

Salt Chlorine Generator Maintenance Guide

Congratulations on your wise decision to make an Aquacal AutoPilot chlorinator a part of your home. After years of adding chlorine to the pool, the salt chlorine generator may take some getting used to. This guide might help answer questions you may have and give you a better understanding of how to care for your salt chlorine generator.

Starting Up in the Spring:

- As soon as the pool is turned on in the spring, your autopilot will turn on. The Autopilot has a freeze protection on it that will not allow it to run or produce chlorine in water temps below 55 degrees. It will automatically set to 1% and can not be increased until the water temperature becomes warmer.
- At this point the Autopilot may get an error code reading “Check Cell/Clean Cell.” This can be caused by the cool temperatures. We recommend waiting a week or turning on your heater and heating the water before any service is performed. Especially if it is a new unit or the cell was cleaned recently.
- Your swimming pool will still need shock and algaecide to open. The salt chlorine generator is only able to produce enough chlorine to maintain the pool. It is not designed for situations where severe algae growth is present. We recommend shocking continually until the pool is clean and clear with 1lb. of granular shock per 10,000 gallons of pool water. A mustard algaecide may also aid in the killing off the algae if another algaecide hasn't already been added. See store for more details.
- After shocking the pool, the pool pump should run continuously for at least 24 hours. This should be done by setting the internal pool pump timer to run continuously. See Set Pump Run Time.
- Once the pool is clean and clear and the water has warmed up you can add salt. The unit will display the amount of salt required to reach the recommended 3000 ppm. We recommend testing the salt in the water manually to be sure that the unit is reading correctly. The unit may need to be recalibrated if not. (See Recalibrating Unit) We recommend you add half as much as it is saying at first, giving it a few days in between additions to be sure the water temperature is reading correctly and the salt addition is correct. RULE OF THUMB: 50lbs. per 2,000 gallons to get to 3000ppm or 50 lbs. per 10,000 gallons will raise it 600 ppm.
- Once the pool is clean and clear, the Autopilot can begin maintaining the pool. Below is the Normal Operating Mode.

NORMAL OPERATING MODE for the Pool Pilot Digital

When Powered Up:

When the control unit is powered up, the display will show the Software version for approximately 20 seconds, and then enter the operating mode. After 30 minutes of inactivity, the display will go to a “walking dot” screen saver mode.

Purifier Output Display (15 minute cycle):

The output % indicates the amount of time within the 15 minute cycle that the unit is producing chlorine. The system will cycle on and off, depending on the output setting. Therefore it could read a different percentage each time you look at the unit and has nothing to do with how the unit is operating. The display will indicate on the lower right corner whether it is in the ON or OFF cycle. Again this pertains only to the cycle of the unit making chlorine, not with the actual unit itself. It is working properly even if it says OFF. The % is adjusted by using the arrow up or down buttons, then pressing SELECT when the desired % is displayed.

TIME OF DAY:

The time of the day is displayed in Eastern Standard Time. There is a battery (CR-2025) backup to maintain this clock. The time of the day is reset in owner options, Maintenance Menu, or Installation Menu.

12/24 HR:

The display is factory set for the standard 12 hr clock display. This can be changed to the European/Military 24 hr. clock display through Owner Options, Maintenance Menu, or Installation Menu.

Temperature:

The temperature shows the water temperature in Fahrenheit.

Cell on/off Mode:

- On- The cell is energized and producing chlorine.
- Off- The cell is not energized and in rest mode.

Pump on/off Mode:

- PUMP ON- the pump is energized
- PUMP OFF- the pump is not energized

Boost Mode:

The Boost light should be off. Either boost mode must be activated from the normal display, and has a memory that keeps Boost in operation until the 24 or 72 hr cycle is completed, even through pump of/off cycles. If the Digital is programmed to control the pump, Boost will override the time clock;

Boost- 24 hour boost is activated by pressing and holding the boost button.

Superboost- 72-hr. boost activated by pressing and holding the Boost button for approx. 8 seconds. Once the display shows Superboost 72-hrs, you can release the Boost button.

Boost is deactivated after the 24 or 72 hrs have expired or at any time by pressing the Boost button again, and will revert to the original %.

Check System Light:

The RED Check System light should be off but illuminates to indicate a problem. When the Check System light flashes, the display will indicate the nature of the problem.

