HAYWARD®

OmniLogic Upgrade Kit

Automation and Chlorination

Installation Manual

Contents

HLXDSPKIT

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HAYWARD®

IMPORTANT SAFETY INSTRUCTIONS

⚠ WARNING - Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

FCC Statement

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

Changes or modifications not expressly approved by Hayward could void the user's authority to operate this equipment.

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 the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio / TV technician for help.

Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
The term "IC" before the certification / registration number only signifies that the Industry Canada technical specifications were met.

⚠ WARNING - Suction Entrapment Hazard. Suction in suction outlets and/or suction outlet covers which are damaged, broken, cracked, missing, or unsecured can cause severe injury and/or death due to the following entrapment hazards:

Hair Entrapment - Hair can become entangled in suction outlet cover.

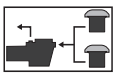
Limb Entrapment - A limb inserted into an opening of a suction outlet sump or suction outlet cover that is damaged, broken, cracked, missing, or unsecured can result in a mechanical bind or swelling of the limb.

Body Suction Entrapment - A negative pressure applied to a large portion of the body or limbs can result in entrapment.

Evisceration/Disembowelment - A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is damaged, broken, cracked, missing, or unsecured can result in evisceration/disembowelment.

Mechanical Entrapment - There is potential for jewelry, swimsuit, hair decorations, fingers, toes, or knuckles to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.

⚠ WARNING - To reduce the risk of entrapment hazards:



- When outlets are small enough to be blocked by a person, a minimum of two functioning suction outlets per pump must be installed. Suction outlets in the same plane (i.e. floor or wall) must be installed a minimum of three feet (one meter) apart, as measured from near point to near point.
- Dual suction fittings shall be placed in such locations and distances to avoid "dual blockage" by a user.
- Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- The maximum system flow rate shall not exceed the listed flow rating.
- Never use pool or spa if any suction outlet component is damaged, broken, cracked, missing, or unsecured.
- Replace damaged, broken, cracked, missing, or unsecured suction outlet components immediately.
- In addition two or more suction outlets per pump installed in accordance with latest ASME, APSP Standards and CPSC guidelines, follow all National, State, and Local codes applicable.
- Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended.

⚠ WARNING - Failure to remove pressure test plugs and/or plugs used in winterization of the pool/spa from the suction outlets can result in an increased potential for suction entrapment as described previously.

⚠ WARNING - Failure to keep suction outlet components clear of debris such as leaves, dirt, hair, paper, and other material can result in an increased potential for suction entrapment as described on the previous page.

⚠ WARNING - Suction outlet components have a finite life. The cover/grate should be inspected frequently and replaced at least every ten years or if found to be damaged, broken, cracked, missing, or unsecured.

⚠ CAUTION - Components such as the filtration system, pumps, and heater must be positioned so as to prevent their being used as means of access to the pool by young children. To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times.

⚠ WARNING - Hazardous Pressure. Pool and spa water circulation systems operate under hazardous pressure during start up, normal operation, and after pump shut off. Stand clear of circulation system equipment during pump start up. Failure to follow safety and operation instructions could result in violent separation of the pump housing and cover, and/or filter housing and clamp due to pressure in the system, which could cause property damage, severe personal injury, or death. Before servicing pool and spa water circulation system, all system and pump controls must be in the off position and filter manual air relief valve must be in the open position. Before starting system pump, all system valves must be set in a position to allow system water to return back to the pool. Do not change filter control valve position while system pump is running. Before starting system pump, fully open filter manual air relief valve. Do not close filter manual air relief valve until a steady stream of water is discharged (not air or air and water).

⚠ WARNING - Separation Hazard. Failure to follow safety and operation instructions could result in violent separation of pump and/or filter components. Strainer cover must be properly secured to pump housing with strainer cover lock ring. Before servicing pool and spa circulation system, filter manual air relief valve must be in open position. Do not operate pool/spa circulation system if a system component is damaged, broken, cracked, missing, or unsecured. Do not operate pool/spa circulation system unless filter manual air relief valve body is in locked position in filter upper body. **Never operate or test the circulation system at more than 50 PSI.**

⚠ WARNING - Risk of Electric Shock. All electrical wiring MUST be in conformance with applicable local codes, regulations, and the National Electric Code (NEC). Hazardous voltage can shock, burn, and cause death or serious property damage. To reduce the risk of electric shock, so NOT use an extension cord to connect unit to electric supply. Provide a properly located electrical receptacle. Before working on any electrical equipment, turn off power supply to the equipment. Replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers, and other equipment. Do NOT ground to gas supply line.

