

Z-SIGN

Quick Start Guide



Overview

Thank you for purchasing the AtlasIED Z-SIGN - Wireless Privacy Transceiver. This quick start guide describes how to connect the Z-SIGN to a Z Series High Definition Acoustical System. The Z-SIGN can be used in three different operations. The most common use for the Z-SIGN is to be used as a wireless switch to activate the Speech Privacy Enhancement mode in a Z Series unit. This application also serves as visual indicator to show when enhanced speech privacy is engaged. The Z-SIGN can also be used strictly as a visual indicator with the activation button being disabled. In this application, it is common for the Z-SIGN to be used as a second or third visual indicator in a meeting room. Finally, the Z-SIGN can be used as a data transmission / receiving conduit between a mobile device and a Z Series unit (see the example below). The Z-SIGN incorporates BLE® communication technology for pairing to a mobile device for short distance data communication (not streaming audio), and uses 915MHz ISM Band to transmit longer distances to a Z Series unit. The Z Series mobile App is needed for this function. Using the mobile App with a Z-SIGN allows for mobile control of the Z Series unit and status of the Z system. For more information on the Z Series App, refer to the App User Guide.

Panels

1. Settings A Button
2. Settings B Button
3. Privacy Activation Button
4. Micro USB Charge Port or Direct Power and PC Firmware Upload
5. Removable Mounting Plate
6. Battery Tab
7. Battery Door and Screw
8. Firmware Label
9. Serial Number
10. Displayed Color Functions



Basic Set-up and Pairing for Installation

Note: This Guide assumes that the Z2 or Z4 unit has already been installed and is working. Before pairing, reset the Z-SIGN to Factory Default if it has been previously paired to another Z Series System.

1. Remove the battery tab (#6) at upper left of battery door (#7) or if the batteries are not installed remove the battery door (#7). Open the battery door (#7) and insert batteries. It is recommended to charge the batteries for 1 - 2 hours before use. See below for battery charging instructions. Pay close attention to the battery polarities. Secure the door. **Caution:** Do not over tighten the screw.
2. Peel off the Z-SIGN protective covering.
3. Go to the Z Series menu tree. Navigate to "Pair Z Signs" and press (>), then Enter.



4. While the menu says "Pairing....." (within 20 seconds), press and hold the Privacy Activation button (#3) on the Z-SIGN until you see "Pairing Successful" in the menu tree display. The "Enhanced Privacy In Use" will flash green while holding the Activation button (#3), indicating it is establishing the connection.



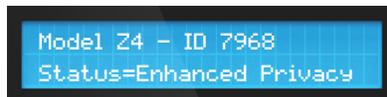
5. The screen will revert to the "Paired Z Signs" screen and will indicate that 1 Z-SIGN is paired to the Z Series unit. **Note:** The Z-SIGN will remain paired to the Z Series unit it was originally set up with until a Reset to Factory Default action is initiated. (See A & B Option Key Settings)
6. Repeat these steps to pair up to 10 Z-SIGNs to 1 Z Series unit.



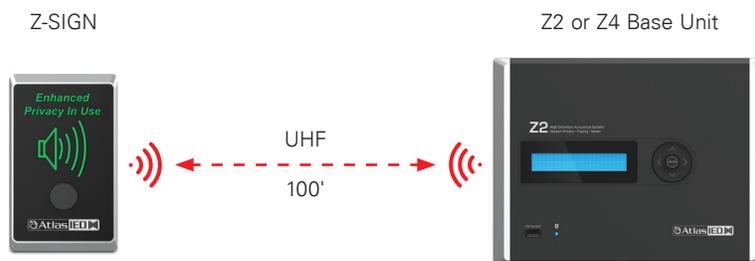
7. It is very important to start with fully charged batteries before using the Z-SIGN. Refer to the "Recharging Batteries" section.

