WAV≋
DROWNING DETECTION SYSTEMS
wavedds.com

Lifeguard Entry Alert System
USER MANUAL
v0922-1.0

Design subject to change.

LEA+
LIFEGUARD ENTRY ALERT SYSTEM

▽ IMPORTANT. Please read this guide thoroughly before using your LEA system.

TABLE OF CONTENTS

Important Safety Instructions

1. These instructions are accurate as of date of release and may be updated as needed. Always check the WAVE website, www.wavedds.com/support for the most recent version which may contain important updates.
2. Heed all warnings.
3. Always follow these instructions.
4. Clean only with a damp clean cloth. Do not use cleaning products containing ammonia.
5. Do not block any ventilation openings.
6. Do not install near any heat sources such as radiators, stoves, or other apparatus that produce heat.
7. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the equipment.
8. Only use attachments/accessories specified, approved or authorized by WAVE SYSTEMS INC.
9. Use only with the cart, stand, tripod, or bracket specified by WAVE SYSTEMS INC or sold with the equipment. When a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.
10. Unplug this equipment during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified personnel. Servicing is required when the equipment has been damaged in any way, liquid has been spilled or objects have fallen into the equipment, does not operate normally, or has been dropped.

WARNINGS/CAUTIONS

IMPORTANT! WAVE SYSTEM products are designed to supplement and NEVER replace responsible human supervision of swimmers. Only another human being can investigate, intervene and rescue a potential drowning victim if necessary. NEVER LET ANYONE SWIM ALONE OR UNATTENDED REGARDLESS OF AGE OF SWIMMING ABILITY LEVEL OR EXPERIENCE.

- Contains small parts which may be a choking hazard.
- Equipment may contain magnetic material. Consult your physician on whether this might affect an implantable medical device.
- To reduce the risk of fire or electrical shock, do NOT expose the AC Charging/Power Adapter to dripping or splashing, and do not place objects filled with liquids on or near the product.

- Keep the product away from fire and heat sources. Do NOT place naked flame sources, such as lighted candles, on or near the product.
- Do NOT make unauthorized alterations to this product.
- Do NOT use unauthorized products and accessories with this equipment.
- Do NOT use AC charging/power adapters other than the unit included with this equipment.
- Where the AC mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- Internal batteries provided with this product may present a risk of fire or chemical burn if mishandled.
- If a battery leaks, do not allow the liquid to come in contact with the skin or eyes. If contact is made, seek medical advice immediately.
- Do not expose products containing batteries to excessive heat (e.g. from storage in direct sunlight, fire or the like).

Avoid leaving equipment in direct sunlight on extremely hot days (100°F +).

Avoid direct water spray at equipment.

Dispose of used batteries properly following local regulations. Do not incinerate.

NOTE: Appropriate compliance protocols for this equipment in process as of the time of this writing. 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

Changes or modifications not expressly approved by WAVE SYSTEMS INC may void the user's authority to operate this equipment.

Compatibility

Only WAVE SYSTEM INC approved, recommended or authorized products may be used with this equipment. Use of any non-authorized products may void your warranty.

Legal Information

Security Information: This product is capable of receiving automatic security updates from WAVE. To receive automatic security updates, you must complete the product setup process in the WAVE Management app and connect the product to the Internet. **If you do not complete the setup process, you will be responsible for installing security updates that WAVE makes available.**

By using WAVE SYSTEM products you acknowledge and agree that WAVE products are NOT intended and will NOT be used as a replacement or substitute for responsible and diligent human supervision of swimmers and non-swimmers around water. Furthermore you agree to hold WAVE SYSTEMS INC., its partners, affiliations, manufacturers, suppliers and vendors harmless for any injuries or damages, physical or otherwise, as a result of the correct or misuse of WAVE SYSTEM INC products.

Not for use while diving or snorkeling.

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Wi-Fi is a registered trademark of Wi-Fi Alliance®

WAVE Systems Inc: 1-203-429-4636

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WELCOME.

Congratulations and thank you for your purchase of the WAVE Lifeguard Entry Alert system (LEA)!

The LEA system uses proven wireless tracking technologies to accurately determine the real time status of your lifeguards and alert your facility should a lifeguard enter the water.

LEA is simple to use, deploys quickly, and is portable. It will work in all water types including pools, lakes and other natural bodies of water.

Please read this manual thoroughly before using LEA. If you should have any questions or need assistance, please contact us at support@wavedds.com or feel free to contact your WAVE salesperson directly.

The WAVE Team

WHAT'S IN THE BOX

- 1 x WAVE Lifeguard Entry Alert (LEA) Hub

- 1 x Wall Mount

- 1 x Charging/Power Adapter

- 1 x Power Cord

- Lifeguard Tag Wearables*

- Included quantities will depend on your specific order and/or may be shipped separately.