⚠ WARNING - Risk of Electric Shock. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard. Electrical ground all electrical equipment before connecting to electrical power supply.

⚠ WARNING - Risk of Electric Shock. Failure to bond all electrical equipment to pool structure will increase risk for electrocution and could result in injury or death. To reduce risk of electric shock, see installation instructions and consult a professional electrician on how to bond all electrical equipment. Also, contact a liscensed electrician for information on local electrical codes for bonding requirements.

Notes to electrician: Use a solid copper conductor, size 8 or larger. Run a continuous wire from external bonding lug to reinforcing rod or mesh. Connect a No. 8 AWG (8.4 mm^2) [No. 6 AWG (13.3 mm^2) for Canada] solid copper bonding wire to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub. **IMPORTANT - Reference NEC codes for all wiring standards including, but not limited to, grounding, bonding, and other general wiring procedures.**

⚠ WARNING - Risk of Electric Shock. The electrical equipment must be connected only to a supply circuit that is protected by a groung-fault circuit-interruptor (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the electrical equipment without the test button being pushed, a ground current is flowing, indicating the possibility of an electrical shock. Do not use this electrical equipment. Disconnect the electrical equipment and have the problemn corrected by a qualified service representative before using.

⚠ CAUTION - Hayward® pumps are intended for use with permanently-installed pools and may be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled and reassembled to its original integrity.

SAVE THESE INSTRUCTIONS

Introduction

The OmniLogic Upgrade Kit is designed to upgrade an OmniLogic system to replace the existing Local Display with a more convenient remote touchscreen Control Pad. The Control Pad is weather resistant and contains a built-in 2.4GHz WiFi radio for wireless internet connection. Its resistive touchscreen with flip down cover is designed to function year round directly in the elements.

What's Included

Check that the following components have been included in your package:

- OmniLogic Main Board
- Control Pad with 15' cable
- Grommet
- Deadfront Panel

Overview

Below is an overview of the installation procedure of the OmniLogic Upgrade Kit:

IMPORTANT: Make sure that ALL circuit breakers are OFF and the unit power is disconnected before removing deadfront panel and replacing parts.

1. **Clone Controller to a USB Thumb Drive (page 2):** Replacing the Main Board and Local Terminal will remove the current configuration and all existing settings. Cloning the OmniLogic Controller to a USB thumb drive beforehand will eliminate the need to reconfigure the system.

2. **Identify and Remove all Wiring Connections (page 3):** Identify all current wiring connections to the OmniLogic Main Board. You'll need to be familiar with each connection to properly wire the new OmniLogic mainboard. It is recommended to take a picture of the Main Board for reference before you begin removing connections.

3. **Replace the Main Board (page 4):** After removing all connections to the existing Main Board, remove it from the enclosure and replace it with the new Main Board. Reattach all connections to the new Main Board.

4. **Install New Control Pad and Deadfront Panel (page 4):** The old Local Terminal will no longer be used. Mount the new Control Pad in a convenient location and connect it to the Main Board. Install the new deadfront panel and apply power to the system.

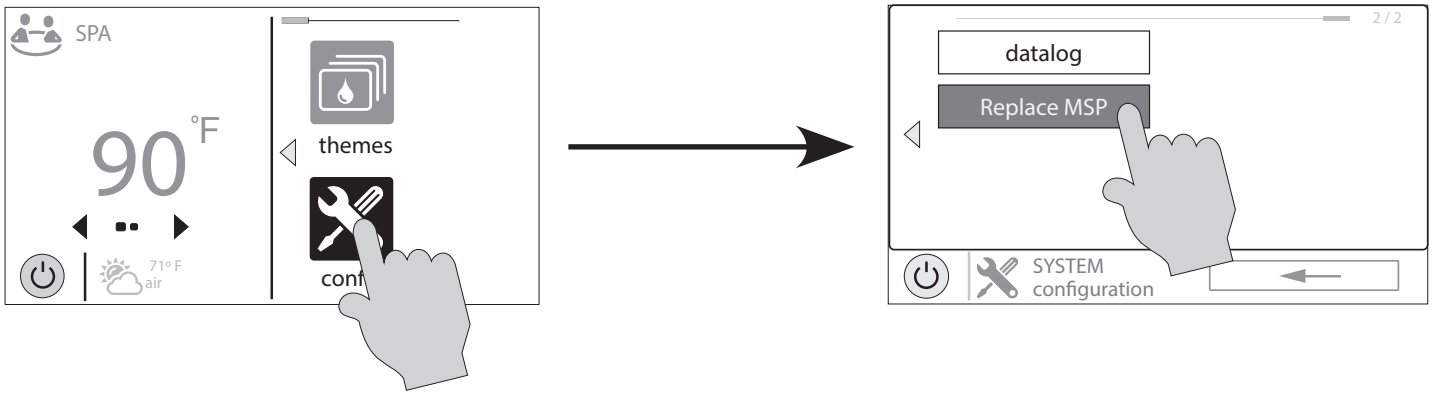
5. **Load Clone onto New Control Pad (page 6):** With the new Main Board and Control Pad installed, plug the USB thumb drive into the port underneath the Control Pad. Load the previously cloned system onto the new Control Pad and verify operation.

