

# Wireless Remote Display

for

## **AQUA LOGIC** Automation and Chlorination



*table top model*



*wall mount model*

## **Installation/Operation Manual**

**for models**

**Wall Mount models**

AQL-WW-RF-PS-4  
AQL-WW-RF-PS-8  
AQL-WW-RF-PS-16

**&**

**Table Top models**

AQL-Tx-RF-PS-4  
AQL-Tx-RF-PS-8  
AQL-Tx-RF-PS-16

## Compatibility

This product is compatible with all Aqua Logic controls operating with software revision r2.00 or higher and Base Receivers with software revision r1.20 or higher. To verify the software level of your Aqua Logic control, press the Menu button (possibly multiple times) until "Diagnostic Menu" is displayed. Press the ">" or "<" keys (possibly multiple times) until the main software revision level is displayed (the revision should be 2.00 or higher). Next, press the ">" key (possibly multiple times) until the "RF Base" revision level is shown (the revision should be 1.20 or higher).

If the software revision level is less than those specified above, contact the Goldline Technical Service Dept. from Monday through Friday, 8AM to 8PM Eastern at 888-921-7665 for information on upgrades.

## Installation

### Installation - AQL-WW-RF-PS-x Wall Mount models

1. **Base Receiver required:** For operation of the AQL-WW-RF-PS-x, the Aqua Logic control unit must have a base receiver (AQL-BASE-RF) installed. The receiver also allows the Aqua Logic control unit to communicate with an optional spa-side remote.
2. **Select Location:** There are several considerations in choosing the location for the wireless remote display/keypad:

**Protected from the weather:** The wireless remote display/keypad must be mounted indoors or in a weather protected area (rain should never hit the wireless remote display/keypad). The wireless remote display/keypad is designed to mount onto a standard electrical utility box (same size as used for a triple light switch) or can be mounted directly onto any wall surface.

**Within range of Base Receiver:** The wireless remote display/keypad must be installed within 200 ft. (assuming the signal will have to travel through walls) or 400 ft. (line of sight) from the Base Receiver which is typically mounted on the Aqua Logic main control unit at the pool equipment pad. The Base Receiver can also be mounted up to 500 ft. away from the main control unit to shorten the distance between it and any wireless remote. See the "Remote Mounting of the Base Receiver" section of the Base Receiver manual for more details.

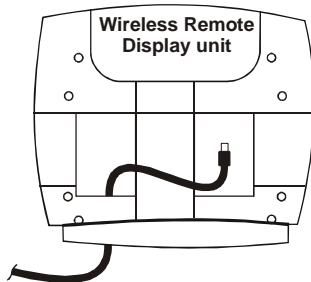
**Near 120V wall outlet:** The wireless remote display/keypad uses a plug-in power supply with a 6 ft. cable.

3. **Mount on wall:** The wireless remote display/keypad must be mounted indoors or in a weather protected area (rain should never hit the display/keypad). Refer to the diagram on the following page.
  - a. Remove the wireless remote display/keypad baseplate from the cover by lifting up on the cover at the lower end of the keypad.
  - b. Thread the wall mount power supply's output connector from behind and through the opening in the left side of the baseplate.
  - c. Screw the baseplate in the desired position (screws supplied by installer).

- d. Plug the power supply's output connector into the mating connector on the back of the wireless remote display/keypad.
- e. Reattach the wireless remote display/keypad to the baseplate.
- f. Plug the power supply into a 120VAC outlet.



**Pull up on bottom edge  
to remove cover**



## **Installation - AQL-Tx-RF-PS-x Table Top models**

1. **Base Receiver required:** For operation of the AQL-Tx-RF-PS-x, the Aqua Logic control unit must have a base receiver (AQL-BASE-RF) installed. The receiver also allows the Aqua Logic control unit to communicate with an optional spa-side remote.
2. **Select Location:** Because the AQL-Tx-RF-PS-x is battery operated and designed to be portable, there are no power supply or mounting concerns like the Wall Mount units. The Table Top units are intended to be used in the normal living space, with these considerations:

**Protected from the weather:** The wireless remote display/keypad should be used indoors or in a weather protected area (rain should never hit the wireless remote display/keypad). Understand that areas that protect the unit from rain, may still allow condensing humidity (dew, mist, fog, etc.) which can damage the AQL-Tx-RF-PS-x over time. Because the unit is portable and may be used in different areas around the pool and home, it's important to understand that it is NOT water resistant and can be easily damaged if used in the wrong manner.