Testing the Enhanced Speech Privacy Function

1. Press the Privacy Activation button (#3) and the "Enhanced Privacy In Use" will illuminate green. The Speaker Wave icon will go into a slow pulse "Heart-Beat" indicating it is now paired and Enhanced Privacy is activated.
2. When activated, the Z Series home menu screen will change from "Status = Active" to blinking "Status = Enhanced Privacy".



3. Press the Privacy Activation button (#3) again and the Enhanced Privacy function will stop.
4. The Z-SIGN is now ready to be mounted in the desired location. **Note:** Be aware of the range between the Z-SIGN and Z Series unit. It is important to read the "Installation Out of Range Indication" section.



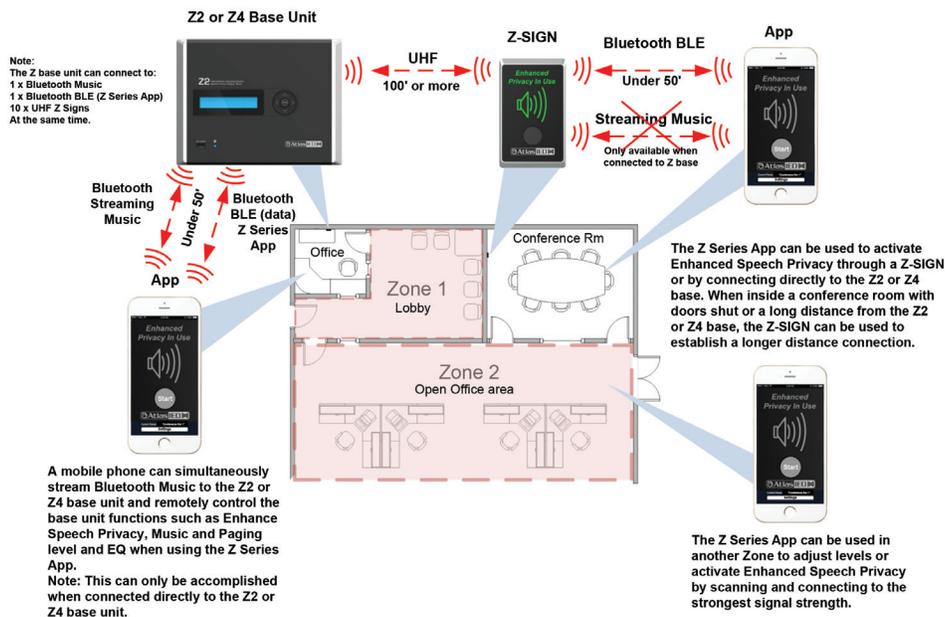
Installation Out of Range Indication

1. The connection range of the Z-SIGN to the Z Series unit is approximately 100' through a few typical office walls and doors. This varies based on construction material types such as concrete and steel.
2. After pairing, move the Z-SIGN to the desired mounting location and test the Privacy Activation button (#3). The "Enhanced Privacy in Use" will illuminate green while the Z-SIGN attempts to connect to the Z Series unit. When successfully paired, the Speaker Wave icon will start the "Heart-Beat" pulse indicating the Z-SIGN is within an acceptable range to the Z Series unit. If not, it will time-out and blink blue, indicating it is out of range. Moving closer to the Z Series unit will stop the light from blinking blue. Press the Privacy Activation button (#3) to re-establish the link.
3. **Note:** Small dead spots are possible in some environments and can cause confusing responses from the Z-SIGN. If this happens, move to another spot until you find a consistently good functional range.
4. If the Z Series unit loses pairing link, the Z-SIGN will blink blue and time out after 30 minutes. When pairing link is restored, the Z-SIGN will automatically pair with the Z Series unit and the blue blinking will stop.



