





Installation / Owner's / Manual



Please note -

This product is meant to be an accessory for the following pre-installed equipment.

- PoolSync® Wi-Fi Controller
- ChlorSync[®] Salt Chlorine Generator

IMPORTANT!

This manual covers the installation and operation of the $\mathsf{AutoPilot}^{\texttt{B}}$ Water Chemistry Controller.

Read this manual and product labels before installing or operating this equipment.

INSTALLER: THIS DOCUMENT IS PURCHASER'S PROPERTY AND IS TO REMAIN WITH THE EQUIPMENT OWNER

LTP0194 REV A

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1 - SAFETY

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

- Follow all state, local, and National Electrical Code(s) (provincial and Canadian Electrical Code(s) if applicable) unless local guidelines supersede.
- For personal safety, and to avoid damage to equipment, follow all safety instructions displayed on the equipment and within this manual. Repair and service of your water chemistry controller must be performed by qualified service personnel.
- Should you suspect your water chemistry controller is not performing properly, refer to the Troubleshooting section in this manual to determine if service is required.
- Warranties may be voided if the water chemistry controller has been improperly installed. Failure to properly operate, maintain or repair the water chemistry controller may void the factory warranty.

SAFETY SIGNALS

Throughout this manual, safety signals are placed where particular attention is required.

WARNING - Failure to heed the following may result in permanent injury or death.

AUTION - Failure to heed the following may result in equipment damage.

A WARNING - Failure to heed the following may result in permanent injury or death.

- RISK OF ELECTRICAL SHOCK Disconnect all AC power when installing or servicing this system. Follow all state, local, and National Electrical Code(s) (provincial and Canadian Electrical Code(s) if applicable). Use copper conductors only.
- RISK OF ELECTRICAL SHOCK To reduce the risk of electrical shock, replace damaged cord immediately.
- RISK OF ELECTRICAL SHOCK The water chemistry controller contains no owner-repairable components. Repairs must not be attempted by untrained and / or unqualified individuals. If service is deemed necessary, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See "Contacting AquaCal AutoPilot, Inc." on the facing page.
- CHEMICAL HAZARD To avoid damaging splashes, always add acid to water, never water to acid. Wear safety glasses and use other appropriate personal protection equipment.
- CHEMICAL HAZARD Always follow the instructions on the manufacturer's label whenever handling or using chemicals.
- PERSONAL SAFETY HAZARD To reduce the risk of injury, do not permit children to operate this device.
- RISK OF CHILD DROWNING OR INJURY Children must be closely supervised at all times around pool or spa equipment.

AUTION - Failure to heed the following may result in equipment damage.

- The water chemistry controller system must be installed and operated as specified. Failure to do so will void the equipment warranty.
- To permit proper air circulation, the water chemistry controllers must be mounted at least three (3) feet above ground level and away from any air flow obstruction.
- Special measures are required in the event of freezing conditions. Your water chemistry controller may be damaged if measures are not taken in advance of freezing conditions. Equipment damage due to freezing conditions is NOT covered under the equipment warranty.
- FOR NEW VINYL LINER POOLS, contact the manufacturer for recommended instructions before operating the water chemistry controller system.
- Damage and / or service calls caused by improper water balance, are NOT covered under the equipment warranty. See "Water Balance and Chemistry" on page 18.

SAVE THESE INSTRUCTIONS

2 - GENERAL

2.1 Contacting AquaCal AutoPilot, Inc.

If you need to contact AutoPilot[®] for questions, service, or parts, please have your model and serial numbers available. See the data plate for product information. This data plate is located inside the unit on the sheet metal cover after taking off the unit's cover.

Also have the name of your installer and date of your equipment's installation. Please refer to our website for the latest manual revisions, additional information, and helpful service advice.

Site Information:					
Pool volume	Pool volume (Gallons / Liters)				
Installation D					
Installer					
ChlorSync [®] Cell Type / Cell Serial #					
ChemSync [™] Model #					
ChemSync [™] Serial #					
Product Information:					
Phone	(1)727-823-5642				
Hours 8-5 pm, Eastern M-F					
Service Information:					
Website	Website https://autopilot.com/authorize-service-center/				

Additional product specific installation advice is available online in the manuals section.

https://autopilot.com/manuals/

Phone

(1) 727-823-5642

3 - INSTALLATION

3.1 Installation Recommendations

A typical ChemSync[™] system installation is shown (Figure 1).

• The ChemSync[™] unit requires a minimum flow rate of 20 gpm (76 L/min).

PLEASE NOTE

This diagram is not drawn to scale. See "**Installation Steps**" on page 4 for specific information / requirements for installation.





3.2 Parts Included

The ChemSync™ consists of the following included components.

- (4) Wall Anchors
- (4) Mounting Screws
- (2) Uniseal® Fittings
- (1) ChemSync[™] Water Chemistry Controller
- (1) Sensor pH part # 19151
- (1) Sensor ORP part # 19152
- (25') 1/4" ID x 3/8" OD Polyethylene Tubing

- (1) ChemSync[™] Acid Plumbing Kit
 - Two Compression Nuts with Ferrules
 - Check Valve
 - Weighted Strainer
 - 6" Polyethylene Tubing
 - (20') 1/4" OD Polyethylene Tubing
 - (1) Uniseal® Fittings



Water Chemistry Controller (ECA0486)

Figure 3 - Acid Tank (PCP0415)



Figure 4 - Acid Plumbing Kit

3.3 Installation Steps

A WARNING - Failure to heed the following may result in permanent injury or death.

• RISK OF ELECTRICAL SHOCK - Disconnect all AC power when installing or servicing this system. Follow all state, local, and National Electrical Code(s) (provincial and Canadian Electrical Code(s) if applicable) unless local guidelines supersede. Use copper conductors only.

AUTION - Failure to heed the following may result in equipment damage.

• Failure to bond the equipment could cause equipment failure and is not covered by warranty.

This section outlines the basic installation of the ChemSync[™]Water Chemistry Controller.

It is assumed that a PoolSync® and ChlorSync® are already installed. If not, please review the manuals for those pieces of equipment for installation advice.

