### Pro Logic
### Automation and Chlorination

#### Operation Manual

**for model PL-P-4**

<table>
<thead>
<tr>
<th>TEST</th>
<th>IDEAL RANGE</th>
<th>ADJUSTMENT REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Chlorine</td>
<td>1.0 - 3.0 ppm</td>
<td>Raise desired output % to increase, lower desired output % to decrease -OR- increase or decrease pump filtration time.</td>
</tr>
<tr>
<td>pH</td>
<td>7.2 - 7.8</td>
<td>Too high - add muriatic acid, Too low - add soda ash.</td>
</tr>
</tbody>
</table>

**Weekly**

<table>
<thead>
<tr>
<th>Test</th>
<th>Range</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalinity</td>
<td>80 - 120 ppm</td>
<td>Add baking soda to increase. Add acid as required to decrease.</td>
</tr>
<tr>
<td>Salt</td>
<td>2700 - 3400 ppm</td>
<td>Add salt as required to increase.</td>
</tr>
</tbody>
</table>

**Monthly**

<table>
<thead>
<tr>
<th>Test</th>
<th>Range</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilizer</td>
<td>60 - 80 ppm</td>
<td>Add cyanuric acid to increase.</td>
</tr>
<tr>
<td>Calcium</td>
<td>200 - 400 ppm</td>
<td>Add calcium to increase. Drain and add water to decrease.</td>
</tr>
</tbody>
</table>

**Quarterly**

<table>
<thead>
<tr>
<th>Test</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrolytic Cell</td>
<td>inspect &amp; clean</td>
</tr>
</tbody>
</table>
IMPORTANT SAFETY INSTRUCTIONS

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

• READ AND FOLLOW ALL INSTRUCTIONS

• WARNING: Disconnect all AC power during installation.

• WARNING: Water in excess of 100 degrees Fahrenheit may be hazardous to your health.

• WARNING: To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

• A green colored terminal marked “Grounding” is located inside the wiring compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors supplying the equipment.

• One bonding lug for US models (two for Canadian models) is provided on the equipment grounding bus with copper conductors not smaller than 8 AWG US / 6 AWG Canada.

• All field installed metal components such as rails, ladders, drains, or other similar hardware within 3 meters of the pool, spa or hot tub shall be bonded to the equipment grounding bus with copper conductors not smaller than 8 AWG US / 6 AWG Canada.

• SAVE THESE INSTRUCTIONS

LIMITED WARRANTY (effective 04/01/09) Hayward/Goldline warrants its Pro Logic and E-Command pool automation products as well as its Aqua Rite, Aqua Rite Pro, Aqua Plus and SwimPure chlorination products to be free of defects in materials and workmanship, under normal use and service, for a period of three (3) years. Hayward/Goldline also warrants its Aqua Trol chlorination products to be free of defects in materials and workmanship, under normal use and service for a period of one (1) year. These warranties are applicable from the initial date of installation on private residential swimming pools in the US and Canada.

Hayward/Goldline warrants all the above-identified pool automation and chlorination products installed on commercial swimming pools and on swimming pools outside of the US and Canada for a period of one (1) year. Likewise, Hayward/Goldline warrants all accessories and replacement parts for the above-identified pool automation and chlorination products for a period of one (1) year. Each of these warranties is not transferable and applies only to the original owner.

Proof of purchase is required for warranty service. If written proof of purchase is not provided, the manufacturing date code will be the sole determinant of the date of installation of the product. To obtain warranty service or repair, please contact the place of purchase or the nearest Hayward/Goldline authorized warranty service center. For more information on authorized service centers please contact the Hayward/Goldline Technical Service Support Center (61 Whitecap Road, North Kingstown RI, 02852) or visit the Goldline web site at www.goldlinecontrols.com or the Hayward website at www.haywardnet.com.

WARRANTY EXCLUSIONS:
1. Material supplied or workmanship performed by others in process of installation.
2. Damage resulting from improper installation including installation on pools larger than the product rating.
3. Problems resulting from failure to install, operate or maintain the product(s) in accordance with the recommendations contained in the owners manual(s).
4. Problems resulting from failure to maintain pool water chemistry in accordance with the recommendations in the owners manual(s).
5. Problems resulting from tampering, accident, abuse, negligence, unauthorized repairs or alternations, fire, flood, lightning, freezing, external water, degradation of natural stone used in or immediately adjacent to a pool or spa, war or acts of God.

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NO WHOLESALER, AGENT, DEALER, CONTRACTOR OR OTHER PERSON IS AUTHORIZED TO PROVIDE, SUPPLEMENT OR MODIFY ANY WARRANTY ON BEHALF OF HAYWARD/GOLDLINE.

THESE WARRANTIES ARE VOID IF THE PRODUCT HAS BEEN ALTERED IN ANY WAY AFTER LEAVING THE FACTORY. FOR THE ABOVE-IDENTIFIED CHLORINATION PRODUCTS, THESE WARRANTIES ALSO ARE VOID IF, DURING THE WARRANTY PERIOD, YOU USE A REPLACEMENT CHLORINATOR CELL OTHER THAN AN UNMODIFIED, NEW HAYWARD/GOLDLINE CHLORINATOR CELL PURCHASED FROM HAYWARD/GOLDLINE. IF A WARRANTY BECOMES VOID, YOU STILL MAY PURCHASE SERVICE AND/OR TELEPHONE TECHNICAL SUPPORT AT THE THEN CURRENT TIME AND MATERIAL RATES.
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Available displays depend on configuration. If you call the Hayward Technical Service Dept. for assistance, they may ask for the software revisions of both the main unit and each of the display/keypads or other devices that are attached to the system. Note that it is possible that different display/keypads have different software revision levels. For this reason, it is advisable to check this diagnostic menu item on every display.
System Overview

The Hayward Pro Logic is a multifunction pool controller used to fully manage your pool/spa system. The Pro Logic can control pumps, valves, lighting, heaters, and chlorination. Although the Pro Logic is easy to use, it is important to completely read through this operating manual before attempting to operate the control.

NOTE: This manual assumes that the Pro Logic has been wired and configured according to the Installation Manual. Aspects of the Pro Logic that pertain to system setup are not covered in this manual.

Automation

The Pro Logic can control up to 4 high voltage (120/240V) pieces of equipment, up to 3 automatic valve actuators, and a conventional and solar heater. Both manual and automatic (programmed) operation are available. All of the control functions can be programmed at a display/keypad which is part of the main unit (typically located near the pool equipment) or at one or more remote display/keypads.

Chlorination

With the use of an optional chlorinator cell (T-CELL-x) and plumbing kit (P-KIT), the Pro Logic is also an automatic chlorine generation system for pool and/or spa sanitization. If enabled (see Configuration Menu), this operation requires a low concentration of salt (sodium chloride) in the pool/spa water. The Pro Logic automatically converts the salt into free chlorine which kills bacteria and algae in the pool/spa. Chlorine will revert back to sodium chloride after killing bacteria. These reactions will continuously recycle, virtually eliminating the need to add sanitizing chemicals to your pool/spa. The only time you may need to add more salt to the pool/spa is when water is replenished due to backwashing, draining, or splashing (not evaporation).
• ORP High - Check Chlor -- If an ORP level of 950mV or higher is detected. Check the chlorinator for proper operation.

• ORP High - Chlor Off -- If an ORP level of 950mV or higher is detected and the chlorine feed mode is ORP Auto Sensing, the chlorinator has been turned off. Check the chlorinator for proper operation.

• ORP Timeout - Chlor Off -- If the unit has been chlorinating for more than the selected sanitizer timeout without reaching the desired level, the chlorinator has been turned off. Press the "+" button to reset the alarm and resume chlorination.

• Ambient Sensor -- If the Pro Logic internal temperature sensor is either an open or short circuit.

For helpful troubleshooting information on any of these issues, go to the Diagnostic Menu and then scroll through the various items until you see the cause for the "CHECK SYSTEM" LED being illuminated.

Diagnostic Menu

To enter the Diagnostic Menu, press the "Menu" button repeatedly until the display shows "Diagnostic Menu". At this point, you can use either the "<" or ">" buttons to scroll through the various menu items which are described below:

- Press to switch chlorinator operation to opposite polarity (15 second delay)
- Move to previous/next menu item
- +/- 23.45V is the voltage applied to the chlorinator cell
- +/- 6.75A is the current (amps) through the cell
- 84°F is the water temperature at the cell
- 3200PPM is the "instant" salt level at this time

This display will be shown only if the chlorinator is enabled. For the chlorinator to be operating, several other things must be happening: the filter pump must be running, the flow switch must be detecting flow, the chlorinator setting must be set greater than 0%, the water temperature at the cell must be between 50°F and 140°F, and the salt level must be within the operating range. If any of these conditions are not met, the chlorinator diagnostic display will tell you the reason. It's possible to have more than one reason, in which case after you rectify what was displayed the first time, a second display will appear.