Installation

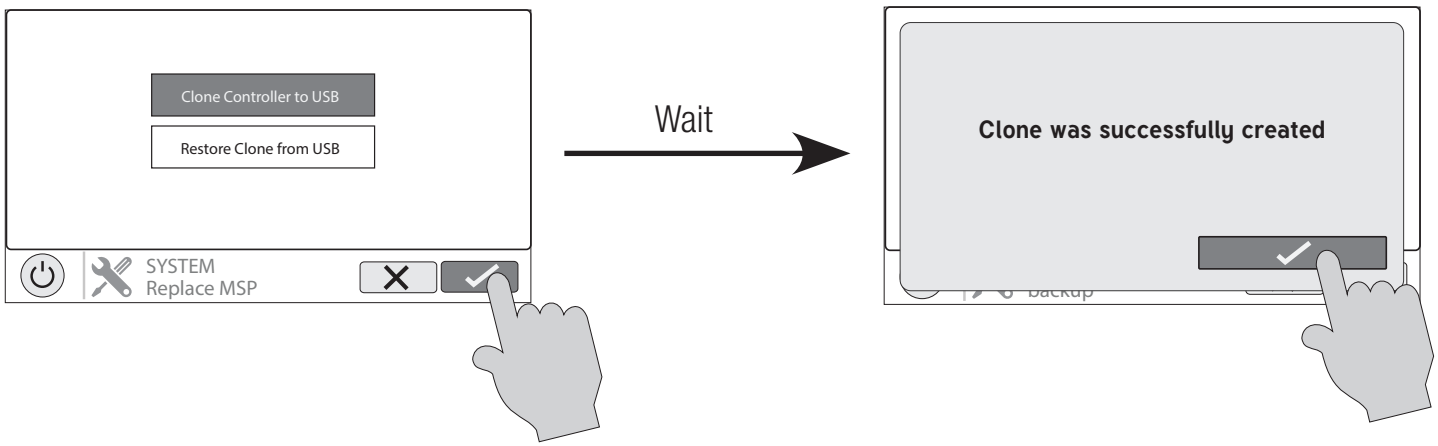
Clone Controller to USB

Before you begin this upgrade, it is important to save the current OmniLogic configuration to a USB thumb drive. Follow the procedure below to save the configuration. NOTE: The MSP must be at version R4.3.0 or greater for the "Replace MSP" button to appear. If the MSP version is not at least R4.3.0, refer to the OmniLogic Installation manual for firmware upgrade instructions.

1. Disconnect power to the OmniLogic system.
2. Remove the deadfront panel.
3. Insert a USB thumb drive into the USB port on the left side of the Local Display.
4. Reinstall the deadfront panel.
5. Apply power to the OmniLogic system.
6. From the OmniLogic Local Display, navigate to the Config menu and press "Replace MSP".



7. Press "Clone Controller to USB" and press the check mark at the bottom to start the clone. When the clone is complete, press the check mark to finish.

