

QUICK REFERENCE GUIDE

The following is a “quick reference” guide to operating your AquaGuard Pool Alarm System. Refer to *OPERATING THE AQUAGUARD SYSTEM* on page 10 of this manual for *detailed* instructions to operate, monitor and maintain the system.

Function	At Detector Unit	At Remote Unit
To turn the system on	Enter your access code on the keypad. <ul style="list-style-type: none"> The Detector Unit sounds 10 short beeps, followed by one long beep, indicating the system is “armed.” The red LED begins flashing. 	<ul style="list-style-type: none"> Not applicable
To place the system in “SWIM” mode	Enter your access code on the keypad. <ul style="list-style-type: none"> The red LED on the Detector Unit turns off. This indicates the system is not armed. 	Press the OK button three times. <ul style="list-style-type: none"> The green LED stops blinking; the red LED blinks slowly.
To place the system in “ARMED” mode	Press the OK button on the keypad two times. <ul style="list-style-type: none"> The Detector Unit sounds 10 short beeps, followed by one long beep, indicating the system is “armed.” The red LED begins flashing. 	Press the OK button two times, <ul style="list-style-type: none"> The red LED stops blinking; the green LED blinks slowly.
To place the system in “SERVICE” mode (to allow for pool maintenance)	Enter _____ on the keypad. <ul style="list-style-type: none"> The system is deactivated for 30 minutes. 	Not applicable
To cancel an active alarm	Press any key on the keypad.	Press the OK button once.
To turn the system off for an extended period	Enter your access code followed by *99 on the keypad.	Not applicable.

AQUA-GUARD™

POOL ALARM SYSTEM



OWNER'S MANUAL

Revision A



RJE Technologies, Inc.

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FCC REGULATIONS

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 with 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 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.

This device complies with part 15 of the FCC Rules. Operation is subject to the following 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.

Per FCC Part 15.21, any changes or modification not expressly approved by RJE Technologies, Inc. could void the user’s authority to operate the equipment.

The minimum separation distance between the antenna and any part of human bodies should be 2.5 cm.

TERMS AND CONDITIONS OF WARRANTY

The AquaGuard™ Pool Alarm System manufactured by RJE Technologies, Inc. is warranted to be free from defects in workmanship and materials under normal use and service when correctly installed (by an AquaGuard™ Certified Technician), used and maintained. This limited warranty is subject to the following conditions and qualifications.

Duration of the Warranty:

Aqua-Guard™ products are warranted for a period of two (2) years from the original date of installation, which must be performed by an Aqua-Guard™ Certified Technician. RJE Technologies shall, at its option, repair or replace defective products free of charge within the two-year period. Warranty replacements or repairs will not extend the two-year period.

Scope of Warranty:

This limited warranty is effective on Aqua-Guard™ products only. It does not cover any product, component, part or accessory, which Aqua-Guard™ determines to have become defective through abuse or neglect. In addition, the limited warranty will be voided if the equipment has been modified, altered, or contains components, parts, or other accessory products that are not part of the Aqua-Guard™ product line.

RJE Technologies shall not be responsible to customers or any third party for loss, damage, or injury caused by, resulting from, or in any way attributable to the use or operation of Aqua-Guard™ products or any special, indirect, incidental or consequential damages arising from the use of SonarGuard products.

Purchaser’s sole remedy for any Aqua-Guard™ product found to be defective will be to have it repaired or replaced by an Aqua-Guard technician.

Please contact the Aqua-Guard™ Customer Service Department for instructions or assistance.

Exclusions (That is not covered):

The above warranties do not apply to:

- Conditions resulting from a defect in a component part which is not part of Aqua-Guard™.
- Conditions resulting from failure to provide reasonable and necessary maintenance in accordance with Aqua-Guard™ Owner’s Manual.

- Conditions resulting from misuse, abuse, negligence, accident or alteration.
- Normal discoloration, fading and minor deterioration of exterior surfaces resulting from exposure to the elements, except conditions that do or will affect performance.
- Conditions resulting from improper pool maintenance, water level, and pool equipment usage.
- Items consumed through use.

Warranty Disclaimers and Additional Information:

The warranty set forth above is in lieu of, and RJE Technologies hereby disclaims and excludes, all other warranties, express or implied, including without limitation, any warranty of merchantability or fitness for a particular use. RJE Technologies is not liable for, and purchaser waives any right of action if has or may have against RJE Technologies for any consequential or special damages arising out of any breach of warranty, and for any damages purchaser may claim for damages to any property or injury or death to any person arising out of its purchase of the use, operation or maintenance of the product. RJE Technologies will not be liable for any damage done by unauthorized repair work, unauthorized replacement parts, from any misapplication of them, or from damage due to accident, abuse, rodents, weather, conditions creating improper pool use of maintenance, or acts of god.