If the current (amps) display is 0.00A, then the chlorinator is operating normally but is in the off part of its normal operating cycle. Simply press either the "+" or "-" key to start a new cycle.

The Pro Logic periodically reverses the polarity of the voltage applied to the cell in order to automatically clean off any calcium deposits. It is important that you check the chlorinator operation in both polarities. To do this, press either the "+" or "-" buttons and the chlorinator will turn off, wait for 15 seconds and then turn on in the opposite polarity.

If a conventional or solar heater is operating, it is likely that the temperature of the water at the cell is higher than the pool/spa water temperature displayed on the Pro Logic default display.

- Press to load the "Instant Salt" into the averaged salt display
- Move to previous/next menu item

This display will be shown only if the chlorinator is enabled. This display shows "Instant Salt" or "Instant Minerals" (if Chlor Config. is set for "Display Minerals"). The "Instant Salt" is calculated based on the voltage, current (amps), and water temperature at the cell. This is different than the "average salt" value which is displayed as part of the default menu. Some of these include salt having just been added to the pool and not yet thoroughly mixed, calcium buildup on the cell, and the cell aging.

- Press to switch chlorinator operation to opposite polarity (15 second delay)
- Move to previous/next menu item
- +/- 23.45V is the voltage applied to the chlorinator cell
- +/- 6.75A is the current (amps) through the cell
- 84°F is the water temperature at the cell
- 3200PPM is the "instant" salt level at this time

This display will be shown only if an ORP level of 950mV or higher is detected and the chlorine feed mode is ORP Auto Sensing. Check the chlorinator for proper operation.

- Press to switch chlorinator operation to opposite polarity (15 second delay)
- Move to previous/next menu item
- +/- 23.45V is the voltage applied to the chlorinator cell
- +/- 6.75A is the current (amps) through the cell
- 84°F is the water temperature at the cell
- 3200PPM is the "instant" salt level at this time

This display will be shown only if the chlorinator is enabled. This display shows both pH and ORP levels/status when chemistry sensing is enabled via the Chemistry Configuration Wizard (requires the use of AQL-CHEM).
Manual System Operation

While the main objective of the Pro Logic is to automate the operation of your pool/spa system, there may be certain times when you want to override the automatic operation and control the equipment manually. To operate the pool equipment manually while keeping the automation active, perform the following procedures. Note that if you turn a relay on manually, it will remain on until either you turn it off manually, or the next time the programmed automatic operation would normally turn that relay off. Example: the filter pump is programmed to run from 9:00A to 5:00P daily. If you turn the filter pump on manually at 8:00PM, it will run continuously until the next day at 5:00P at which time it will turn off and follow the normal program from then on. Manually turning off a relay works in a similar fashion.

Filter Pump

Single Speed Filter Pump: If the pump is currently off, press the FILTER button to turn on the pump. Pressing the FILTER button again will turn off the pump. However, if there is a heater in the system, and it is operating, and the “Heater Cooldown” feature is enabled (Configuration Menu) then when you press the FILTER button to turn off the filter, only the heater will turn off, the Filter LED will flash and the display will indicate “Heater Cooldown”. At this point the filter pump will automatically turn off after 5 minutes of heater cooldown operation. If you want to override the heater cooldown, simply press the FILTER button again to turn off the filter pump.

Two Speed Filter Pump: If the pump is currently off, simply press the “FILTER” button to turn on high speed operation of the filter pump. The “Filter” LED will illuminate continuously. Pressing the “FILTER” button again will switch to low speed operation and the “FILTER” LED will flash. Note that if the pump has been off for more than 30 seconds, it will run at high speed for 5 minutes regardless of selection. This high speed operation helps allow the pump to prime and establish normal water flow.

Variable Speed Filter Pump: If the pump is currently off, press the “FILTER” button to turn the filter pump on to the last speed (1, 2, 3, or 4) that was used. A temporary display is generated indicating the current speed selection (Filter On:Spd 1). Pushing the “+” or “-” button changes the speed selection. If the pump has been off for more than 30 seconds, it will run at the highest speed for 3 minutes regardless of selection. This high speed operation helps allow the pump to prime and establish normal water flow.

Freeze Protection: This function protects the pool, plumbing, and equipment against freeze damage. If Freeze Protection is enabled and the AIR temperature sensor falls below the preset freeze protection temperature (see Filter Configuration), the Pro Logic will turn on the filter pump to circulate the water.

External Input Interlock:
If enabled, this function will force the filter pump off when the external input is active. External Input Interlock will have precedence over Freeze Protection for Filter output.

• Low Volts -- If the chlorinator cell voltage is too low.
• No Cell Power -- If no chlorinator cell power is detected on the printed circuit board.
• Check Flow Switch -- If the flow switch input is invalid.
• Cell Power Error -- If a chlorinator cell power error is detected on the printed circuit board.
• Cell Missing -- If the chlorinator is enabled but no cell is detected.
• Filter VSP Comm Error -- If variable speed is selected for the Filter and the Hayward VSP interface is not responding.
• Filter VSP Drive Comm Error -- If variable speed is selected for the Filter and the Hayward VSP drive controller is not responding.
• Filter VSP Err: x -- If variable speed is selected for the Filter and the Hayward VSP Err: x is the same decimal error displayed by the VSP itself.
• Aux1 VSP Comm Error -- If variable speed is selected for the Aux1 relay type and the Hayward VSP interface is not responding.
• Aux1 VSP Drive Comm Error -- If variable speed is selected for the Aux1 relay type and the Hayward VSP drive controller is not responding.
• Aux1 VSP Err: x -- If variable speed is selected for the Aux1 relay type and the Hayward VSP Err: x is the same decimal error displayed by the VSP itself.

For Pool Filter and Aux using Gen2 EcoStar Variable Speed Pumps only:

• Main Voltage is too low
• Main Voltage is too high
• Remote Stop was pressed (Press “+” to restart)
• Prime Failed (Press “+” to restart)
• Failed to start (Press “+” to restart)
• Pump has stalled (Press “+” to restart)
• SVRS tripped (Press “+” to restart)
• Drive failure (see Pump Display)

• CSM Comm Error: -- If Chemistry Sensing is enabled and the Chemistry Sense Module (CSM) is not responding.
• pH Probe Error -- If the CSM indicates that there is a problem with the pH probe.
• pH Low - Check Feeder -- If a pH level of 6.9 or less is detected, check the feeder for proper operation
• pH High - Check Feeder -- If a pH level of 8.1 or higher is detected, check the chemical supply and the feeder for proper operation
• pH Timeout - Check Feeder -- If the unit has been dispensing pH for more than the selected timeout without reaching the desired level. Check the chemical supply and the feeder. If both are OK, the timeout may need to be increased. Press the “+” button to reset the alarm and resume dispensing.
• pH Calibration Error -- When using the pH Calibration Wizard and the entered test result was different from the measured pH level by ± 1.0 or more. The pH probe may need to be cleaned or replaced.
• ORP Probe Error -- If the CSM indicates that there is a problem with the ORP probe.
• ORP Low - Check Chlor -- If an ORP level of 350mV or less is detected. Check the chlorinator for proper operation.
Troubleshooting and Diagnostic Information

The Pro Logic provides 2 different tools to aid in troubleshooting any problems that may occur in your pool and/or spa system. The Service mode will allow you to disable automatic operation and manually control most of the equipment (the heater and general purpose Valve3 output are the exceptions). The Diagnostic Menu will provide some detailed information regarding system operation.

While both of the features are primarily intended for the use of the professional service technician, their function is fully explained below. If you believe your system is not operating properly or have questions regarding the operation, call the Hayward Technical Service Department from Monday through Friday, 8AM to 8PM EST at 888-921-7665.

Service Mode

The main unit keypad has a SERVICE button that is used primarily during servicing of the pool equipment.

If you want to completely disable the automatic operation and operate the system manually, you can put the system into Service or Service-Timed mode by pressing the “Service” button. Pressing the “SERVICE” button once will switch the system into service mode which means that all automatic functions are disabled, the optional remote display/keypads are disabled (except for manual turn off for emergencies). The outputs can be manually controlled by pressing the buttons on the local display/keypad. The red “SERVICE” LED will be illuminated and the Pro Logic will remain in this mode of operation until manually taken out of service mode.