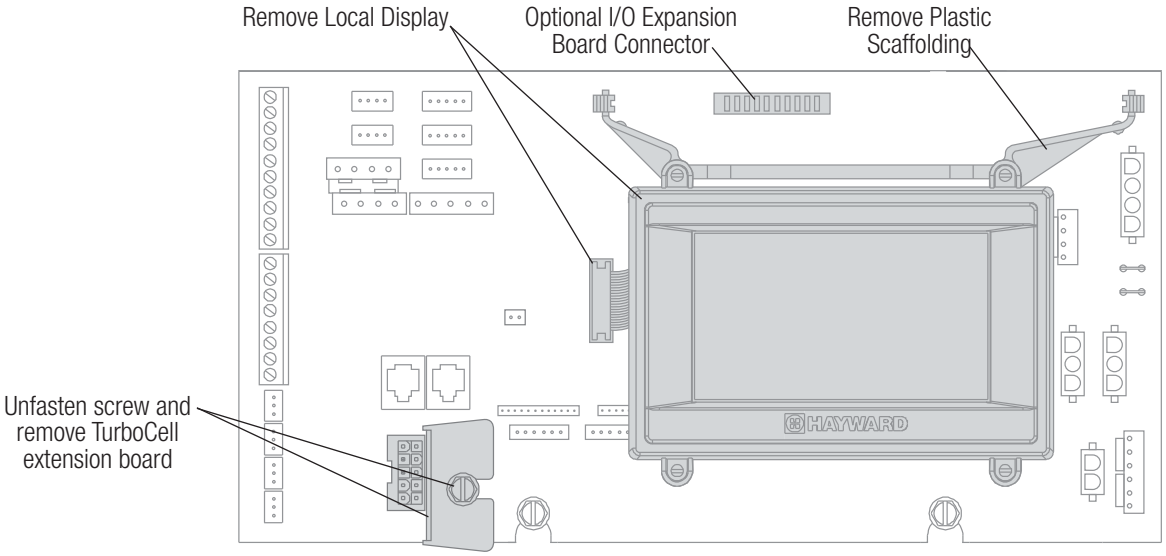


8. Clone is now complete. Disconnect power to the OmniLogic and remove the thumb drive from the Local Display and put it aside for now.

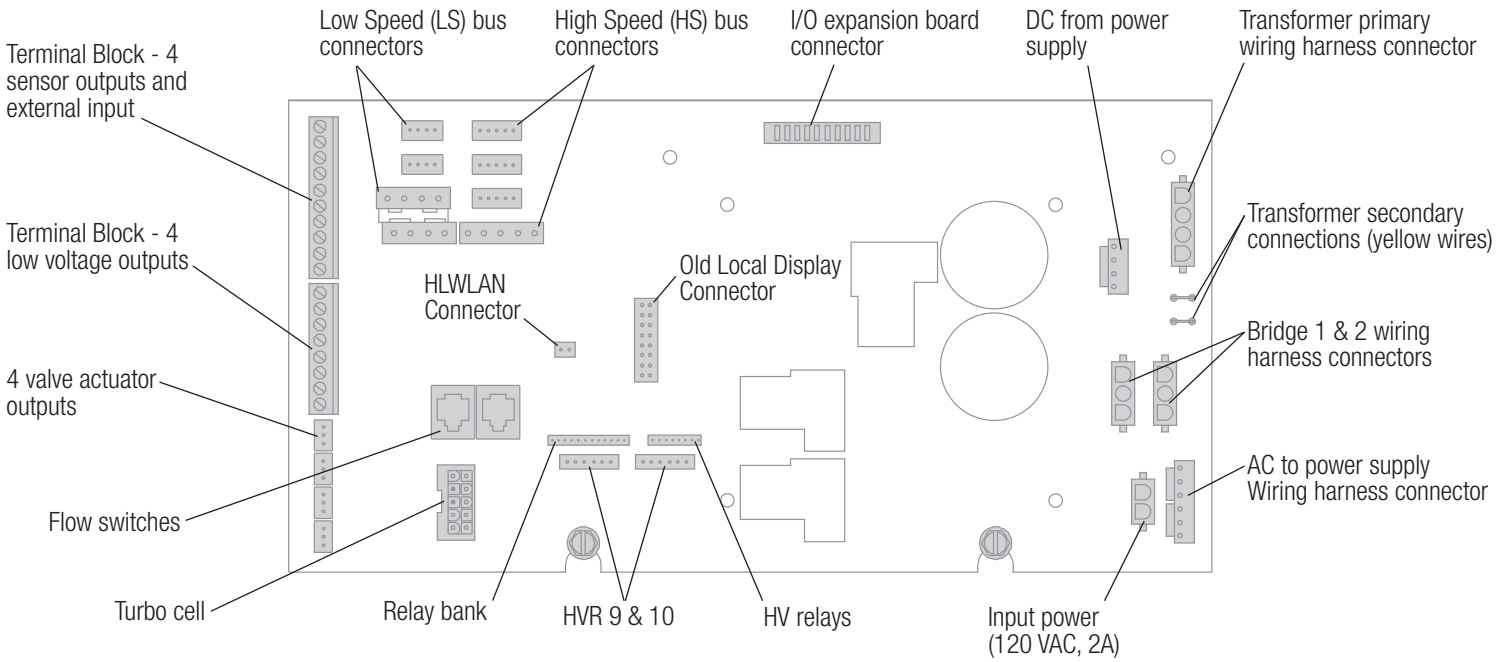
Identify and Remove all Wiring Connections

Before you start disconnecting wires, you may want to take photos or mark the wiring with tape to identify connections. These wires will be reconnected to the new OmniLogic Main Board included in the kit. A general description of the connectors is shown below but if there is any question about a connection, trace back the individual wiring to the equipment. Note that the sensor/interlock and heater output screw terminal blocks will fit on the new OmniLogic Main Board. Rather than remove each connection from the screw terminals, pull up on the entire terminal block to remove.

