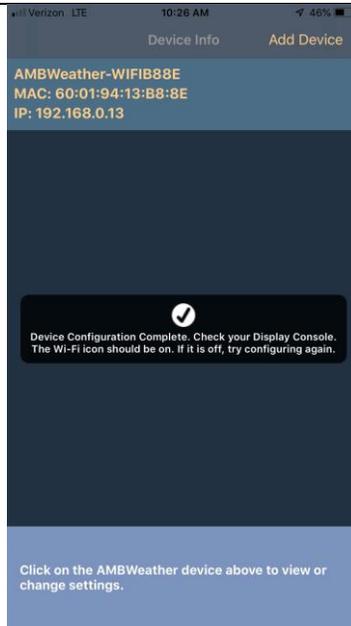


(g)

The app will connect to the console automatically and then connect to your router.

Several status messages will be displayed.

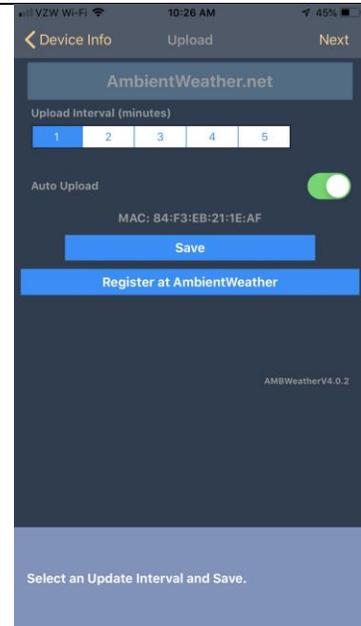
If successful, the WiFi icon will change to solid on the display console. If the WiFi icon turns off, the WiFi settings were not entered properly and you must start this procedure again.



(h)

The popup message will appear:

Device Configuration Complete. Check your Display Console. The Wi-Fi icon should be on. If it is off, try configuring again.



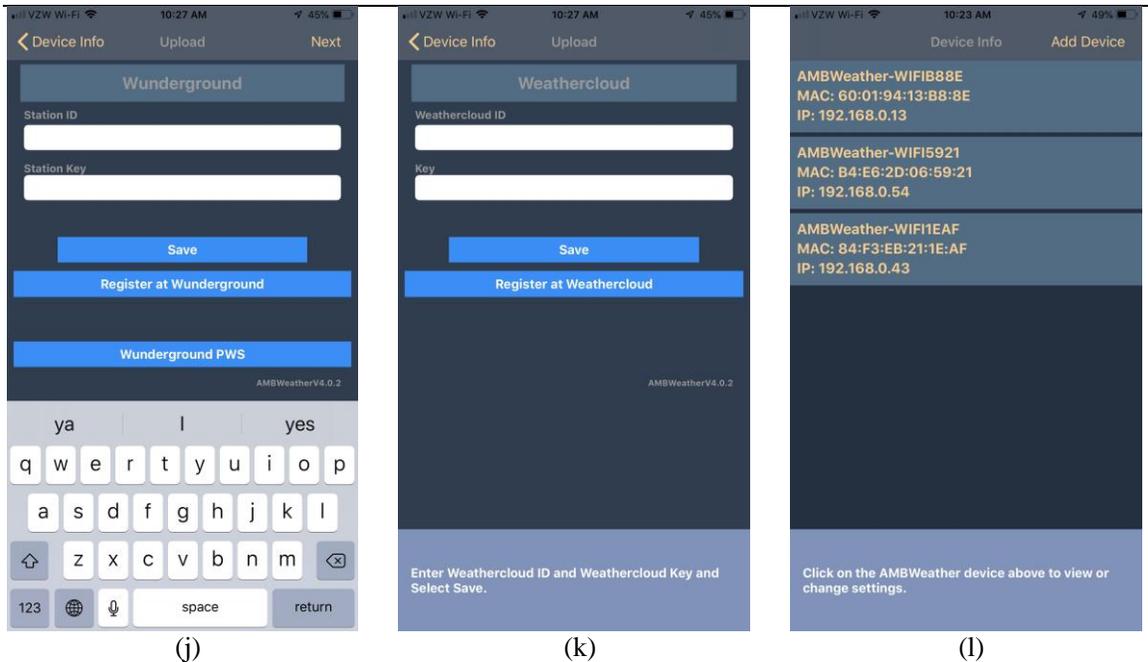
(i)

Upload your data to AmbientWeather.net

Select an upload interval in minutes and tap **Save**.

