

Rainbow Waters Multi-Color Digital Lighting System Installation/User Manual

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

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WARNING!

Risk of Electrical Shock or Electrocutation.

Before installing this product, read and follow all warning notices and instructions.

Failure to follow safety warnings and instructions can result in severe injury, death, property damage and damage to they system.

Danger!

This lighting system must be installed by a licensed or certified electrician in accordance with the National Electrical Code and all applicable local codes and ordinances.

Improper installation will create an electrical hazard which could result in death or serious injury and may also cause damage to property and this unit voiding warranty.

Read and follow the specific instructions below.

Important Notice

Attention Installer:

This manual contains important information about the installation and safe use of this product.

This information should be given to the owner/operator of this equipment.

Rainbow Waters

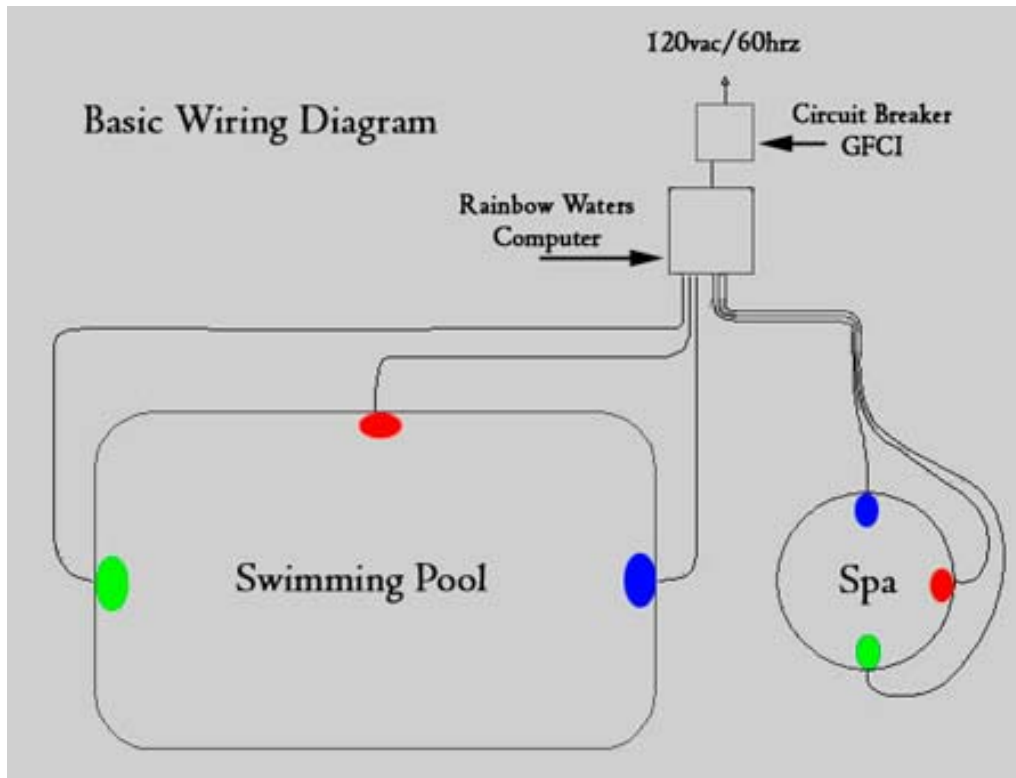
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Section I: Pool Light Placement

The placement of the three lights during pool construction is very important. The lights should be evenly spread out around the pool so that blending of the colors is even. Size, depth and shape of the pool are all factors when determining where to install the pool lights.

We recommend a Triangular pattern with the Blue and Green opposite of each other, and the Red in the middle. It is important that the Red light is equal distance from the Green and the Blue lights. See illustration below.



Section II: Circuit Breaker preparation

According to national electrical codes, a GFCI (Ground Fault Circuit Interrupter) needs to be used in the place of a normal circuit breaker for the installation of this device. Local codes may require additional steps and or requirements to this installation. A licensed electrician will need to install this device and be aware of the laws regarding installation of this type of device.

WARNING!

You must use a GFCI rated at 120v 30amp in the place of the normal circuit breaker with the installation of this product.

Section III: Unpacking the lamp control unit

The lamp controller unit is shipped as one piece including all parts and junction box pre-wired for installation. No assembly of the unit will be required. Simply unpack the unit from the protective shipping box and bubble wrap. There will be “wire nuts” supplied with the unit for connection to the pool lamp wiring.

Section IV: Unit placement/installation

The control unit and junction box should be placed as close to the pool lamp wiring as possible. You will need at least 6 inches of spare wire run from the pool lamps to enter the junction box to connect to the system. The unit should be bolted to a structure preferably under some form of protection from the weather. Any type of overhanging waterproofed structure is preferable for reliable use of this product.

Section V: Wiring connections

With the unit securely attached to the home/building structure, pull at least 6 inches of wire from each of the pool lamps into the junction box.

Each pool lamp has 3 wires; Hot (black), Neutral (white), Ground (green). There is a common connection in the junction box for the Ground (green) and a common connection for the Hot (black).

1. Connect the Hot wires (black) from the pool lamps to the common Hot terminal block with the other black wires.
2. Connect the Ground wires (green) from the pool lamps to the common ground bolt in the junction box. This has the main Ground (green) on it.
3. Connect the Neutral wire (white) from the pool lamps to the proper white wires from the computer. These are labeled Pool Neutral 1, Pool Neutral 2, Pool Neutral 3. **IMPORTANT:** If you are installing more than 3 lights you **MUST** make sure that the 3 lights from the pool are on leads 1,2,3 and the spa on leads 4,5,6. The computer has different programs for the pool and spa. Use wire nuts to secure each connection.