1. COMPLETELY DISCONNECT POWER TO THE CONTROL AND ITS ELECTRICAL PANEL.
2. Remove the deadfront panel to expose the Main Board.
3. Unfasten the screw holding the TurboCell extension board in place and then remove the TurboCell extension board.
4. If using the optional I/O expansion board, disconnect all connections from the I/O expansion board and then remove it from the plastic scaffolding.
5. Remove the Local Display from the plastic scaffolding by disconnecting the ribbon cable from the Main Board and pulling straight up. The Local Display will no longer be used.



6. Remove the plastic scaffolding by pulling each leg straight up away from the Main Board. If using the optional I/O expansion board, the plastic scaffolding will be reinstalled onto the new Main Board. If not, the plastic scaffolding can be discarded.



7. Take a picture of all wiring connections and then remove all connections.
8. Loosen the two screws that secure the Main Board to the enclosure.
9. Remove the Main Board from the enclosure by lifting the board up and then out.

Replace the Main Board

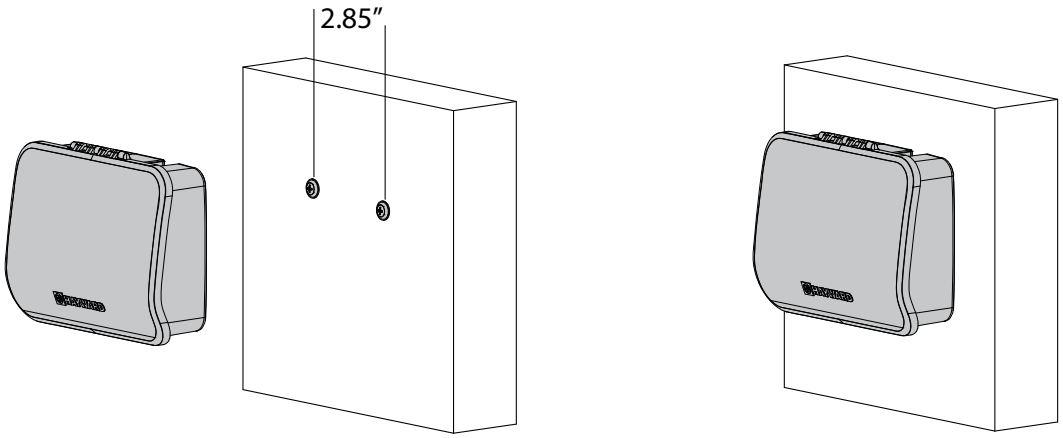
With the old Main Board removed from the enclosure, install the new Main Board in its place. Note that each wiring connection is in the same location as the old Main Board. The only difference is the connector for the new Control Pad (see below). If you were formerly using an HLWLAN for wireless internet connection, note that it will no longer be needed as the new Control Pad has a built-in radio for wireless connection.

1. Mount the new Main Board into the enclosure by aligning the standoffs on the back with the holes in the enclosure then pushing the Main board in and then down until it stops.
2. Secure it in place using the two screws that were previously loosened.
3. Reattach all previously removed wiring connections. If you did not take a picture, refer to the graphic on the previous page for wiring connections.