Make a note of the MAC address. You will need this to create an account on AmbientWeather.net

Tap **Next**.



(j)

Upload your weather data to Wunderground.com.

Register an account and station at Wunderground.com per Section 5.2.

Enter the Station ID and Station Key obtained from Wunderground.com into this panel and Tap **Save**.

Tap **Next**.

(k)

Upload your weather data to WeatherCloud.net.

Register an account and station at WeatherCloud Section per Section 5.3. Enter the ID and Password into this panel and Tap **Save**.

Tap **Next**.

(l)

Once completed successfully, your Device ID, IP address and MAC address will be displayed.

If you have more than one device, they will all be listed.

To change any of the console settings, click on the device field.

Figure 17

4.1.3.2 Android

Note: Make sure the **awnet** application has location services turned on by selecting **APP PERMISSIONS** from your android device.

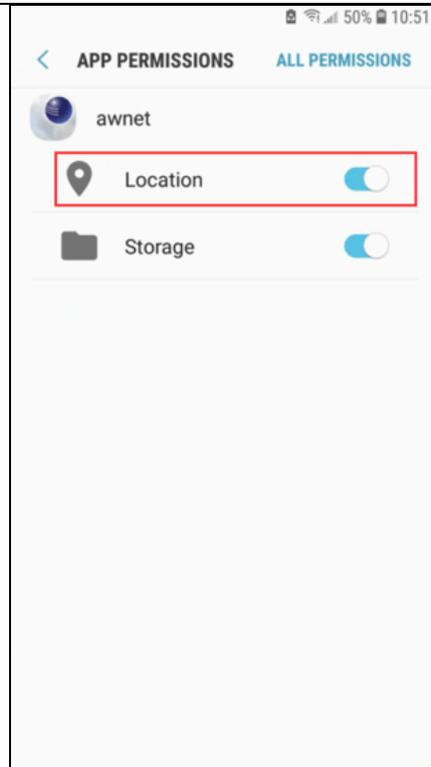


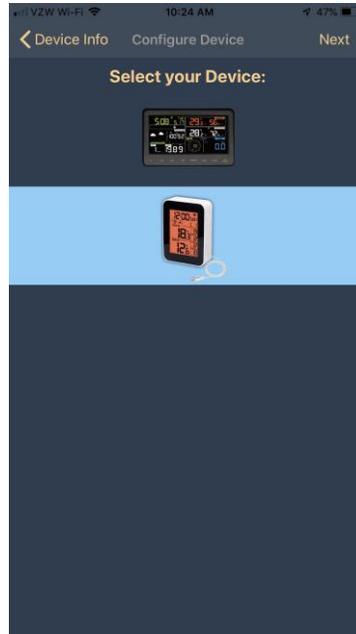
Figure 18

Run the Ambient Weather **awnet**  app, and following instructions below.



(a)

Click **Add Device** to connect your console WiFi.



(b)

Select your weather station type.

Tap **Next**.



(c)

Make sure the WiFi icon is flashing rapidly. If not, press and hold the **WIND+** and **PRESSURE-** buttons for four seconds.

Tap **Next**.



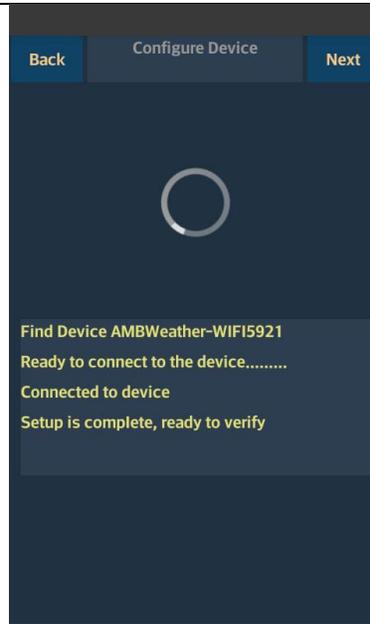
(d)

Tap the Scan button. Select the SSID for your router.

If it is a dual band router and the SSIDs are different, make sure you connect to the 2.4 GHz band.

Enter the WiFi password.

Tap **Next**.