 NOTE: If any item is missing please contact Customer Support at 1-203-429-4636 or support@wavedds.com.
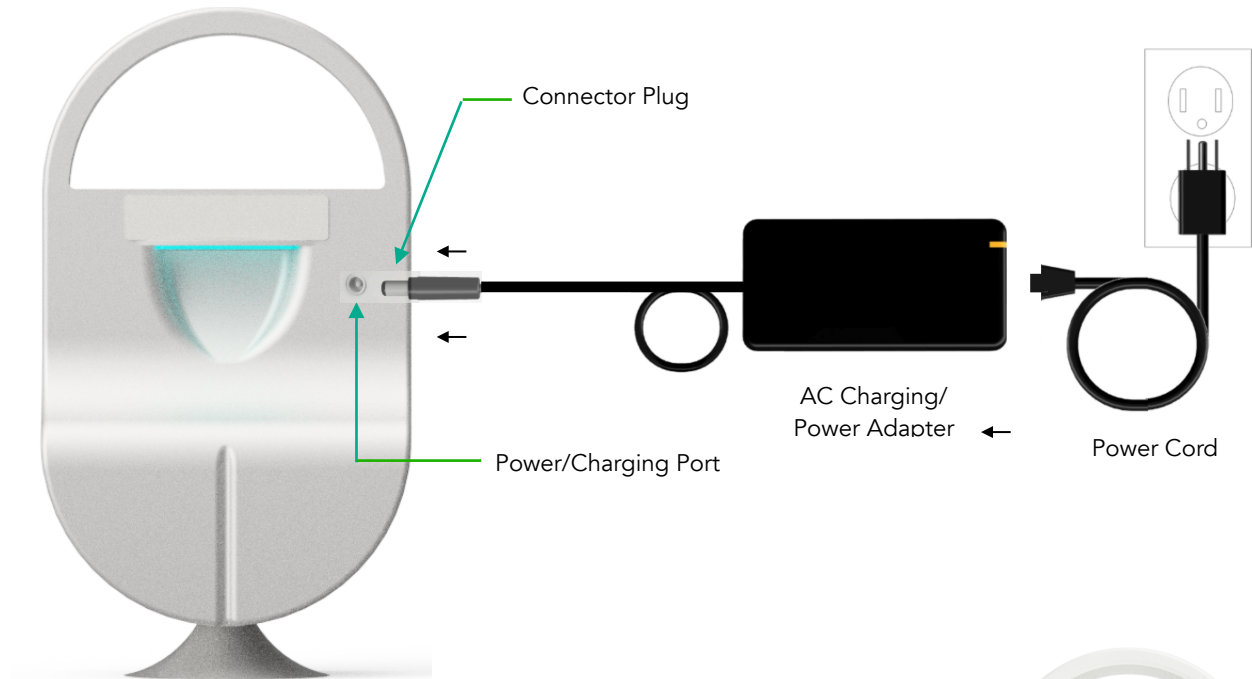
AC ADAPTER

POWER CORD

LEA HUB

LIFEGUARD TAGS
(You may receive one style or both)

WALL MOUNT

QUICK START GUIDE

Connector Plug

AC Charging/ Power Adapter

Power Cord

Power/Charging Port

POWERING & CHARGING LEA

The LEA Hub may be powered via the internal battery or the AC Charging/Power Adapter. The standard battery will last up to 6 hours of typical use*.

Fully charging the battery normally takes up to 4 hours. After this initial set up process you may view the Hub's battery level at any time by using the LEA Management App (see below).

Strobe

Power Button

Note: Always insert Connector Plug into Hub Power/ Charging Port first, then plug power cord into AC wall outlet.

START UP PROCESS

Press the Power Button to initiate the startup process. The LED on the Power Button will glow green, the Strobe will light up in a "chase" pattern, and depending on your software version installed, a tone may sound. Once the start up process is complete (typically up to 2 minutes), the Strobe will begin a slow fade in/fade out "breathing" pattern to indicate that the Hub is on.

Note: If red light appears on Power Button during start up process, a restart is needed. Press and hold Power Button for 10 seconds to initiate restart the Hub.

NORMAL POWER DOWN PROCESS

Press and hold the power button down for approximately 3 seconds to power down the Hub. The green LED on the Power Button will turn off. Depending on the system software version installed in your w10, it may sound a tone and the Strobe will light in a pattern during the shut down process.

* Your actual battery life may vary depending on system alerts, notifications and environmental factors.

LEA MANAGEMENT APP

The LEA Management App is a simple to us app that enables you to monitor the status of LEA, the Lifeguard Tags and other accessories. The app may be used on desktop computers, laptops, smartphones and tablets (recommended).

✋ Note: Although recommended, it is not necessary to have the LEA app open or active while using LEA. The system will monitor your guards using the most recent settings.

SETTING UP THE APP

1. Power on LEA and allow the Hub to fully complete the Start Up Process.
2. A **one-time reboot** is necessary to access the Management App
3. To reboot, press the Power Button for 3 seconds (or until the green LED turns off). It will take about 90 seconds for the unit to completely power off.
4. Once off, turn LEA back on by pressing the Power Button. After the Strobe changes a breathing pattern, the LEA is ready to connect.
5. Open your device's web browser program (Chrome, Safari, etc.).
6. To access the Management App open the WAVE Management App and enter your serial number found on the back of your LEA Hub

✋ Note: Your device must have WiFi activated and be on the WAVE wireless network to connect to and manage LEA. Depending on how your device is configured, its access to the Internet may be interrupted while on the WAVE network.

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USING THE APP

🖐 Note: We often release software updates to improve user experience. As a result, your version of the Management App may look different and/or have different functionality from this guide. Please make sure to check your email for update notices from WAVE, and return to this guide for updated versions.