Prepare the Pool Water Before Putting a ChemSync[™] Into Service:

Check the ChlorSync[®] manual for instructions on how to properly balance the pool water before attempting to use a ChemSync™. This unit is designed to maintain pool water chemistry, NOT to correct out of balance water chemistry.

Step 1 - Initial Set Up

- 1. Confirm all required parts are on hand. See " Parts Included" on page 3.
- 2. Confirm all required tools are available. (Not included)
 - Phillips and small tipped 1/8" flat head screwdriver
 - Pliers or wire strippers
 - Drill with 1/2-inch drill bit (*Do not attempt to use a "Step Bit"*)
 - Teflon tape
- 3. Shut off power to the ChlorSync[®] and all attached devices.
- 4. Shut off power to the circulation pump.

Step 2 - Mounting Controller

- 5. Mount the Water Chemistry Controller as follows:
 - The controller and acid tank must be in an area not readily accessible to the public.
 - Install the unit within a reachable distance (ten feet recommended) of the PoolSync® Wi-Fi device and the ChlorSync[®] power center. The control and power wiring for the ChemSync™ are twelve (12) feet in length.
 - Install the unit within reach of where your acid tank will be located.
 - The unit must be at least three (3) feet from the around.
 - Avoid areas where driving rain or sprinkler systems can saturate the unit.



Figure 5



Step 3 - Acid Pump Plumbing

- Select an area where the acid tank is to be located. It must be within reach of both the controller and the PVC plumbing at the ChlorSync[®] cell.
- Select a location for the acid feed tube. This needs to be before the ChlorSync[®] cell.
 - The line can be installed in any orientation vertically or horizontally.
 - If possible select an "out of the way location" where the lines wont be disturbed by foot traffic.
 - Do not attempt to install the Uniseal[®] or drill into a fitting or anything other than straight PVC pipe.
 - Do not use a unibit or stepped drill bit. Use a standard 1/2" drill bit suitable for wood or steel only.



Figure 6

- 8. Drill a 1/2" hole slowly and cautiously and remove any burrs or rough edges.
- 9. Clean the hole free of chips and burs. This is required to avoid water leaks from the Uniseal®.
- 10. Install the provided Uniseal® fitting into the drilled hole.
- 11. Install the check valve assembly as indicated with the short six (6) inch tube pushed into the Uniseal[®]. Carefully push the tubing into the Uniseal[®] by approximately 3/4" to 1". It is OK to use water for ease of insertion, but do not use lubricants of any kind on the Uniseal[®].
 - This check valve assembly will prevent water from entering into the acid supply tank.







12. Cut and route the other end of the acid supply hose from the plumbing check valve assembly to the acid pump as indicated.



Figure 9

- 13. Install the acid tubing from the check valve assembly to the peristaltic pump's "Feed to Plumbing" as indicated.
 - Use the compression nut and ferrule (from the Acid pump kit) on the acid feed line and hand tighten on the "Feed to Plumbing" side of the acid pump as sown.
- 14. Drill a hole into the acid reservoir lid, slightly larger than the 1/4" acid pump tubing.
- 15. Slide the acid pickup tube through the hole in the lid; leaving enough tubing for the strainer to reach the bottom of the tank.
 16. Insert the tubing

into the provided

strainer as

indicated.





 Connect the other end of the tube to the peristaltic acid pump's "From Tank" connection using the ferrule and nut provided on the pump connector. See Figure 9.

Figure 10

Step 4 - Water Sample Plumbing

- 18. Drill two (2) 1/2" holes at the following locations.
 - One before the circulation pump inlet (Water Sample Return).
 - One at least three inches before the Acid Feed Line and ChlorSync[®] cell (Water Sample Feed).
- 19. Install the provided Uniseal® fittings into the drilled holes.



Figure 12

- 20. Twenty-five feet (25) of 3/8" water sample tubing is supplied with the ChemSync[™] system. Cut appropriate lengths for Water Sample Feed and Water Sample Return hoses.
- 21. Push the water sample return tube onto the right valve opening as shown until fully seated.



Bottom of Chemistry Controller

Figure 13

22. Carefully push the other end of the tubing into the water sample return Uniseal[®] by approximately 3/4" to 1". It is OK to use water for ease of insertion, but do not use lubricants of any kind on the Uniseal[®].

Water Sample Return



Figure 14

Æ

Aux Cable

mmet Fitting

Bottom of Chemistry Controller

Water Sample

Valve

23. Repeat the process for the water sample feed line; inserting into the left ball valve on the ChemSync[™] ball valve. And inserting the other end into the water sample feed Uniseal[®] by approximately 3/4" to 1".



 (\mathfrak{D})



24 VAC Cable and

PoolSync® Grommet

Fitting

Step 5 - ORP and pH Sensors

- 24. Remove the cover of the ChemSync[™] Water Chemistry Controller.
- 25. Collect the ORP and pH sensors and Teflon tape.
- 26. Remove the cap and any old Teflon tape from the sensors and wrap with new Teflon tape (2 turns). The sensor caps must be retained for winterizing or service.



Figure 16

PLEASE NOTE:

Do not remove caps on sensors until ready to insert them into the device. The sensors should not be out of solution for longer than thirty (30) minutes before damage to the sensors may be incurred.

Sensor

- 27. Thread the sensors into the mounting holes. Do not over tighten or the Flow Cell may be damaged.
- 28. Insert the white pH sensor's male connector into pH sensor's female connector.
 - Push up and twist clockwise to lock in place.
- 29. Make sure that the water inlet / outlet ball valves are open (left and right) and the water sample ball valve is closed (center).
- 30. Repeat previous step for the black connectors for the ORP sensor.
- Place the sensor storage caps in the cap holders for easy access during maintenance procedures and winterizing.
 - Holders are on the metal chassis.

Chemistry Controller Showing Sensor Connection Points



Figure 17

32. Make sure that the water inlet / outlet ball valves are open (left and right) and the water sample ball valve is closed (center).

Bottom of Chemistry Controller





Step 6 - Water Flow Installation Check

- 33. Turn on the circulation pump.
- 34. Check for leaks at the following locations:
 - Hose connection points
 - Flow cell ball valves
 - pH and ORP sensors
- 35. Tighten any points where leaks are detected.
- 36. If a longer time frame than thirty (30) minutes is required to fix leaks, then put the sensors back into solution storage. Sensors out of water solution may prematurely fail.