RJE Technologies will not be responsible for damages or events from overheating, incorrect wire runs, improper electrical supply, or by running the filtration pump outside the published minimum and maximum specifications. In no event shall RJE Technologies be liable for loss damage, or expense directly or indirectly arising from the use of the Aqua-Guard™, or from any other cause, except as expressly stated in this warranty.

INTRODUCTION

Thank you for choosing the AquaGuard Pool Alarm System. You have taken an important step in creating a safer environment for your children. RJE Technologies, the maker of AquaGuard, has over 20 years experience providing sonar equipment to the military. We have brought our vast experience into the swimming pool market with the AquaGuard Pool Alarm System.

About This Manual

This manual will help you install and operate your AquaGuard Pool Alarm System properly. *Read this manual carefully and completely before installing and operating your AquaGuard system.*

The AquaGuard Pool Alarm System is a powerful safety addition to your swimming pool or spa. However, the system can help protect your family *only* when it is used properly, and *in conjunction with* other safety devices and precautions, including:

- Door and gate alarms
- Security fences
- Pool covers
- Safety training

Contacting RJE Technologies

Please feel free to write or call us with your comments or questions at the address below. We have a trained staff available between 8:00 AM and 5:00 PM (Pacific Time), Monday through Friday.

RJE TECHNOLOGIES
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Irvine, CA 92618
(877) 467-6627
www.poolalarm.com

SAFETY PRECAUTIONS

Important! The AquaGuard system is a pool alarm; *not* a life-saving device. It should be used *along with* other safety equipment and precautions. It is intended to provide an *additional* level of security to your pool and/or spa.

This device is not intended to replace any other safety consideration; that is, adult supervision, lifeguards, fences, gates, pool covers, locks, and so forth, and some devices may not detect gradual entry.

Always observe the following safety guidelines:

- **DO NOT** allow children to operate the AquaGuard system without adult supervision.
- This system is a protection device that sounds an alarm to indicate a potential **EMERGENCY** situation. When the alarm sounds, **PROMPT ACTION** by a responsible adult is essential to preventing serious injury or death.
- Be sure a **RESPONSIBLE ADULT** is present to observe swimming activities whenever the AquaGuard system is turned off.

General Swimming Pool Safety Guidelines

- **NEVER** leave children unattended in or around the swimming pool or spa. Children under five years of age are at **GREATEST RISK** for injury or death in pool-related accidents.
- **DO NOT** assume that swimming pool safety devices replace the need for adult supervision. ALWAYS have a responsible adult present to ensure safety. Give extra attention when several people are swimming at the same time.
- Teach your children to swim at an **EARLY** age.
- Instruct **ALL** pool and spa users in the location and proper operation of safety features. **BE SURE** that pool maintenance personnel understand and can properly operate the AquaGuard system.
- Keep **RESCUE EQUIPMENT** (such as a rubber life preserver and/or rescue pole) within easy reach.
- Keep a **TELEPHONE** close to the pool so it can be easily accessed in case of an emergency.
- Learn **CPR** (cardiopulmonary resuscitation) and other life-saving techniques.
- Keep the pool area **CLEAR** of toys and other obstructions. Keep the water **CLEAN** and uncontaminated.
- Keep security gates **CLOSED** when the pool is unattended.

IF AN ACCIDENT OCCURS

- Get the person out of the pool as **QUICKLY** as possible.
- **IMMEDIATELY** call for help, and follow the advice given.
- Administer **CPR** (cardiopulmonary resuscitation) as directed or as necessary.
- Remove wet clothes and replace with warm covers.

ABOUT THE AQUAGUARD POOL ALARM SYSTEM

The AquaGuard Pool Alarm System is designed to detect a child, pet or object of a minimum size falling into a pool or spa. The system monitors the movement of water caused by a fall into the pool or spa by detecting changes in water pressure. When a change in water pressure is great enough to indicate a fall may have occurred, a siren sounds at the Detector Unit (by the pool or spa) and at the Remote Unit (inside the house).

AquaGuard technology has been extensively tested to the most rigorous standard in the world for pool alarms (AFNOR) as well as the U.S. ASTM standard. What does all this mean? It means, finally, there is a consumer-installed pool alarm system that provides excellent performance features combined with high immunity to wind, rain and other water surface disruptions.

- Hold the Remote Unit near the Detector Unit. Press the Remote Unit **OK** button 10 times, then pause; the Remote Unit will beep once. Press the Remote Unit **OK** button two times; the Remote Unit will beep twice to confirm the radio link between the Detector Unit and the Remote Unit is established.