MONITOR PAGE

This is the page that will appear when the app is first opened. This page enables you to view the general status of both the system and all enabled Lifeguard Tags on one screen
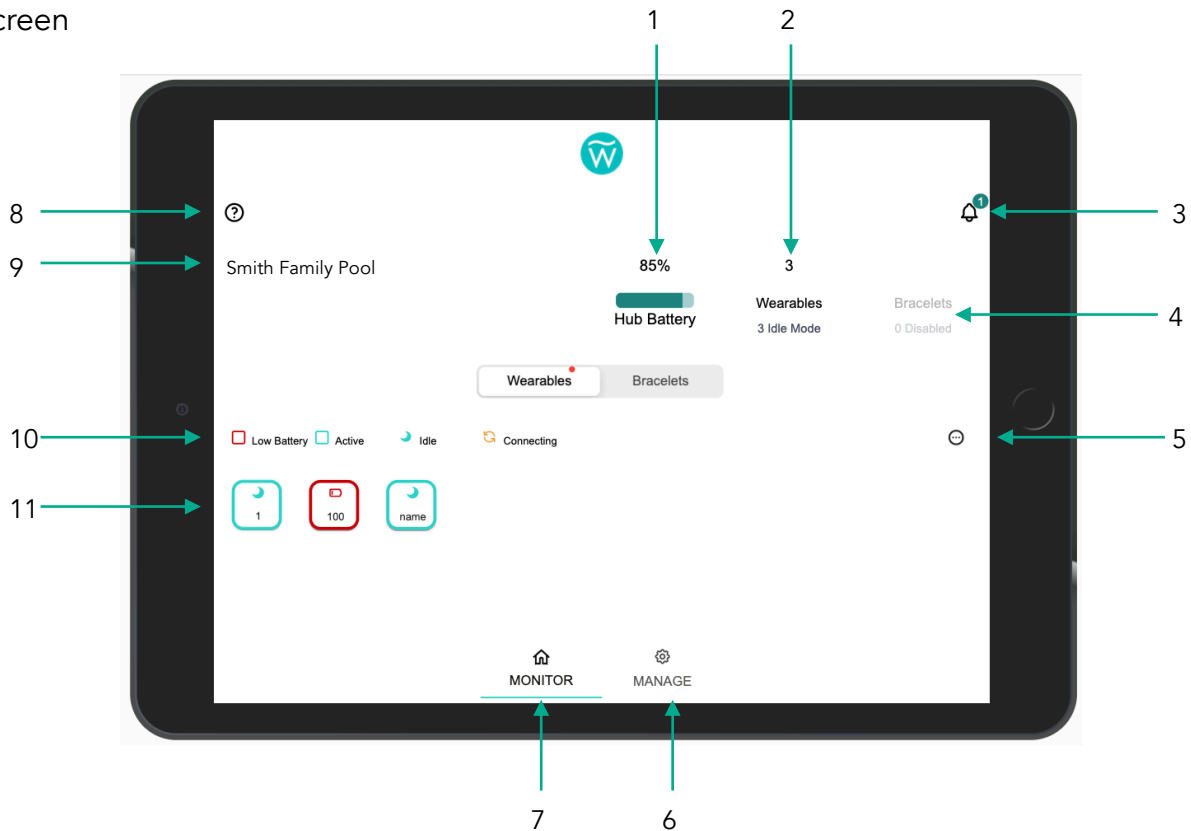

1. LEA Hub Battery Level. Provides the current internal battery level. Changes to a charging icon when plugged into wall power.

2. Tags. Number of wearables that the system is currently monitoring.

3. System Notifications. These are non-emergency messages about the system. Touching this icon will launch a pop-up window displaying the current message(s).

4. Bracelets. This is a future feature and not active at the time of this writing.

5. Filter Icon. Touch this icon to select alternate views and options.

6. Manage Icon. Touching this icon or swiping right brings you to the MANAGE page.

7. Monitor Icon. This is the current page.

8. Help Icon. Touch this icon to learn more about the page you are on.

8. System Name. The name you input in Settings will appear here (see below).

9. Wearable Status Legend. Refer to these symbols to see status of each Lifeguard Tag.

10. Lifeguard Tag Tile. Information about each Tag being monitored will appear within this tile. Touching a Lifeguard Tag's tile will launch a pop-up window with detailed information.
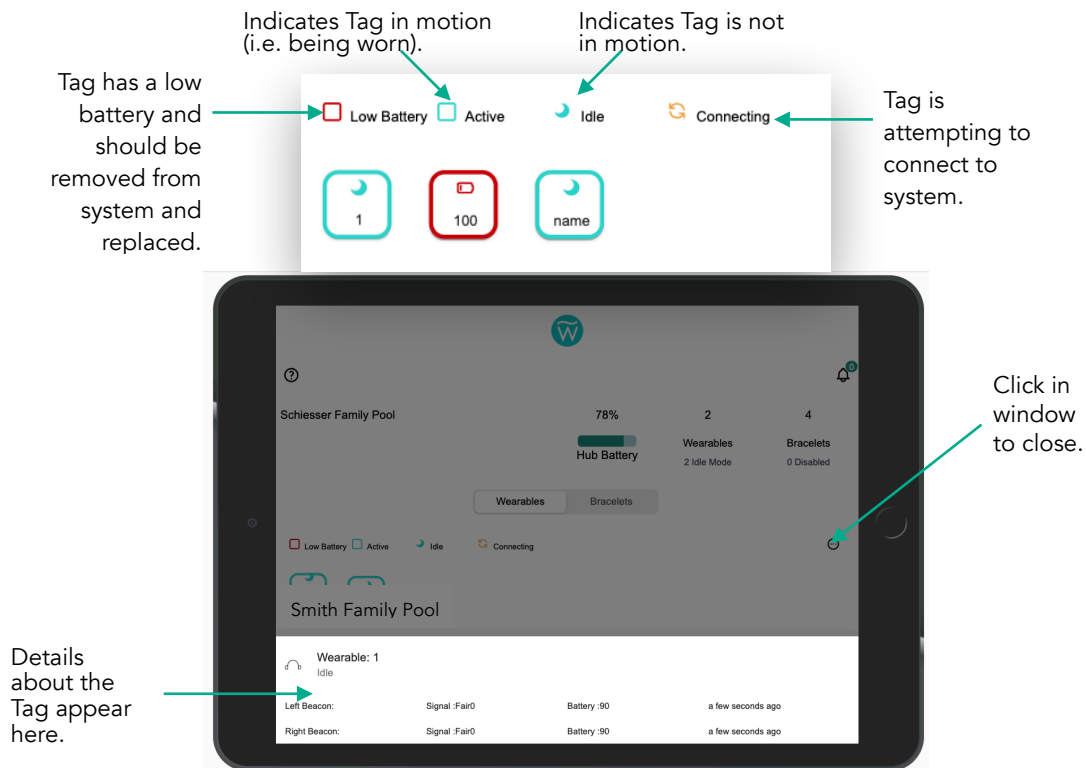
SYSTEM SETTINGS