Using the Z-SIGN for Activating Speech Privacy Enhancement

1. To Start the Enhanced Privacy feature, press the Privacy Activation button (#3) for 1 second. The "Enhanced Privacy in Use" will illuminate, and the Speaker Wave icon will begin a slow pulse "Heart-Beat" indicating that the Z Series unit is in Enhanced Privacy mode. When activated, the Z Series unit home menu screen will change from "Status = Active" to blinking "Status = Enhanced Privacy".
2. When activated, the Z-SIGN continues the slow pulse until the Privacy Activation button (#3) is pressed again for 1 second to deactivate the function.
If the Activation button is not pressed to stop it, after 1 hour the "Enhanced Privacy In Use" will begin blinking. After 5 minutes it will stop automatically to save battery life. If the Activation button is pressed while "Enhanced Privacy in Use" is blinking, the timer will start over and continue for another hour.
3. It is also possible to start / stop the Enhanced Privacy feature from any other Z-SIGN or App that has been paired to the same Z Series unit by configuring the Z-SIGNs' operating modes.

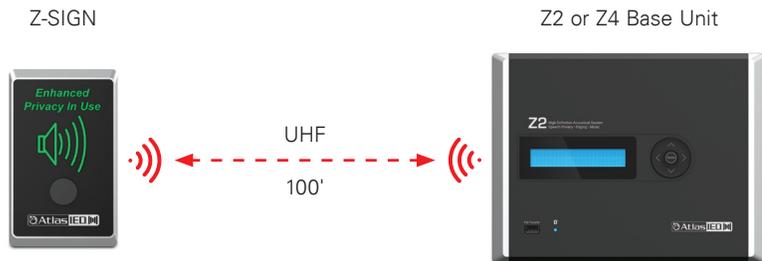


Operating Modes - (from Z-SIGN FW V1.46)

The Z-SIGN has 3 Operating modes that help extend battery life based on the application it will be used in. These can be set using the Z-SIGN Settings buttons or with the Z Series App (see "Setting the Operating Modes" below).

Mode #1-Green = Start EHP by Z-SIGN only (default) - (Best Battery Life Mode)

This is the factory default mode the Z-SIGN is set to when shipped. This mode setting is intended to be used when a Z-SIGN is in a stand-alone single sign application. Pressing the Z-SIGN Activation button #3, "wakes" and transmits to the Z base unit to turn ON the EHP (Enhanced Privacy) feature. The Z Base responds back and starts the Z-SIGN speaker wave heart-beat pulse indicating the EHP function is operating. Approximately 30 minutes after pressing button #3 to stop the EHP, the Z-SIGN switches off to save battery life. When off in this mode, the Z-SIGN will not wake up from an App or the UHF from the Z Base unit. In this mode, only the activation button #3 can wake up the unit. **Note:** When in sleep mode, it will also be necessary to "wake" it to make setting changes, like LED brightness and Reset, etc. Press the activation button to "wake" it and again to stop EHP, within the 30 minutes before it enters sleep mode again, settings can be initiated.



Mode #2-Yellow = Start EHP by Sign or App - (Good Battery Life Mode)