If the Remote Unit sounds one *low* beep, it indicates the radio link *is not* established. *Make sure* you have enabled the radio link at the Detector Unit, move the Remote Unit closer to the Detector Unit, and repeat the procedure.

Testing the System

It is *strongly* recommended that a System Test be performed periodically, using the procedure described in *Installation*, STEP 5 on page 8.

Special Considerations During Winter

The AquaGuard system *will not* operate if the water in your pool becomes frozen. Additionally, allowing water to freeze in the Sensor Tube can damage the system's sensing mechanism.

If your pool is located in an area in which freezing *normally* occurs, and you *do not* intend to maintain your pool in a heated state throughout the winter season, you should remove the Detector Unit *before* freezing occurs. Store the unit indoors, under cover, and re-install when the water has thawed.

Be sure to remove the batteries from the Detector Unit when placing the unit in storage for a prolonged period. Corrosion may occur if the batteries are left in the unit during storage.

The Anti-Theft System

When the AquaGuard Detector Unit is installed and initialized, its internal "anti-theft" system is enabled. Any attempt to dismantle or remove the Detector Unit without first turning the system off will cause the alarm siren to sound. To turn off the "anti-theft" alarm, enter **1234*99** on the Detector Unit keypad.

Be sure to turn the system "off" before removing the Detector Unit for maintenance or storage by entering **1234*99** on the Detector Unit keypad.

- **Sensor Tube Check:** Check the sensor tube monthly to ensure it is secure and damage-free (no cracks, breaks, deformation, etc.). *Make sure* the bottom of the sensor tube is 5 - 6 inches (13 – 15 cm) below the surface of the water. Add water to the pool, or install a Sensor Tube Extension (see *System Components* on page 3 for more information) if needed.
- **System Test:** Perform a monthly System Test to ensure the system can detect a body of weight falling into the pool (see *Testing the System* on page 15 for details).
- **Storage During Winter:** If the water in your pool *normally* freezes during the winter months, the Detector Unit *must* be removed for storage before freezing occurs (see *Special Considerations During Winter* on page 15 for more information).

Replacing the Batteries

Replace the Detector Unit or Remote Unit batteries whenever a low battery is indicated (see *Managing the System* on page 12 for a description of the low battery indication).



*Be sure to turn the system off whenever replacing the Detector Unit batteries. If the unit is not turned off, the unit's Anti-Theft System will sound the alarm (see *The Anti-Theft System* on page 15 for more information).*

Detector Unit:

1. Press **1234*99** on the Detector Unit keypad to turn the system "off."
2. Remove the two screws at the rear of the Detector Unit. Lift up slightly at the rear of the Detector Unit housing, and slide the unit forward off of the base plate.
3. Remove the old batteries from the battery compartment. Install four "D" size batteries in the battery compartment.
4. Place the Detector Unit housing over the base plate. Lift up slightly on the rear of the housing. Slide the tab on the front of the base plate into the slot in the nose of the Detector Unit housing; then lower the housing onto the base plate.
5. Re-install the two screws at the rear of the Detector Unit.
6. The system will now start the arming sequence. The Detector Unit will emit 10 short beeps, followed by one long beep, indicating that the system is armed. The rear LED will begin flashing.

Remote Unit:

1. Remove the four screws on the back of the Remote Unit, and remove the back cover.
2. Remove the old battery from the battery clip.
3. Install a new 9-volt battery in the battery compartment by snapping the battery clip onto the battery posts.
4. Place the back cover onto the Remote Unit, and re-install the four screws.

Re-establish the radio link:

Whenever the batteries are replaced in either the Detector Unit or the Remote Unit, you must re-establish the radio link.

- Press **1234*7001** on the Detector Unit keypad to enable the radio link.

System Components

Your AquaGuard Pool Alarm System is shipped with the following components:

- Detector Unit (1)
- Remote Unit (1)
- AC Adapter (1)
- Sensor Tube (1)
- Sensor Tube Extensions (2)
- Installation Kit (1)
- Owner's Manual (not shown)



You will also need the following items NOT SUPPLIED with the system:

- "D" cell batteries (4) to power the Detector Unit
- 9-volt battery (1) to power the Remote Unit when not connected to an AC source

Controls and Indicators

Each AquaGuard Pool Alarm System includes a main Detector Unit and a wireless Remote Unit with transformer. The system can be operated from *either* unit using the controls and indicators described below.



Main detector is powered by 4, standard D-size batteries

Detector Keypad - An PIN code places the detector in standby for swimming, arms the detector as well as clears an active alarm.

Detector LED - provides visual confirmation that the system is armed. This light also provides notification of a low battery.



Wireless remote is powered by wall transformer

Green LED on Wireless Remote - provides visual confirmation when the system is armed. In this mode, an alarm sounds whenever a fall in the pool is detected.

