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OWNER'S MANUAL

ENGLISH | FRANÇAIS | ESPAÑOL



Jandy Nicheless LED Underwater Light

! WARNING

FOR YOUR SAFETY - This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such state or local requirements exist. The maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.

ATTENTION INSTALLER - This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

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Section 1. Important Safety Instructions

IMPORTANT SAFETY INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS READ AND FOLLOW ALL INSTRUCTIONS

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

DANGER

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION. This underwater light must be installed by a licensed or certified electrician in accordance with the National Electrical Code® and applicable local codes and ordinances. In Canada, the Canadian Electrical Code and all applicable local codes and ordinances must be adhered to. Improper installation will create an electrical hazard, which could result in death or serious injury to pool or spa users, installers, or others due to electrical shock, and may also cause damage to property. Read and follow the specific instructions below.

WARNING

Before installing this underwater light, read and follow all warning notices and instructions accompanying this light. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage.

Visit www.zodiacpoolsystems.com for additional free copies of these instructions or call Zodiac Technical Support at 800.822.7933 (U.S.) or 888.647.4004 (Canada)

CAUTION

Except when the Jandy® Nicheless Underwater LED Lights are installed in an area of the swimming pool that is not used for swimming and the lens is adequately guarded to keep any person from contacting it, the light shall be installed in or on a wall of the pool, with the top of the lens opening not less than 4 inches (102 mm) below the normal water level of the pool.

ATTENTION INSTALLER

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

SAVE THESE INSTRUCTIONS

⚠ WARNING

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION, which could result in serious injury or death. The Jandy® Nicheless LED Lights are only available for 12-volt AC power. For supply connection, use only an isolating low voltage power supply with ungrounded output, evaluated and listed by a NRTL for swimming pool use.

Section 2. General Description

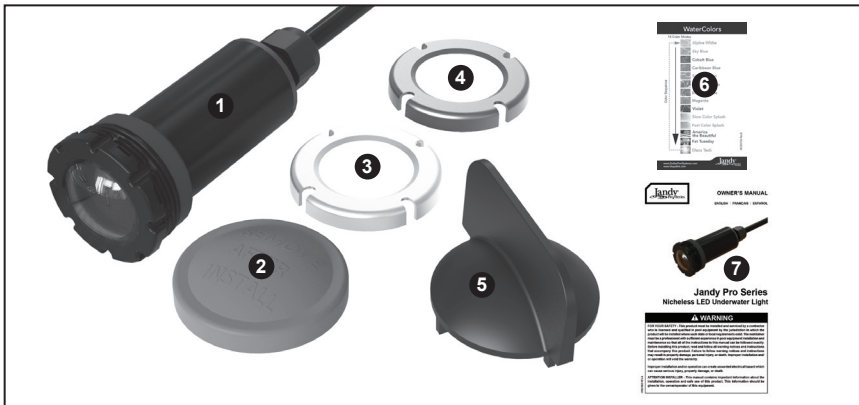
2.1 Product Overview

This manual provides instructions for installing and replacing the Jandy Nicheless Underwater LED Lights for pool and spa use.

CAUTION

The Jandy Nicheless LED Underwater Lights are not serviceable and therefore contain no serviceable parts. In order to prevent risk of property damage and/or injury, no service should be attempted to the light in the event of a malfunction. The complete light assembly must be replaced.

2.2 Product Contents



- 1 - Jandy Nicheless Underwater LED Light
- 2 - Protective Cover (See Page 7)
- 3 - White Cosmetic Cover (See Page 7)
- 4 - Gray Cosmetic Cover (See Page 7)
- 5 - Installation Tool (See Page 7)
- 6 - Quick Reference Guide
- 7 - Nicheless LED Underwater Light Owner's Manual

Section 3. Installing the Jandy Nicheless LED Light

WARNING

Risk of Electrical Shock or Electrocutation. This underwater light must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code® (Canadian Electrical Code, in Canada) and all applicable local codes and ordinances. Improper installation will create an electrical hazard, which could result in death or serious injury to pool or spa users, installers or others due to electrical shock, and may also cause damage to property.