Pressing the “SERVICE” button again will cause the Pro Logic to switch to service-timed mode which is very similar to service mode, except that the Pro Logic will automatically return to normal operation after 3 hours. During service timed operation, the “SERVICE” LED will flash and the time remaining will be displayed on the remote display/keypad(s).

Pressing the “SERVICE” button again, will return the Pro Logic to normal (automatic) operation.

Check System Indicator

The “CHECK SYSTEM” LED will alert you when the Pro Logic detects any of the following conditions that are abnormal and require attention for optimal operation of your pool. Press “<” or “>” to view all of the existing “Check System” conditions.

- **Inspect Cell** -- For optimum operation, you will need to inspect the Pro Logic chlorinator cell approximately every 3 months and clean the cell if necessary. The Pro Logic will automatically remind you when it is time and display “Inspect Cell,” to reset as part of the rotating Default Menu. Clean the cell (see instructions, page 30) and then press the “<” or “>” button during the “Inspect Cell” display to reset the timer.

- **Low Salt/Minerals or Very Low Salt/Minerals** -- When the salt is too low the Pro Logic will generate less chlorine and the life of the cell is degraded. Check the cell and clean if necessary before adding salt.

- **High Salt/Amps/Minerals** -- The Pro Logic will stop generating chlorine under certain high salt conditions in order to protect the internal electronics from damage. The only way to lower the salt level is to partially drain the pool and add fresh water.

- **Water Sensor** -- If the water sensor is either an open or short circuit.

- **Air sensor** -- If the freeze protection feature is enabled (Configuration Menu/Filter Config.) and the air sensor is either an open or short circuit.

- **Solar Sensor** -- If the solar sensor is either an open or short circuit.

- **Chlorinator Cell Sensor** -- If the chlorinator function is enabled (Configuration Menu/Chlorinator) and the cell sensor is either an open or short circuit.

Lights, Aux1 and Aux2 Outputs

**Standard Relay:** Manual operation of all 3 relays is identical. Assuming that the relay is currently off, simply press the appropriate button to turn on the relay. If the relay does not turn on, it probably is due to the “interlock” feature (which was set up in the Configuration Menu) being activated that requires the filter pump to be running and the valves to be in the pool-only position. This protects pumps and other equipment from possible damage. If the controlled output is on, pressing the appropriate button again will turn off the relay. Manual turn off is disabled if the “Freeze Protection” feature is enabled and the air temperature is less than the selected freeze temperature threshold.

**Dimmer Relay:** If Lights or an Aux output is configured as a dimmer, pressing the corresponding button will generate a temporary display which shows the dimmer output level (0% - On 100%). Pushing the “+” or “-” button changes the level in increments of 20%. When the desired output level is displayed, press the corresponding button again to turn off the display and return to normal operation. When the Lights or Aux output comes on again (either manually or automatically), the dimmer output level will be the same as the last time that it was set.

**VSP Relay:** This selection is used to configure a Lights/Aux output to supply power and control a Hayward Variable Speed pump (VSP).

External Input Interlock:

If enabled, this function will force the Lights or Aux off when the external input is active. External Input Interlock will not have precedence over Freeze Protection for Lights and Aux outputs.

Pool/Spa Valves

**Pool-only or spa-only systems:** The POOL/SPA button has no function.

**Pool and Spa systems without spa spillover:** In pool-only mode, the left LED next to the POOL/SPA button is illuminated. Pressing the POOL/SPA button will switch the Pro Logic to spa-only operation (right LED illuminated). Pressing the POOL/SPA button again will switch back to pool-only. Note that the filter pump will turn off while the pool/spa valves are turning.

**Pool and Spa systems with spa spillover:** In pool-only mode, the left LED next to the POOL/SPA button is illuminated. Pressing the POOL/SPA button will switch the Pro Logic to spa-only operation (right LED illuminated). Pressing the POOL/SPA button again will switch back to pool-only. Note that the filter pump will turn off while the pool/spa valves are turning.

External Input Interlock:

If enabled, this function will force the Valve off when the external input is active. External Input Interlock will not have precedence over Freeze Protection for Valve outputs.

Service

The main unit keypad has a SERVICE key. This button is used primarily during servicing of the pool equipment. If you want to completely disable the automatic operation and operate the system manually, you can put the system into Service or Service-Timed mode by pressing the SERVICE button. Pressing the SERVICE button once will switch the system into service mode which means that all automatic functions are disabled, and the remote display/keypads are disabled (except for manual turn off for emergencies). The red SERVICE LED will be illuminated and the Pro Logic will remain in this mode of operation until manually taken out of service mode.

Pressing the SERVICE button again will cause the Pro Logic to switch to service-timed mode which is very similar to service mode, except that the Pro Logic will automatically return to normal operation after 3 hours. During service timed operation, the “Service” LED will flash and the time remaining will be displayed on the remote display/keypad(s).

Pressing the SERVICE button again, will return the Pro Logic to normal (automatic) operation. See Troubleshoot/Diagnostic Information (page 30) for more information about the service modes.
Automatic System Operation

The Pro Logic controls most of your pool equipment automatically in order to minimize the time spent working on your pool. Most of the pool equipment can be programmed to operate on a timeclock basis. In addition, the desired pool and spa temperatures and pool and spa chlorinator settings can be programmed. This section will guide you on how to program the automatic operation for each function.

The programming of automatic functions can be performed at either the main display/keypad located at the pool equipment pad or the in-home remote display/keypad.

Using the programming buttons

There are 5 buttons on each keypad that are used for programming (refer to diagram).

There are 4 steps to programming any function:

1. Press the “MENU” button to get to the desired menu. Multiple pushes of the button will rotate through all 6 menus and return to the starting point.

2. Use either key to scroll through the various items in the selected menu. Multiple pushes of the button will rotate through all menu items and return to the starting point. Only menu items that are applicable to your pool will appear. (Example: if you don’t have a spa, then no spa related menu items will appear).

3. Once a menu item has been selected above, the current setting/selection will appear (flashing) above.

4. After you have adjusted the item to the desired value, simply move on to the next menu item to “lock in” your new setting. The Pro Logic memory will maintain the setting, even if power is removed for an extended period.

System Maintenance

To maintain maximum performance, it is recommended that you open and visually inspect the cell every 3 months or after cleaning your filter. The Pro Logic will remind you to do this by displaying the message “Inspect/Clean Cell” after approximately 500 hours of operation.

The Pro Logic electrolytic cell has a self cleaning feature incorporated into the electronic control’s logic. In most cases this self cleaning action will keep the cell working at optimum efficiency. In areas where water is hard (high mineral content) or in pools where the water chemistry has been allowed to get “out of balance”, the cell may require periodic cleaning.

Servicing and Cleaning the Turbo Cell

Turn off power to the Pro Logic before removing the electrolytic cell. Once removed, look inside the cell and inspect for scale formation (light colored crusty or flaky deposits) on the plates and for any debris which has passed through the filter and caught on the plates. If no deposits are visible, reinstall. If deposits are seen, use a high pressure garden hose and try to flush the scale off. If this is not successful, use a plastic or wood tool (do not use metal as this will scratch the coating off the plates) and scrape deposits off of plates. Note that a buildup on the cell indicates that there is an unusually high calcium level in the pool (old pool water is usually the cause). If this is not corrected, you may have to periodically clean the cell. The simplest way to avoid this is to bring the pool chemistry to the recommended levels as specified.

Mild Acid Washing: Use only in severe cases where flushing and scraping will not remove the majority of deposits. To acid wash, turn off power to Pro Logic. Remove cell from piping. In a clean plastic container, mix a 2:1 solution of water to muriatic acid (one gallon of water to two quarts of muriatic acid). ALWAYS ADD ACID TO WATER - NEVER ADD WATER TO ACID. Be sure to wear rubber gloves and appropriate eye protection.

The level of the solution in the container should just reach the top of the cell so that the wire harness compartment is NOT submerged. It may be helpful to coil the wiring before immersing the cell. The cell should soak for a few minutes and then rinse with a high pressure garden hose. If any deposits are still visible, repeat soaking and rinsing. Replace cell and inspect again periodically.

Winterizing

The Pro Logic electrolytic cell and flow detection switch will be damaged by freezing water just as your pool plumbing would. In areas of the country which experience severe or extended periods of freezing temperatures, be sure to drain all water from the pump, filter, and supply and return lines before any freezing conditions occur. The electronic control is capable of withstanding any winter weather and should not be removed.

If you are in an area that only experiences occasional freezing conditions, your Pro Logic system may be set up to require periodic cleaning.

If you are in an area that only experiences occasional freezing conditions, your Pro Logic system may be set up to require periodic cleaning.