Step 7 - Electrical and Data Connections

37. Confirm power is off on the ChlorSync[®] power center and then remove front cover.



- Figure 19
- 38. Remove the transformer wire from the ChlorSync[®] Power Center.
- Install quickdisconnect connectors as shown. The ChemSync[™] 24 VAC power wiring (12' long) is already connected to the quick connects. See Figure 20.
- 40. Reconnect the two tabs from the transformer back onto the quick-disconnect connectors.



PoolSync[®] / ChlorSync[®] / ChemSync[™] Electrical

- 41. Route the RS485 cable from the ChemSync[™] to the ChlorSync[®] terminal block.
- 42. Connect the black, yellow, and green wires to the RS485 block in the ChlorSync[®] as shown. See **Figure 21**.
 - These may piggyback with the PoolSync[®] wires.
- 43. Re-install the front cover on the ChlorSync[®] Power Center.

ChlorSync[®] RS485 Terminal Block



Figure 21

44. Use the lug located on the bottom of the equipment to bond the device to the pool equipment. See **Figure 22**. It is recommended that #8 "Solid" bonding wire be used.

Bottom of Chemistry Controller





Step 8 - Mobile Application Control Setup

- 45. Turn power on at the ChlorSync[®] Power Center.
- 46. Open the PoolSync[®] App by tapping on the icon in your mobile device. See *PoolSync[®] manual for information on loading this application onto a mobile device.*
- 47. Set up the ChemSync[™] in the PoolSync[®] app:
 - a. Go into PoolSync[®] settings by tapping the three (3) dots on the upper right of the screen (See Figure 24).
 - b. Select "Discover Attached Equipment".
 - c. Follow the wizard's instructions for properly setting up the ChemSync™



Figure 23





Figure 26



Figure 27

Figure 28

Figure 29

48. The ChemSync[™] should now show under the "Equipment" list on the System's page and the operating mode should be properly set; the factory default is usually "total control" mode.

Step 9 - Acid Pump Start-up

A WARNING - Failure to heed the following may result in permanent injury or death.

- RISK OF CHEMICAL DAMAGE To avoid damaging splashes always add acid to water, never water to acid. Wear safety glasses and use other appropriate personal protection equipment.
- 49. Fill acid tank half way full with water only.
- 50. Go to the ChemSync[™] settings in the PoolSync[®] app and select "Prime Acid Pump" (See Figure 31). Continue to prime the pump for approximately two (2) minutes, checking for leaks and sprays.
- 51. Once the leak check is complete, add acid to the tank to make a 50/50 acid to water mix. Be sure to wear personal injury protection when adding acid.



- 52. The user will then need to check if the pH is listed as above the default set point level of 8. If the pH is above the set point, the user can add acid using one of two methods to control the pH:
 - method 1 Using the "Boost" option in the PoolSync[®] application (adding 8 oz at a time, in one (1) hour intervals) until the pH is below 8.
 - method 2 The user can manually add acid directly into the pool; (adding 8 oz at a time, in one (1) hour intervals) until the pH is below 8.



Figure 32

4 - OPERATION

4.1 Mobile Application

A WARNING - Failure to heed the following may result in permanent injury or death.

• Do not operate the ChemSync[™] if the ChlorSync[®] cell housing is damaged or improperly installed.

PREPARE THE POOL WATER BEFORE PUTTING A CHEMSYNC[™] INTO SERVICE:

Check the ChlorSync[®] manual for instructions on how to properly balance the pool water before attempting to use a ChemSync[™]. This unit is designed to maintain pool water chemistry, NOT to correct out of balance water chemistry.

The ChemSync[™] Water Chemistry Controller is controlled via the the PoolSync[®] mobile application. The user selects the application icon as shown. If the application icon is not on the mobile device, search and install the application from the iOS App Store or Google Play Store.





Select the ChemSync[™] equipment to see available options. Normally, while in "Total Control" mode, the water chemistry controller is automatically monitoring and controlling the chlorine and pH levels.

To view additional control options, select the three dots on the upper right corner of the ChemSync[™] menu.

Figure 34

Figure 35

Additional control options include:

- Changing operation modes (Total Control, pH Timed, pH Probe, Off)
- Setting to manual control (pH or ORP) •
- Priming the acid pump •
- Acid Boost ٠
- Obtaining equipment information such as model and serial numbers. •

5 - MAINTENANCE

5.1 Cleaning the Sensors

AUTION - Failure to heed the following may result in equipment damage.

- Scraping or scratching the surface of the sensor will cause premature failure of the sensor. The warranty will be voided. Never use any sharp or metallic objects to remove scale.
 - 1. Turn the main circulation pump off.
 - 2. Remove the ChemSync[™] cover.
 - 3. Twist each sensor counterclockwise from the flow cell and remove the sensors from the flow cell. Take care to keep the sensor tips wet unless cleaning.
 - 4. Clean the sensor tips with a soft cloth or brush and detergent.
 - 5. Rinse with fresh water, re-tape with Teflon tape and reinstall.
 - 6. Allow 24 hours of operation to re-stabilize the sensor display.

Sensor



Figure 36

5.2 Water Balance and Chemistry

Water balance is the relationship between different chemical measurements in your pool water. A pool that is balanced has proper levels of pH, Total Alkalinity and Calcium Hardness. Balanced water can also be defined as water that is not corrosive or scaling. Water that is not balanced can damage equipment and pool surfaces.

PLEASE NOTE

While the ChemSync[™] can help maintain this balance, it is only designed to correctly adjust chlorine and pH. <u>All</u> proper water chemistry levels are essential in order to maintain a safe and consistent swimming pool operation.

- Sanitizers (Chlorine) are used to destroy harmful or otherwise objectionable organisms.
- Stabilizer or Cyanuric Acid (CYA) is used in many regions to reduce unnecessary loss of chlorine to sunlight, as well as control pH levels.
- Salt is used by the ChlorSync[®] to generate chlorine sanitizer.

The following recommended water chemistry parameters are for residential pool / spa applications only. Follow local regulatory guidelines for any commercial pool applications.