Red LED on Wireless Remote - provides visual confirmation of low battery on the wireless remote or the main detector. This light also provides confirmation when the detector is not armed or in swim mode.

Control Button on Wireless Remote - multiple presses (user-selectable) places the detector in standby for swimming as well as clears an active alarm.

Swimming Pool Alarm Operation

One AquaGuard Pool Alarm System will cover a typical 16 X 32 foot (4.9 X 9.8 meter) rectangular or kidney-shaped swimming pool. If the pool is larger, or irregularly shaped, two systems will be needed (consult your AquaGuard dealer or call us directly with questions). When using two systems, two Detector units can be operated by one wireless Remote Unit. A spa will require a separate system.

The AquaGuard Pool Alarm System is operated using the keypad on the Detector Unit, or the OK button on the Remote Unit. An audible "beep" sounds when you press a key on the Detector Unit keypad:

- Short "beep" for valid entry
- Long "beep" when an error is detected

The AquaGuard Pool Alarm System provides ease of use and intuitive "messaging" that lets you know the status of the system. When you want to use the pool, you simply enter your access code at the Detector Unit's keypad (or from the Remote Unit) putting the system in "swim standby" mode. A short while after everyone has left the pool, the system will automatically re-arm. We felt that it is important for you to know the status of the system (whether it is "armed" or on "swim standby" mode) or when a low battery condition was present. For this purpose, the Detector Unit has a large red LED visible of the rear of the unit that shows system status (the Remote Unit does the same). Whenever the system "re-arms", an audible "beep" sounds at the Detector Unit and the Remote Unit.

ASSEMBLING THE AQUAGUARD SYSTEM

Installing the Batteries

It is recommended that you use "long life" Alkaline batteries in both the Detector Unit and the Remote Unit.

Detector Unit:

1. Remove the two screws at the rear of the Detector Unit.
2. Turn the unit upside down. Lift up slightly on the base plate (see photo). Slide the base plate toward the back of the unit, and remove the base plate from Detector Unit housing.
3. Install four "D" size batteries in the battery compartment.
4. Slide the tab on the front of the base plate into the slot in the nose of the Detector Unit housing; then lower the base plate into place.
5. Reinstall the two screws at the rear of the Detector Unit.
6. The system will now start the arming sequence. The Detector Unit will emit 10 short beeps, followed by one long beep, indicating that the system is armed. The rear LED will begin flashing.



Alert and Fault Signal Indications

Condition	Indication		Response
	Detector Unit	Remote Unit	
Fall or activity in the pool while system is in "ARMED" mode.	Siren sounds.	Siren sounds.	<ul style="list-style-type: none"> • Press <i>any</i> key on the Detector Unit keypad; or Press the OK key on the Remote Unit <i>once</i>. • <i>Immediately</i> determine whether an accident has occurred, and provide aid as necessary.
Anti-Theft alarm activated (Detector Unit opened <i>without</i> turning unit off)	Siren sounds.	Siren sounds.	<ul style="list-style-type: none"> • Enter your access code on the Detector Unit keypad. <p>NOTE: The Anti-Theft alarm can be cancelled <i>only</i> at the Detector Unit.</p>
Low battery in Detector Unit	Red LED blinks rapidly, and audible beeps sound	Red LED shows a steady series of <i>single</i> flashes (one per second) + audible beeps	<ul style="list-style-type: none"> • Press the OK key on the Detector Unit keypad to cancel the audible beeps (BATTERY indicator will continue flashing until batteries are replaced). • Replace Detector Unit batteries <i>as soon as possible</i> to avoid an interruption in protection (see <i>Replacing the Batteries</i> on page 14 for details).
Low battery in Remote Unit	NONE	RED LED shows a steady series of flashes (two per second) + audible beeps	<ul style="list-style-type: none"> • Replace Remote Unit batteries <i>as soon as possible</i> (see <i>Replacing the Batteries</i> on page 14 for details) or connect Remote Unit to AC power source.
Detector fault or "rough" condition in pool (accurate detection cannot be assured due to disturbance in water)	Red LED off	Green LED off; red LED blinks slowly	<ul style="list-style-type: none"> • Check to see if water is agitated due to recent swimming activity or by environmental "noise" (wind, rain, etc.). If so, allow 6 to 12 minutes for water to settle and unit to "arm." <p>NOTE: In case of "rough" condition, it may be necessary to temporarily disable the system to prevent a "false" alarm. <i>Be sure</i> to monitor activity around the pool <i>whenever</i> the alarm is disabled. <i>Be sure</i> to re-activate the alarm when the "rough" condition is no longer present.</p> <ul style="list-style-type: none"> • <i>Make sure</i> the end of the Sensor Tube is <i>at least</i> six inches below the water surface. If necessary, add water to pool, or install Extension Tube on Sensor Tube (see <i>The Remote Unit must always be powered by the AC adapter. The battery is for back-up and emergency use only.</i> • Assembling the Detector Base Unit and Sensor Tube on page 5 for details). • If problem <i>cannot</i> be corrected, contact your reseller.
General system fault	Red LED flashes rapidly and permanently.	RED LED flashes rapidly and permanently.	<ul style="list-style-type: none"> ■ The AquaGuard system <i>is not</i> functional. ■ Contact your reseller <i>immediately</i>.