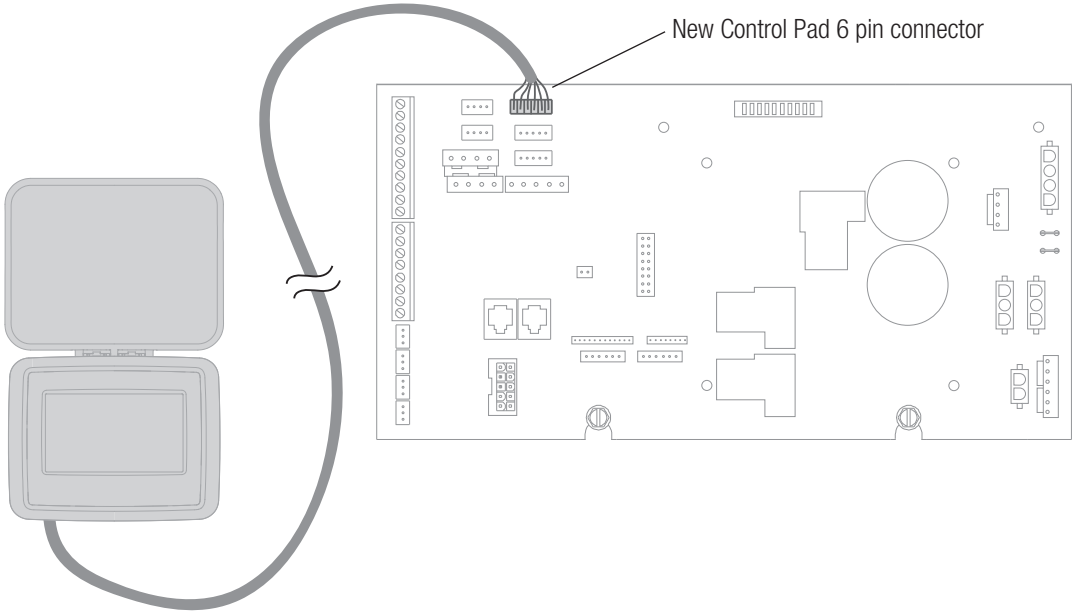
Install New Control Pad and Deadfront Panel

The Control Pad should be mounted in a location that is convenient for the user to view and change pool/spa settings and within range of the home's wireless network access point. When considering the mounting location, make sure there is enough clearance above the enclosure so that the flip door will be able to be opened fully. Also be sure to allow enough clearance below the Control Pad to access the USB and Ethernet connectors. For best viewing results, position the Control Pad where it won't be subjected to direct sunlight. Note that the Control Pad comes with a 15 ft cord but a 100 ft extension cord is available if necessary (HLXPL485100).

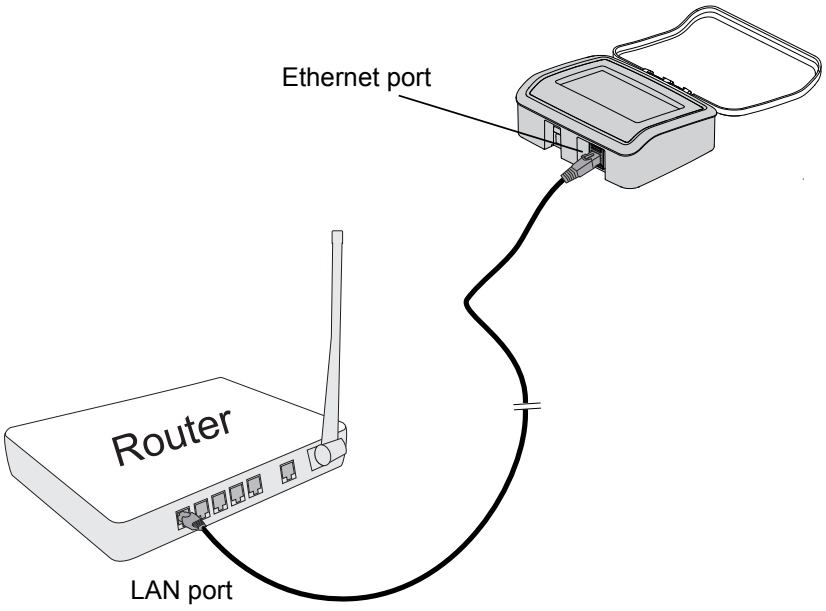
The Control Pad has two keyhole cutouts on the back of its enclosure. A mounting template is provided on page 7. To mount, screw two appropriate fasteners into the mounting surface at the desired location as shown below. Tighten until the bottom of the screw heads are 1/8" off the mounting surface. Position the Control Pad cutouts over the screw and slide the unit downward. You may have to tighten or loosen the screws slightly to fully engage the screw heads to get a snug fit.



Once mounted, remove one of the existing spider grommets from bottom of the OmniLogic enclosure and replace it with the supplied open grommet. Run the Control Pad's cable through the grommet and plug it into the connector on the Main Board as shown below.



In most cases, users will want to use the Control Pad's built-in WiFi to connect to their home's network. The OmniLogic requires a 2.4GHz connection to the router, 5GHz networks are not recognized. If a wired connection is desired, an Ethernet port is provided. For Ethernet connections, use outdoor rated Cat5e or Cat6 Ethernet cable. Connect one end to the Control Pad and the other to an available LAN port (not WAN) on the home router or access point as shown. If you are not using an Ethernet connection, note that there are rubber plugs covering the USB port and Ethernet port on the bottom of the Control Pad for protection from the elements.