To water - NEVER ADD WATER TO ACID. Be sure to wear rubber gloves and appropriate eye protection.

The level of the solution in the container should just reach the top of the cell so that the wire harness compartment is NOT submerged. It may be helpful to coil the wiring before immersing the cell. The cell should soak for a few minutes and then rinse with a high pressure garden hose. If any deposits are still visible, repeat soaking and rinsing. Replace cell and inspect again periodically.

Spring Start-up

When first starting the pool in the spring time, it is highly recommended that you temporarily set the pool and spa chlorinator settings (Pool Sanitizer & Spa Sanitizer in the Settings Menu) to 0% (off) and then manually shock the pool with any chlorine based shock product and balance the pool water chemistry per the levels indicated in the Chlorinator Operation section (page 26). Make sure to check the salt and stabilizer levels and bring them up to the recommended levels. Your local Authorized Aqua Dealer or pool store can recommend the best chemical treatment for your pool. After the water is clear and balanced, then go back and adjust the pool and spa chlorinator settings to the appropriate levels. Test the pool chlorine level weekly and adjust the chlorinator settings up or down accordingly.

It is usually a good idea to also inspect the cell and clean if necessary at the start of the season. See instructions above.
### Programming Menu Flowchart

The Pro Logic's six menus have many items that allow you to customize the operation of your pool/spa equipment. The chart below shows the Pro Logic’s menus as well as each menu’s specific settings.

#### Default Menu
- **Day and Time**
- **Water Temperature**
- **Air Temperature**
- **Heater Control Status**
- **Rear Beepers**
- **Lights/Lights/Speed/Reason**
- **Cleaning Probe Wizard**
- **Instant Salt**
- **Solar Sensor**
- **Inspect Cell**
- **Pump 1 Speed/Power**
- **Wireless Channel**
- **Backlit Display Light**

#### Settings Menu
- **Spa Heater 1 Temperature**
- **Pool Heater 1 Temperature**
- **Pool Filter 2 or Low-Speed 1**
- **Pool Filter 3 or High-Speed 2**
- **Chemistry Configuration Wizard**
- **Lights/ Aux Speed/Reason**
- **Heater Control Status**
- **System Manual Off**
- **Backlit Display Light**
- **6 Buttons Spa Side Software Revision**

#### Maintenance Menu
- **Ph Electrode Leach**
- **Ph Electrode Wheat**
- **Salt Level**
- **Heater 1 Valve 3**
- **Aux 2 Lights**
- **Aux 3 Lights**
- **System Manual On**

#### Diagnostic Menu
- **Diagnostic Diagnostic**
- **Pumping Fan**
- **Solar Sensor**
- **Low Temperature Sensor**
- **High Temperature Sensor**
- **Air Sensor**
- **Solar Power**
- **Main Software Revision**
- **User Software Revision**
- **User Software Revision**
- **User Software Revision**
- **6 Button Spa Side Software Revision**

#### Integrations Menu
- **Smart Home**
- **Energy**
- **Remote Control**
- **Extended Remote Zone**
- **Lights**
- **Main**
- **Aux 1**
- **Aux 2**
- **Aux 3**
- **24-Hour Spa Side Software Revision**
- **7-Day or Extended Day-by-Day Schedule**
- **50% %**
- **User Manual Off**
- **Reset to Default**

---

**POUNDS and (Kg) OF STABILIZER (CYANURIC ACID) NEEDED FOR 80 PPM Gallons and (Liters) of Pool/Spa water**

<table>
<thead>
<tr>
<th>Current Level (ppm)</th>
<th>10,000</th>
<th>12,000</th>
<th>14,000</th>
<th>16,000</th>
<th>18,000</th>
<th>20,000</th>
<th>24,000</th>
<th>26,000</th>
<th>28,000</th>
<th>30,000</th>
<th>32,000</th>
<th>36,000</th>
<th>38,000</th>
<th>40,000</th>
<th>50,000</th>
<th>60,000</th>
<th>70,000</th>
<th>80,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ppm</td>
<td>9.1</td>
<td>11.5</td>
<td>13.7</td>
<td>15.7</td>
<td>17.7</td>
<td>19.7</td>
<td>21.7</td>
<td>23.7</td>
<td>25.7</td>
<td>27.7</td>
<td>29.7</td>
<td>31.7</td>
<td>33.7</td>
<td>35.7</td>
<td>37.7</td>
<td>39.7</td>
<td>41.7</td>
<td></td>
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<tr>
<td>5 ppm</td>
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<td>10 ppm</td>
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<td>15 ppm</td>
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<td>35 ppm</td>
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<td>40 ppm</td>
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<td>45 ppm</td>
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<td>70 ppm</td>
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<tr>
<td>75 ppm</td>
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<td>80 ppm</td>
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</tr>
</tbody>
</table>
The Default Menu is a series of informative displays (temperatures, salt levels, chlorinator settings, etc.) with nothing to set. The Pro Logic will automatically switch to the default menu when no keys have been pressed for 2 minutes and will then scroll through each display.

The Settings Menu and the Timers Menu are the menus you will be using most often to adjust the operation of your pool. The Configuration Menu is used when the system is installed and defines what equipment is connected to each output and the operational logic that will control the equipment. This menu is normally “locked” and should only be used by a pool professional. Details regarding the Configuration menu are included in both the Operation and the Installation Manual.

The “Diagnostic Menu” is primarily intended for the service technician and contains information and details about the system operation that are helpful in troubleshooting, if problems occur.

The “Maintenance Menu” will be displayed only if the optional AQL-CHEM is used and the Sensing System is enabled in the Chemistry Configure Wizard. This menu is used to perform functions relating to the AQL-CHEM ORP and pH sensing kit.

### Settings Menu

The Settings Menu allows you to set all system operating parameters except the timeclock and countdown timers which are part of the Timers Menu.

| Pool Heater 1 | Off | Adjust the desired pool temperature (Off, 65°F, 66°F, …103°F, 104°F, Off) | Move to previous/next menu item |
| Spa Heater 1 | Off | Adjust the desired spa temperature (Off, 65°F, 66°F, …103°F, 104°F, Off) | Move to previous/next menu item |

The pool heater setting will only appear if the system has been setup for “pool only” or “pool and spa” operation and the heater control is enabled. The heater will turn on whenever the pool/spa valves are in the “pool only” position and the filter pump is running and the pool water temperature is less than the desired temperature setting. If you have both solar heat and a conventional heater and the solar priority option is selected (Configuration Menu), then the conventional heater will only operate when solar heat is NOT available.

### Spa Solar

| 102°F | Adjust the desired spa temperature (Off, 65°F, 66°F, …103°F, 104°F, Off) | Move to previous/next menu item |

The spa solar setting will only appear if the system has been setup for “spa only” or “pool and spa” operation and the solar control is enabled. The solar system will turn on whenever the pool/spa valves are in the “spa only” position and the filter pump is running and the spa water temperature is less than the desired temperature setting and solar heat is available.

### Pool Solar

| 88°F | Adjust the desired pool temperature (Off, 65°F, 66°F, …103°F, 104°F, Off) | Move to previous/next menu item |

The pool solar setting will only appear if the system has been setup for “pool only” or “pool and spa” operation and the solar control is enabled. The solar system will turn on whenever the pool/spa valves are in the “pool only” or “spa spillover” position and the filter pump is running and the pool water temperature is less than the desired temperature setting and solar heat is available.
The pool’s chemistry must be balanced BEFORE activating the Pro Logic’s optional chlorinator function. NOTE: If the pool does not have new water, add metal remover and non-copper based algicide to the pool, per manufacturer’s instructions. This ensures a quick, troublefree transfer to the Pro Logic system.

Salt (When using optional chlorinator function)
Salt Level

Use the chart on the following page to determine how much salt in pounds or (Kgs) should be added to reach the recommended levels. Use the equations below (measurements are in feet/gallons and meters/liters) if pool size is unknown.