MAINTAINING THE AQUAGUARD SYSTEM

Once installed, your AquaGuard system requires very little maintenance. To ensure trouble-free system operation, perform the following maintenance functions at regular intervals:

- **Battery Replacement:** Replace the Detector Unit batteries (see *Replacing the Batteries* on page 14 for battery replacement procedures) whenever a low battery is indicated (see *Managing the System* on page 12 for a description of the low battery indication).

AquaGuard Operating Modes

Condition	Indication		Response
	Detector Unit	Remote Unit	
"SWIM" Mode (continued)			Once you have placed the system in SWIM Mode, you <i>must</i> enter the pool within <i>nine minutes</i> , or the system will return to "ARMED" Mode <i>automatically</i> . You can also <i>manually</i> reactivate the alarm as described below.
Alarm Reactivation	Red LED blinks slowly, and audible beeps sound for 10 seconds before the system returns to "ARMED" mode	NONE	After swimming, the AquaGuard system will <i>automatically</i> return to "ARMED" Mode after <i>nine minutes</i> . If desired, you can <i>manually</i> return the system to "ARMED" Mode. NOTE: If the water has not calmed, the alarm may be triggered when you place the system in "ARMED" Mode. To reactivate the alarm: <ul style="list-style-type: none"> • From the Detector Unit: Press the OK button on the Detector Unit keypad <i>twice</i>. • From the Remote Unit: Press the Remote Unit OK button <i>two times</i>.
Alarm Condition	Siren sounds.	Siren sounds.	When a potential accident or another activity in the pool is detected, the alarm sounds. YOU MUST RESPOND IMMEDIATELY. Press any key on the Detector Unit keypad to silence the alarm. NOTE: The alarm will turn off <i>automatically</i> one minute and 30 seconds after activation.
OFF Mode	NONE	NONE	You can turn the AquaGuard system OFF to change the Detector Unit batteries, or to perform other pool maintenance activities. NOTE: <i>Be sure</i> a RESPONSIBLE ADULT is present to observe swimming activities whenever the system is turned OFF. To turn the system OFF: Enter XXXX*99 on the Detector Unit keypad (where XXXX is your Access Code). To turn the system ON: Enter your Access Code on the Detector Unit keypad. NOTE: <i>Whenever</i> the system has been turned off, then turned back on, you <i>must</i> perform a functional test of the system (see <i>Testing the System</i> on page 15 for details).

Managing the System

You can use the LED indicators and alarm siren on the Detector Unit or the Remote Unit to monitor the current state of your AquaGuard system. The following table shows a list of possible system conditions, the indications associated with each condition, and the proper responses/remedies to restore normal system operation.



Be sure to correct system faults promptly to avoid an interruption in protection. If a fault cannot be corrected, contact your reseller for assistance.

Remote Unit:

1. Remove the four screws on the back of the Remote Unit, and remove the back cover.
2. Install one 9-volt battery in the battery compartment by snapping the battery clip onto the battery posts.
3. Place the back cover onto the Remote Unit, and re-install the four screws.

The Remote Unit *must always* be powered by the AC adapter. The battery is for back-up and emergency use *only*.

Assembling the Detector Base Unit and Sensor Tube

You must assemble the Sensor Tube and Detector Unit before installing the unit at poolside.

1. Remove the screw from the front fitting of the Detector Unit.

Make sure the o-ring is installed on the front fitting of the Detector Unit *before* installing the Sensor Tube.

2. Slide the short end of the Sensor Tube onto the front fitting of the Detector Unit. Twist the Sensor Tube back and forth slightly while applying firm pressure to slide the tube onto the fitting.



3. Line up the hole at the top of the Sensor Tube with the mating hole in the front fitting of the Detector Unit; then re-install the screw to secure the tube in place.

Depending on the installation site for the Detector Unit (see *Installation* on page 6 for details), you may need to install one or more Sensor Tube Extensions. If so, simply slide the Extension(s) onto the end of the Tube. The Tube must penetrate the water by 5-6 inches (13-15 cm).