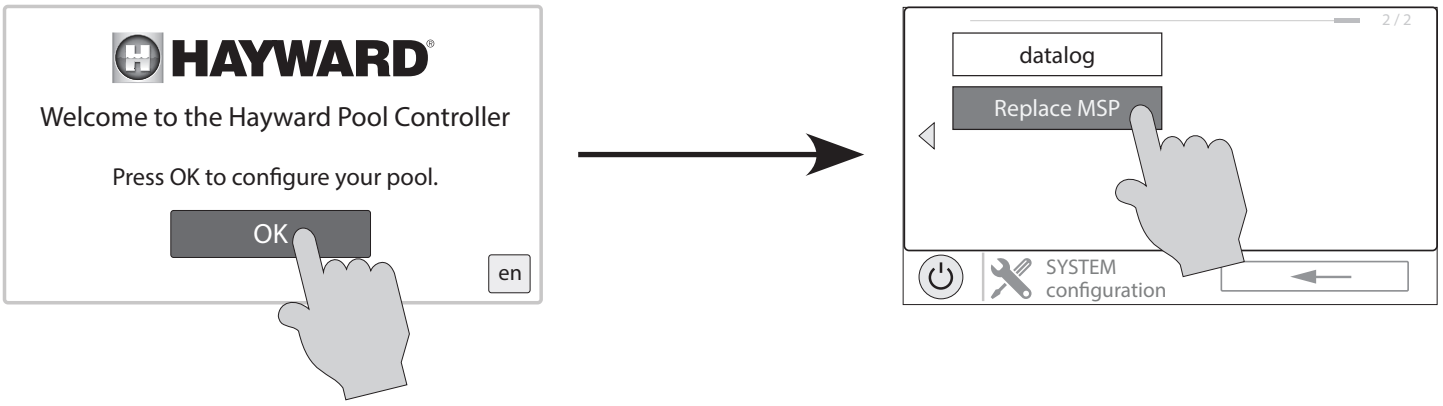


Once all connections are made, install the provided deadfront panel and apply power to the OmniLogic system.

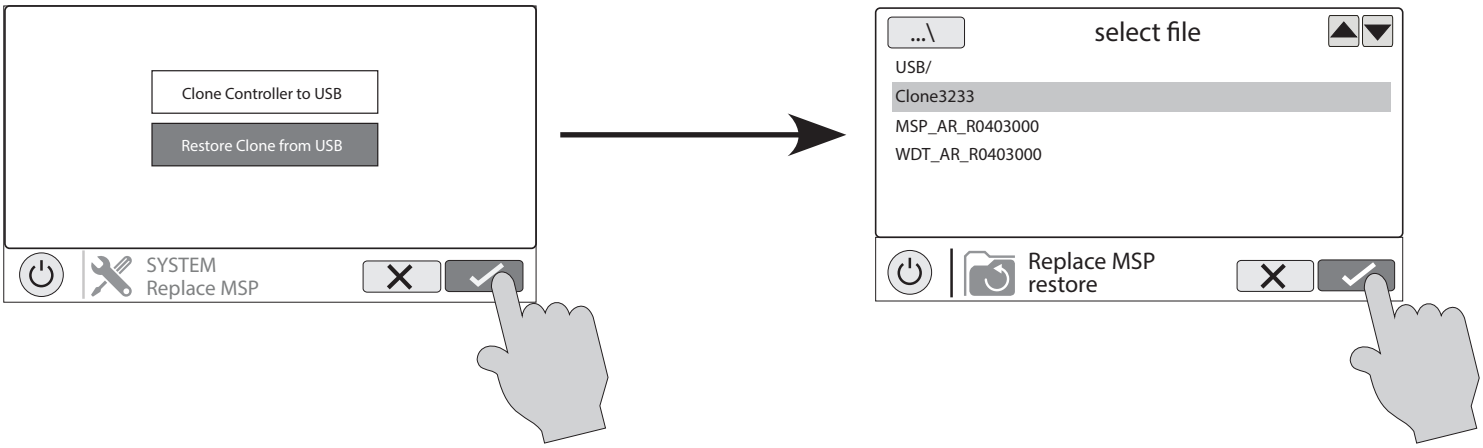
Load Clone onto New Control Pad

Out of the package, the new Control Pad will be set to factory defaults. In order to restore the original configuration and settings, you will have to load the clone that was previously saved to the USB thumb drive.