<table>
<thead>
<tr>
<th>Gallons (pool size in feet)</th>
<th>Liters (pool size in meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangular</td>
<td></td>
</tr>
<tr>
<td>Length x Width x</td>
<td>Length x Width x</td>
</tr>
<tr>
<td>Average Depth x 7.5</td>
<td>Average Depth x 1000</td>
</tr>
<tr>
<td>Round</td>
<td></td>
</tr>
<tr>
<td>Diameter x Diameter x</td>
<td>Diameter x Diameter x</td>
</tr>
<tr>
<td>Average Depth x 5.9</td>
<td>Average Depth x 785</td>
</tr>
<tr>
<td>Oval</td>
<td></td>
</tr>
<tr>
<td>Length x Width x</td>
<td>Length x Width x</td>
</tr>
<tr>
<td>Average Depth x 6.7</td>
<td>Average Depth x 893</td>
</tr>
</tbody>
</table>

The operating salt level is between 2700-3400 PPM (parts per million) with 3200 PPM being optimal. Before adding any salt, test the salt level. This is especially important for retrofit installation to older pools where chlorine added to the pool over time has ended up as salt. If the level is low, determine the number of gallons in the pool and add salt according to the chart below. A low salt level will reduce the efficiency of the sanitization and result in low chlorine production. A high salt level can cause the Pro Logic to stop chlorinating. The salt in your pool/spa is constantly recycled and the loss of salt throughout the swimming season should be minimal. This loss is due primarily to the addition of water because of splashing, backwashing, or draining (because of rain). Salt is not lost due to evaporation.

Type of Salt to Use

It is important to use only sodium chloride (NaCl) salt that is greater than 99.0% pure. This can be found at most pool stores in 40-80 lb. bags labeled “for use in swimming pools”. Alternatively, use common food quality or water softener salt that is at least 99.0% pure. It is also acceptable to use water conditioning salt pellets, however, it will take longer for them to dissolve. Do not use rock salt, or salt with more than 1% of yellow prussiate of soda, salt with anti-caking additives, or iodized salt.

How to Add Salt

For new plaster pools, wait 10-14 days before adding salt to allow the plaster to cure. Turn the circulating pump on and add salt directly into the pool. Brush the salt around to speed up the dissolving process—do not allow salt to pile up on the bottom of the pool. Run the filter pump for 24 hours with the suction coming from the main drain (use pool vacuum if there is no main drain) to allow the salt to evenly disperse throughout the pool. The salt display may take 24 hours to respond to the change in salt concentration.

Always check stabilizer (cyanuric acid), when checking salt. These levels will most likely decline together. Use the chart on page 29 to determine how much stabilizer must be added to raise the level to 80 ppm.
Set Day and Time
Wednesday 10:37P

↑↓ Adjust the current day of the week
←→ Move to hours setting

↑↓ Adjust the current hour (including AM/PM if applicable)
←→ Move to minutes setting

↑↓ Adjust the current minute
←→ Move to previous/next menu item

Use this function to set the current day of the week and time. These values are used for all the automatic timeclock functions of the Pro Logic and are also displayed as part of the default menu.

The Pro Logic is designed to keep the clock running during power outages lasting less than 7 days. If power has been off for longer than 7 days, then the time may have to be reset.

Display Light
On for 60 sec

←→ Toggle between Always On and On for 60 sec.
←→ Move to previous/next menu item

This function controls the backlight on the display. If the “60 seconds” option is selected, then the backlight will automatically turn off 60 seconds after the last key is pressed and will stay off until next time a key is pressed.

Note that the Display Light selection only applies to the display keypad that you are currently using. Other display/keypads will not be affected. In other words, you need to individually set this option for each display/keypad in the system.

Beeper
Enabled

←→ Toggle between Enabled (default) and Disabled Beeper
←→ Move to next menu item

When “Enabled”, the keypad will beep every time a key is pressed. If this audible indication is not desired, select “Disabled”.

This function only applies to the display/keypad that you are currently using. You need to set this option for each display/keypad in your system.

NOTE: This function is not supported on all display/keypads. If the “Enabled” selection is not blinking, then the current software revision of that particular keypad/display does not support the option and it will default to Beeper Enabled.

Chlorinator Operation / Water Chemistry

General Water Chemistry
Salt is required only if you are using the chlorinator features on the Pro Logic Control. If you are NOT using the chlorinator, it is recommended that you follow all of the other chemistry recommendations besides salt. Refer to the description of the Pro Logic configuration menu for information on enabling/disabling the chlorinator (see page 13).

Water Chemistry
The table below summarizes the levels that are recommended by the Association of Pool and Spa Professionals (APSP). The only special requirements for the Pro Logic are the salt level and stabilizer.

### CHEMICAL PEN LEVELS

<table>
<thead>
<tr>
<th>Salt</th>
<th>Free Chlorine</th>
<th>pH</th>
<th>Cyanuric Acid (Stabilizer)</th>
<th>Total Alkalinity</th>
<th>Calcium Hardness</th>
<th>Saturation Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700 to 3400 ppm</td>
<td>1.0 to 3.0 ppm</td>
<td>7.2 to 7.8</td>
<td>60 to 80 ppm (80 ppm best)</td>
<td>80 to 120 ppm</td>
<td>200 to 400 ppm</td>
<td>-0.2 to +0.2 (0.0 best)</td>
</tr>
</tbody>
</table>

Saturation index

The saturation index (Si) relates to the calcium and alkalinity in the water and is an indicator of the pool water “balance”. Your water is properly balanced if the Si is 0 ± 0.2. If the Si is below -0.2, the water is corrosive and plaster pool walls will be dissolved into the water. If the Si is above +0.2, scaling and staining will occur. Use the chart below to determine the saturation index.

### Si = pH + Ti + Ci + Ai - 12.1

<table>
<thead>
<tr>
<th>pH</th>
<th>Ti</th>
<th>Ci</th>
<th>Alkalinity</th>
<th>Total Alkalinity</th>
<th>Saturation Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>53</td>
<td>.3</td>
<td>75</td>
<td>1.2</td>
<td>0.9</td>
</tr>
<tr>
<td>16</td>
<td>50</td>
<td>.4</td>
<td>100</td>
<td>1.6</td>
<td>1.0</td>
</tr>
<tr>
<td>19</td>
<td>66</td>
<td>.5</td>
<td>150</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>24</td>
<td>76</td>
<td>.6</td>
<td>250</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>29</td>
<td>84</td>
<td>.7</td>
<td>300</td>
<td>2.1</td>
<td>2.5</td>
</tr>
<tr>
<td>34</td>
<td>94</td>
<td>.8</td>
<td>400</td>
<td>2.2</td>
<td>3.0</td>
</tr>
<tr>
<td>39</td>
<td>103</td>
<td>.9</td>
<td>500</td>
<td>2.4</td>
<td>3.5</td>
</tr>
<tr>
<td>Note:</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

When measuring pool pH, temperature, calcium hardness and total alkalinity, use the chart above to determine Ti, Ci and Al from your measurements. Insert values of pH, Ti, Ci and Al into the Si formula above. If Si is below -0.2, scaling and staining may occur. If Si equals -2 or less corrosion or irritation may occur.

CORROSIVE

OK

SCALING

9
Note: Separate chlorinator output levels for the pool and spa must be set. If the valves are in the pool-only or spa spillover positions, then the chlorinator will operate according to the pool setting. If the valves are in the spa-only position then the chlorinator will operate according to the spa setting. The actual amount of chlorine introduced into the pool/spa is determined by: This output setting, the amount of time the filter pump is running, the water temperature, and the amount of salt in the water. Also see Start/Stop Superchlorination.

**Start/Stop Superchlorination**

1. Go to Pro Logic main unit (normally mounted near the pool equipment).
2. Press the “MENU” button repeatedly until “Timers Menu” is displayed.
3. Use the “+” and “-” buttons to set the desired timer period.
4. Press “>” to toggle between “on” and “off”.
5. The display will show whether superchlorination is “on” or “off”.

*Note: Once started, superchlorination will run for the programmed number of hours (Timers Menu/Super Chlorinate Hours) or until you manually turn it off. Superchlorination may be temporarily interrupted for a programmed spa operation.*

**Program a Timeclock**

1. Press the “MENU” button repeatedly until “Settings Menu” is displayed.
2. Press the “>” button repeatedly until “Super Chlorinate” is displayed.
3. Press “>” to switch to the “weekend” timeclock.
4. Use the “+” and “-” buttons to adjust the off time. If you are setting the “weekend” timeclock, press “>” to go to the “weekday” settings.

**Program a Countdown Timer**

1. Press the “MENU” button repeatedly until “Timers Menu” is displayed.
2. Press the “>” button repeatedly until “xxx—Timers” (where xxx is the parameter that you want to program) is displayed.
3. Press “>” to switch the desired start time, and press “<” to switch the off time. Use the “<” and “>” buttons to adjust the off time. If you are setting the “weekend” timeclock, press “>” to go to the “weekday” settings.

**Enter/Exit Service (or Service—Timed) Mode**

1. Go to Pro Logic main unit (normally mounted near the pool equipment).
2. Pressing the “Service” button rotates through normal operation (red LED off), service mode (red LED on continuously) and service-timed mode (red LED flashing).