Always disconnect the power to the light at the circuit breaker before installing or servicing the light. Failure to do so could result in death or serious injury to serviceman, pool or spa users or others due to electrical shock.

NOTE: Jandy Nicheless Lights are Low Voltage and do not have any exposed metal and as such do not require a separate ground or bonding wire.

3.1 Preparing the Light Fixture for Installation

NOTE: The electrician must complete preparatory steps before light fixture is installed. See Figure 1.

Verify that the pool meets the requirements of the current National Electrical Code® (Canadian Electrical Code, in Canada) and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the underwater light is installed. Some of the requirements of the National Electrical Code, which the pool electrical systems must meet, are as follows:

1. The junction box or the low-voltage magnetic transformer must be located at least eight (8) inches (measured from the inside of the bottom of the junction box or transformer) above the MAXIMUM water level, OR at least four (4) inches above the ground level or pool deck, whichever is greater. The junction box or 12VAC magnetic transformer must also be installed at least forty-eight (48) inches (4 ft.) from the edge of the pool. See Figure 1.
2. 1.5" pipe must be installed through the bond beam followed by 1" conduit for the cord using sweep elbows only for turns. Do not use 90 degree elbows. It is highly recommended to use 1.5" pipe throughout the entire width of the bond beam, however, the minimum length for the particular light being installed is specified in Table 1.

- A standard 1.5" plastic wall / return fitting (not included) must be installed so that the top edge of the underwater light's lens is at least 4 inches (10.2 cm) below the surface of the water in the pool.

See Figure 1.

NOTE: For optimal lighting results it is recommended to place lights 12-18" below the water line.

NOTE: To be certain that the pool's electrical system meets all applicable requirements, the electrician should also consult the local building department.

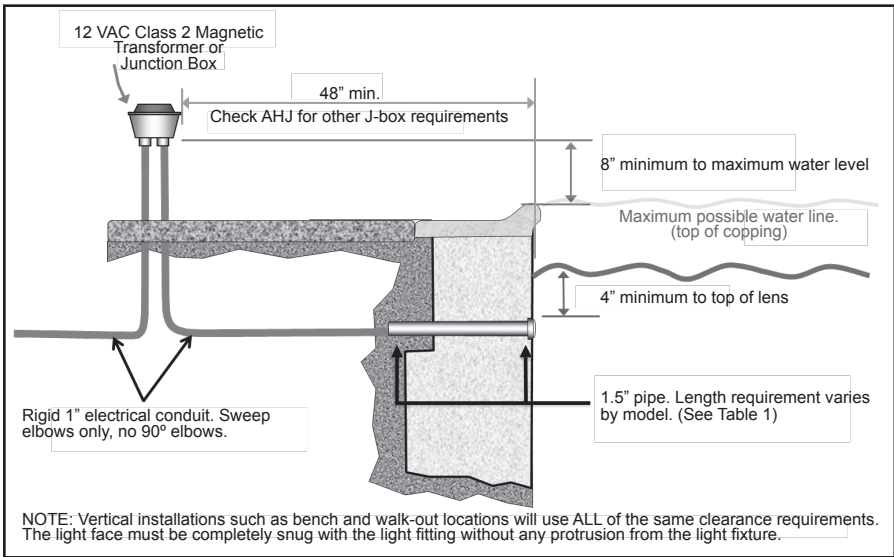


Figure 1. Jandy® LED Light Installation with Standard 1.5" Plastic Fitting

Use the chart below to determine the appropriate pipe length for your installation.

WATTS	MINIMUM LENGTH FOR 1.5" PIPE
6W	7"
12W	10"
24W	10"

All products listed above come in a variety of cord lengths. Cord lengths come in 50, 100 & 150 feet lengths.

Table 1. Jandy® LED Light Minimum 1.5" pipe length

3.2 Installing the Light Fixture

NOTE: Perform these steps *only* after the electrical system requirements are met.