	POOL						
Parameter	Units	Min	Ideal	Max	Min	ldeal	Max
Free Chlorine	ppm (mg/L)	1.0	2.0 - 4.0	5	2.0	3.0 - 4.0	10
Combined Chlorine	ppm (mg/L)	0.0	0.0	0.2	0.0	0.0	0.5
рН	-	7.2	7.4 -7.6	7.8	7.2	7.4 -7.6	7.8
Total Alkalinity	ppm (mg/L)	60	80 - 100	180	60	80 - 100	180
Calcium Hardness	ppm (mg/L)	150	200 - 400	1,000	100	150 - 250	1,000
Salt	ppm (mg/L)	2,300	3,500 - 4,500	**	2,300	3,500 - 4,500	**
Cyanuric Acid (Stabilizer)	ppm (mg/L)	0	30 - 50	***	0	30 - 50	***

Table 1

** A salt level of 3,500 - 4,500 ppm (mg/L) is recommended.

*** This is dictated by state or local codes.

Refer to "*Basic Water Chemistry*" and "*Using the Saturation Index*" sections in this manual for further information concerning pool / spa water chemistry maintenance requirements.

Basic Water Chemistry

A CAUTION - Failure to heed the following may result in equipment damage.

- Excessively high chlorine levels can cause premature cell depletion and corrosion damage to pool fixtures and equipment.
- Never use dry acid to adjust pH in arid geographic areas with excessive evaporation and minimal dilution. A buildup of by-products can damage the cell.
- Always follow the instructions on the manufacturer's label whenever handling or using chemicals.
- DO NOT add pool or spa chemicals directly to the skimmer. This may damage the cell.

For proper sanitation, spas should be completely drained periodically. The number of days between COMPLETE SPA DRAINAGE is equal to the volume of spa water in liters, divided by 10 (ten) times the maximum number of daily spa users. Refill spa with water and repeat DIRECTIONS FOR USE of the device.

Chemical	ldeal Test Schedule	Effect of Low / High Levels	Corrective Actions			
		Low free chlorine: Not enough residual chlorine to safely sanitize pool water.	Low free chlorine: Check for combined chlorine level and shock as necessary. Increase chlorine output to maintain a 2.0 - 4.0 ppm (mg/L) residual. Check stabilizer level and add as necessary.			
Chlorine	Weekly	<u>High free chlorine</u> : Corrosive to metallic fixtures in pool water. Can bleach swimwear and hair or cause premature chlorinator cell depletion.	High free chlorine: Decrease chlorine output. Let chlorine dissipate normally until 2.0 - 4.0 ppm (mg/L) is achieved. In extreme cases, pool water can be diluted with fresh water or a chlorine neutralizer added. (Diluting will reduce salt and CYA. Check and adjust as needed.)			
nЦ	Mookly	Low pH: (acidic) Equipment corrosion, eye/skin irritation, plaster etching, rapid chlorine consumption.	Low pH: Add sodium carbonate or soda ash.			
рп	vveekiy	<u>High pH:</u> (basic) Scale formation, cloudy water, poor chlorine effectiveness, eye/skin irritation.	High pH: Add sulfuric acid or muriatic acid .			
Total		Low TA: Eye irritation, pH "bounce", stained, etched plaster and metal corrosion.	Low TA: Add sodium bicarbonate.			
Alkalinity	Monthly	<u>High TA:</u> Constant acid demand, difficulty in maintaining pH, and contributes to scale formation or cloudy water conditions.	High TA: Add sulfuric acid or muriatic acid more frequently until the TA is within an acceptable range.			
		Low CH: Etching of the plaster, equipment corrosion.	Low CH: Add calcium chloride flakes.			
Calcium Hardness	Monthly	<u>High CH:</u> Scale formation, cloudy water. Rapid buildup of scale may exceed the system's self-cleaning capability and require manual cleaning of the cell.	<u>High CH</u> : Partially drain and refill pool with fresh water to dilute. (Diluting will reduce salt and CYA. Check and adjust as needed.)			
Cyanuric Acid (Stabilizer or CYA)		Low CYA: Destruction of chlorine by the UV rays from the sun.	Low CYA: Add cyanuric acid 1 lb. (0.45 kg) per 5,000 gallons (18,930 liters) increases CYA 25 ppm (mg/L).			
	Monthly	<u>High CYA:</u> Requires more chlorine to maintain proper sanitizer levels. Note: CYA is not needed for indoor pools. CYA should be reduced to 30 - 50 ppm (mg/L) for colder climate regions.	High CYA: Partially drain and refill pool with fresh water to dilute. (Diluting will reduce salt. Check and adjust as needed.)			
		<u>+ 0.3:</u> Water is scale forming. Calcium carbonate is falling out of solution. This rapid buildup of scale may exceed the system's self-cleaning capability and require manual cleaning of the cell.	Balance the pool / spa water as close to an equilibrium of 0 as possible. See " Using the Saturation Index " on page 23.			
Saturation Index	Monthly	<u>- 0.3:</u> Water is corrosive. Water will take away other material it comes in contact with to form a natural balance. These materials can be metallic fixtures, pool plaster, swimwear, etc. Results can also include cloudy water, eye / skin irritation, and poor chlorine effectiveness.	Balance the pool / spa water as close to an equilibrium of 0 as possible. See " Using the Saturation Index " on page 23.			
		Low Salt: Below 2,700 ppm (mg/L) causes premature cell failure and reduces chlorine production.	Low Salt: Add salt according as needded.			
Salt	Monthly	High Salt: Above 6,000 ppm (mg/L) can cause corrosion of metallic fixtures and will taste salty.	High Salt: If undesirably high, partially drain and refill the pool with fresh water. (Diluting will reduce CYA. Check and adjust as needed.)			

Table 2

Chlorine

The desirable form of chlorine is called Free Chlorine. This form of chlorine is responsible for the actual sanitation activity in pools and spas. Free chlorine is highly reactive and, once added to pool / spa water, has a tendency to combine with organic matter in the pool / spa. It quickly attacks pathogens as well as other bather wastes. When chlorine combines, it chemically changes. The chlorine binds to organic matter and is referred to as Combined Chlorine. Combined chlorine is responsible for eye burn and skin irritations. Total Chlorine is the sum of free chlorine and combined chlorine. If a strong chlorine odor is noted, it is due to an excess of combined chlorine. It is important to test total chlorine as well as free chlorine. If there is a difference greater than 0.2 ppm (mg/L), a shock treatment should be initiated.