*Note: This operation can only be performed at the main Pro Logic unit. Both “Service” and “Service-Timed” disable all automatic programmed operations and allow manual operation from the main unit only. The buttons on the remote display/keypads will still be able to turn equipment off in case of an emergency, but will not turn any equipment on. If the system is in “Serviced-Timed” it will automatically switch back to normal operation at the end of the 3 hour time period.*
For one speed pumps, this is the first filter timeclock and will determine the normal hours of filtration for the pool. For pool/spa combination systems with spillover enabled, the valves will automatically switch to spillover mode at the start of the filtration period. For all other systems, the valves will switch to the pool-only position.

For two speed, this setting will be the period of time when the pump runs at high speed (the word “Filter T1” in the display will be replaced with “Filter Hi”). There is a separate timeclock for the low speed operation (see “Filter T2” below). If the high speed and low speed periods overlap, then the pump will operate in low speed during the overlap period.

For a variable speed pump, this setting will be the period of time when the pump will run at the speed selected for speed1 in the settings menu. If there is an overlap in any of the timeclocks, then the lower number timeclock/speed has priority.

Depending on the type of filter pump used, there are several reasons why the pump may be running at times other than the timeclock period set above. These include super-chlorination, spa operation, manual operation, heater cooldown, freeze protection, heater-extend and solar-extend. For variable speed pumps, when there is more than one reason for the pump to run, the speed priority in order from highest to lowest is priming (first 3 minutes after filter has been turned on), freeze protection, group, heater minimum, aux/valve override, spa mode, speed1, speed2, speed3, speed4. Note that the reason for the current speed is shown in the Default Menu.

For one speed pumps, this is the second filter timeclock

For two speed pumps, this timeclock will set the normal time period for filter pump low speed operation (the word “Filter T2” in the display will be replaced with “Filter Lo”). If the filter pump was off prior to the start of this time period, the filter pump will first turn on at high speed for 3 minutes to prime and establish water flow. Afterwards, it will drop down to low speed for the remainder of the programmed low speed time period. While this time clock will override the high speed timeclock (see above), there are several reasons why the pump will automatically switch to high speed operation during this programmed time period. These include manual operation, spa operation, or heating operation. Refer to page 10 for general notes regarding timeclock programming.

For a variable speed pump, this setting will be the period of time when the pump will run at the speed selected for speed2 in the settings menu. If there is an overlap in any of the timeclocks, then the lower number timeclock/speed has priority.

NOTE: The third and forth filter timeclocks function similarly to the first and second (respectively). Program these timeclocks in the same manner.

Quick “How To” Guide

1. Press the “Pool/Spa” button to go to “spa-only” operation (right LED illuminated). In some cases, this may take more than one press of the button.

2. If the filter pump is not already on, press the “FILTER” button to turn it on.

3. If the spa is below the desired temperature, the heater will turn on automatically when the filter pump is on and the valves are in the spa-only position. If you have not already set the desired temperature for the spa, see “Set Heater Temperature” below

4. If the spa has a separate jet pump and or blower, determine if the jet pump/blower is controlled by Aux1 or Aux2 (it should be marked on the label inside the door). Then press the appropriate button to turn on the jets/blower.

Operate the Spa—Manually

1. Press the “MENU” button repeatedly until “Timers Menu” is displayed

2. Press the “>” button repeatedly until the “Spa—all” or “Spa—wkend” is displayed.

3. Use the “+” and “-” buttons to set the desired start time, then press “>” to switch to the off time. Use the “>” and “<” buttons to adjust the off time. If you are setting the “weekend” timeclock, press “>” to go to the “weekday” settings.

Note: During the programme spa time, the valves will automatically switch to the “spa-only” position, the filter pump will turn on, and, if the spa is not up to the desired temperature, the heater will start. This operation is the highest priority and will take precedence over other automatically programmed operations. At the end of the spa period, the Pro Logic will return to its normally programmed operation state.

Operate the Spa—Automatically

1. Press the “MENU” button repeatedly until “Settings Menu” is displayed

2. Press the “>” button repeatedly until the “Spa Heater1” or “Pool Heater1” is displayed.

3. Press the “+” or “-” buttons repeatedly to adjust the temperature. If you adjust the temperature below 65°F or above 104°F the display will indicate “off” and the heater will not operate regardless of temperature.

Note: Separate temperatures for the pool and spa must be set. If the valves are in the pool-only or spa spillover positions, then the heater will use the pool setting. If the valves are in the spa-only position then the heater will operate according to the spa setting.

Set the Heater Temperature (or turn heater permanently off)

1. Press the “MENU” button repeatedly until “Settings Menu” is displayed

2. Press the “>” button repeatedly until the “Spa Heater1” or “Pool Heater1” is displayed.

3. Press the “+” or “-” buttons repeatedly to adjust the temperature. If you adjust the setting to 0% the chlorinator will be off all the time.

NOTE: After the ideal setting has been found, you may need to raise the setting when the pool water temperature increases significantly, when there is higher than normal bather load or when your chlorinator cell ages. You may need to lower the setting when the pool water temperature decreases significantly or there are long periods of inactivity.

Set the Chlorinator Output

1. Press the “MENU” button repeatedly until “Settings Menu” is displayed

2. Press the “>” button repeatedly until the “Spa Chlorinator” or “Pool Chlorinator” is displayed.

3. Press the “+” or “-” buttons repeatedly to adjust the setting. If you adjust the setting to 0% the chlorinator will be off all the time.

NOTE: After the ideal setting has been found, you may need to raise the setting when the pool water temperature increases significantly, when there is higher than normal bather load or when your chlorinator cell ages. You may need to lower the setting when the pool water temperature decreases significantly or there are long periods of inactivity.
This menu is only available if the system has been setup for "pool and spa". During the programmed spa time, the Pro Logic will turn on the filter pump and move the pool/spa valves into the "spa-only" position. The heater will automatically heat the spa up to the programmed spa temperature (page 7). This programmed spa operation will take precedence over all other automatic functions, only manual operation of the filter button or pool/spa valve button will override this function.

If your pool has a separate jet pump or blower controlled by Aux1 and/or Aux2, you will have to program those separately.

This menu will appear only if the Lights are configured for timeclock. The lights will turn on and off at the designated times. The only override on this function is manual on/off control by the "Lights" button.

This menu will appear only if the Lights are configured for countdown timer. This setting is the time after you manually turn on the lights until the Pro Logic automatically turns off the lights. You can also manually turn off the lights at an earlier time by pressing the LIGHTS button. If the Lights relay is on during the programmed off time, it may be because of freeze protection.

This menu will appear only if the Aux1 is configured for timeclock. The Aux output will turn on and off at the designated times. If the Aux relay is off during the programmed on time—note that some pool equipment (example pressure side pool cleaner) can only be operated when the filter pump is running and the pool/spa valves are in the pool-only position—the Pro Logic will keep the relay off until these other conditions are suitable for operation. If the Aux relay is on during the programmed off time, it may be because of freeze protection. Also, manual operation overrides the timeclock.

This menu will appear only if the Aux1 is configured for countdown timer. This setting is the time after you manually turn on the Aux relay until the Pro Logic automatically turns off the relay. You can also manually turn off the relay at an earlier time by pressing the AUX1 button.

Maintenance Menu (only displays if Sensing System is enabled)
The Maintenance Menu will be displayed only if the optional AQL-CHEM is used and the Sensing System is enabled in the Chemistry Config Wizard. This menu is used to perform functions relating to the AQL-CHEM ORP and pH sensing kit.

**pH Calibration Wizard**

Push to access pH Calibration Wizard

Use this Wizard to calibrate the AQL-CHEM's pH probe. This requires a manual pH test of the pool water using a dependable red phenol test kit.

**Clean Probe Wizard**

Push to access Clean Probe Wizard

Use this Wizard to clean the AQL-CHEM's ORP and pH probes. The probes must be clean and free from oil, chemical deposits and contamination to function properly. Slow response, increased need to calibrate, and inconsistent readings are indications that the probes need to be cleaned.
Configure Menu Items

Each item needs to be programmed and may contain additional sub-menu items. Refer to the following pages for information on programming.

Chlorinator

Requires the use of a chlorinator cell and P-KIT sold separately. If the chlorinator is enabled, then the cell and flow switch must also be installed and the Pro Logic will automatically chlorinate both the pool and spa according to the desired output setting (see Settings Menu in the Operation manual). If disabled (default), all displays relating to the chlorinator will be suppressed.

When the chlorinator is enabled, the Pro Logic will automatically detect and control any Aqua Rite(s) that is installed in the system.

Display

Allows for the display of salt (default) or mineral values.