1. Keep protective cover on to protect the light during installation.

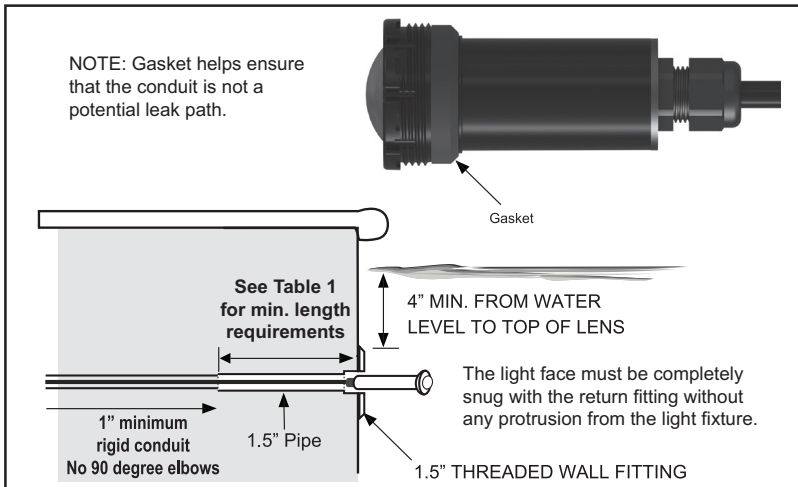
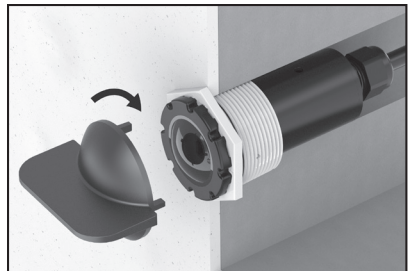


Figure 2. Standard installation with 1.5" pool wall fitting

2. Snake the electric cord through the conduit outlet of the wall fitting, into the conduit and up to the location of the pool transformer. Cut the cord 18"-24" beyond the length needed to reach the transformer to allow for a service loop. Pull the fixture snug to the wall fitting.
3. Remove protective cover after construction (including plastering for gunite pools) is complete. Do not plaster the pool with the construction cover removed.
4. Install cosmetic cover if desired.
5. Apply teflon silicone lube to threads to assist with threading.

NOTE: When using a 1 1/2" MIP fitting on the back of a SP-1022 or SP-1408 Wall Fitting, the interior of the Spears and Dura MIP are too small for use with the Jandy® Nicheless LED Lights.

6. Using the included installation tool, thread the light into the wall fitting until it is snug. The light face must be completely flush with the return fitting. Please provide the pool owner with a minimum of 1 key upon job completion.



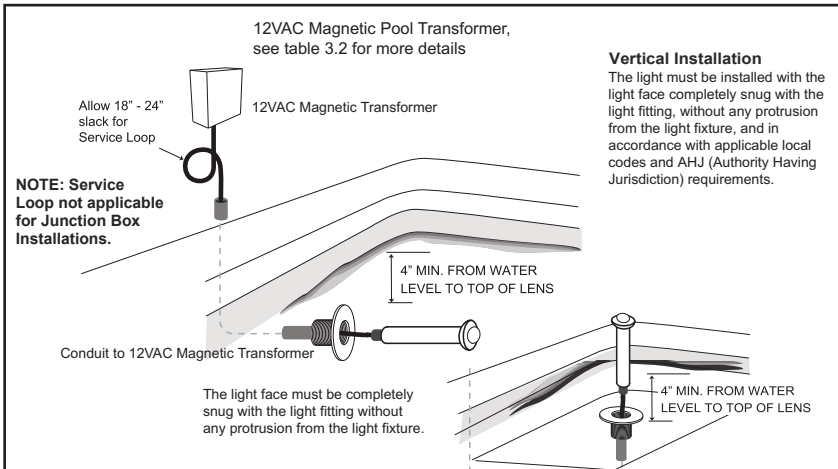


Figure 3. Standard installation with 1.5" pool wall fitting

3.3 Wet Area Installations

For wet area lighting within 10 feet (3M) of a pool or spa, use 6 Watt Models ONLY. Except when the luminaire is adequately guarded, the luminaire shall be installed in areas not subject to incidental contact from people, pets, vehicles, and foot traffic.