During peak chlorine demand (summer months, rainy season or heavy bather usage) it may be necessary to increase your chlorine output by increasing your sanitizer output setting. Conversely, during low chlorine demand, you can decrease your output to a lower setting. For extremely heavy chlorine demand or to boost your chlorine residual levels quickly, you can supplement with any type of chlorine or non-chlorine shock containing potassium monopersulfate. Avoid using any treatments containing sodium bromide.

Note: During cold-water conditions (below 65° F (18° C) chlorine demand is reduced significantly. For colder climate regions with sustained low temperatures, contact your local pool professional for proper pool winterizing instructions.

рΗ

pH is a term used to refer to the degree of activity of an acid or base in the water. A low pH, acidic or corrosive water, contributes to eye and skin irritation as well as damage to pool equipment. A high pH will result in scaling, cloudy water and ineffective sanitation. Improper pH also contributes to the strong smell, red eyes and dry itchy skin conditions that are usually blamed on "too much chlorine" being in the pool / spa.

Total Alkalinity

Total Alkalinity refers to the ability of the pool water to resist a change in pH. It helps manage or control the pH in the pool. The desired range is 80 to 100 ppm (mg/L). Low alkalinity is aggressive or corrosive and causes the pH readings to fluctuate (pH bounce). High alkalinity may cause cloudy water and scale forming conditions. Your water chemistry controller does not affect total alkalinity. Factors changing this measure are ancillary chemicals added to the pool and "out of balance" make-up water.

Calcium Hardness

Calcium Hardness is a measure of calcium content in the water. If the calcium content is too high, calcium can drop out of solution; forming scale on equipment in contact with the water and the pool surface. A low level will cause the water to become corrosive as the water tries to naturally form equilibrium. This means the water will "leach" minerals from everything it meets. Damage to equipment and unpleasant swimming conditions result. Your water chemistry controller does not change calcium hardness. Factors changing this measure are ancillary chemicals added to the pool and "out of balance" make-up water.

Cyanuric Acid

Cyanuric Acid acts as water "Stabilizer" or "Conditioner". This chemical goes by either trade name and allows your chlorine residual to last longer by protecting it from the UV rays of the sun. With low cyanuric acid, chlorine can be used up just as quickly as it is generated.

Note: For indoor pools, it is not necessary to maintain a stabilizer level to protect the chlorine from the UV rays.

Metals

Some metals, i.e. copper and iron, can cause loss of chlorine. Also, metals can stain your pool. Have your local pool professional check for metals and recommend methods of removal. Metal content should be 0 ppm (mg/L).

Preparing the Pool Water

When properly sized to the site, the AutoPilot[®] ChlorSync[®] will meet the sanitizer "maintenance" requirements of the pool / spa. The unit is not designed to chlorine shock treat or build up a chlorine residual when starting with a zero or very low chlorine level. The ChemSync[™] is designed to work in conjunction with the ChlorSync[®], to properly maintain the chlorine and pH levels..

Before starting the water chemistry controller, the water must be properly balanced, and the chlorine level adjusted to between 2.0 - 4.0 ppm (mg/L) free chlorine. See more on adjusting water balance and start-up chlorine levels earlier in this section.

Calculating Pool Volume

To determine the approximate number of gallons or liters in a pool or spa:

- 1. Determine the surface area.
- 2. Multiply the surface area by the average depth and the constant conversion factor of 7.5 to convert cubic feet to gallons, or 1,000 to convert from cubic meters to liters.

Rectangle

- Area = Length x Width
- Gallons = area x average depth (ft³) x 7.5
- Liters = area x average depth (m³) x 1,000

Circular

- Area = Radius x Radius x 3.14
- Gallons = area x average depth (ft³) x 7.5
- Liters = area x average depth (m³) x 1,000

To determine the approximate number of gallons or liters in a more complex shaped pool:

- 1. Divide the complex shape into several simple shapes.
- 2. Calculate each one separately, and then add back together.

EXAMPLE

An oblong pool can be divided into two radius measurements and one rectangular shape.



- Area = Radius x Radius x 3.14 + (Length x Width)
- Gallons = area x average depth (ft³) x 7.5
- Liters = area x average depth (m³) x 1,000

Using the Saturation Index

This index is used by pool professionals to ensure that your total water chemistry does not fall into a corrosive or scaling condition. Either condition can cause premature damage to the cell, any of your other equipment, as well as your cementitious finish.

The Saturation Index is composed of the following factors:

- pH as tested
- Plus the Temperature factor
- Plus the Calcium Hardness factor
- Plus the Alkalinity factor
- Minus the Total Dissolved Solids factor (in this case, the bulk of the dissolved solids are salt)

This is expressed in the formula SI = pH + TF + CF + AF – TDSF and uses the following charts:

TEMPI	ERATURE	TF	CALCIUM HARDNESS	CF	TOTAL ALKALINITY	AF	SALT LEVEL	TDSF
60°F	15.6°C	0.4	150 ppm (mg/L)	1.8	075 ppm (mg/L)	1.9	0000 - 1000 ppm (mg/L)	12.1
66°F	18.9°C	0.5	200 ppm (mg/L)	1.9	100 ppm (mg/L)	2.0	1001 - 2000 ppm (mg/L)	12.2
76°F	24.4°C	0.6	250 ppm (mg/L)	2.0	125 ppm (mg/L)	2.1	2001 - 3000 ppm (mg/L)	12.3
84°F	28.9°C	0.7	300 ppm (mg/L)	2.1	150 ppm (mg/L)	2.2	3001 - 4000 ppm (mg/L)	12.4
94°F	34.4°C	0.8	400 ppm (mg/L)	2.2	200 ppm (mg/L)	2.3	4001 - 5000 ppm (mg/L)	12.5
103°F	39.4°C	0.9	600 ppm (mg/L)	2.4	250 ppm (mg/L)	2.4	5001 - 6000 ppm (mg/L)	12.6

EXAMPLE:

- 7.8 = pH as measured
- 0.7 = Temperature is 84° F (TF)
- 2.4 = Calcium Hardness is 600 ppm (mg/L) (CF)
- 2.3 = Total Alkalinity is 200 ppm (mg/L) (AF)
- <u>12.4 = Salt is 3,500 ppm (mg/L) (TDSF)</u>
- 0.8 = Saturation Index.