Cell Type Selection

The Cell Type Menu appears after “Display Salt/Minerals” in the Chlorinator Configuration Menu. The default options are T-CELL-15 (default), T-CELL-9, T-CELL-5 or T-CELL-3. The proper selection based on the chlorinator cell that is used in your system. Refer to the information below:

T-CELL-3 = T-CELL-3, GLX-CELL-3-W
T-CELL-5 = GLX-CELL-5, GLX-CELL-5-W
T-CELL-9 = T-CELL-9, GLX-CELL-9-W

Chemistry Configuration Wizard

Requires use of the optional AQL-CHEM Sensing Kit. Following the steps of the Chemistry Config. Wizard will set up the AQL-CHEM to sense ORP and pH levels and, if chlorination is used, can configure the Pro Logic to generate the correct amount of chlorine to properly sanitize the pool. Refer to the AQL-CHEM manual for more detailed information.

Remote Menus

This feature will prevent unauthorized access to the Settings, Timers, and Configuration menus from any of the Pro Logic’s remote display/keypads. When disabled, the remote display/keypads will only show the default menu and allow on/off control via the pushbuttons. Note that the function of the Pro Logic’s built-in display/keypad is unchanged by this selection. Once disabled, the only way to enable “Remote Menus” is to use the local display/keypad.

Time Format

Toggle between 12 hour AM/PM (default) and 24 hour time format options

Units

Toggle between °F and PPM (default) and °C and g/L (Metric) options

Variable Speed Pump

VSP Speed

Toggle between % and RPM

Initiate reset of all configuration parameters

Reset all configuration parameters

Move to previous/nex configuration menu

Move to previous/nex configuration menu

Move to previous/nex configuration menu

Move to previous/nex configuration menu

Move to previous/nex configuration menu

Move to previous/nex configuration menu

Use this function to erase all previous system configuration and reset all configuration parameters back to the factory default values. This function is NOT reversible—be careful.
Valve3 Config.

- Push to access Valve3 options
- Move to previous/next configuration menu

Valve3 Function

- Solar: Rotates Timeclock (default), Solar, In-floor Cleaner and Super Chlorinate
- Move to previous/next menu item

Valve3 Interlock

- Disabled: Toggle between Enabled and Disabled (default) Valve3 Interlock
- Move to previous/next menu item

Valve3 Ext Input

- Disabled: Toggle between Enabled and Disabled (default)

Valve3 Freeze

- Disabled: Toggle between Enabled and Disabled (default) Valve3 Freeze
- Move to previous/next configuration menu

Valve3 Config.

- Select Settings Menu (default) or desired pump speed (Filter Lowest to Highest)
- Move to previous/next configuration menu

Settings Menu

Valve3 Function

- Solar: Rotates Timeclock (default), Solar, In-floor Cleaner and Super Chlorinate
- Move to next menu item

Valve3 Interlock

- Disabled: Toggle between Enabled and Disabled (default) Valve3 Interlock
- Move to next menu item

Valve3 Ext Input

- Disabled: Toggle between Enabled and Disabled (default)

Valve3 Freeze

- Disabled: Toggle between Enabled and Disabled (default) Valve3 Freeze
- Move to previous/next configuration menu

Valve3 button can be assigned to this function.

Valve3 Operation

1. When Valve3 is selected, the Pro Logic will switch the pool/spa valves to the “pool only” position at the start of the programmed pool filtering time period or when the super-chlorinate function is turned on. The valves will remain in this position for the remainder of the super-chlorinate period. This option is usually preferable because both the pool and spa water will be filtered and sanitized.

2. If “Pool Only” is selected, then the Pro Logic will switch the pool/spa valves to the “pool only” position at the start of the programmed pool filtering time period or when the super-chlorinate function is turned on. The valves will remain in this position for the remainder of the super-chlorinate period. This option is usually preferable because both the pool and spa water will be filtered and sanitized.

3. If “Pool Only” or “Spa Only” are selected, then the pool/spa valves are not needed and pushing the POOL/SPA button on the display/keypad will have no effect. If “Pool and Spa” is selected, then the pool/spa suction and return valve actuators should be connected to the Pro Logic. Pressing the POOL/SPA button on the display/keypad will allow the homeowner to alternate between pool and spa operation.

Pool/Spa Setup

1. This menu will appear only if Pool/Spa Setup is set to “Pool and Spa”. This setting is the time, after you manually switch the Pool/Spa valves to “Spa Only”, until the Pro Logic automatically returns the valves to their previous positions. It is programmed in increments of 5 minutes, from “Manual On/Off” (0 minutes) to “21:00” (21 hours). The filter is forced on during this time period.

2. If “Pool Only” is selected, then the Pro Logic will switch the pool/spa valves to the “pool only” position at the start of the programmed pool filtering time period or when the super-chlorinate function is turned on. The valves will remain in this position for the remainder of the super-chlorinate period. This option is usually preferable because both the pool and spa water will be filtered and sanitized.

3. If “Pool Only” is selected, then the Pro Logic will switch the pool/spa valves to the “pool only” position at the start of the programmed pool filtering time period or when the super-chlorinate function is turned on. The valves will remain in this position for the remainder of the super-chlorinate period. This option is usually preferable because both the pool and spa water will be filtered and sanitized.

4. If “Pool Only” is selected, then the Pro Logic will switch the pool/spa valves to the “pool only” position at the start of the programmed pool filtering time period or when the super-chlorinate function is turned on. The valves will remain in this position for the remainder of the super-chlorinate period. This option is usually preferable because both the pool and spa water will be filtered and sanitized.

5. When spa spillover is “Enabled” and “Pool and Spa”, the homeowner will be able to rotate through “Pool Only” (both suction and return valves switched to pool), “Spa Only” (both suction and return valves switched to spa), and “Spillover” (suction valve switched to pool and return valve switched to spa) by successive presses of the “Pool/Spa” button.

6. If “Pool Only” or “Spa Only” are selected, then the pool/spa valves are not needed and pushing the POOL/SPA button on the display/keypad will have no effect. If “Pool and Spa” is selected, then the pool/spa suction and return valve actuators should be connected to the Pro Logic. Pressing the POOL/SPA button on the display/keypad will allow the homeowner to alternate between pool and spa operation.

Filter Operation

1. If “Spillover” is selected, the Pro Logic will automatically switch the pool/spa suction and return valves to “spillover” at the start of the programmed pool filtering time period or when the super-chlorinate function is turned on. The valves will remain in this position for the remainder of the super-chlorinate period. This option is usually preferable because both the pool and spa water will be filtered and sanitized.

Additional information on Valve3 settings and configurations is provided in the Operations Manual.
Filter Config
+ to view/change

Filter Pump
1 Speed
- Rotates between 1-speed (default), 2-speed and variable speed options
- Move to next menu item

Variable Speed is selected
Lowest Speed 10%
- Adjust the lowest speed desired for variable speed operation
- Move to next menu item

Variable Speed is selected
Highest Speed 100%
- Adjust the highest speed desired for variable speed operation
- Move to next menu item

Freeze Protect
Enabled
- Toggle between Enabled (default) and Disabled Freeze Protection
- Move to next menu item or previous/configuration menu

Freeze Protect
High Speed
- Select the desired Freeze Protection speed from Filter Lowest to Filter Highest speed
- Move to next menu item

Freeze Protect
Lowest Speed
- Adjust the desired freeze protection temperature (33°F - 42°F)
- Move to next menu item

Freeze Protect
Speed
50%
- Move to next menu item

Freeze Protect
Temp
38°F
- Move to next menu item

External Input
Disabled
- Toggle between Enabled and Disabled (default)
- Move to previous/configuration menu

Filter Pump
For 2-speed pumps: When a 2-speed pump is configured, one of the AUX relays must also be configured to control the low speed motor winding on the pump. Refer to the appropriate sections in the Installation manual for specific information regarding the control logic for 2-speed and variable speed pump operation.

For the Hayward variable speed pump: The Filter relay is used to supply input power to the pump. The relay will be on when the filter pump output is on. When the filter pump output is off, the relay will be off. On, off and speed are controlled by commands sent to the pump.

Lowest Speed
This is the lowest speed that the variable speed pump is allowed to run at. It is used as the lower limit in the Low Speed Settings Menu. Set lowest speed from 10% (default) to 50%.

Highest Speed
This is the highest speed that the variable speed pump is allowed to run at. It is used as the upper limit in the High Speed Settings Menu. Also, this is the speed that the pump will run at during the first 3 minutes of operation anytime the pump has been off for more than 30 seconds. Set highest speed from 20% to 100% (default).