Section 4. Wiring Options for Controlling Jandy® Nicheless LED Lights

NOTE: Always consider the cable length when calculating the input voltage at the transformer. The maximum run of service between transformer and lights should not exceed 150ft. in length, inclusive of the use of a J Box or not.

To the extent allowed by local installation codes in effect in the installation jurisdiction and capacity of the electrical equipment, multiple Jandy lights may be controlled with a single switch and a 12VAC magnetic transformer so their colors may be synchronized.

IMPORTANT NOTE: All fixtures must be tied into the same transformer, circuit or switch for synchronization to occur. The use of Solid Core over Stranded wire and terminating Bus Bars is strongly recommended.

4.1 Wiring to an AquaLink® Controller

The Jandy Nicheless LED Lights can be controlled by an AquaLink controller. Connect the transformer powering the lights to one of the auxiliary relays in the AquaLink.

Refer to Figure 4 to connect the Jandy Nicheless LED Lights to the Power Center.

4.2 Wire Gauge and Length

CAUTION

Jandy® Nicheless Underwater LED Lights are low voltage fixtures. Improper wire gauge and wire length can effect the performance of these products. Follow the guidelines below to determine the proper operation and optimum performance of the lights.

Voltages are determined by the measured voltage level at the Bus Bar where the transformer and cords are connected.

NOTE: Each color mode has a slightly different power draw

6W & 12W lights: Min/Max Voltage per cord length		
Cord Length	Min. Voltage	Max. Voltage
50 Feet	9.4VAC	12.4VAC
100 Feet	10.7VAC	13.2VAC
150 Feet	11.82VAC	13.8VAC

24W Lights: Min/Max Voltage per cord length		
Cord Length	Min. Voltage	Max. Voltage
50 Feet	10.34VAC	12.56VAC
100 Feet	10.9VAC	13.5VAC
150 Feet	11.43VAC	14.1VAC

Table 2. Jandy® LED Light Voltage Min/Max Levels

WARNING

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION, which could result in serious injury or death. A Ground Fault Circuit Interrupter (GFCI) for 120 Volt transformers should be used if required by the transformer manufacturer or if required by the local applicable code and/or Authority Having Jurisdiction (AHJ). When a GFCI is used, the conductors on the load side of the GFCI circuit shall not occupy conduit, boxes, or enclosures containing other conductors unless the additional conductors are also protected by a GFCI. Refer to local codes for complete details.

⚠ WARNING

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION, which could result in serious injury or death. The Jandy Nicheless LED Lights are only available for 12-volt AC power. For supply connection, use only an isolating low voltage power supply with ungrounded output, evaluated and listed by a NRTL for swimming pool use.

4.3 Wiring to a Switch

The Jandy® Nicheless LED Lights can be wired to a switch to manually operate the lights. Refer to Figure 4 to connect the lights into the switch.

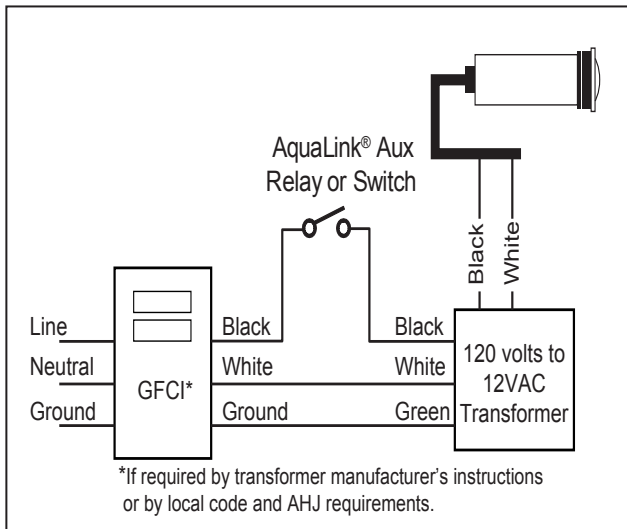


Figure 4. Wiring Jandy Nicheless Underwater Lights

4.4 Twelve (12) Volt Installation

A 12-14 Volt AC Magnetic Transformer must be used to power all 12-Volt lights.