This water is scale forming and needs to be balanced. See "Water Quality Chart" below.



Figure 37

If adjustments need to be made to balance the water, the recommended sequence is as follows:

- 1. Test and adjust total alkalinity. This may reduce pH so wait at least 8 hours before proceeding.
- 2. Test again and adjust pH, then
- 3. Adjust calcium hardness.

Adding Salt

Type of Salt to Add

It is important to use Sodium Chloride (NaCl) salt that is greater than 99% pure. Acceptable types of salt are (Non Iodized) granular food grade salt, pool salt, water softener pellets, or solar salt flakes. Pool salt or food grade granular salt will dissolve faster than pellets or flakes. Rock salt and Granular Salt with Iodine or Rust Preventatives should not be used, as these mixtures contain high levels of impurities that may cause staining. Granular salts containing anti-caking additives such as YPS (Yellow Prussiate of Soda) or sodium ferrocyanide are not recommended as they can cause a localized tint to the water or yellow staining of the pool / spa finish.

Amount of Salt Required

Test the water for current salt content first!

The ideal salt range is 3,500 - 4,500 ppm (mg/L). The minimum salt level is 2,300 ppm (mg/L). Salt levels above 6,000 ppm (mg/L) are not normally recommended, as corrosion issues may result. Salt levels below 2,700 ppm (mg/L) will reduce the efficiency of the ChlorSync[®] and will result in low chlorine production. Extremely low salt levels below 2,300 ppm (mg/L) will activate the low salt safety cutoff and will halt chlorine production until salt is replenished to proper levels.

For information on amount of salt to be added relative to the volume of water to be treated vs. existing salt level, refer to the salt addition information in the section below.

How to Add Salt to Pool

AUTION - Failure to heed the following may result in equipment damage.

- For <u>newly plastered</u> pools, do not operate the ChlorSync[®] for 30 days after construction is completed. You must allow the plaster to cure, otherwise the salt could damage the pool finish.
- Do not allow salt to pile up in one location without brushing, as staining may occur.

The circulation pump should be run continuously until the salt has been fully dissolved. Add salt directly to pool (or spa, if a spa-only installation) and over the main drain (if main drain is present). If there is no main drain, a vacuum head may be used to encourage salt circulation. Distributing the salt by brushing is also helpful; brush the salt toward the main drain (if one is present). Set pump operation to normal run time after salt has fully dissolved into water.

If the salt level becomes undesirably high, the only way to remove excess salt is to partially drain the pool / spa and refill with fresh water.

Salt Addition Information

The salt in the pool is constantly recycled during normal operation. Loss of salt during a swimming season should be minimal. Filter back washing, draining due to rain water overflow, splashing, bathing suit drag out, and leaks are typical ways salt is lost. Salt does not leave the pool when water evaporates.

- 1. Determine pool / spa volume in Gallons or Liters.
- 2. Determine the current salt level in the pool. Some pools may already have a salt residual, so always test water before adding salt. (This can be obtained from the control display or by testing water.)
- 3. Add salt as per the following formula (or use the salt addition chart in this section, see Figure 38):
 - New pool: 50 lbs (22.7 kg) of salt per 2,000 gallons (7,571 Liters) will raise the salt level by 3,000 ppm (mg/L).
 - Example: For a 10,000 gallon (37,854 Liter) pool with a salt level of 500 ppm (mg/L), you would need to add 250 lbs. (113.4 kg) of salt to bring the level up to 3,500 ppm (mg/L).

Pounds (kilograms) of Salt Needed to Attain 3,000 ppm (3.0 g/L)										
Current				Pool/S	Spa Volum	e in Gallon	ıs (Liters)			
Salt Level ppm (g/L)	1,000 (4,000)	2,000 (8,000)	5,000 (18,000)	10,000 (38,000)),000 15,000 20,000 3,000) (56,000) (76,000)		25,000 (94,000)	30,000 (114,000)	35,000 (132,000)	40,000 (152,000)
0	25	50	125	250	375	500	626	751	876	1001
	(11)	(23)	(57)	(113)	(170)	(227)	(284)	(340)	(397)	(454)
250	23)	46	115	229	344	459	573	688	803	917
(0.25)	(10)	(21)	(52)	(104)	(156)	(208)	(260)	(312)	(364)	(416)
500	21)	42	104	209	313	417	521	626	730	834
(0.50)	((19)	(47)	(95)	(142)	(189)	(236)	(284)	(331)	(378)
750	19	38	94	188	281	375	469	563	657	751
(0.75)	((17)	(43)	(85)	(128)	(170)	(213)	(255)	(298)	(340)
1,000	17	33	83	167	250	334	417	500	584	667
(1.0)	(8)	(15)	(38)	(76)	(113)	(151)	(189)	(227)	(265)	(303)
1,250	15	29	73	146	219	292	365	438	511	584
(1.25)	(7)	(13)	(33)	(66)	(99)	(132)	(166)	(199)	(232)	(265)
1,500	13	25	63	125	188	250	313	375	438	500
(1.50)	(6)	(11)	(28)	(57)	(85)	(113)	(142)	(170)	(199)	(227)
1,750	10	21	52	104	156	209	261	313	365	417
(1.75)	(5)	(9)	(24)	(47)	(71)	(95)	(118)	(142)	(166)	(189)
2,000	8	17	42	83	125	167	209	250	292	334
(2.0)	(4)	(8)	(19)	(38)	(57)	(76)	(95)	(113)	(132)	(151)
2,250	6	13	31	63	94	125	156	188	219	250
(2.25)	(3)	(6)	(14)	(28)	(43)	(57)	(71)	(85)	(99)	(113)
2,500	4	8	21	42	63	83	104	125	146	167
(2.50)	(2)	(4)	(9)	(19)	(28)	(38)	(47)	(57)	(66)	(76)
2,750	2	4	10	21	31	42	52	63	73	83
(2.75)	(1)	(2)	(5)	(9)	(14)	(19)	(24)	(28)	(33)	(38)
3,000 (3.0)						Ideal				
3,500 (3.5)	OK for c people c	OK for chlorinator Operation – (This is typically the maximum salt level desired by most pool owners/operators, since most people can taste salt levels above this. Greater than 6000 ppm can cause corrosion to metallic objects. If lower salt level is desired partially drain and reful with freeh water.)								