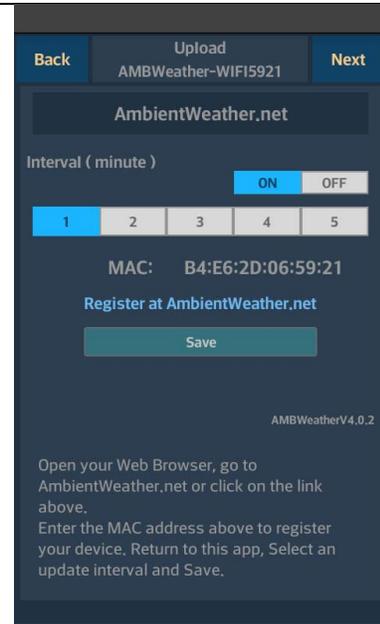
(e)

The app will connect to the console automatically and then connect to your router.

Several status messages will be displayed.

If successful, the WiFi icon will change to solid on the display console. If the WiFi icon turns off, the WiFi settings were not entered properly and you must start this procedure again.

Tap **Next**.



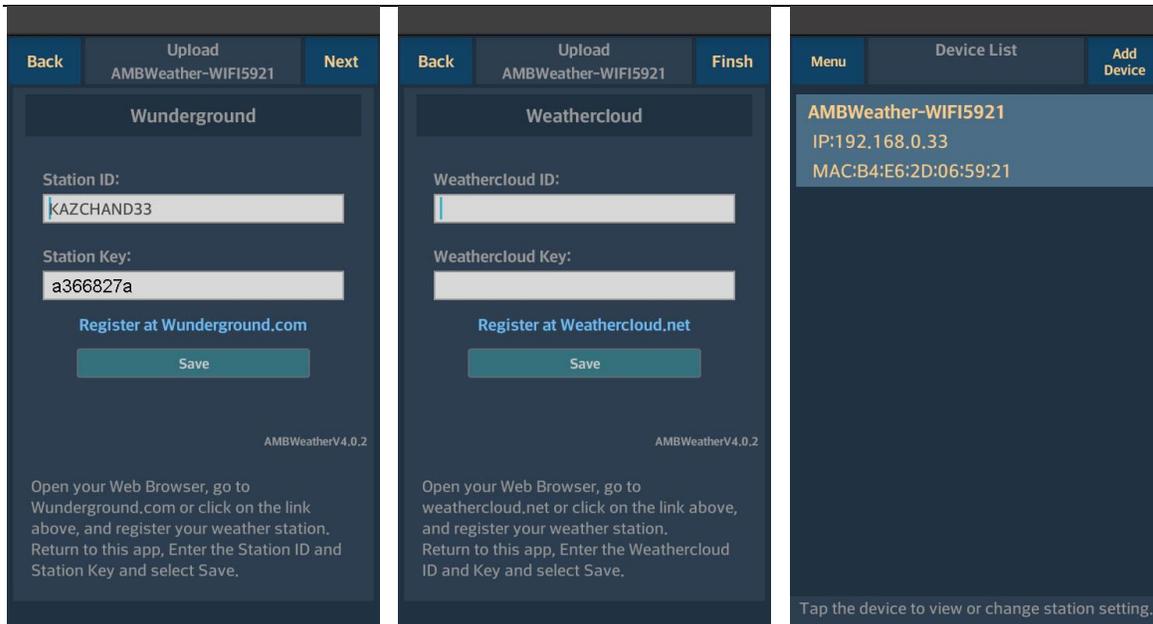
(f)

Upload your data to AmbientWeather.net

Tap ON and select an upload interval in minutes and tap Save.

Make a note of the MAC address. You will need this to create an account on AmbientWeather.net

Tap **Next**.



(g)

Upload your weather data to Wunderground.com.

Register an account and station at Wunderground.com per Section 5.2.

Enter the Station ID and Station Key obtained from Wunderground.com into this panel and Tap **Save**.

Tap **Next**.

(h)

Upload your weather data to WeatherCloud.net.

Register an account and station at WeatherCloud Section per Section 5.3.

Enter the ID and Password into this panel and Tap **Save**.

Tap **Next**.

(i)

Once completed successfully, your Device ID, IP address and MAC address will be displayed.

To change any of the console settings, click on the device field.

Figure 19

4.1.3.3 Upgrading the Firmware from the awnet App on an Android Device

From the AmbientWeather.net page (Figure 20), tap on the **Update Firmware**. This button will be missing if you are running the latest firmware.