NOTE For optimum performance do not exceed the load factor specified by the instructions included with the transformer.

To ensure maximum safety, use only a Class 2 magnetic transformer that can supply 12-14 Volts AC to power all 12-Volt lights. The transformer must be listed or certified by a Nationally Recognized Testing Laboratory (NRTL) for the intended use.

! CAUTION

To prevent risk of fire which could result in property damage, and to ensure optimum performance, do not exceed the load factor specified in the instructions provided by the transformer manufacturer.

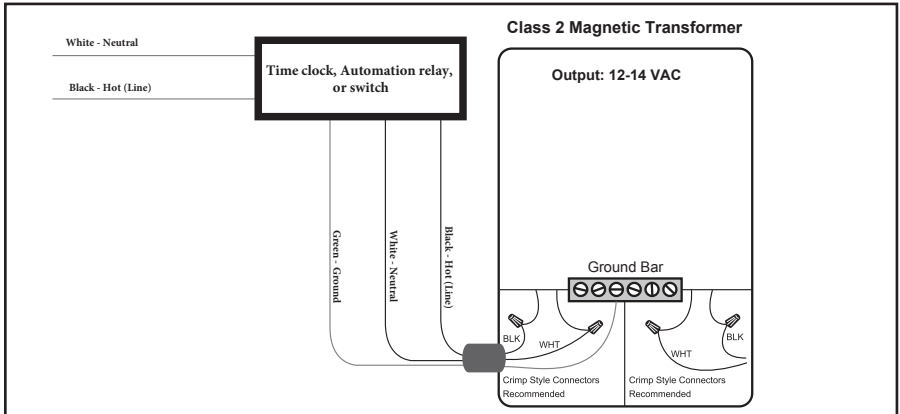


Figure 5. Wiring LED Lights to a 12 Volt Magnetic Transformer

NOTE A magnetic low-voltage dimmer switch or dimming relay may be used when Jandy Nicheless WHITE ONLY lights are installed. Jandy color lights are NOT DIMMABLE and are NOT COMPATIBLE with dimmer switches or dimmer relays.

NOTE Sections 5-8 apply to color (RGBW or RGB) lights only. All fixtures must be tied into the same transformer, circuit or switch for synchronization to occur.

Section 5. Jandy® Nicheless Underwater LED Light Operating Instructions

5.1 Light Synchronization

1. Turn the light **ON**. If the light has been off for 7 seconds or longer, the light will turn on with the last color selected.
2. To synchronize multiple lights to the same color mode, you will need to reset to the beginning of the color mode sequence. With the lights **ON**, turn them **OFF** for five (5) seconds, then turn **ON** again. All of the lights will reset to the Alpine White color mode. If all of the lights are not in the Alpine White color mode, they have not been synchronized, repeat step 2.

5.2 Operating the Light

3. To change the color mode, turn the light **OFF** for one 1-3 seconds.

Continue turning **OFF** and **ON** until the desired light color mode is reached. See Table 3 for the color mode sequence.

Example: If you followed step 3 and are now on Sky Blue and want the lights to be Violet, then the lights must be turned off and on 7 times to bring you to Violet.

Sequence Order	Color Modes
1	Alpine White
2	Sky Blue
3	Cobalt Blue
4	Caribbean Blue
5	Spring Green
6	Emerald Green
7	Emerald Rose
8	Magenta
9	Violet
10	Slow Color Splash
11	Fast Color Splash
12	America the Beautiful
13	Fat Tuesday
14	Disco Tech

Table 3. Color Mode Sequence

4. The lights have memory. If the lights are off for 7 seconds or more, the next time the lights are turned on, they will return to the last color mode they were on prior to being turned off (Step 1 listed above). This function allows you to keep your lights returning to your favorite color mode every time the lights are turned back on.

NOTE To synchronize colors on multiple Jandy® Nicheless Underwater LED Light systems wired to separate switches, perform the above actions on all of their switches simultaneously. All Jandy Nicheless Underwater LED Lights will synchronize automatically if activated by the same switch. No other accessories are required.