Figure 38

5.3 Winterizing

Light Freeze Conditions

A light freeze is when the ambient air temperature falls below 32 degrees Fahrenheit (0° C) for less than 8 hours. Typically during light freeze conditions circulating (or moving) water will not freeze. Temporarily activate the filter pump for continuous operation during light freeze conditions.

Hard Freeze Conditions

A hard freeze is when the ambient air temperature falls below 32 degrees Fahrenheit (0° C) for <u>more than 8 hours</u>. In areas where this condition is prevalent and sustained, the water chemistry controller MUST be winterized for hard freeze conditions.

A WARNING - Failure to heed the following may result in permanent injury or death.

- ELECTRICAL SHOCK HAZARD Turn off the electrical power to unit and all connected equipment before servicing.
- 1. Allow the acid tank level to drop prior to a hard freeze condition so that it is easier to drain.
- 2. Deactivate all electrical power to water chemistry controller and connected devices.
- 3. Deactivate the filter pump.
- 4. Remove the front access panel.
- 5. Drain all water from the flow cell by opening the center (sample) valve. Leave this valve opened during the winter months.
- 6. Perform the winterizing procedures for the ChlorSync[®] device. Check that product's manual for spcifics.
- 7. Allow water to drain completely from the devices and hoses.
- 8. For the acid tank and tubing, remove the acid tube from the manifold and dilute the remaining acid / water solution in the tank. Once diluted, it can be discarded safely into the pool. Rinse out the acid tank with fresh water.
- 9. Remove both sensors and fill the sensor caps with pool water prior to sealing the caps onto the sensors.
- 10. Store the sensors, acid tank, and tubing in a climate controlled environment.
- 11. Winterizing is complete.

Spring Start Up

A WARNING - Failure to heed the following may result in permanent injury or death.

- RISK OF CHEMICAL DAMAGE To avoid damaging splashes always add acid to water, never water to acid. Wear safety glasses and use other appropriate personal protection equipment.
- 1. Reconnect all disconnected components. See "Installation Steps" on page 4.
- 2. Activate electrical power.
- 3. Activate the filter pump.
- 4. Refill the acid tank following all safety procedures. <u>Always add acid to water, never water to acid!</u> See "Step 9 - Acid Pump Start-up" on page 15.
- 5. Prime the acid tank using the PoolSync® application.

6 - APPENDIX

6.1 How the Water Chemistry Controller Works

A constant water sample is run over two sensors used by the ChemSync[™] Water Chemistry Controller.

The first sensor measures the Oxidation Reduction Potential (or ORP) of the water in millivolts.

- ORP is a measurement of the oxidizing capacity in the water. Oxidation is the process of changing the chemical structure of water contaminants and rendering them harmless.
- If the ORP is too low, the ChemSync activates the connected AutoPilot[®] ChlorSync[®] Salt Chlorine Generator.

The second sensor measures the pH of the water.

- If the pH of the water is above the pH Set Point, the ChemSync's acid pump will activate.
- For a full explanation of the management of pH, see "Water Balance and Chemistry" on page 18.

6.2 ChemSync[™] Options and Features



The following option and feature settings are located in the ChemSync[™] settings menus. Press the three dots in the upper left when the ChemSync[™] menu option is open. The settings below can be adjusted as needed.

Figure 39

Figure 40

PLEASE NOTE:

It is recommended that any other settings found in these menus <u>not</u> be adjusted from factory defaults unless specific site conditions require it. The latest additional setting information is available online at https://autopilot.com/manuals/ for advanced site conditions.

Changing system modes:

This setting controls how the ChemSync[™] operates.

- "OFF" The ChemSync[™] is deactivated. The chlorine output is controlled directly by the ChlorSync[®]. No feedback is provided on current chlorine or pH levels.
- "Total Control" (default) The system uses sensors to provide feedback on current pH and chlorine levels. The ChlorSync[®] output is directly controlled by the ChemSync[™]. This is the default mode as set from the factory.

Reset Acid Dispensed:

This option resets the counter for how much acid has been dispensed from the acid tank. This should be done when the acid tank has been refilled with the proper mix of solution.

ChemSync[™] shows "Sanitizer Off":

The ChemSync[™] is not currently calling for sanitizer (chlorine) to be dispensed by the ChlorSync[®].

7 - TROUBLESHOOTING

IN THIS SECTION:

Fault Codes

ChemSync flow sensor error	
ChemSync orp probe error	
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Chlorine level is too low. Water quality looks fine.	.32

7.1 Fault Codes

ChemSync flow sensor error

- 1. Confirm the circulation pump is active. And that the pool valve (and / or spa water valve) are in their proper position to enable water flow to the ChlorSync[®] and ChemSync[™].
- 2. Confirm water is flowing to the ChemSync[™] flow cell by temporarily opening the sample valve and turning off the water sample return valve.
 - If water continues to flow out the sample valve, the ChemSync™ is receiving water.
 - Close the sample valve, and re-open the sample return valve.
- 3. Confirm the ChlorSync[®] is receiving water. The ChemSync[™], as a default, uses the flow sensor in the ChlorSync[®] to monitor water flow. See the ChlorSync[®] manual for further information.
- 4. If service is deemed necessary, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

ChemSync orp probe error

- 1. Check if sensor has been removed for winterizing.
- 2. Check if the orp sensor wiring has been damaged.
- 3. If service is deemed necessary, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