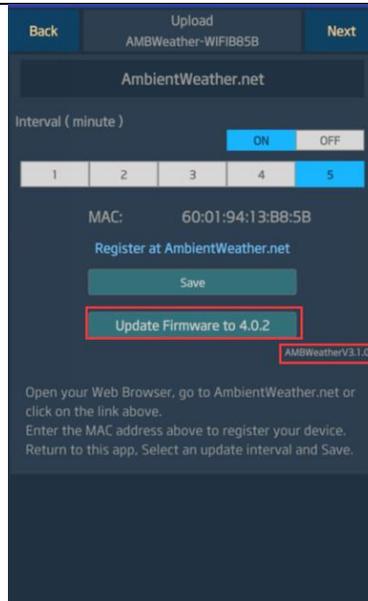


Figure 20

4.2 Console WiFi Icon Status

The following describes the console's WiFi icon  operational status. The WiFi icon is in the time field of the display console.

- 1) Slow Flash – connected to WiFi but not the Internet
- 2) Fast Flash – configure WiFi from awnet app
- 3) Solid – Connected to WiFi and the Internet
- 4) Not displayed – Not connected to WiFi or Internet

5. Registering with Weather Servers

Please note that you can send data to all cloud services at the same time.

5.1 AmbientWeather.net

Visit: www.AmbientWeather.net to create an account and select Add Device, as shown in Figure 21.

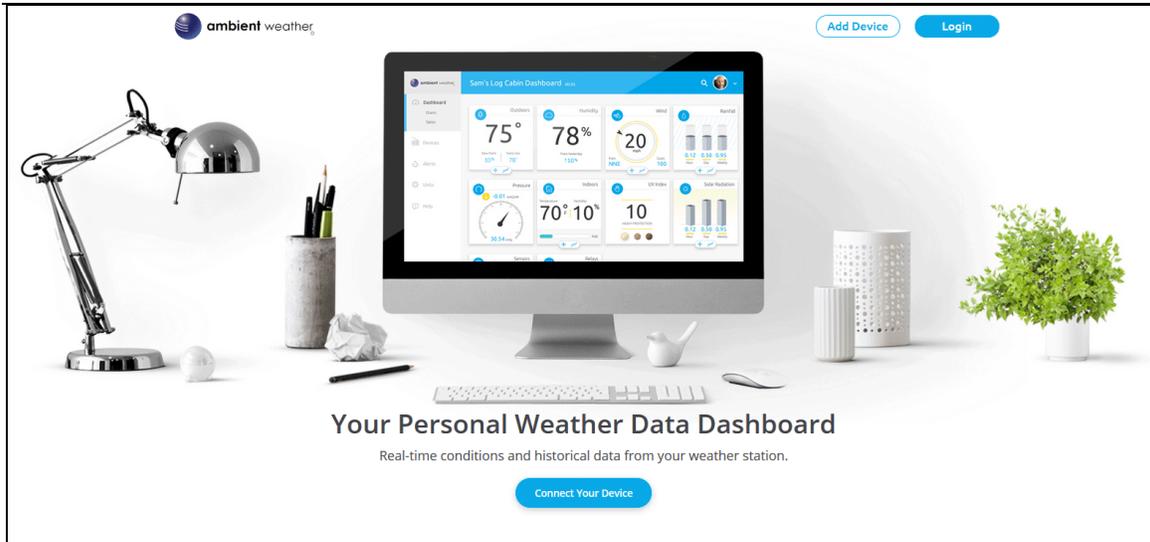


Figure 21

Next, enter the MAC address found on Ambient Tools (Section **Error! Reference source not found.**). Note that this is an example only and your MAC *address will be different*.

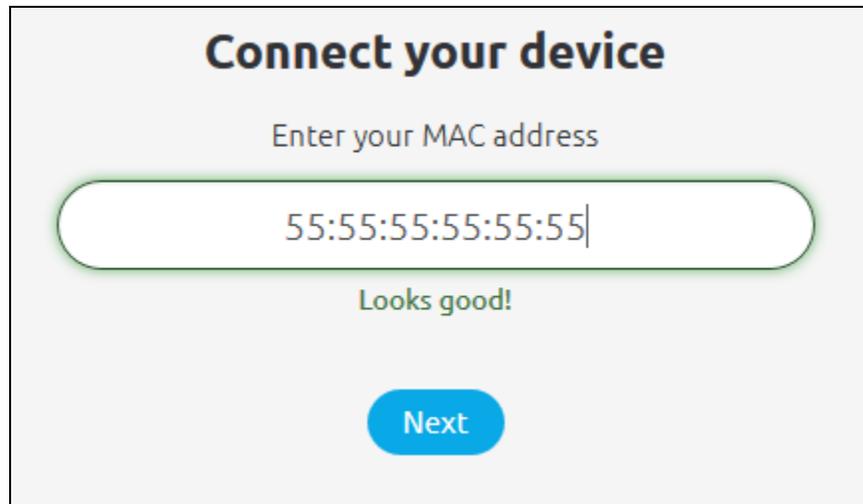


Figure 22

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

Once registered, select the dashboard to view your data, as shown in Figure 23.