RECOMMENDED SETTINGS:

- Power Level 2 and 50% purifier level. These are the most effective and are therefore recommended as a factory setting. This will produce chlorine for 7 minutes of the 15 minute cycle except for situations when the water temperature is too cold and it locks out at 1%.
- The pool pump should run for at least 8 hours a day to ensure the salt chlorine generator has enough time to produce chlorine. If it runs any less than 8 hours, the Power level should be set for Level 3. See Set Pump Run Time.
- Proper water balance is critical in the operation of the salt chlorine generator. Please Note the following recommended water chemistry parameters:

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|----------------------------|--------------------------------|
| P.H. | 7.2- 7.8 |
| Calcium Hardness | 200-800 ppm |
| Total Alkalinity | 80-120 ppm |
| Salt | 2500-3500 ppm (ideal 3000 ppm) |
| Cyanuric Acid (stabilizer) | 60-100 ppm |
| Chlorine | 1-3 ppm |

Operation

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| 1. Test Pool Pilot | For system diagnosis |
| 2. Owner Options | For pool owner to change display preferences, time of day and time clock on/off periods |
| 3. Maintenance Menu | For maintenance diagnostics, service procedures and calibration |
| 4. Installer Menu | for installer and initial programming inputs |
| 5. Exit Menu Mode | Returns to normal operation |

Test Pool Pilot

Test Pool Pilot is used as an aid to determine what could be wrong with the salt chlorine generator. The display will automatically cycle through this program then return to normal operation. The display shows as follows:

1. **Salt** in ppm
2. **Add Salt** indicates the amount of salt needed to add to establish 3000 ppm.
3. **Temperature** of pool water
4. **Cell Volts** and **Amps** (used to troubleshoot problems.)

Owner Options- (Set Pump Run Time)

Use the Up/Down Arrow to scroll through sub menu and Select to choose function.

1. English/Metric
2. Temperature Units: displays the water temperature in Fahrenheit or Celsius
3. 12/24- hour time: displays the current time in 12-hour time or 24-hour time units
4. Set Time of Day: sets the time of day as follows: Set Hours, Set Minutes
- 5. Pump Program 1-** allows you to program the pump on/off cycle through the on-board program.
 1. Press Up or Down until “pump program X” is displayed, then press SELECT.
 2. Press Up to program the pump, press D to Delete the program or SELECT to exit with no change.
- If Down is selected, use Down or Up to select hours, and then SELECT, Repeat for minutes.
6. Pump Program 2- for use of 2 pool pumps
7. Back- Main Menu

Maintenance Menu- (To Recalibrate Salt)

1. Test
2. Set Time of Day
3. Force Reverse
4. Set Reverse Time
- 5. Calibrate Salt**
 1. Use arrows to adjust salt level.
 2. It takes a while for the unit to adjust, when it finishes you'll be able to exit the menu.
6. Replace Cell
7. Back- Main Menu

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 include granular food grade, water softener pellets, or solar salt flakes.
- Rock salt and Granular Salt with Iodine or Rust Preventatives should NOT be used, as these mixtures contain high levels of impurities and will cause staining.

Adding Salt to the Pool Water:

- The object is to have the salt fully dissolve in the water.
- Add salt directly to the pool. The pump should be running and should continue to run for 24 hours following the addition of salt.
- Distributing the salt through brushing is also helpful.
- If the salt level becomes undesirably high, the only way to remove excess salt is to partially drain the pool and refill with fresh water.

Troubleshooting

1. Message displayed “Check Flow”
 - A) Insufficient Flow (min. 15 gpm)
 1. Check Cell grate to be sure it is clear of debris.
 2. Check pressure on filter. Elements may need to be cleaned therefore causing lower flow to the salt chlorine generator. In periods of heavy algae growth this may happen often and elements may need to be hosed off and/or soaked multiple times a day until pool is clean and clear.
 3. Check all valves that might divert flow away from cell
 4. Check water level of pool. Pool should be $\frac{3}{4}$ of the way up the skimmer.
 5. Check weir doors in skimmers to ensure that they aren't stuck and be sure skimmers are free of debris
 - B) Tri-Sensor Defective – Contact the store.
2. Message displayed “Low Amps- Cell” **NOTE:** We may ask you to go through the Test Pool Pilot Menu to see what the Amps and Volts are to better assess the problem.
 - A) Extremely Low Cell Amperage
 1. Cell heavily scaled. Cell should be cleaned.
 - B) Extremely Low Salt Level
 1. Salt level below 1500 ppm. Check salt level and add salt if necessary.
 - C) The Cell Cord is Loose
 1. Ensure that the cord is firmly pressed into the cell and the wires properly connected into the banana plugs
 - D) Power Supply has failed.
 1. Contact the store.
3. Message Displayed “Check/Clean Cell”
 - A) Check cell for calcium build up or scale deposits. Clean Cell.
 - B) Water temperature too cold (below 60 degrees F.)
 - C) Cell Volts
4. Message Displayed “Low Salt- Add XXX lbs.”
 - A) Check salt level and add the amount necessary to bring level to 3000 ppm.

Warranty

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| 2003-2009 | Power Supply and Cell- 2 yrs full, 3 rd year customer pays 50% of list price. |
| 2010-present | Power Supply and Cell- 2 yrs or 8,000 hours, whichever comes first, 100% warranty replacement. |

This warranty includes parts and on-site labor charges to remove, repair, or replace defective components or failures due to workmanship or defects.

For warranty replacement parts, the warranty is 1 year from date of installation, or the balance of the original warranty, whichever is greater.

Recommended Service

Salt Chlorine Cell Cleaning- Recommended at least once a season.

General Check of Salt Chlorine Generator- usually once a season shortly after start up, may require recalibration, salt addition, and programming of pump.