INSTALLING THE AQUAGUARD SYSTEM

Installation Considerations

There are a number of features that can affect AquaGuard's "detection" abilities. Keep the following system limitations in mind to ensure optimum performance of your AquaGuard system:

- The AquaGuard alarm must be audible from inside your home. *Be sure* to verify the alarm can be heard inside your home when testing the system during installation. Care should be taken to place the Remote Unit in an accessible location, preferably plugged into a standard wall outlet. This way you know where it is, and that it is powered.
- Pool cleaners (sweepers) that move around the pool, climb the pool walls, and fall back into the pool can look like a small child to the AquaGuard system. False alarms can occur if the pool sweeper hits the Sensor Tube.

- Water movement caused by high velocity/high flow filtration systems can affect AquaGuard's "detection" sensitivity.
- Extreme environmental conditions (strong wind, heavy rain) can affect AquaGuard's "detection" sensitivity. The time required to return to "armed" mode under these conditions may be longer than normal.
- In order to properly *detect* and *signal* a potential, the AquaGuard Detector Unit *must* be installed within **22 feet (6.7 meters)** of all possible fall locations. Larger pools should be equipped with an *additional* Detector Unit to meet this requirement.
- Pools with perimeter overflow are not compatible with AquaGuard.
- Vanishing edge (Infinity or zero edge) pools typically require two AquaGuard Detector Units.

Tools Required

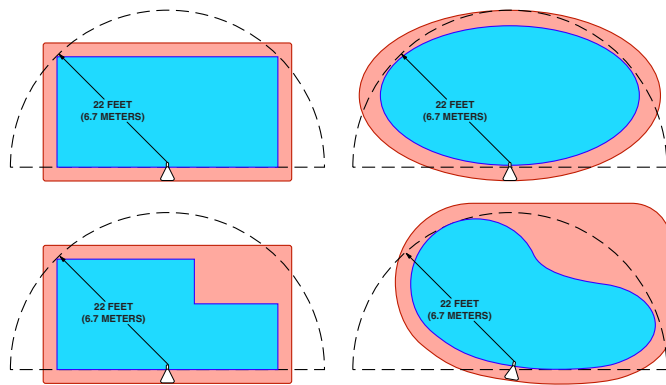
You will need the following tools and materials to install and test the AquaGuard system:

- Marking pen
- Flat-head screwdriver
- Drill
- 2.5 (19.5 liter) gallon water container
- ¼" (7 mm) Masonry drill bit
- Rope
- Phillips-head screwdriver

Installation

STEP 1 - Choose the Detector Unit Installation Site

- The Detector Unit *must* be installed within **22 feet (6.7 meters)** of all possible fall locations, and must have *direct* view of the rest of the pool. In most cases, this location will be at the *middle* of the *longest side* of your pool. Typical examples of installation are shown below.



- *Be sure* that the Detector Unit *is not* installed next to any pool features (jets, water features, etc.) that may cause disturbance.
- *Be sure* that the Detector Unit can be accessed easily.

User-Configurable Parameters

Parameter	Key Combination	Allowable Values
Access Code	XXXX*01YYYY	XXXX = Current access code YYYY = New access code Default Value = 1234
Enable Radio Link	XXXX*7001	XXXX = Access code
Disable Radio Link	XXXX*7000	XXXX = Access code
Radio channel used – this parameter can be changed to remedy a "weak signal" condition (see <i>Managing the System</i> on page 11 for more information)	XXXX*70NN	XXXX = Access code NN = radio channel; allowable values are 11 through 26 Default Value = 11
Radio address for the AquaGuard devices – an AquaGuard system may use more than one Detector Unit and/or Remote Unit; each component <i>must</i> be set to the same radio address)	XXXX*71NN	XXXX = Access code NN = radio address; allowable values are 00 through 99 Default Value = 00
Radio Test – tests radio transmission from the Detector Unit and reception by the Remote Unit	XXXX*72M	XXXX = Access code M = Test Mode; 0 for transmission, 1 for reception
Reset System Parameters	Press and hold 1 and 3 keys while replacing Detector Unit batteries	ALL user-configurable values are reset to the factory defaults. If system parameters are reset, you <i>must</i> re-establish the radio link (see <i>Installation, STEP 4</i> , on page 7 for details)

Operating the System

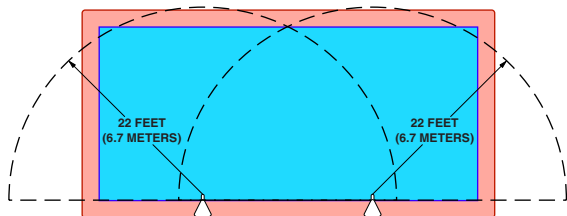
Your AquaGuard system has *five* operating modes or states. This section describes the AquaGuard modes of operation, and provides the procedures for entering and/or exiting each mode. You can control and monitor your AquaGuard system from either the Detector Unit or the Remote Unit. Refer to *Controls and Indicators* on page 3 for general instructions on using system controls and indicators.