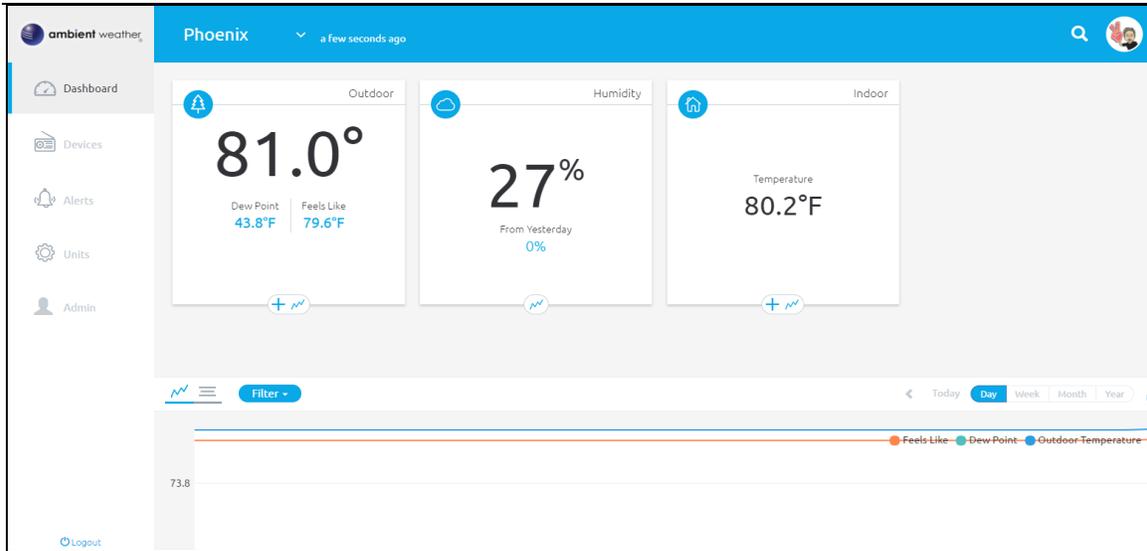


Figure 23

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 24.

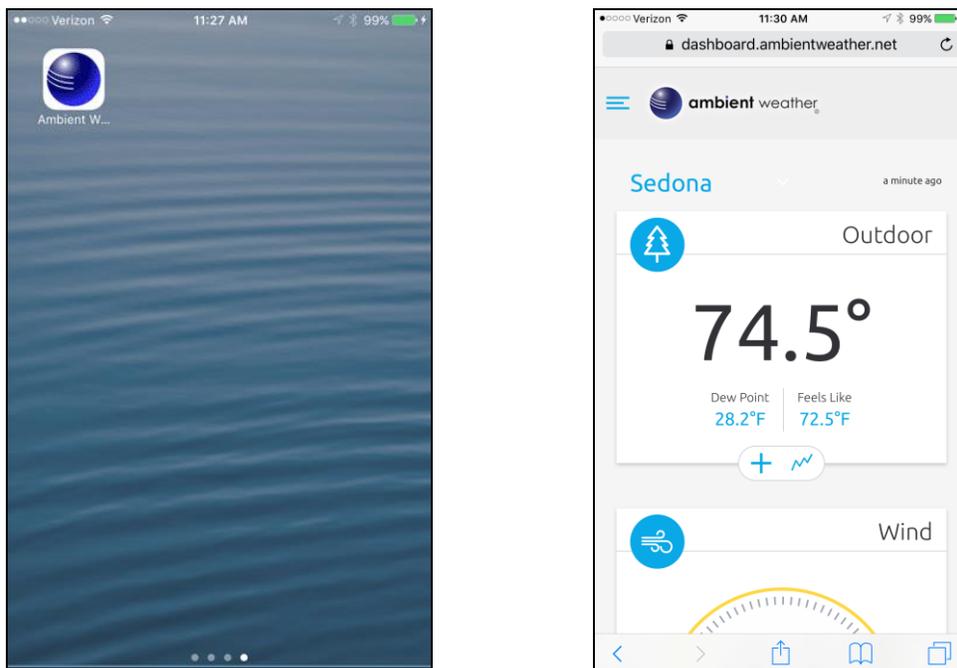


Figure 24

5.1.1 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

5.1.2 Amazon Alexa

The Ambient Weather skill allows you 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".