To access the SETTINGS page, select the MANAGE icon on the bottom of the MONITOR page. Then select SETTINGS from the menu bar at the top of the page.

12. **Entry Alert**. The LEA Hub communicates with the Lifeguard Tags at a rate of twice per second to determine if a Tag is fully submerged in water (not wet). It will alert after the allowable time of submersion is reached. The default time for LEA systems is 5 seconds, although you may increase this amount if so desired.
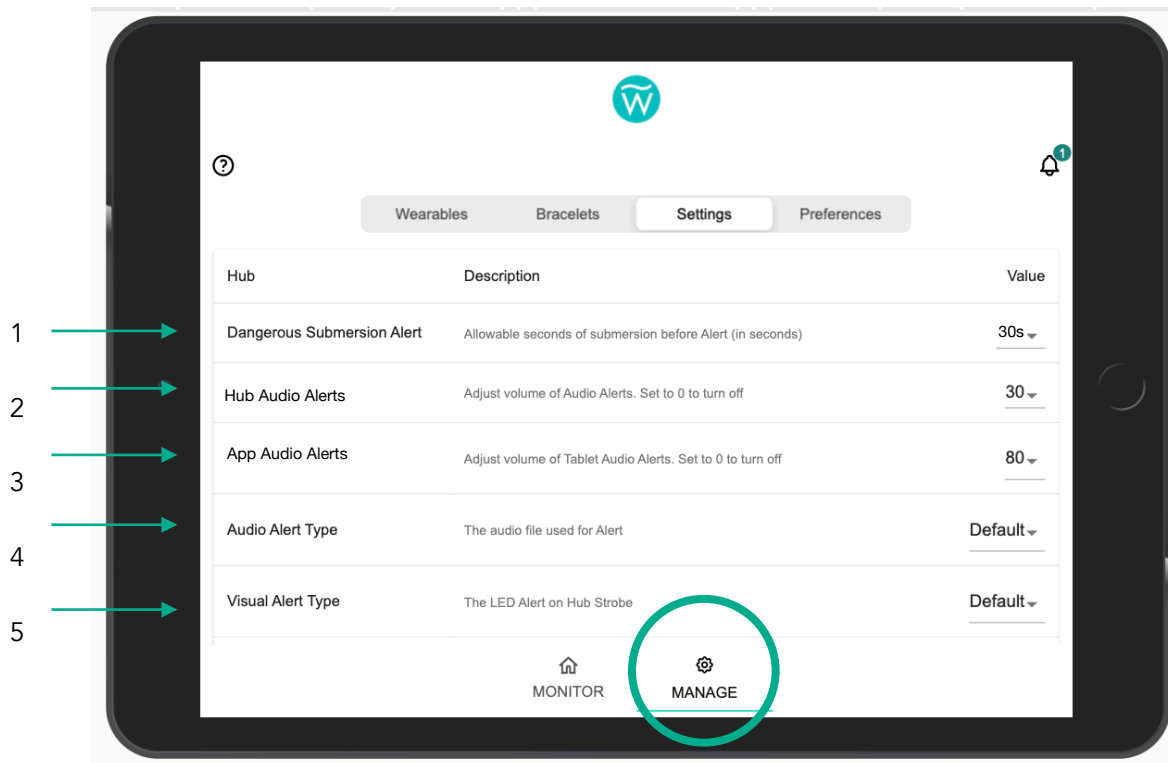
13. **Hub Audio Alerts**. When LEA determines that a lifeguard has entered the water it sounds an audible alert. Set the volume of the alert based on your needs and preferences. Although not recommended, the audible alert may be muted by setting the volume to 0. If you do so, the app will ask you to confirm this selection.

14. **App Audio Volume**. During an Entry Alert you can also have your device running the LEA Management App sound an audible alert as well. (Note: Depending on manufacturer this feature may not work on all tablets or phones.)

15. **Audible Alert Type**. At the time of this writing the only alert type available is the default tone. However future system updates will include more options.

16. **Visual Alert Type**. When LEA determines that a lifeguard wearing a Tag has entered the water it will begin to repeatedly flash its bright strobe light. At the time of this writing the only visual alert type available is the default flashing.

IMPORTANT: Always remember to select SAVE to save your settings after making any changes.