Section 6. S-Series Nicheless Underwater LED Light Operating Instructions

6.1 Light Synchronization for S Series Lights

1. Turn the light **ON** and wait for **20 seconds**. The lights will first come on white for 10-15 seconds and then return to the color mode it was on prior to being turned off.
2. To synchronize lights, turn the lights off, wait 6-9 seconds and then turn them back on. You should see three quick flashes (red, green & blue), then all the lights will reset to the first color mode (Treasure Island)
3. (A) If you do not see three quick flashes, then the lights did not reset.
(B) If you did not wait long enough (shorter than 6 seconds) the lights will advance to their next color mode. They are not synced as each light could be in different color modes.
(C) If you wait too long (longer than the 9 seconds) they all will go to white for 10-15 seconds, looking like they're synced BUT AFTER 15 seconds they will return to their previous color mode (which at this point the lights are still unsynchronized).
4. Repeat step 1 - 3 until synchronization is accomplished.

6.2 Operating the S Series Lights

1. To move to the next color mode, turn the lights off for 1-2 seconds and turn back on. Repeat until desired color mode is found.

Example: If you are now on Fixed Green and want the lights to be White, then the lights must be turned off and on 7 times to bring you to Moonlight White.

Sequence Order	Color Modes for S Series Lights
1	Treasure Island / Slow Color Change
2	Moonlight White / Fixed White
3	SAVI Blue / Fixed Blue
4	Sargasso Sea / Fixed Green
5	Blue Lagoon / Fixed Light Blue
6	Passion Pink / Fixed Light Blue
7	Caribbean Hues / Blue and Green Slow Color Change
8	Copacabana / Magenta, Yellow and Orange Slow Color Change
9	Dance Party / Multi Color Strobe Effect

Table 4. Color Mode Sequence for S Series Lights

2. The lights have memory. If the lights are off for 10 seconds or more, the next time the lights are turned on, they will go to white for approximately 10-15 seconds and then return to the last color mode they were on prior to being turned off. This function allows you to keep your lights returning to your favorite color mode every time the lights are turned back on.

NOTE To synchronize colors on multiple S-Series Nicheless Underwater LED Light systems wired to separate switches, perform the above actions on all of their switches simultaneously. All S-Series Nicheless Underwater LED Lights will synchronize automatically if activated by the same switch. No other accessories are required.

Section 7. H-Series Nicheless Underwater LED Light Operating Instructions

7.1 Light Synchronization for H-Series Lights

1. Turn the light **ON**. The lights will first come on white for 15 seconds and then return to the color mode it was on prior to being turned off.
2. H-Series Lights may be operated independently or together depending upon the initial installation of your lights. All H-Series lights that are wired to the same 12V Transformer/Switch will synchronize their operation of the 17 Color modes. If they do get out of sync, turn the switch on then back off - wait between 6 and 9 seconds and turn the switch back on. They should now all be in position #1.

7.2 Operating the H-Series Lights

1. To move to the next color mode, turn the lights off for 1-3 seconds and turn back on. Repeat until desired color mode is found.

Example: If you are now on Deep Blue and want the lights to be White, then the lights must be turned off and on 5 times to bring you to White.

Sequence Order	Color Modes (Universal ColorLogic® emulation)
1	Color Show - Voodoo Lounge
2	Deep Blue Sea
3	Royal Blue
4	Afternoon Skies
5	Aqua Green
6	Emerald
7	Cloud White
8	Warm Red
9	Flamingo Pink
10	Vivid Violet
11	Sangria Dark Purple/Red
12	Color Show - Twilight
13	Color Show - Tranquility
14	Color Show - Gemstone
15	Color Show - USA
16	Color Show - Mardi Gras
17	Color Show - Cool Cabaret

Table 5. Color Mode Sequence for H-Series Lights

- The lights have memory. If the lights are off for 60 seconds or more, the next time the lights are turned on, they will go to white for approximately 15 seconds and then return to the last color mode they were on prior to being turned off. This function allows you to keep your lights returning to your favorite color mode every time the lights are turned back on.
- H-Series LED Colored Nicheless Lights are specifically designed to be operated by select Hayward® Controls and Zodiac® Rev T.2 RS Systems for direct switching/access to colors and programs. Please refer to Hayward and Zodiac Series controls for installation and operational directions.