For more information on Amazon Alexa, visit:

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

5.1.3 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 2018

For more information and to enable this app, visit:

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

5.2 WeatherUnderground.com

We recommend using a PC or Mac desktop computer to register on WeatherUnderground.com. There are a lot of details that can be missed when registering on a phone or mobile device.

Note: The Weather Underground website is subject to change.

1. Visit 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 Section **Error! Reference source not found**. (Figure 25 is an example and your station ID and password will be different.

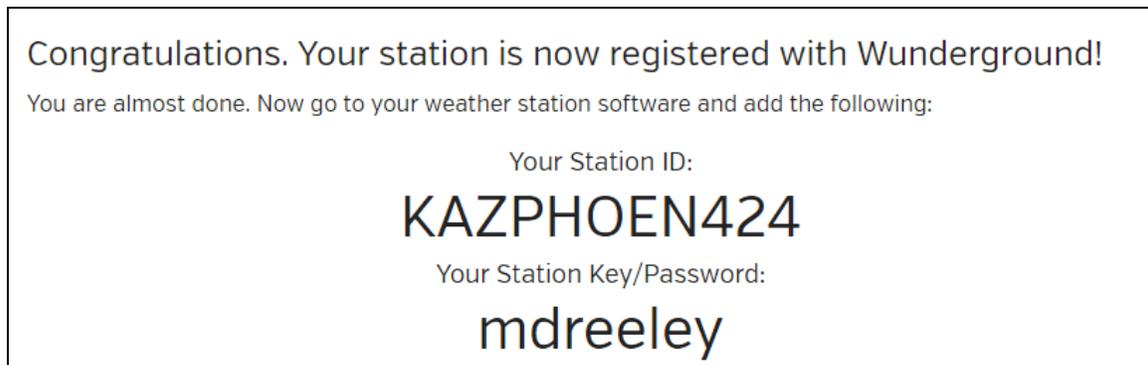


Figure 25

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.

Note – the channel 1 sensor is assigned to the outdoor sensor because Wunderground.com does not support multiple sensors.

5.3 WeatherCloud

1. Visit WeatherCloud.net and enter a Username, Email and Password.



Figure 26

2. Respond to the validation email from WeatherCloud (it may take a few minutes).

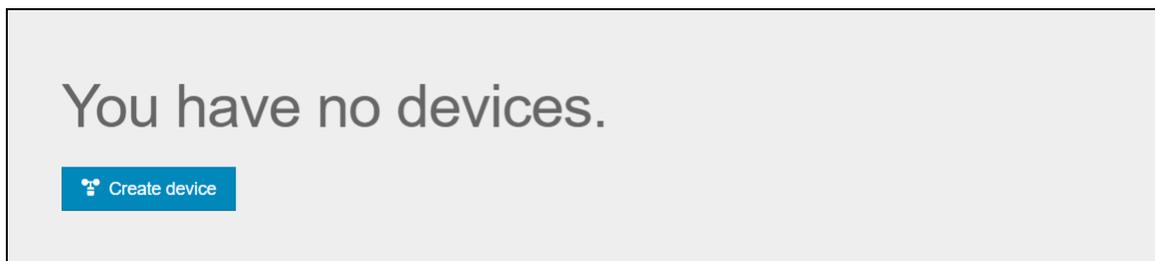


Figure 27

3. Select **Create Device** and enter your weather station information. After registering your station, make a note of the following:

- Weathercloud ID
- Key

Enter the Weathercloud ID (ID), Key (password) into the Ambient Tool. Leave the Station Number (StationNum) blank.

6. Glossary of Terms

Term	Definition
Accuracy	Accuracy is defined as the ability of a measurement to match the actual value of the quantity being measured.
Dew Point	<p>The dew point is the temperature at which a given parcel of humid air must be cooled, at constant barometric pressure, for water vapor to condense into water. The condensed water is called dew. The dew point is a saturation temperature.</p> <p>The dew point is associated with relative humidity. A high relative humidity indicates that the dew point is closer to the current air temperature. Relative humidity of 100% indicates the dew point is equal to the current temperature and the air is maximally saturated with water. When the dew point remains constant and temperature increases, relative humidity will decrease.</p>