MANAGING LIFEGUARD TAGS

Your LEA system may arrive preconfigured with Lifeguard Tags based on your order. However from time to time you may want or need to add or remove Tags from your system.
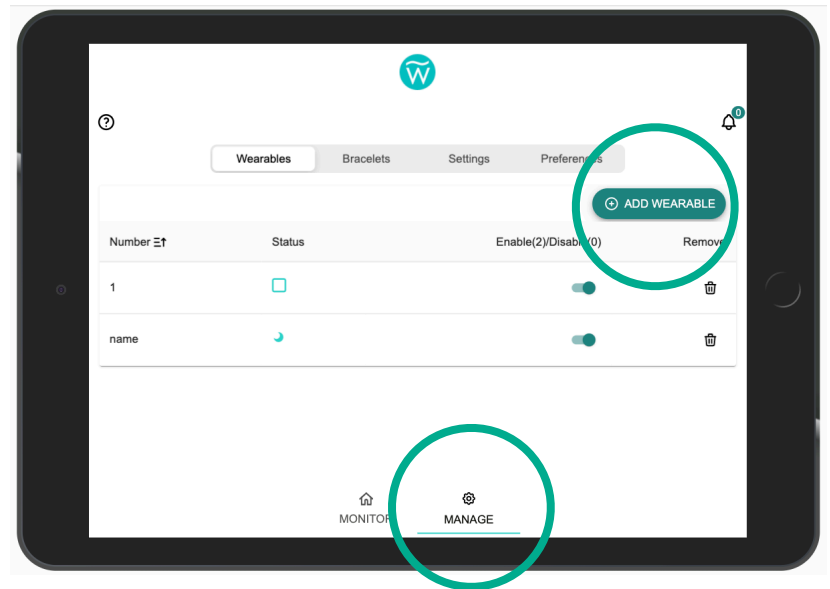
1. Go the MANAGE page.

2. Select ADD TAG button.

3. Move or gently shake the Lifeguard Tag(s) you would like to add. The new Tag(s) should appear in the window.

4. Select the Tag. Its assigned ID number will automatically appear in the space at the upper left of the screen. You may now also enter other identifiers such as a name (examples: 20Jimmy, 15_Susan, 07 Mark, and so on).

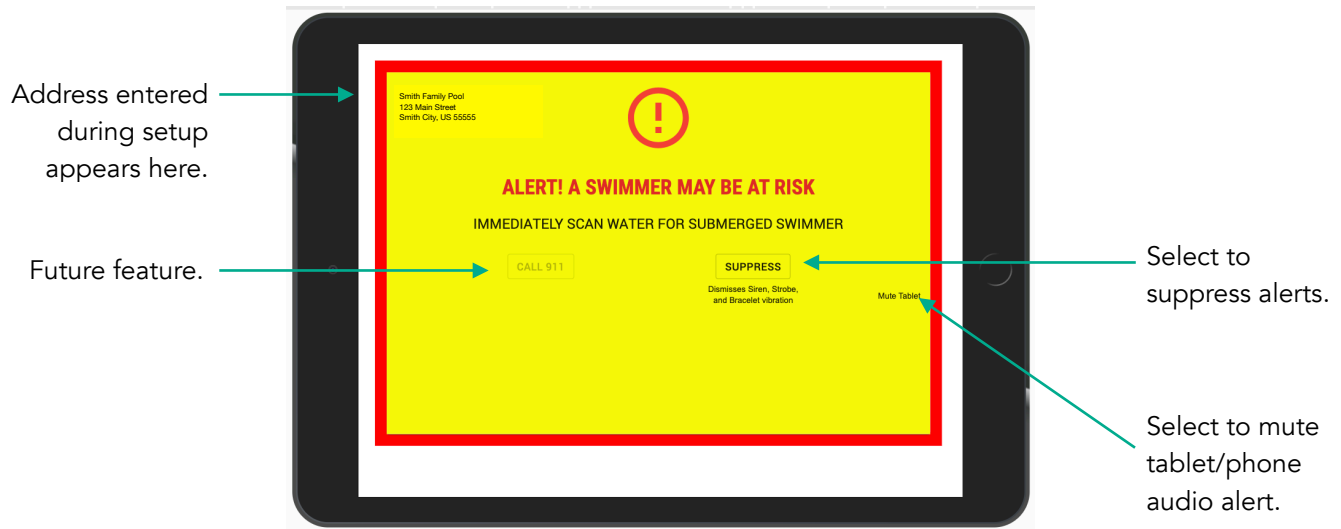**5.** Select the ADD TAG button to add this wearable to your system.

✋ NOTE: You will also use this window to enable, disable or remove Lifeguard Tags.

• **Enabled**. An enabled Lifeguard Tag is monitored by the system.

• **Disabled**. A disabled Lifeguard Tag is *not* monitored by the system. The Tag may be monitored again by toggling this setting back to Enabled.

• **Remove**. A removed Lifeguard Tag is not monitored by the system. The Tag may be monitored again only by adding it back to the system as described above.

ENTRY ALERTS

In the event that a guard's Lifeguard Tag has remained submerged beyond the selected maximum time selected, the system will immediately alert based on the selected settings (i.e., audible alerts, visual alerts, etc.).

Address entered during setup appears here. →

Future feature. →

← Select to suppress alerts.

Select to mute tablet/phone audio alert.

If the app is open and running (recommended) the alert screen above will appear.

After evaluating the circumstances that caused the Entry Alert, it may be stopped by selecting the SUPPRESS button. If selected, the app may request that you select a reason for terminating the alert.

Select reason for suppressing the alert.

✋ NOTE: If the Entry Alert is not suppressed the system will remain in alert until the Lifeguard Tag is removed from the water.