**Within range of Base Receiver:** The wireless remote display/keypad must be used within 200 ft. (assuming the signal will have to travel through walls) or 400 ft. (line of sight) from the Base Receiver which is typically mounted on

the Aqua Logic main control unit at the pool equipment pad. The Base Receiver can also be mounted up to 500 ft. away from the main control unit to shorten the distance between it and any wireless remote. See the "Remote Mounting of the Base Receiver" section of the Base Receiver manual for more details.

2. **Powering the AQL-Tx-RF-PS-x:** The AQL-Tx-RF-PS-x uses a rechargeable built-in battery pack which will require an initial charge when you first receive the unit. Charge the unit for at least 15 hours before attempting to use it without the charger. Note that the AQL-Tx-RF-PS-x can be used normally while connected to the charger.

**Charging the battery:**

Plug the included wall mount charger into a standard 120VAC wall outlet, away from the pool area. It is not recommended that you use an extension cord with this product. Plug the power connector into the rear of the AQL-Tx-RF-PS-x. Charge for 15 hours. A fully charged battery will provide over 400 one-minute uses under typical conditions.

**About battery power:**

When the charger is not plugged into the AQL-Tx-RF-x, the unit uses battery power and will take steps to extend battery life. After one minute of no button presses by the user, the unit will show a brief display and will go into "sleep" mode (pg. 5). To wake it up, simply press any button on the keypad. The button press will not perform any function except waking the unit. Once awake, any subsequent button presses will perform their normal functions.

When the charger is plugged in, the unit uses wall power while it also charges the batteries. It will always be "awake", as long as it's plugged into the charger.

Note that the batteries will slowly lose charge if the unit is not plugged into the wall, even if it is not used. The batteries will need to be charged every 1 -2 months, depending on usage.

The AQL-Tx-RF-PS-x will display a series of information about its status and the status of the battery. Refer to the "Operation" section of this manual for an explanation of each of these displays.

**NOTE:** The built-in NiCad battery pack is available only through Goldline and should offer at least 5 years of service, depending upon use. If the battery pack needs to be replaced, contact Goldline Customer Service.

## Installation - all models

1. **Teach the unique Aqua Logic ID code:** The base receiver attached to the Aqua Logic control unit has a unique ID code that ensures that your unit will not affect other systems in the neighborhood, and likewise, their remote will not affect your system. To teach the ID code to the wireless remote unit:

Settings  
Menu

Teach Wireless:  
+ to start

Press and hold  
wireless button

Teach Wireless:  
Successful

- a. On any other wired Aqua Logic display/keypad unit, press the "Menu" button (possibly multiple times) until "Settings Menu" is displayed.
  - b. Press "<" or ">" (again, possibly multiple times) until "Teach Wireless" is displayed.
  - c. Press the "+" button to start the teaching process.
  - d. Press and hold any button on the wireless remote display/keypad for 4 seconds. At this point the LCD on the wireless remote display/keypad will indicate "Teach Wireless Successful" and the local display/keypad on the Aqua Logic control unit will also confirm "Teach Wireless Successful". If this process is not successful, then refer to the Troubleshooting section of this manual for additional information.
2. **Apply labels:** The Aqua Logic PS series of controls allow each output (e.g. AUX1) to be renamed to what is actually being controlled. The wireless remote display/keypad comes with a sheet of name labels—simply peel the appropriate label off the sheet and apply to the appropriate set of buttons on the wireless remote display/keypad.
  3. **Installation is complete:** You can now use the wireless remote display/keypad.

# OPERATION

## Operation - all models

The wireless remote display/keypad communicates with the base receiver on the Aqua Logic control unit using RF (radio frequency) technology. All of the display information is transmitted from the Aqua Logic control unit to the wireless remote display/keypad and all the button press information is transmitted by the wireless remote display/keypad unit back to the Aqua Logic control unit.

If the display information is not being updated on a regular basis or if the Aqua Logic is not responding to buttons being pressed, then refer to the Troubleshooting section for assistance in resolving these problems.