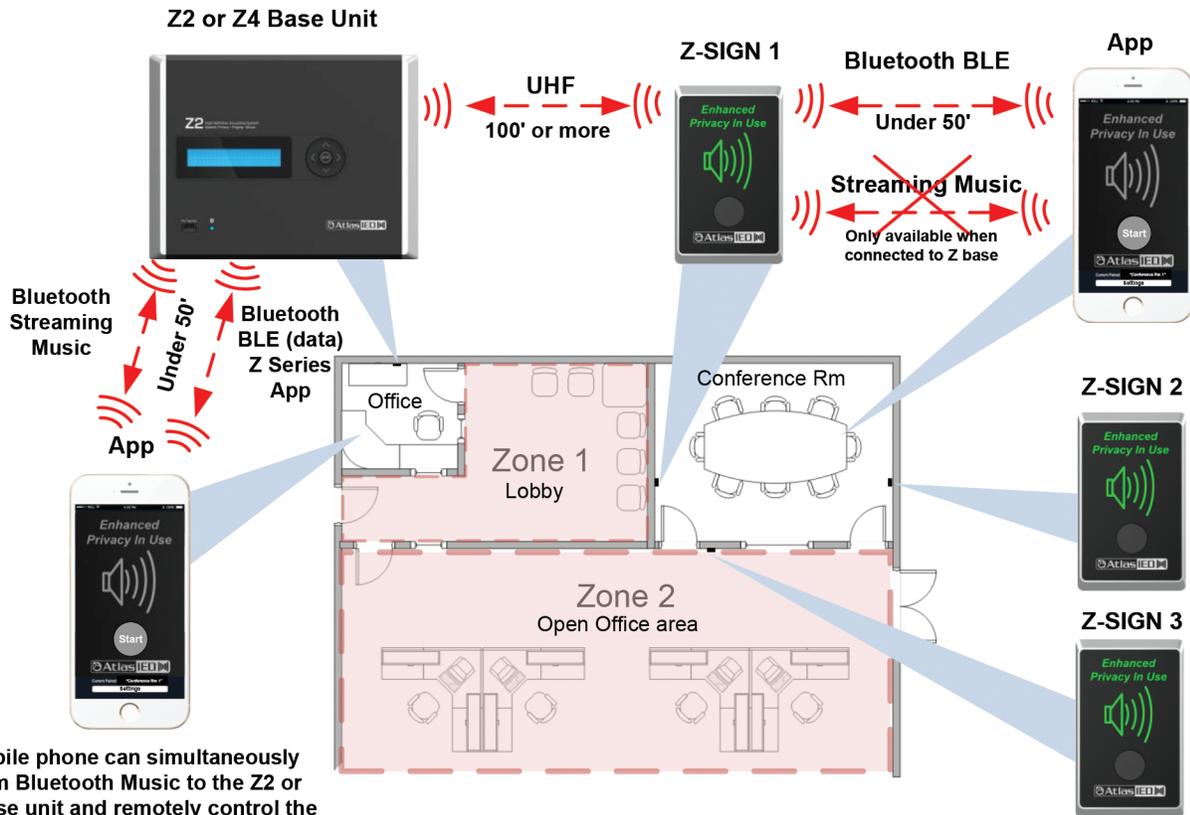
This mode allows the Z-SIGN to stay in an "App-ready" mode so, in addition to using the Z-SIGN activation button (#3) our Z Series iOS® or Android® App can be connected to the Z-SIGN and "wake" the Z-SIGN and transmit to the Z base. The App and Z-SIGN work interactively. This Mode #2 is intended to be used when a Z-SIGN is in a Conference Room where doors may be shut, and the Z Series is out of BT range. The Z-SIGN uses Bluetooth® BLE® to relay the App commands to the Z base to turn ON/OFF the EHP feature. It can also be used to adjust volume and EQ settings "In-Zone". Bluetooth® Streaming Audio cannot be relayed thru a Z-SIGN. (See our Z Series App Guide for details.)



Mode #3-Red = Start EHP by Multiple Signs or App Interactively - (Lowest Battery Life Mode)

In this mode the Z-SIGN stays in "ready" mode to receive both BLE® from the App if connected and UHF from the Z base it is paired to. This mode is used when multiple Z-SIGNs are required, and all of them are to "wake" regardless of how the Z base EHP is activated. In this mode, all Z-SIGNs and App work interactively together. For Example: Pressing any Z-SIGN will start EHP and all Z-SIGNs paired to the Z base will "wake" light Green with Heart-beat pulse and go OFF when any Z-SIGN activation button (#3) is pressed to turn off the EHP. The App can be connected to any of the Z-SIGNs or the Z base unit and Turn ON and OFF the EHP with the activation button on the App. **Note:** All Z-SIGNs must be set in Mode #3- Red to work together.