If the app is not readily available and you wish to suppress the alert, you may do so by pressing the physical SUPPRESS button located on the back of the LEA Hub. Alternatively you may power down the Hub using the Power Down Process if necessary.
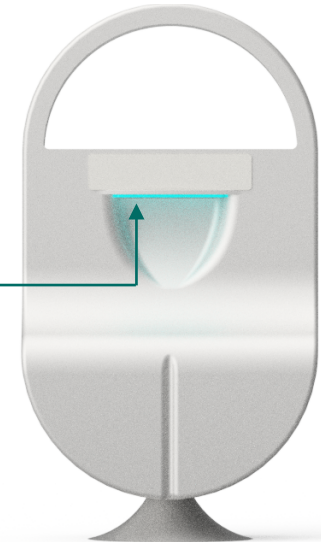
NON-EMERGENCY NOTIFICATIONS

The LEA Hub continually monitors the status of the Lifeguard Tags and system. In the event that an item needs your attention the system will notify you.

✋ NOTE: Depending on the options selected for your LEA system, some users may also receive remote notifications via text, SMS, email, phone and other options. For more information on these services please contact us.

SUPPRESS BUTTON

• **System Notification.** When there is a non-emergency notification needing your attention a bell icon will appear at the screen's upper right corner. A badge will also appear showing the total number of notifications currently needing your attention. Selecting this icon will open a pop-up window with information including instructions for any necessary actions to be taken.
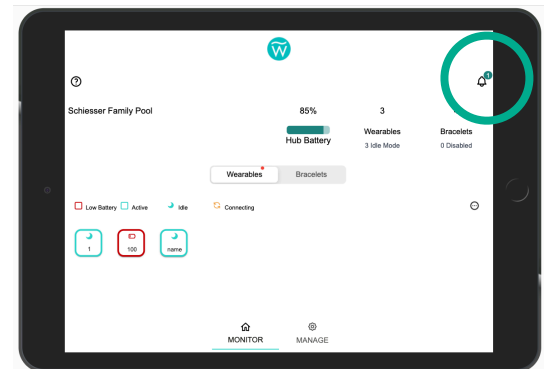
• **Tag Low Battery.** When a Lifeguard Tag's internal battery reaches minimum power the Tag's tile outline will turn red.

✋ NOTE: A Tag with a low battery warning should be removed from the system as quickly as possible and replaced, otherwise it may cause false alerts.
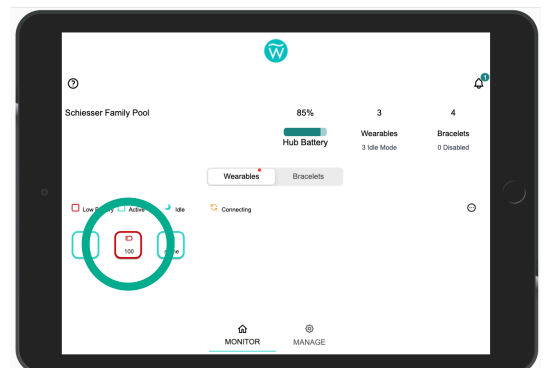
- **Hub Low Battery**. When the LEA Hub's internal batteries reach minimum power the system will notify you. When seeing this alert connect the Hub to the AC Charging/Power Adapter as soon as possible. You may continue to use the system as normal and the internal batteries will automatically begin recharging. If not recharged in time, the Hub will eventually shut down.

- **High Temp Warning**. On rare instances if the operating temperature of the LEA Hub becomes too high the system will notify you. At this time the Hub should be moved to a cooler location.

IMPORTANT: If the internal temperature continues to remain too high the Hub will automatically shut down to prevent damage. Immediately move the Hub to a cooler location and wait at least 30 minutes before turning it on again.

USING LIFEGUARD TAGS

The Lifeguard Tags included in your initial order may arrive preconfigured to work with your specific LEA Hub. Using the LEA Management App you may add or remove Tags as needed.

The Lifeguard Tags are lightweight, comfortable and waterproof.

The Tags are very easy to use. They have no buttons or switches and instead are automatically activated when their internal sensors detect motion. To preserve its battery, they will enter a sleep mode when they detect lack of motion for 2 minutes.

The Tags' internal battery will last as long as 18-36 months depending on how often they are used. When their battery becomes low the LEA Hub will notify you via the LEA Management App and (depending on your software version) via audiovisual notifications.

When notified the Tag should be removed from the system and be replaced as soon as possible.

You may check the battery status and functionality of Lifeguard Tags at any time by using the LEA Management App (refer to the instructions above).

At the time of this writing there are two different model versions of the Lifeguard Tag:

ROUND-STYLE

The two halves of the "round-style" Lifeguard Tag are magnetically attracted to each other. To wear, simply place one half under the user's clothing (eg bathing suit) and the other half on the outside of the user's clothing. Magnetic force should keep the two halves securely held during most activities.

Optionally, the included Lanyard Adapter may be used. Separate the two halves and mount the Lanyard Adapter as depicted. It will be held in place by the magnetic force of the Tag's two halves.