Freeze Protection
Freeze protection is used to protect the pool and plumbing equipment against freeze damage. If freeze protection is enabled and the ATR temperature sensor falls below the freeze threshold (see below), the Pro Logic will turn on the filter pump to circulate the water. If “Pool and Spa” is selected in the Pool/Spa sub-menu (see page 18), the valves will also alternate between the pool and spa every 30 minutes and the filter pump will turn off while the valves are turning. The chlorinator will not operate if freeze protection is the only reason the pump is running.

Freeze Protection Speed
This menu only appears if freeze protection is enabled and the pump is configured for 2-speed or variable speed pump operation. If the pump turns on due to freeze protection only, the pump will run at this speed.

2-Speed pumps: Select high (default) or low speed operation.

Variable Speed pumps: Select the desired speed (from Filter Lowest to Filter Highest speed).

Countdown Timer – the aux relay will turn on when the AUX button is pressed and then will turn off automatically after a programmed time (see Timers Menu, Operation Manual). The AUX button can also be used to turn the output off.

Low Speed of 2-speed Filter Pump – the Pro Logic will operate the aux relay whenever the low speed operation of the filter pump is required. It is very important that the “2-speed” filter pump option be selected under the “Filter Config.” Menu for proper operation.

Timeclock – the aux relay will turn on and turn off at the times set for the aux1 timeclock in the Timers Menu. The AUX button can also be used to turn the output on and off.

Solar – the aux relay operates a solar booster pump which will turn on when the filter pump is running and solar heat is available and the water is less than the desired temperature setting. It is important to note that “Solar Control” must be enabled in the “Solar Config.” menu for proper operation to occur.

Super Chlorinate – if “Chlorinator” is enabled, this option allows the user to start a Super Chlorinate cycle when the Aux button is pressed, rather than using the Settings Menu. Note that only one button can be assigned to this function.

Aux1 Relay
This feature allows the user to select either “Standard” (default), “Dimmer” or “VSP” type relay for the Aux1 output. The optional Acc-O-Matic dimmer kit must be installed if “Dimmer” is desired.

When “Dimmer” is selected, and the Aux1 output is manually turned on, the “+” and “-” buttons adjust the level from 20% to 100% (default). The level is saved for the next time the aux1 output is turned off to on.

If “VSP” is selected, the Aux1 relay is used to supply power to a Hayward Variable Speed Pump (VSP). The relay will be on when the Aux output is on and off when the output is off. On, off and speed are controlled by commands sent to the VSP.

Aux1 Interlock
If “Enabled”, this feature will override the function (Manual On/Off, Countdown Timer, Timeclock), selected above and turn the aux1 off when: filter pump is off, first 3 minutes of filter pump operation (allows the pump to prime and get water flowing), then when the pool/spa suction return valves are in any position other than “pool only”, or for the first 3 minutes after solar turns on (allows air in the solar panels to be purged). Interlock is not available for solar, low speed filter pump, super chlorinate or dimmer.

Aux1 External Input Interlock
When Aux1 External Input Interlock is enabled, the Aux1 output will be forced off when the external input is active. This will have precedence over freeze protection. Aux1 External Input Interlock is not available for solar, low speed filter pump, dimmer, group, super chlorinate, or pH dispense functions.

Aux1 Freeze Protection
This function protects the pool, plumbing, and equipment against freeze damage. If Freeze Protection is enabled and the ATR temperature sensor falls below the selected freeze protection temperature, the Pro Logic will turn on the aux relay to circulate the water. IMPORTANT: this only enables operation of the AUX output during freeze—see the “Filter Config.” menu to enable freeze protection for the main circulation system. Freeze Protection is not available for low speed filter pump, dimmer, group, super chlorinate or pH dispense functions.

Aux1 Pump Speed
This is the speed of the filter pump when the Aux1 output is on. The default selection is “Settings Menu”. This is the speed of the pump that has been selected in the Settings Menu for normal filter operation. If an alternate speed is desired when the Aux1 output is on, push “+” or “-” and select from “Lowest” to “Highest” in 5% increments.
If “VSP” is selected, the Lights relay is used to supply power to a Hayward Variable Speed Pump (VSP). The relay will be on when the Lights output is on and off when the output is off. On, off and speed are controlled by commands sent to the VSP.

**Lights Interlock**

If enabled, this feature will override the function (Manual On/Off, Countdown Timer, Timeclock) selected above and turn the lights relay off when: filter pump is off, first 3 minutes of filter pump operation (allows the pump to prime and get water flowing), when the pool/spa suction return valves are in any position other than “pool only”, or for the first 3 minutes after solar turns on (allows air in the solar panels to be purged). Interlock is not available for solar, low speed filter pump, super chlorinate or dimmer.

**Lights External Input Interlock**

When Lights External Input Interlock is enabled, the lights output will be forced off when the external input is active. This will have precedence over freeze protection. Lights External Input Interlock is not available for solar, low speed filter pump, super chlorinate, or pH dispense functions.

**Lights Freeze Protection**

This function helps protect equipment that is wired to the lights relay against freeze damage. If Freeze Protection is enabled and the AIR temperature sensor falls below the selected freeze temperature threshold, the Pro Logic will energize the lights relay. IMPORTANT: this only enables operation of the lights relay during freeze—see the “Filter Pump Config.” menu to enable freeze protection for the main circulation system.

**Lights Pump Speed**

This is the speed of the filter pump when the Lights output is on. The default selection is “Settings Menu”. This is the speed of the pump that has been selected in the Settings Menu for normal filter operation. If an alternate speed is desired when the Lights output is on, press “+” or “-” and select from “Filter Lowest” to “Filter Highest” in 5% increments.

**NOTE:** The configuration parameters for the Aux2 output are the same as shown below for Aux1.

| Aux1 Config. + to view/change | Push to access Aux options |
|———|———|
| AUX1 Function Manual On/Off | Move to previous/next configuration menu |
| for manual on/off, countdown timer and timeclock functions | |
| AUX1 Relay Standard | Toggle between Standard (default), Dimmer and VSP |
| for all functions except solar, dimmer relay, super chlorinator and low speed | Move to move to next menu item or previous/next configuration menu |
| AUX1 Interlock Disable | Move to move to next menu item |
| for all functions except solar, dimmer relay, super chlorinator and low speed | |
| AUX1 Ext Input Disable | Toggle between Enabled and Disabled (default) |
| for all functions except dimmer relay, super chlorinator and low speed | Move to move to next menu item |
| AUX1 Freeze Disable | Toggle between Enabled (default) and Disabled |
| for filter pump is set to variable speed and the relay type is set to standard | Move to move to previous/next configuration menu |
| AUX1 Pump Start Settings Menu | Select Settings Menu (default) or desired pump speed (Filter Lowest to Highest) |
| | Move to move to previous/next configuration menu |

**WARNING:** Do not use the Pro Logic to control an automatic pool cover. Swimmers may become entrapped underneath the cover.

AUX1 Function

Manual On/Off (default)—the aux relay will alternate between turning on and off when the aux button is pressed. There is no automatic control logic.
Solar

If the solar control logic is “Enabled”, several additional steps must be taken to ensure proper operation of the solar system. If the solar is operated by a valve, then the Valve 3 output must be setup for solar logic. If “Solar” is enabled and “Allow Low Speed” is enabled, low speed of a 2-speed Filter Pump, Lights Interlock and Lights Freeze Protection will not be necessary. If pool lights are wired to the lights relay, some options including Solar function, Low Speed of a 2-Speed Filter Pump, Lights Interlock and Lights Freeze Protection will not be necessary. If the pool/spa suction valve is in the “Settings Menu”. If applicable, the homeowner will be prompted to enter separate pool and spa desired temperature settings. Depending on the position of the pool/spa suction valve, the proper temperature setting will be used.

Solar Extend

If “Enabled”, the filter extend logic keeps the filter pump running beyond the normal turn-off time if solar heat is still available. When solar heat is no longer available, both the solar valve/pump and filter pump will turn off simultaneously. Solar extend will NOT cause the filter pump to turn on, it will only delay the turn off time when solar is operating.

Solar Priority

If both “Solar Control” and “Heater Control” are enabled, the Solar Priority feature will keep the conventional heater off whenever solar heat is available. This provides the most cost effective way of heating the pool. When solar heat is not available, the conventional heater will operate normally.

Allow Low Speed

This menu only appears if the pool filter is configured for 2-speed operation. During default operation, high speed mode is used whenever the solar heater is on. If “Allow Low Speed” is enabled, low speed pump operation will be allowed during solar heating except for the first 3 minutes after solar heat turns on.

External Input

The external input device can either be normally open or normally closed. In this menu, select the state of the external input device when active.