Example: The following example has three Z-SIGNS paired to a Z base unit. Two of the Z-SIGNS are mounted on each end of a conference room and the third Z-SIGN is mounted in the hallway and is used as a display only (with activation button disabled). The Z Series base unit is mounted in the front office and the mobile App is used to stream background music and simultaneously make volume adjustments as needed. Another mobile App can be used in the conference room connected to a Z-SIGN to activate the EHP feature from the room. The two Zones are the Lobby and the Hallway-Open Office area. These Zones will raise the masking level when the EHP is activated to secure the conference room and keep the meeting private. In this scenario, all three Z-SIGNS are in Mode #3 and will use more battery life than the other modes. They will require plugging them into a charger more often depending on how much they are used. **Note:** The Enhanced Privacy activation is a single On and Off feature and affects all Masking Zones on the Z Series base unit. In each Masking Zone, the (Factory default) Privacy Level is set to +6dB up relative to the Masking Level setting. In a Zone the EHP level change is not needed, set the Privacy level to 0dB. In this case the EHP will not change in that Zone when activated. If this was a Z4 base unit, then the other two Zones 3 & 4 could be non-masking Zones with BGM and Paging. If Masking is set to Mute, then EHP does not affect those Zones.



A mobile phone can simultaneously stream Bluetooth Music to the Z2 or Z4 base unit and remotely control the base unit functions such as Enhance Speech Privacy, Music and Paging level and EQ when using the Z Series App.
Note: Streaming Music can only be accomplished when connected directly to the Z2 or Z4 base unit.

Z-SIGN 1, 2 & 3 are set in Mode #3. Z-SIGN 3 is mounted in the hallway and used as a display only with the activation button disabled.

Setting the Operating Modes

To set Operating Modes on Z-SIGN: (from Z-SIGN FW V1.46; Z-SIGN FW V1.43 use App to set modes)

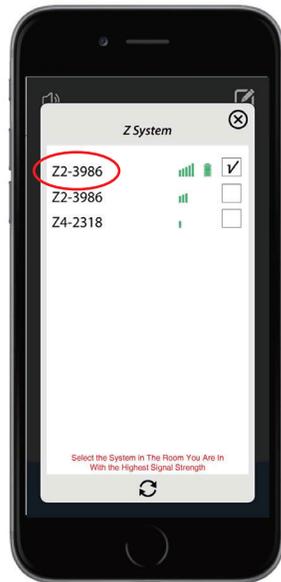
1. Wake the Z-SIGN if it is in sleep mode. Press the EHP Activation button (#3) to wake the Z-SIGN, then press it again to stop the EHP. The Z-SIGN will stay awake for 30 mins.
2. Press and hold the Settings A (#1), Settings B (#2), and Privacy Activation button (#3) for 6 seconds until the "Enhanced Privacy in Use" and Speaker Wave icon illuminate steady for 3 seconds one of 3 colors, Green, Yellow, Red.
3. Repeat the above, holding A (#1), B (#2), and Privacy Activation Button (#3) for 6 seconds and each time it will display the next mode color (steady On for 3 seconds then Off). Green - (repeat) - Yellow - (repeat) - Red, and so forth. When the buttons are released, the display turns off saving that color mode setting.

Note: If the EHP and Speaker Wave blink Red, then the Z-SIGN has been reset by not pressing the three buttons together. If this happens, try again and continue to set the mode color then, re-pair the Z-SIGN to the Z Series base.

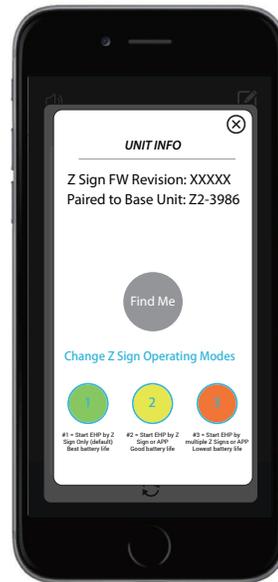
To Set Z-SIGN Operating Modes in the Z Series iOS® or Android® App: (Refer to Z Series App Guide for additional details)

At the bottom of the Info page, the 3 selections can be used to configure the Z-SIGN operating modes. Select which mode best fits the application. The primary reason is to optimize battery life based on the user's needs.