AquaGuard Operating Modes

Condition	Indication		Response
	Detector Unit	Remote Unit	
"ARMED" Mode	Red LED blinks once every two seconds	Green LED shows a steady series of <i>single</i> blinks.	"ARMED" Mode is the <i>normal</i> operating mode for the AquaGuard system. When the AquaGuard system is in "ARMED" Mode, an alarm sounds whenever a fall is detected (or there is similar activity in the pool).
"SWIM" Mode	Red LED is off	Green LED is off; red LED blinks slowly	You <i>must</i> place the AquaGuard system in "SWIM" Mode <i>whenever</i> you wish to use your swimming pool. When the AquaGuard system is in "SWIM" Mode, activity in the pool <i>will not</i> trigger the alarm. <i>Be sure</i> a RESPONSIBLE ADULT is present to observe swimming activities whenever the system is place in "SWIM" Mode. To place the system in "SWIM" Mode: <ul style="list-style-type: none"> • From the Detector Unit: Enter your Access Code on the Detector Unit keypad. • From the Remote Unit: Press the Remote Unit OK button <i>three</i> times.

Installing Two Detector Units

The AquaGuard Pool Alarm System can be configured with *two* Detector Units when required due to pool size or to accommodate a vanishing edge (Infinity) type design, as shown on the following page.



- Assemble and position the Detector Units as described in STEP 1 and STEP 2.
- Establish the radio link between the Remote Unit and *both* Detector units as described in STEP 4.

Be sure to set *both* Detector Units to the *same* radio channel; e.g., press **1234*7001** on Detector Unit 1 *and* Detector Unit 2.

OPERATING THE AQUAGUARD SYSTEM

Refer to *Controls and Indicators* on page 3 for a description of the controls and indicators used to operate and monitor your AquaGuard system. Once your AquaGuard system has been installed, and the radio link established, you can control and monitor the system from either the Detector Unit or from the Remote Unit.

A "Quick Reference" guide to operating your AquaGuard system is provided on the back cover of this manual. For *detailed* operating instructions, see the following paragraphs:

- Refer to *Setting System Parameters* on page 10 for instructions on setting user-configurable operating parameters for your AquaGuard system.
- Refer to *Operating the System* on page 11 for procedures to switch system operating modes, cancel an active alarm, and turn the system ON and OFF.
- Refer to *Managing the System* on page 12 for descriptions of "alert" and "fault" indications and corrective actions.

Setting System Parameters

The AquaGuard system has several user-configurable parameters. Each parameter has a factory-set *default* value. You can leave these parameters at their *default* values, or modify the parameters to "personalize" your system. The following table shows a list of user-configurable system parameters, the key combination used to modify the parameter, and the allowable values for each parameter.

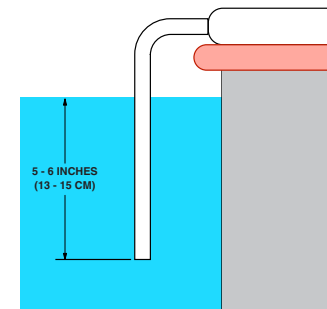
All user-configurable parameters *must* be modified at the Detector Unit. Refer to *Controls and Indicators* on page 3 for general instructions on using the Detector Unit keypad.

STEP 2 - Position the Detector Unit at the Chosen Site

- Place the Detector Unit at the installation site so the Sensor Tube extends into the water.
- *Make sure* the bottom of the Sensor Tube is between 5 - 6 inches (13 - 15 cm) below the water's surface.

If the Sensor Tube is too short, install a Tube Extension on the Sensor Tube to meet the required depth (see *Assembling the Detector Base Unit and Sensor Tube* on page 5 for details).

If the Sensor Tube is too long, it may be necessary to cut the Tube to the proper length. **BE SURE** the water in the pool is at its normal level before measuring. Fill the pool if necessary. **BE SURE** to measure carefully before cutting the Tube.



If the tube end is at less than 5 inches (15 cm), unwanted alarms may occur. If the tube end is deeper than 6 inches (15 cm), the unit's "detection" sensitivity will be lessened.

STEP 3 - Choose a Location for the Remote Unit

- The Remote Unit *must* be placed within 150 feet of the Detector Unit.
The Selected location should have as few obstructions between the Remote Unit and the Detector Unit as possible. Interior and exterior walls or other obstacles will reduce the range of the Remote Unit.
- Choose a location that will allow the Remote Unit alarm to be heard throughout the house.
- Choose a location that is near an AC outlet to allow the Remote Unit to be powered by the AC adapter.
The Remote Unit must always be powered by the AC adapter. The battery is for back-up and emergency use only.