ChemSync pcb temperature high

1. If service is deemed necessary, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

ChemSync ph level below normal

- 1. If the ChemSync[™] is set to manual mode (not using a pH sensor), confirm the pH minimum value is set correctly. The minimum pH should normally be set to 7.0 for manual mode. See " ChemSync[™] Options and Features" on page 29.
- 2. Look at the water's total alkalinity. If the total alkalinity in the water is too high, it can cause an effect called pH bounce.
 - When this effect occurs, the acid can become too reactive, and the pH will drop too much when a normal acid dosage is added by the ChemSync[™].
 - Then, when the ChemSync[™] calls the ChlorSync[®] to start to generate chlorine, sodium hydroxide is generated (a normal process). This chemical will have also become too reactive and will immediately raise the pH.
 - Therefore the pH will "bounce" up and down.
 - To resolve the issue, deactivate the ChemSync[™] for at least 24 hours. See " **ChemSync[™] Options and Features**" on page 29 for deactivating the ChemSync[™]. Set the ChlorSync[®] output to 0%. See the ChlorSync[®] manual for how to perform this procedure.
 - Correct the total alkalinity manually by adding the proper amount of sodium bicarbonate (baking soda) in the water. Wait for this to dissolve properly. Usually 24 hours.
 - Manually confirm the water chemistry is correct.
 - Then set ChemSync[™] and ChlorSync[®] to previous values.
- 3. Check for possibly dirty sensors. See "Cleaning the Sensors" on page 18.
- 4. If the issue reoccurs, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

ChemSync ph level above normal

- 1. Check if pH sensor is dirty or scaled.
 - If the water has too much calcium, as an example, the water can form scale. This can cause the sensors to be scaled up and provide inaccurate readings. These readings are needed in order to properly add acid or generate chlorine.
 - Test the water chemistry to confirm if the water is scale forming. Adjust water chemistry manually as needed to balance the chemistry again. Then clean the ChemSync[™] sensors. See "Cleaning the Sensors" on page 18.
- 2. The ChemSync[™] may have been incorrectly set to manual mode with an incorrect maximum pH level set.
 - If the ChemSync[™] uses a pH and ORP sensor, set the unit "to total control".
 - If the ChemSync[™] does not use a pH sensor, confirm maximum level of pH is set correctly in a manual setting. This value should normally be set to a value of 8.0 maximum pH.
- 3. If the water turned green because of a higher than normal level of algae, the user may have attempted to shock the water with a high dosage of chlorine. This could cause a high pH level.
 - Turn off ChemSync[™] for 24 hours
 - Confirm circulation pump is running and correct pH manually by balancing the water water chemistry. Then reactivate ChemSync[™] to maintain the pH levels.
- 4. Large bodies of water may require more acid than the system was initially set up to use with a standard acid mix of 50 / 50 acid to water as recommended. The user may need to change to a higher acid mix in the acid feed tank. Always consult with a knowledgeable water chemistry professional before adjusting acid mixtures. Note safety warnings at the beginning of this manual when handling acid.
- 5. Check for possibly dirty sensors. See "Cleaning the Sensors" on page 18.
- 6. If the issue reoccurs, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

ChemSync ph probe error

- 1. Confirm pH sensor has not been left in a winterized position.
- 2. Confirm pH sensor wires are properly connected.
- 3. If the ChemSync[™] does not use a pH sensor, confirm the unit is not in the "total control" mode. This mode requires a pH sensor.
- 4. If service is deemed necessary, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

7.2 Issues and Resolutions

ChemSync[™] does not appear in the mobile application

- 1. Run the discovery procedure in the PoolSync[®] application. See "Select "Discover Attached Equipment"." on page 12.
- 2. A technician should verify that the ChemSync[™] cable is properly connected to the ChlorSync[®].
- 3. If service is deemed necessary, please contact the installing dealer. Or contact AutoPilot[®] for a service partner in your area. See **"Contacting AquaCal AutoPilot, Inc."** on page 2.

Chlorine level is too low. Water quality looks dirty or cloudy.

There are no warning messages on the ChlorSync[®] display, but the chlorine level is too low. Water quality looks dirty or cloudy.

- 1. If the ChemSync[™] is using an ORP sensor, confirm the ChemSync[™] is set for Total Control. Usually the system will be set for "total control" for both chlorine and pH monitoring.
- 2. Check water balance. See "**Water Balance and Chemistry**" on page 18. The Cyanuric acid level may be low and the chlorine is being consumed quickly by the UV from the sun.
- 3. The chlorine setting has been fine, but a temporary boost of chlorine is needed to adjust for heavy rain or a temporary bather load increase. For a temporary boost of chlorine, the user can hand dose additional chlorine into the pool water directly.
- 4. Consult your local pool service professional and test for high phosphate levels. Use a product such as Lo-Chlor[®] Lo-Phos[®] to reduce phosphates.
- 5. If the water temperature is 50° F (10° C) or colder, the ChlorSync[®] has automatically been set to OFF or 100% based on the ORP value and set point to avoid over-chlorination. Bacteria and algae activity is greatly reduced at these temperatures, so this should not be a problem.
- 6. Obtain an independent salt reading to confirm enough salt is in the water for proper chlorine production. Consult the ChlorSync[®] manual for information on adding salt . Add salt if needed.
- 7. Consult your local pool service professional and test for metals present in the pool water.
- 8. Clogged or dirty ChlorSync[®] cell. Inspect cell and clean as necessary.
- 9. High Total Dissolve Solids (TDS). Testing for TDS and subtracting the salinity level will yield the adjusted TDS. If this is 1000 ppm higher than the source water TDS, this can cause dirty or cloudy water appearance, and a metallic taste of the water.

Chlorine level is too low. Water quality looks fine.

There are no warning messages on the ChlorSync[®] display. The chlorine level is too low but the pool water looks fine.

- 1. The test kit reagents or strips may be old or have been exposed to sunlight and may not be accurate. Replace the test strips or reagents and re-test.
- 2. There may be too much chlorine in the pool and the chlorine is bleaching the test kit reagents or test strips and give a false reading.
 - Dilute the water sample with distilled water and retest.

8 - APPROVALS AND COMPLIANCE

Tested to conform to the following specifications:

Compliance	Description
UL1081	Standard for Safety - Swimming Pool Pumps, Filters, and Salt Chlorine Generators
CSA C22.2#218.1:2013 Ed.2+E1	Spas, Hot Tubs, And Associated Equipment

FCC Compliance

NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. And, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate any connected PoolSync®'s receiving antenna.
- Increase the separation between the equipment and any connected PoolSync®'s 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.