Note: When a mode is selected, the connected Z-SIGN will illuminate in the corresponding color and then turn off, indicating that the selected mode is saved. If using multiple Z-SIGNs, each sign needs to be selected individually and set to #3-Red in order to work interactively together.



Tap the Z Series ID to open the Info page.



The three selections at the bottom of the Info page are used to configure the Z-SIGN operating modes. **Note:** When using multiple Z-SIGNs, each sign needs to be selected individually in order to configure the operating modes.

Battery Life and Recharging Batteries

Battery life will depend on the amount of use. There are two ways to determine if the batteries need recharging.

1. The Z-SIGN will begin to flash red approximately every 10 seconds when the batteries are low. **Note:** If the Z-SIGN is in sleep mode, press the Activation button to wake and press again to turn off. Red blink will occur if batteries are low.
2. The mobile App can be used to view the battery level of the Z-SIGN. **Note:** Be sure to verify which Z-SIGN the mobile App is connected to by tapping on the associated Z-SIGN name. In the mobile App, the Z-SIGN will bring up a "Find Me" screen. Tapping "Find-Me" will blink the Z-SIGN that is currently connected. The "Find-Me" screen also contains information like the Z-SIGN FW Version, the Z Series unit ID number that it is paired to, and the Operating Mode settings.

Charging the Batteries

1. The Z-SIGN comes with factory installed rechargeable batteries and a charging power supply. The power supply is a 100V – 240V AC to 5V 1A DC supply with a Micro USB connector to mate with the Z-SIGN connector. Most 5V chargers with a Micro USB will charge the Z-SIGN batteries.
Note: If the batteries go dead before they are recharged, the Z-SIGN will not lose its pairing to the Z Series unit.
2. Plug the charging power supply into an AC outlet and the Micro USB into the Z-SIGN. The Z-SIGN will blink purple every 10 seconds until fully charged. Charging can take approximately 1 - 4 hours.
3. When fully charged the Z-SIGN will illuminate purple for 5 seconds, and after 5 seconds go off. If the purple blink was missed, pull out the Micro USB and plug it back in. If the batteries are charged, the purple blinking will repeat for a short time and go off. **Note:** The Z-SIGN can be left plugged into the charging power supply and operate the with a constant DCV. The Z-SIGN incorporates battery overcharging protection.

Replacing the Batteries

If the Z-SIGN requires frequent charging, the batteries may need to be replaced.

1. Remove the battery door (#7) and replace the 4 x AAA batteries. **Note:** It is critical to use 1000-1100mAh NiMH rechargeable batteries. After replacing the batteries, it is recommended to use the charging power supply to assure the new batteries are fully charged.
2. After changing or charging the batteries, press the Privacy Activation button (#3) on the Z-SIGN and the sign will flash white and re-establish connection to the Z Series unit. Re-pairing the Z-SIGN to the Z Series unit is not required.

Adjusting the LED Brightness

If in sleep mode, press Activation button (#3) to wake the Z-SIGN and press again to turn off EHP. The Settings A & B buttons are now ready for use.

1. Press and hold the Settings A (#1) button for 6 seconds until the "Enhanced Privacy in Use" and Speaker Wave icon illuminate green.
2. Press the Settings A (#1) button again (short press). With each press, the LED level cycles through 100% - 75% - 50% - 25%. After no button press for 6 seconds, the light shuts off and the LED brightness level is saved. The default level is 50%.

Reset to Factory Default Settings

1. Press and hold both Settings A (#1) and Settings B (#2) buttons at the same time for 6 seconds. Both the "Enhanced Privacy in Use" and Speaker Icon will flash red 5 times and then go off. The sign is now reset back to factory default and ready to pair to a Z Series unit. **Note:** If the batteries have just been replaced, press the Privacy Activation button (#3) once to wake up the Z-SIGN. It is now ready to use, reset or adjust option settings.

Checking the Firmware

Use the following steps to verify if the Z-SIGN requires a firmware update.