When power is turned on to Wall Mount models, or when the Table Top models "wake up", all the LED indicators will flash briefly, the display backlight will illuminate, and the following display will appear for a short period of time:

Goldline Aqua Logic  
RF Display r2.00

The "r2.00" is the software revision level. The actual revision level for your wireless remote display/keypad may be different. Refer to the Aqua Logic Operation Manual for complete operating instructions.

## Operation - AQL-Tx-RF-PS-x Table Top models

Because the AQL-Tx-RF-PS-x is battery operated, it displays various information about its condition and the status of its batteries. Refer to the section below for an explanation of these displays:

Shutting down to  
save battery power

After one minute of no button presses, the AQL-Tx-RF-PS-x will briefly show this display and go into "sleep" mode. This mode conserves the battery power while the remote is not in use. While asleep, all lights and the display will be off. To "wake" the unit up, push any button on the keypad.

Refreshing display

When the AQL-Tx-RF-PS-x "wakes" up, it will show this display while it collects status information from the Aqua Logic control unit.

Please plug in to  
charge battery

When the batteries are low, the Table Top unit will alternate between this display and the normal status display. Under typical conditions, there are at least 50 more one-minute uses available when this display is first shown. The batteries will slowly lose charge if the unit is not plugged into the wall, even if it is not used.

Batteries dead!  
Please charge now!

This display is shown briefly, immediately before the unit shuts down. The AQL-Tx-RF-PS-x will not operate again (to protect the batteries) until it is plugged into the charger. It can be used immediately while connected to the charger.

## TROUBLESHOOTING

1. **Can't find the "Teach Wireless" display:** From the Aqua Logic control (or any direct wired display/keypad) press the "menu" button (possibly more than once) until "Settings Menu" is displayed. Next, press the "<" or ">" buttons (possibly more than once) until the "Teach Wireless" display appears. If you get to the point where "Settings Menu" appears again, then this means that the Aqua Logic control unit is not communicating with the base receiver. Check that the 4 wire cable from the base receiver is plugged into the "wireless" connector on the main printed circuit board. If this connector is already plugged in (for more than 30 seconds), then call Goldline Technical Service for assistance.
2. **"Teach Wireless" failed:** Ensure that the remote is powered when pressing the button. This is indicated by any message on the display of the remote. If the remote is powered, then the next most likely cause is that the distance between the base receiver and the remote is too great—try moving the remote closer to the receiver. Lastly, there may be other equipment in the neighborhood that is using the same frequency. To see if this is the case, go to the Settings Menu/Wireless Channel and select another channel. Note that after you change the channel you will have to "re-teach" every wireless remote device in the system.
3. **Unreliable communication with remote devices:** The most likely cause is that the distance between the base receiver and the remote is too great—try moving the remote closer to the receiver. Lastly, there may be other equipment in the neighborhood that is using the same frequency. To see if this is the case, go to the Settings Menu/Wireless Channel and select another channel. Note that after you change the channel you will have to "re-teach" every wireless remote device in the system.
4. **Wireless display/keypad not functioning (no display, no LEDs illuminated):**  
*AQL-WW-RF-PS-x models:* If the display/keypad located on the main unit is working correctly, check that there is input power to the wireless display/keypad. Make sure that the wall mount power supply is plugged into an active 120VAC outlet and its output connector is plugged into the wireless remote display/keypad.

*AQL-Tx-RF-PS-x models:* If the display/keypad located on the main unit is working correctly, check that there is input power to the wireless display/keypad. Plug the charger into an active 120VAC outlet and its output connector into the wireless remote display/keypad. If this doesn't work, plug charger into the unit, plug the charger into an active 120VAC outlet, wait 5 seconds, unplug the charger, wait 5 seconds, and then plug it back in again.

**5. Display backlight turns off after a period of time:**

*AQL-WW-RF-PS-x models and AQL-Tx-RF-PSx models running off wall power:*  
The display backlight should always illuminate when you press any key on the unit. If it turns off after a period of time, you can stop this by pressing the menu key (possibly multiple times) until "Settings Menu" appears. Next press the "<" or ">" key (possibly multiple times) until "Display Light" appears. At this point, pressing either "+" or "-" will allow you to select either "Always On" or "On for 60 sec.". After you have selected the desired operation, press the "Menu" button to lock in your setting. Note that this selection applies to this wireless remote display/keypad only. Repeat the process of each display/keypad in the system.