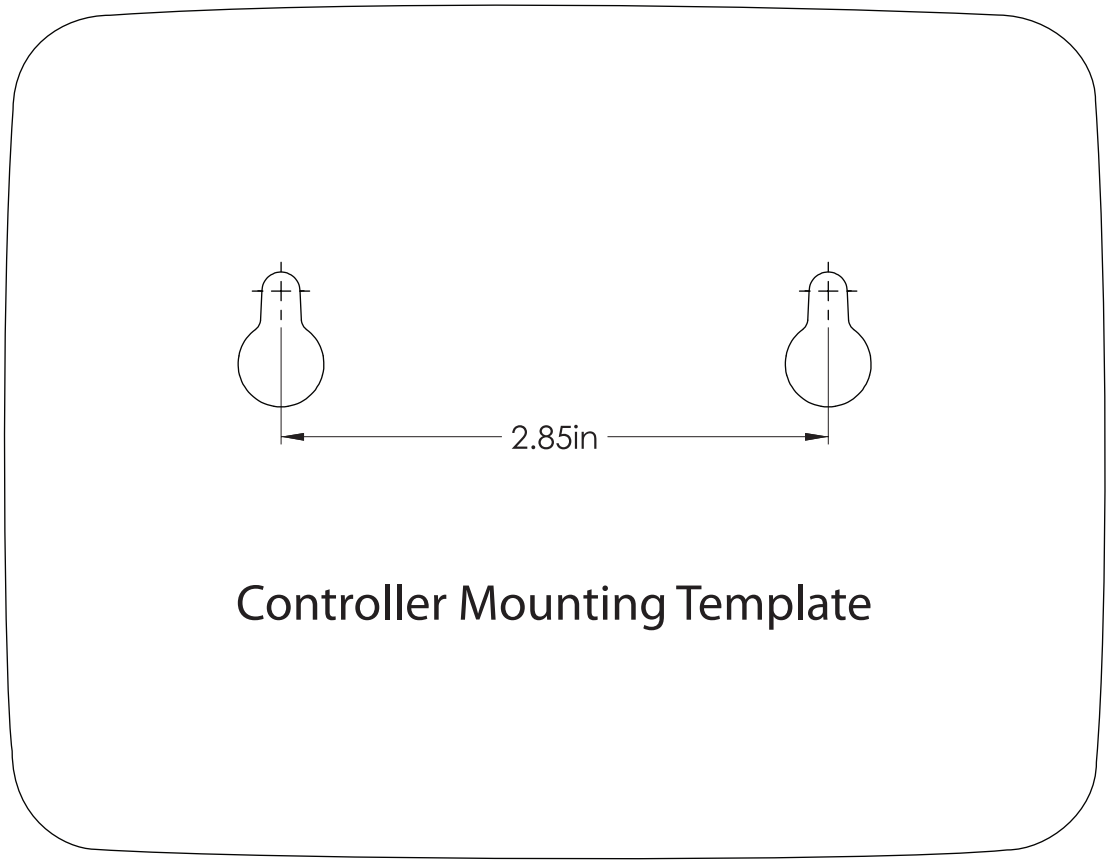
1. Insert the USB thumb drive into the USB port located on the bottom of the Control Pad.
2. Press the “OK” button and navigate to “Replace MSP”.



3. Press “Restore Clone from USB” and then select the clone file from the list. The file will be named “Clone” followed by the MSPID of the previous system.



4. Wait for the system to finish restoring the clone. This may take a couple minutes depending on the size of the configuration. Once it is complete, press the check mark and the system will reboot.
5. When the system is done rebooting, verify that the configuration was loaded successfully and there are no communication loss alarms. You are now finished upgrading the OmniLogic.



Controller Mounting Template

HAYWARD®

LIMITED WARRANTY (effective 03/01/12) Hayward warrants its OmniLogic, OmniHub, ProLogic, On-Command 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 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 purchase on private residential swimming pools in the US and Canada. Installations of product for use on commercial pools in the US and Canada is covered for a period of one (1) year for defects in materials and workmanship. Hayward warrants all accessories and replacement parts for the above-identified pool automation and chlorination products for a period of one (1) year. Accessories also include remotes, actuators, base stations, temperature sensors, flow switches and chemistry probes. Each of these warranties is not transferable and applies only to the original owner.

Hayward shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

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 authorized warranty service center. For more information on authorized service centers please contact the Hayward Technical Service Support Center (61 Whitecap Road, North Kingstown RI, 02852) or visit the Hayward web site at www.hayward.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.

6. Use of a non-genuine Hayward replacement salt chlorination cell on any Hayward automation or chlorination product will void the warranty for that product.

The express limited warranty above constitutes the entire warranty of Hayward Pool Products with respect to its products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall Hayward Pool products be responsible for any consequential, special or incidental damages of any nature. Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

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www.hayward.com

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