STEP 4 - Establish the Radio Link

The AquaGuard system uses a radio transmitter/receiver to allow communication between the Detector Unit and the Remote Unit. You *must* establish the radio link to use the Remote Unit to monitor and control your AquaGuard system.

- Ensure that the Detector Unit is on (the red LED on the rear of the Unit flashes slowly when the Unit is on).
- Press **1234*7001** on the Detector Unit keypad to enable the radio link.
- Hold the Remote Unit near the Detector Unit. Press the Remote Unit **OK** button 10 times, then pause; the Remote Unit will beep once. Press the Remote Unit **OK** button two times; the Remote Unit will beep twice to confirm the radio link between the Detector Unit and the Remote Unit is established.

If the Remote Unit sounds one *low* beep, it indicates the radio link *is not* established. *Make sure* you have enabled the radio link at the Detector Unit, move the Remote Unit closer to the Detector Unit, and repeat the procedure.

STEP 5 - Test the System for Detection

Prepare a Test Simulator

- Fill a 2.5-gallon (19.5 liter) water container with enough water to weigh approximately 15 pounds (6.8 kg).
- Tie a 6-foot (1.8 meter) length of rope to the container handle.

Perform Test One

- *Make sure* both the “**ARMED**” LED on the Detector Unit and the “green” LED on the Remote Unit are on.

If the LEDs *are not* on, the system *is not* “armed”. Allow *additional time* for the water in the pool to settle enough to allow the Detector Unit to “arm.”

- Place the test simulator on the edge of the pool, 4 - 6 feet (1.2 – 1.8 meters) from the Detector Unit.
- Hold the rope, and roll the test simulator into the pool. Both the Detector Unit and the Remote Unit alarms should sound.

If the alarms *do not* sound, it may be necessary to change the location of the Detector Unit.

Reset the System

- Press any key on the Detector Unit keypad to turn the alarm off.
- Remove the test simulator from the pool.
- Wait 6 to 10 minutes to allow the unit to automatically “re-arm.” When the water has stabilized and the unit is “armed”, the “**ARMED**” LED will blink and the beep sequence will repeat.

Perform Test Two

- *Make sure* both the “**ARMED**” LED on the Detector Unit and the “green” LED on the Remote Unit are on.

If the LEDs *are not* on, the system *is not* “armed”. Allow *additional time* for the water in the pool to settle enough to allow the Detector Unit to “arm.”

- Place the test simulator on the edge of the pool, at the point *farthest* from the Detector Unit, not to exceed 22 feet (6.7 meters).
- Hold the rope, and roll the test simulator into the pool. Both the Detector Unit and the Remote Unit alarms should sound.

If the alarms *do not* sound, it may be necessary to change the location of the Detector Unit.

Reset the System

- Press any key on the Detector Unit keypad to turn the alarm off.
- Remove the test simulator from the pool.
- Press **1234*99** on the Detector Unit keypad to turn the system “off.”

The Detector Unit's "anti-theft" alarm will sound if the Unit is dismantled while the system is on. Enter **1234** on the Detector unit keypad to deactivate the "anti-theft" alarm.

STEP 6 - Mount the Detector Unit Base Plate

- Mark the location of the Detector Unit on the pool deck. Remove the Detector Unit from the pool.
- Remove the two screws at the rear of the Detector Unit, and slide the base plate off the Detector Unit housing. Remove the batteries from the Detector Unit to prevent the "anti-theft" alarm from activating.
- Place the base plate at the previously marked position. Use a permanent marker to mark the locations of the three holes in the base plate. Set the base plate aside.
- Use a drill and ¼”(7 mm) masonry bit to drill three holes, ¾” (19 mm) deep, at the marked locations.

Be sure to drill the holes straight and perpendicular to the surface of the pool deck. If the holes are drilled at an *angle*, the base plate may not secure properly.

- Install one plastic insert (provided) into each of the drilled holes.
- Place the base plate on the pool deck over the drilled holes. Secure the base plate to the pool deck with the three screws provided.
- Re-install the batteries in the Detector Unit. Place the Detector Unit housing over the base plate. Lift up slightly on the rear of the housing. Slide the tab on the front of the base plate into the slot in the nose of the Detector Unit housing; then lower the housing onto the base plate.
- Re-install the two screws at the rear of the Detector Unit.

STEP 7 - Confirm the System is On and Armed

- Wait 6 to 10 minutes to allow the unit to automatically “arm.” When the water has stabilized and the unit is “armed”, the “**ARMED**” LED will blink and the beep sequence will repeat.
- Establish the radio link as described in step 4.
- Repeat the tests described in step 5.