LANYARD ADAPTER
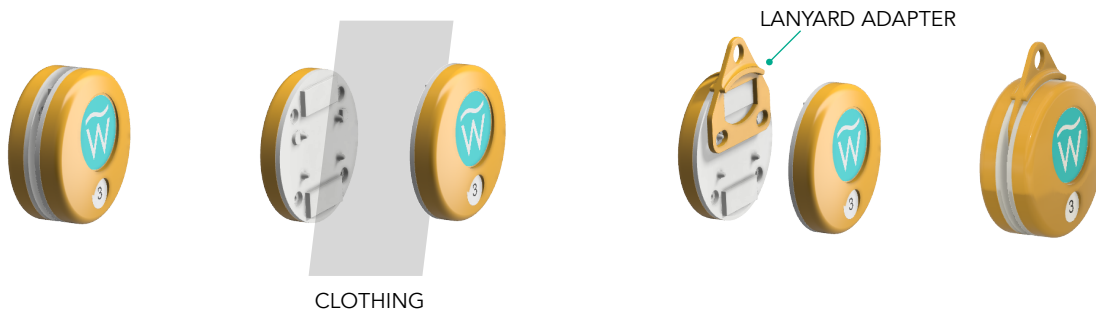
CLOTHING

CLIP-STYLE

This style clips onto the edge of the user's clothing. Squeeze the edge area as depicted to open the clip to attach. The clip is further secured in place by magnetic force between each half.

Optionally, the included Lanyard Adapter may be used. To install, use a paper clip or similar to remove the hinge pin and separate the two halves. Mount Lanyard Adapter as depicted and re-install Hinge Pin.


LANYARD ADAPTER

HINGE PIN
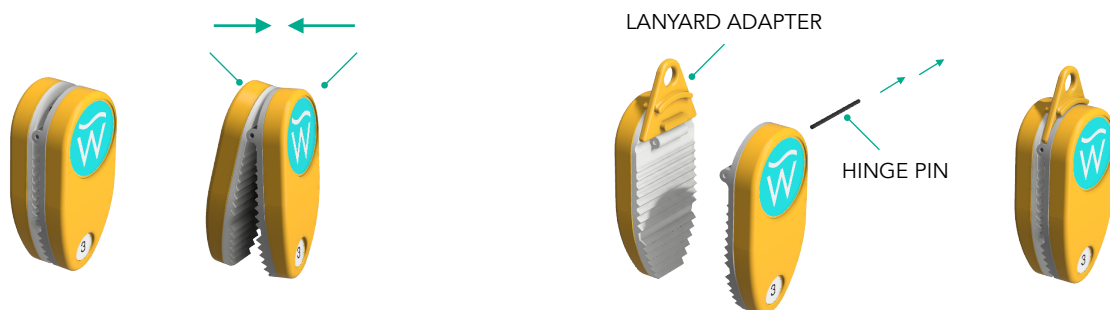
> **Use care to avoid pinching fingers when attaching or removing Lifeguard Tags.**
>
> **Magnets! Consult your physician on whether this might affect an implantable medical device.**

USING YOUR LEA SYSTEM

UNDERSTANDING RANGE

The LEA Hub has a typical wireless range of up to 150 feet when there is clear "Line of Sight" or simply LoS. In general terms that means there are no physical obstructions between the transmitting device (in this case, Lifeguard Tags) and the receiving device (in this case, the LEA Hub). Note that the range is typically the greatest in the direction the front of the unit is facing.

150 feet clear LoS
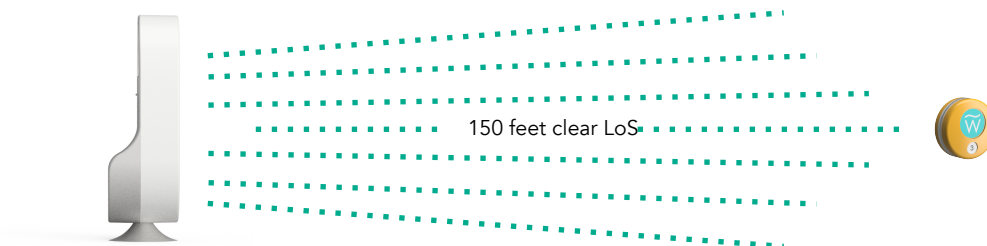
UNDERSTANDING WHERE TO PLACE THE LEA HUB

The recommended placement of the Hub should be above the ground at a **minimum height of 60 inches** or more and on a secure flat surface such as a tabletop, or mounted in the included Wall Mount.

> There should be no physical obstructions such as people, concrete walls, dense vegetation, stone, or metal in front of the Hub.

▽ IMPORTANT. Do not subject the Hub to direct water spray or submerge it in water. Move the unit inside or under cover during extreme or inclement weather.

## TESTING THE LEA SYSTEM BEFORE USING

In most instances where you decide to place your LEA Hub out of convenience will likely work. However it may be necessary to relocate the unit to a better spot to insure complete coverage of the water. To confirm that you have selected an acceptable location it is necessary to perform the following simple test.

▽ IMPORTANT. Always perform this test when using the LEA system for the first time at a new, recently renovated or modified swim area. Always make sure that you are testing with ENABLED Lifeguard Tags (see MANAGING TAGS).

1. (Optional) Use the LEA Management App to select settings for this test such as lowering the volume of the speaker or reducing the maximum time selected for Entry Alerts. Remember to change the settings back after the test.

2. With the system on, walk (or swim) to different areas in the water with an active Lifeguard Tag. It is not necessary to submerge the wearable. As long as the system does not alert, the area you are in is within coverage of the system. See below for more details.

3. Continue this process until all general areas of the water are tested.

Above the water areas that typically require more attention are those near pool equipment, landscape features such as walls, rocks and dense vegetation.