**6. Display backlight always on**

*AQL-WW-RF-PS-x models and AQL-Tx-RF-PSx models running off wall power:*  
The display backlight should always illuminate when you press any key on the unit. If it remains on after 60 seconds have elapsed since the last button push, you can stop this by pressing the menu key (possibly multiple times) until "Settings Menu" appears. Next press the "<" or ">" key (possibly multiple times) until "Display Light" appears. At this point, pressing either "+" or "-" will allow you select either "Always On" or "On for 60 sec.". After you have selected the desired operation, press the "Menu" button to lock in your setting. Note that this selection applies to this display/keypad only. Repeat the process for each display/keypad in the system.

7.

The last keypress  
was not received

This is usually a temporary problem caused by interference from other equipment that is using the same radio frequency. Try pressing the button again. If this doesn't work, go to the Settings Menu/Wireless Channel on any other Aqua Logic display/keypad and select another channel. Note that after you change the channel you will have to "re-teach" every wireless remote device in the system.

8.

The base receiver  
is not responding

If this is the first time you are using your remote, or if you have just installed a new base receiver, run the "Teach Wireless" procedure from any other Aqua Logic display/keypad. Also, the radio signal may be too weak—try pointing the remote in the direction of the pool equipment or try moving closer to the pool equipment. If that doesn't work, then there may be other equipment that is using the same frequency. Go to the Settings Menu/Wireless Channel on any other Aqua Logic display/keypad and select another channel. Note that after you change the channel you will have to "re-teach" every wireless remote device in the system.

9.

Teach Wireless needs  
to be run

This is caused by the remote not knowing the ID code of the base receiver. Run the "Teach Wireless" procedure from any other direct wired Aqua Logic display/keypad.



10.

Teach Wireless Fail.  
Please try again.

This is usually caused by a button being held down for more than 3 seconds, falsely triggering the Teach Wireless mode. It can also be displayed if the Aqua Logic is not in the Teach Wireless mode. If the Aqua Logic is in Teach Wireless, then the radio signal may be too weak—try moving closer to the Aqua Logic main control unit base receiver.

11.

Display Error 1  
call 888-921-7665

Display Error 2  
call 888-921-7665

Display Error 3  
call 888-921-7665

An internal problem has occurred in the wireless remote display/keypad. Remove the display/keypad from the wall mount base (see diagram on page 2) and write down the model number and serial number. Call the Goldline Tech support department (Monday through Friday, from 8AM to 8PM eastern time) to find out how to obtain a replacement wireless remote display/keypad.

## **Limited Warranty—Pool Automation & Chlorination Products**

**10/1/2004**

This warranty statement is applicable to all pool automation and chlorination products manufactured by Goldline Controls, Inc. (Goldline) **on or after October 1, 2004**. See the appropriate warranty statement for other Goldline products or for pool automation and chlorination products produced prior to October 1, 2004.

### **Aqua Rite/Trol/Logic—Residential pools in USA or Canada:**

Goldline warrants Aqua Rite, Aqua Trol, and Aqua Logic products (products with Goldline part numbers starting with AQ-RITE-, AQ-TROL-, AQ-LOGIC-, AQL-P-, AQL-PS-, or AQL-CL-) installed on private, residential swimming pools within the USA or Canada to be free from defects in material or workmanship, under normal use and service for **five years** from date of the initial system installation, provided it is installed in accordance with the Goldline installation instructions and specifications provided with the product. If written proof of the date of the initial system installation is not provided to Goldline, the manufacturing datecode on the Aqua Rite, Aqua Trol, or Aqua Logic electronics unit will be the sole determinant of the date of the initial system installation.

If a product is defective, in workmanship or materials and is removed and returned freight prepaid within three (3) years after the date of the initial system installation, Goldline Controls will, at its option, either repair or replace the defective product and return it freight prepaid. If the defective product is returned freight prepaid to Goldline more than three (3) years but within five (5) years of the date of the initial system installation, Goldline, at its option, will either repair or replace the defective product and will charge sixty percent (60%) of the current list price for such repairs or replacements, plus shipping charges. The costs incurred in removal and/or reinstallation of the product are NOT covered under this warranty.