1. Determine the current firmware revision that is installed on the Z-SIGN. There will be a label on the back of the Z-SIGN with the firmware revision and release date originally installed on the Z-SIGN. The mobile App can also be used to display the current firmware revision. Follow the App User Guide to find a Z-SIGN firmware revision.
2. Visit atlasied.com to find the current firmware revision. Compare this revision to what is currently installed on the device. If an update to the firmware is required, follow the Z-SIGN Firmware Update Guide.

Using the Z-SIGN as Sign Only (Disabling the Activation Button)

Prior to disabling the Activation button to use a Z-SIGN as a visual indicator in a public area, set the sign in Operating Mode #3. This will allow the Z-SIGN to go ON and OFF with the Z Series base unit it is paired to. This mode will require charging the batteries more often depending on how often it is used. Up to 10 Z-SIGNs can be paired to the Z Series base.

1. Press and hold the Settings B (#2) button for 6 seconds until the “Enhanced Privacy in Use” and Speaker Wave icon illuminate green.
2. Pressing the Settings B (#2) button again (short press) will turn off the “Enhanced Privacy in Use” but the Speaker Wave icon will remain illuminated green in a steady state. This confirms that the Privacy Activation button (#3) has been disabled.
3. After 6 seconds with no button press, the settings are saved and the Speaker Wave icon turns off.
4. Pressing the Privacy Activation button (#3) will no longer effect the Z Series unit or the Z-SIGN because it has been disabled.
5. The Z-SIGN will remain operating with the “Enhanced Privacy in Use” and Speaker Wave icon working strictly as a sign when the Z Series unit speech privacy mode has been activated.
6. To Re-activate the Privacy Activation button (#3), press and hold the Settings B (#2) button for 6 seconds. The Speaker Wave icon will illuminate green. Pressing the Settings B (#2) button again (short press) will illuminate the “Enhanced Privacy in Use” green and the Speaker Wave icon will remain on.
7. After 6 seconds, the settings are saved and the “Enhanced Privacy in Use” and Speaker Wave icon turn off.
8. This confirms that the Privacy Activation button (#3) is re-activated.

System	
Type	Wireless Transceiver for Z Series
Electrical Specifications (General)	
Batteries	STD 4 x AAA 1000-1100mAh NiMH Rechargeable
UHF-TX/RX	915MHz ISM Band
BLE®	Yes, iOS® & Android® Control App
Charging PSU	Micro USB 100V - 240V AC to 5V 1A DC
Activation	Manual Button & iOS® or Android® App
Display	LED Light Panels x 2 Upper / Lower - RGB
Options A & B	LED Brightness; Activation Disable; Reset to Factory
Operating Modes (3)	#1 Green - Single Sign (default); #2 Yellow - Single Sign + App; #3 Red - Multi-Sign + App
Low Battery	Red Blink - Every 15 Seconds
Charging Indication	Purple Blink - Every 10 Seconds When Charging, Off When Charged
Enhanced Privacy	Speaker Wave Icon Heart-Beat Pulse When Active
Out of Range	Blue Blink
Reset	Hold A & B 6 Seconds = 4 Red Blinks, Disconnects Pairing to Z Series Base Unit
Mechanical	
Dimensions (HxWxD)	4.5" x 2.76" x 0.79" (114mm x 70mm x 20mm)
Unit Weight	0.36lb (0.164kg)
Shipping Weight	0.68lb (0.310kg)
Mount	Removable Hanger Mount
Battery Door	On Rear - Screw Fastened
Other	
Package Contents	Z-SIGN with Peel-Off Protective Film Overlay Qty 1 Micro USB Charger Qty 1 Mount Qty 1 Mount Screws Qty 2 Spare Battery Door Screw Qty 1 Double-Sided 3M® Mounting Foam

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FCC Statement

1. 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, and
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

IC Warning

This device contains licence-exempt transmitter(s) / receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radio électrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux radiofréquences. L'appareil peut être utilisé dans des conditions d'exposition portables sans restriction.