In the water areas that typically require more attention are around metal ladders, dock floats or pilings, and features such as raised walls, large rocks, waterfalls, and dense vegetation.
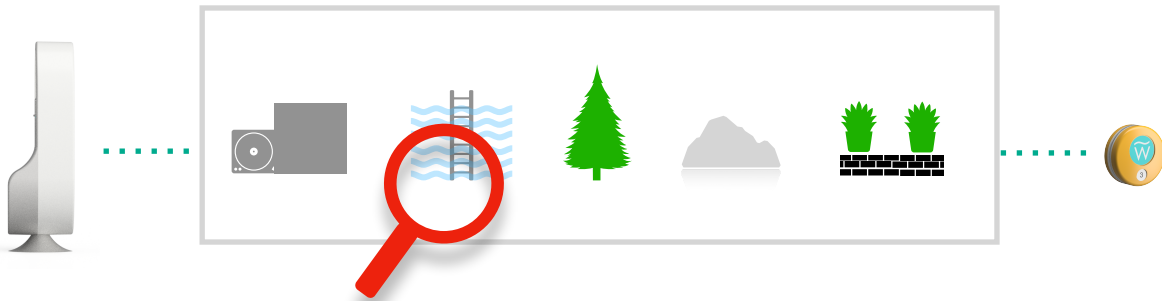
NOTE: If there are areas in the water that cause a false Entry Alert, it is then necessary to find an alternative location for the LEA Hub or address any object(s) that may be causing the issue.

If the system is moved repeat the above test until you are completely confident that the entire swim area is fully covered.

ACTIVE MONITORING

After successfully confirming that the system completely covers the swim area, you are now ready to start using your LEA system for active monitoring.

1. Power on the LEA Hub using the Start Up Process.

2. Use the LEA Management App to change/confirm settings

3. Check for system notifications and take any required actions as necessary.

4. Distribute only ENABLED Lifeguard Tags to your guards.

IMPORTANT: Always maintain vigilance and follow all standard safety protocols around water. Never rely solely on the LEA system.

AFTER USING YOUR LEA SYSTEM

1. All Lifeguard Tags should be accounted for and returned for storage.

2. Power down the Hub using Power Down Process.

3. If battery power is used, recharge the Hub.

5. Clean and dry the Hub if required, wiping down with damp soft cloth*.

6. While cleaning occasionally inspect Hub and Tags for any signs of damage.

7. Store the Hub in a dry location. Use the Wall Mount only if it is installed in a

   protected area.

* Do not use ammonia based cleaning products as these may damage plastics over time.

TROUBLESHOOTING

▶ **System does not power on.**
1. Confirm that you followed the steps in POWERING AND CHARGING YOUR LEA Hub section.

2. If the Hub determines that its batteries are too low it may automatically power down the system to protect the batteries and electronics. Connect the AC Charging/Power Adapter to the Hub and plug the Charger into a wall outlet. After approximately 30 minutes try powering on the Hub again. Check battery level and continue charging unit the battery level is 100%.

▶ **System goes into Entry Alert with no active Lifeguard Tags.**
1. Scan the water immediately to confirm that there are no guards or Lifeguard Tags in the water.

2. Restart the Hub following the steps in POWERING AND CHARGING YOUR LEA HUB section.

3. If restarting the Hub does not solve the issue, move the Hub to a new location (see UNDERSTANDING WHERE TO PLACE THE LEA HUB section).

4. If none of the above resolves the issue, the alerts may be because the system is detecting an active Lifeguard Tag that you may be unaware of. Use the Management App to determine which, if any, Tags are appearing in the Entry Alert Event page. If a Tag does appear in the list, see below.

▶ **System goes into Entry Alert with active Tags, but no guards have entered the water.**

1. Scan the water immediately to confirm that there are no guards in the water.

2. Scan the water to make sure that no Lifeguard Tag is fully submerged in the water.

3. Use the LEA Management app to determine which Tag, if any, is appearing in the Entry Alert Event page. If a Tag appears in the list the alert may be because the Tag is out of range, has a low battery, or is in a location where its radio signals are being blocked by an obstruction.

4. Check the status of the Tags using the app. If the Tag has a low battery remove it from the system (see MANAGING TAGS section).

5. If the Tag causing the alert does not have a low battery but its whereabouts are unknown, disable the Tag from the system until it is found. Once found you may re-enable the Tag (see MANAGING TAGS section).

6. If the Tag's radio signals are being blocked by an obstruction, relocate the object causing the obstruction or relocate the LEA Hub (See UNDERSTANDING WHERE TO PLACE THE LEA HUB section).

7. If the problem persists with more than one Tag, restart the LEA Hub (see POWERING AND CHARGING YOUR LEA Hub section).

8. If restarting the Hub does not address the issue, move the Hub to a different location (see UNDERSTANDING WHERE TO PLACE THE LEA HUB section).

▶ **The LEA Management App does not load or I am unable to connect to the Hub.**

1. Confirm that your smart device has WiFi turned on.

2. Confirm that your smart device is connected to the correct wireless network.

2. Reload/refresh the LEA Management App page until it reappears.

4. If the above does not resolve the issue, restart the LEA Hub following the steps in POWERING AND CHARGING YOUR LEA Hub section.

▶ **A Lifeguard Tag does not stay on.**

1. Make sure that the Tag is clean and free of debris.

2. If the material or fabric the Tag is being attached to is too thick, magnetic force may be reduced and not strong enough to keep the Tag in place. Consider using the Lanyard Adapter with a lanyard instead.

CUSTOMER SUPPORT

If none of the above troubleshooting solutions work, or if you have any questions, concerns or other issues please reach out to us so we can help.

1 203 429 4636 during normal business hours

support@wavedds.com 24/7/365

wavedds.com/contact-us 24/7/365

CUSTOMER NOTES

Date of Purchase: _____

Sales Rep: _____

System Purchased: _____

Other info: _____