### **Aqua Rite/Trol/Logic-- Commercial pools or any pool outside of the USA or Canada:**

Goldline warrants Aqua Rite, Aqua Trol, and Aqua Logic products (products with Goldline part numbers starting with AQ-RITE-, AQ-TROL-, AQ-LOGIC-, AQL-P-, AQL-PS-, or AQL-CL-) installed on commercial pools anywhere or any non-private single family residential pool or any pool outside of the USA or Canada to be free from defects in material or workmanship, under normal use and service for **one year** from date of the initial system installation, provided it is installed in accordance with the Goldline installation instructions and specifications provided with the product. If written proof of the date of the initial system installation is not provided to Goldline, the manufacturing datecode on the Aqua Rite, Aqua Trol, or Aqua Logic electronics unit will be the sole determinant of the date of the initial system installation.

If a product is defective, in workmanship or materials and is removed and returned freight prepaid within one (1) year after the date of the initial system installation, Goldline will, at its option, either repair or replace the defective product and return it freight prepaid. The costs incurred in removal and/or reinstallation of the product are NOT covered under this warranty.

### **Accessory Products and Replacement parts—any pools, anywhere:**

Goldline warrants any replacement parts or accessory products (any pool automation or chlorination product or part with a part number other than AQ-RITE-, AQ-TROL-, AQ-LOGIC-, AQL-P-, AQL-PS-, or AQL-CL-) to be free from defects in material or workmanship, under normal use and service for **one year** from date of the initial system installation, provided it is installed in accordance with the Goldline installation instructions and specifications provided with the product. If written proof of the date of the initial system installation is not provided to Goldline, the manufacturing datecode on the product or part will be the sole determinant of the date of the initial system installation.

If a product is defective, in workmanship or materials and is removed and returned freight prepaid within one (1) year after the date of the initial system installation, Goldline will, at its option, either repair or replace the defective product and return it freight prepaid. The costs incurred in removal and/or reinstallation of the product are NOT covered under this warranty.

### **Warranty exclusions:**

1. Material supplied or workmanship performed by others in the process of installation
2. Damage resulting from improper installation including installation on pools larger than the product rating.
3. Problems resulting from failure to operate the products in accordance with recommended instructions contained in product's owners manual.
4. Problems resulting from failure to maintain pool water chemistry in accordance with recommended levels.
5. Problems resulting from tampering, accident, abuse, negligence, unauthorized repairs or alterations, fire, flood, lightning, freezing, external water, war, or acts of God.

THE EXPRESS LIMITED WARRANTY ABOVE CONSTITUTES THE ENTIRE WARRANTY OF GOLDLINE CONTROLS, INC. WITH RESPECT TO ITS POOL AUTOMATION AND CHLORINATION PRODUCTS AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL GOLDLINE CONTROLS, INC. BE RESPONSIBLE FOR ANY CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES OF ANY NATURE WHATSOEVER.

NO WHOLESALE, AGENT, DEALER, CONTRACTOR, OR OTHER PERSON IS AUTHORIZED TO GIVE ANY WARRANTY ON BEHALF OF GOLDLINE CONTROLS, INC. THIS WARRANTY IS VOID IF THE PRODUCT HAS BEEN ALTERED IN ANY WAY AFTER LEAVING THE FACTORY.

## NICAD BATTERY DISPOSAL (AQL-Tx-RF-PS-x models)

At the end of the batteries' useful life, they must be recycled or disposed of properly. Contact your local county, or state hazardous waste management authorities for information on recycling or disposal programs in your area.

## FCC Statement

(Compliance Statement, Part 15.19): This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING (Part 15.21): Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## Industry Canada Statement

The term "IC" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

## Interference

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, then 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 the receiver
- Connect the equipment into a power source on different circuit than the receiver.

## Questions?

Refer to **[www.goldlinecontrols.com](http://www.goldlinecontrols.com)** for latest manual revisions, additional information and helpful service.

Or, you may visit your local Authorized Goldline Dealer or call 888-921-POOL (7665) for assistance.



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