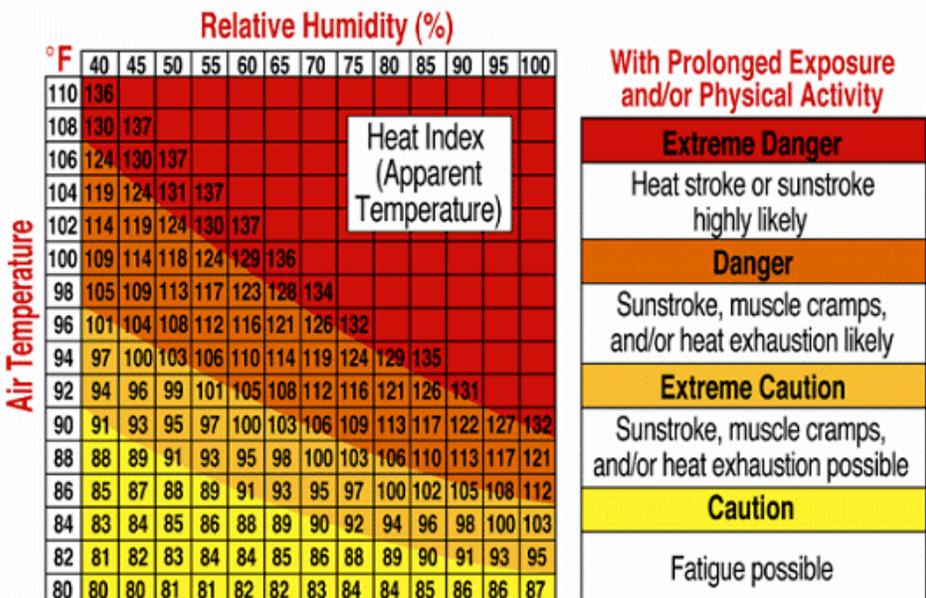
Term	Definition								
Heat Index	<p>The Heat Index, sometimes referred to as the apparent temperature, is a measure of how hot it really feels when relative humidity is factored with the actual air temperature.</p> <p>To find the Heat Index temperature, look at the Heat Index chart below. As an example, if the air temperature is 96°F and the relative humidity is 65%, the heat index (how hot it feels) is 121°F.</p> <p>IMPORTANT: Since heat index values were devised for shady, light wind conditions, exposure to full sunshine can increase heat index values by up to 15°F. Also, strong winds, particularly with very hot, dry air, can be extremely hazardous.</p> <p>The Heat Index Chart shaded zone above 105°F shows a level that may cause increasingly severe heat disorders with continued exposure or physical activity.</p> <p>Heat Index is not calculated below 80°F.</p> <div data-bbox="446 756 1372 1354" style="text-align: center;">  <p>Heat Index Chart</p> <p>Relative Humidity (%)</p> <p>Air Temperature (°F)</p> <p>Heat Index (Apparent Temperature)</p> <p>With Prolonged Exposure and/or Physical Activity</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="background-color: #800000; color: white;">Extreme Danger</td> </tr> <tr> <td style="background-color: #ff8c00;">Heat stroke or sunstroke highly likely</td> </tr> <tr> <td style="background-color: #ff8c00;">Danger</td> </tr> <tr> <td style="background-color: #fff2cc;">Sunstroke, muscle cramps, and/or heat exhaustion likely</td> </tr> <tr> <td style="background-color: #fff2cc;">Extreme Caution</td> </tr> <tr> <td style="background-color: #fff2cc;">Sunstroke, muscle cramps, and/or heat exhaustion possible</td> </tr> <tr> <td style="background-color: #ffff00;">Caution</td> </tr> <tr> <td style="background-color: #ffff00;">Fatigue possible</td> </tr> </table> </div>	Extreme Danger	Heat stroke or sunstroke highly likely	Danger	Sunstroke, muscle cramps, and/or heat exhaustion likely	Extreme Caution	Sunstroke, muscle cramps, and/or heat exhaustion possible	Caution	Fatigue possible
Extreme Danger									
Heat stroke or sunstroke highly likely									
Danger									
Sunstroke, muscle cramps, and/or heat exhaustion likely									
Extreme Caution									
Sunstroke, muscle cramps, and/or heat exhaustion possible									
Caution									
Fatigue possible									
Hygrometer	A hygrometer is a device that measures relative humidity. Relative humidity is a term used to describe the amount or percentage of water vapor that exists in air.								
Range	Range is defined as the amount or extent a value can be measured.								
Resolution	Resolution is defined as the number of significant digits (decimal places) to which a value is being reliably measured.								
Thermometer	A thermometer is a device that measures temperature. Most digital thermometers are resistive thermal devices (RTD). RTDs measure changes in temperature as a function of electrical resistance.								