NOTE At NO TIME shall the H-Series lights be used in conjunction with any other lights. The color choices, shows and operations are entirely different.

Section 8. P-Series Nicheless Underwater LED Light Operating Instructions

8.1 Operating the P-Series Lights

1. Turn the light **ON** and wait for **20 seconds**. The lights will first come on white for a few seconds and then return to the color mode it was on prior to being turned off.
2. P-Series LED Colored Nicheless Lights are specifically designed to be operated by select Pentair® Controls and Jandy Aqualink Controls with IntelliBrite® control for direct switching/access to colors and programs **WITHOUT** having to toggle sequences ON/OFF. Please refer to the controller manual for installation and operational directions.

NOTE When using the above mentioned controls - when programming the Light Function - the general selection choice offered that should be selected is IntelliBrite. The color and show names will be slightly different but all operations will be correct.

NOTE At NO TIME shall the P-Series lights be used in conjunction with any other lights. The color choices, shows and operations are entirely different.

3. To move to another color mode, cycle the lights OFF/ON the selected number of times listed below.

Example: If you are now on Blue (8) and want the lights to be Magenta (12), then the lights must be turned off and on twelve (12) times to bring you to Magenta. To move to Old School, turn OFF/ON 1 time.

WARNING

During OFF/ON Cycle, before the selected mode is displayed, no illumination will occur. During this period of time the pool/spa will be dark and precautions should be taken to avoid unforeseen accidents. Failure to observe this warning may result in serious injury or death to pool/spa users.

Cycle Number	Color Modes for P-Series Lights (IntelliBrite® emulation)
1	SAm® Mode
2	Party Mode
3	Romance Mode
4	Caribbean Mode
5	American Mode
6	California Sunset
7	Royal Mode
8	Blue
9	Green
10	Red
11	White
12	Magenta
13*	<i>Hold : Saves the current color choice during a color show</i>
14*	<i>Recall: Turns on last saved color selection selected in position #13</i>
* These 2 Modes are specifically used with advanced control systems and not manual operations	

Table 6. Color Mode Sequence for P-Series Lights

4. The lights have memory. If the lights are off for 5-10 seconds, the next time the lights are turned on, they will go to white for a few seconds and then return to the last color mode they were on prior to being turned off. This function allows you to keep your lights returning to your favorite color mode every time the lights are turned back on.

Section 9. Winterizing

Do not keep the winter water level at the level of the light. Make certain that the water level is left at least 4" or more above or below the light depending on the pool's other winterization needs. Consult a Local Swimming Pool Professional for proper winterization. At NO TIME should there be water removed from the pool without checking ground water tables.

Section 10. Troubleshooting

Use the troubleshooting information in the following table for suggestions.

Symptom	Problem	Corrective Action
All lights fail to illuminate	Lights are not receiving power	Check 120VAC power supply into transformer. Check for 12VAC output at transformer. Check or reset GFCI. Make sure 120 volts has not been used in the installation - if so damage is assured and is NOT WARRANTABLE.
One or more lights are dim, blinking or not working	Poor connection or improper wire gauge	Separate each light and independently wire 12V to the single light only. Repeat this process on each light. If junction box is being used, check for proper connection of light cord. Verify that the correct wire gauge is being used between the transformer and junction box.
Colored lights out of synch	Improper voltage supply or poor connection to the light	Verify that proper wire connections are being achieved for the lights that are out of sync. Reset all the lights to white by turning lights OFF for five (5) seconds, then turning ON
Light is blinking	Light is too hot	Confirm that the light is submerged in water that does not exceed a temperature of 104F (40C)
Different colors from different lights	Color lights of different series installed on same circuit	Verify if one or more lights is of a different series type than the desired series and replace with the desired series type.

NOTES

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