Figure 28

7. Specifications

7.1 Wireless Specifications

- Line of sight wireless sensor array RF transmission (in open air): 330 feet, 100 feet under most conditions

- Line of sight WiFi RF transmission (in open air): 80 feet
- Update Rate: Outdoor Sensor: 48 seconds, Indoor Sensor: 64 seconds
- Sensor Array RF Frequency: 915 MHz
- WiFi Console RF Frequency: 2.4 GHz

7.2 Measurement Specifications

The following table provides the specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Indoor Temperature	-14 to 140 °F -10 to 60 °C	± 1.8 °F ± 1 °C	0.1 °F 0.1 °C
Outdoor Temperature	-40 to 149 °F (lithium batteries) -23 to 140 °F (alkaline batteries)	± 2 °F	0.1 °F
Outdoor Humidity	10 to 99%	± 5% (only guaranteed between 20 to 90%)	1 %

Figure 29

7.3 Power Requirements

- Base station : 5V DC Adaptor (included)
- Base station: 2 x AAA batteries (not included)
- Outdoor sensor array: 2xAAA batteries (not included)
- About 12-24 months for thermometer-hygrometer sensor (use lithium batteries in cold weather climates)

8. Troubleshooting Guide

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

1. Email Support: support@ambientweather.com
2. Technical Support: 480-346-3380 (M-F 8am to 4pm Arizona Time)

Problem	Solution
Wireless remote (thermo-hygrometer) not reporting in to console. There are dashes (---) on the display console.	<p>If any of the sensor communication is lost, dashes (---) will be displayed on the screen. To reacquire the signal, reference Section 3.6.</p> <p>The maximum line of sight communication range is 300 feet and 100 feet under most conditions. Move the sensor closer to the display console.</p> <p>If the sensor is too close (less than 5'), move the sensor away from the display console.</p> <p>Make sure the remote sensor LCD display is working on both the console and the remote sensor.</p> <p>Install a fresh set of batteries in the remote thermo-hygrometer. For cold weather environments, install lithium batteries.</p> <p>Make sure the remote sensor is not transmitting through solid metal (acts as</p>

Problem	Solution
	<p>an RF shield), or earth barrier (down a hill).</p> <p>Move the display console around electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers.</p> <p>Move the remote sensor to a higher location. Move the remote sensor to a closer location.</p>
Temperature sensor reads too high in the day time.	Make certain that the sensor array is not too close to heat generating sources or structures, such as buildings, pavement, walls or air conditioning units.
Data not reporting to Wunderground.com	<ol style="list-style-type: none"> 1. Confirm your password or key is correct. It is the password you registered on Wunderground.com. Your Wunderground.com password cannot begin with a non-alphanumeric character (a limitation of Wunderground.com, not the station). Example, \$oewkrf is not a valid password, but oewkrf\$ is valid. 2. Confirm your station ID is correct. The station ID is all caps, and the most common issue is substituting an O for a 0 (or visa versa). Example, KAZPHOEN11, not KAZPH0EN11 3. Make sure the date and time is correct on the console. If incorrect, you may be reporting old data, not real time data. 4. Make sure your time zone is set properly. If incorrect, you may be reporting old data, not real time data. 5. Check your router firewall settings. The console sends data via Port 80.
No WiFi connection	<ol style="list-style-type: none"> 1. Check for WiFi symbol on the display. If wireless connectivity is successful the WiFi icon  will be displayed in the time field. 2. Make sure your modem WiFi settings are correct (network name, and password). 3. Make sure the console is plugged into AC power. The console will not connect to WiFi when powered by batteries only. 4. The console only supports and connects to 2.4 GHz routers. If you own a 5 GHz router, and it is a dual band router, you will need to make sure the 2.4 GHz band is turned on. 5. The console does not support guest networks.

Figure 30

9. 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 safety 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.

10. 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.

11. 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 a 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); (3) damage resulting from failure to follow instructions contained in your owner's manual; (4) damage resulting from the performance of repairs or alterations by someone other than an authorized Ambient, LLC authorized service center; (5) units used for other than personal use (6) applications and uses that this product was not intended (7) the products inability to receive a signal due to any source of interference or metal obstructions and (8) 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.