Important

You must connect the corresponding Neutral wires from the lamps to the correct Neutral from the computer.

Example:

Pool Lamp 1 Neutral (white) connects to Pool 1 Neutral (white) from computer.

Pool lamp 2 neutral (white) connects to Pool 2 neutral (white) from computer.

Pool lamp 3 neutral (white) connects to Pool 3 neutral (white) from computer.

Spa lamp 1 neutral (white) connects to Spa 4 neutral (white) from computer.

Spa lamp 2 neutral (white) connects to Spa 5 neutral (white) from computer.

Spa lamp 3 neutral (white) connects to Spa 6 neutral (white) from computer.

Make sure that the three lights from the pool are connected to outputs 1, 2 and 3 from computer.

Make sure that the three lights from the spa are connected to outputs 4, 5, and 6 from computer.

Hot (black) are common.
Grounds (green) are common.

Wiring for the PLC900

For the PLC900 you can connect 6 lights to leads 1,2,3 or to leads 4,5,6.

If you are running three lights in the pool, three lights in the spa and 3 lights in the water fountain. Connect pool neutrals to leads 1,2,3 white, and connect spa and water fountain neutral leads in parallel to leads 4,5,6 white.

If you are running 6 lights in the pool and 3 lights in the spa connect the 6 Pool white neutral leads to leads 1,2,3 from the computer and the three lights from the spa to leads 4,5,6.

Wiring for PLC1200

For the PLC1200 connect the 6 lights from the pool to leads 1,2,3

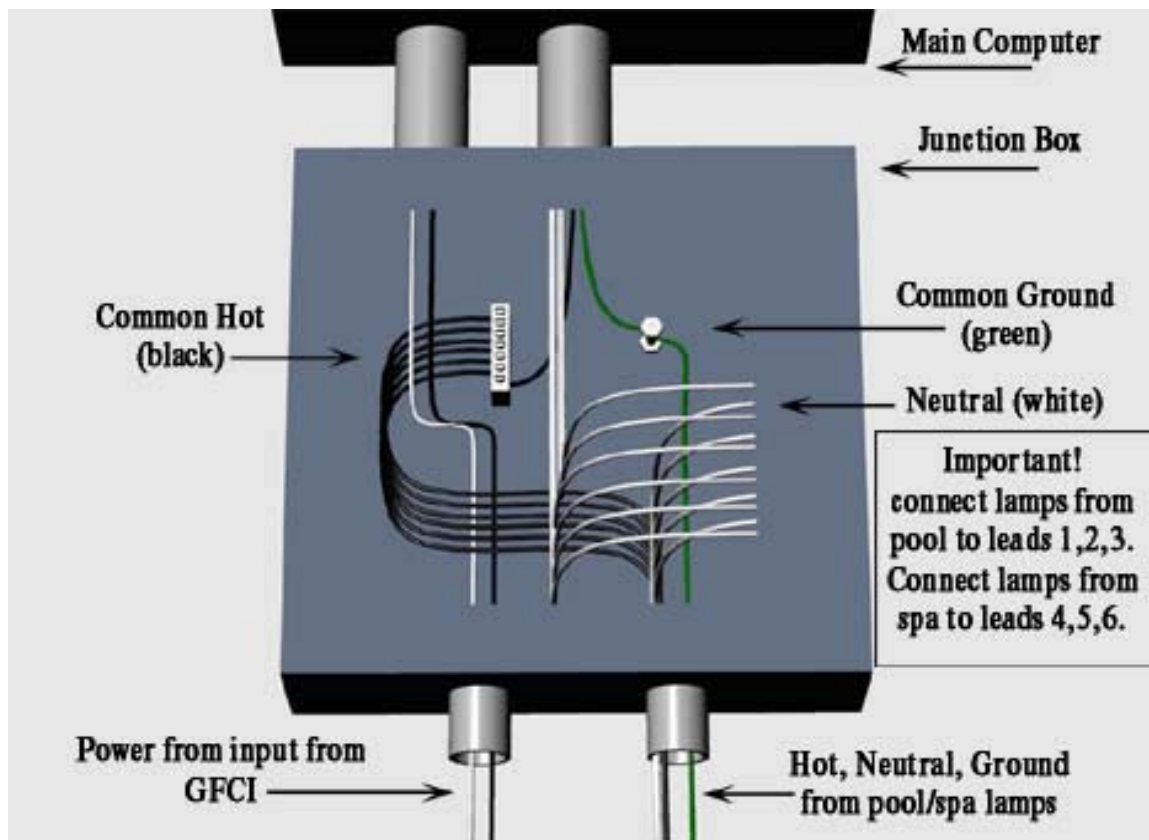
Connect the lights from the spa and fountain to leads 4,5,6

Power from GFCI circuit breaker

Connect the Hot (black) from circuit breaker to the Hot (black) labeled “hot power”

Connect the Neutral (white) from circuit breaker to the Neutral (white) labeled “neutral power”

Connect the Ground (green) from circuit breaker to the Ground (green) labeled “ground power”



IMPORTANT! If the three wire connection to the GFCI are swapped hot for neutral, neutral for hot, then this unit will not function properly. **The black wire MUST go to hot, the white wire MUST go to neutral and the green wire must go to ground**

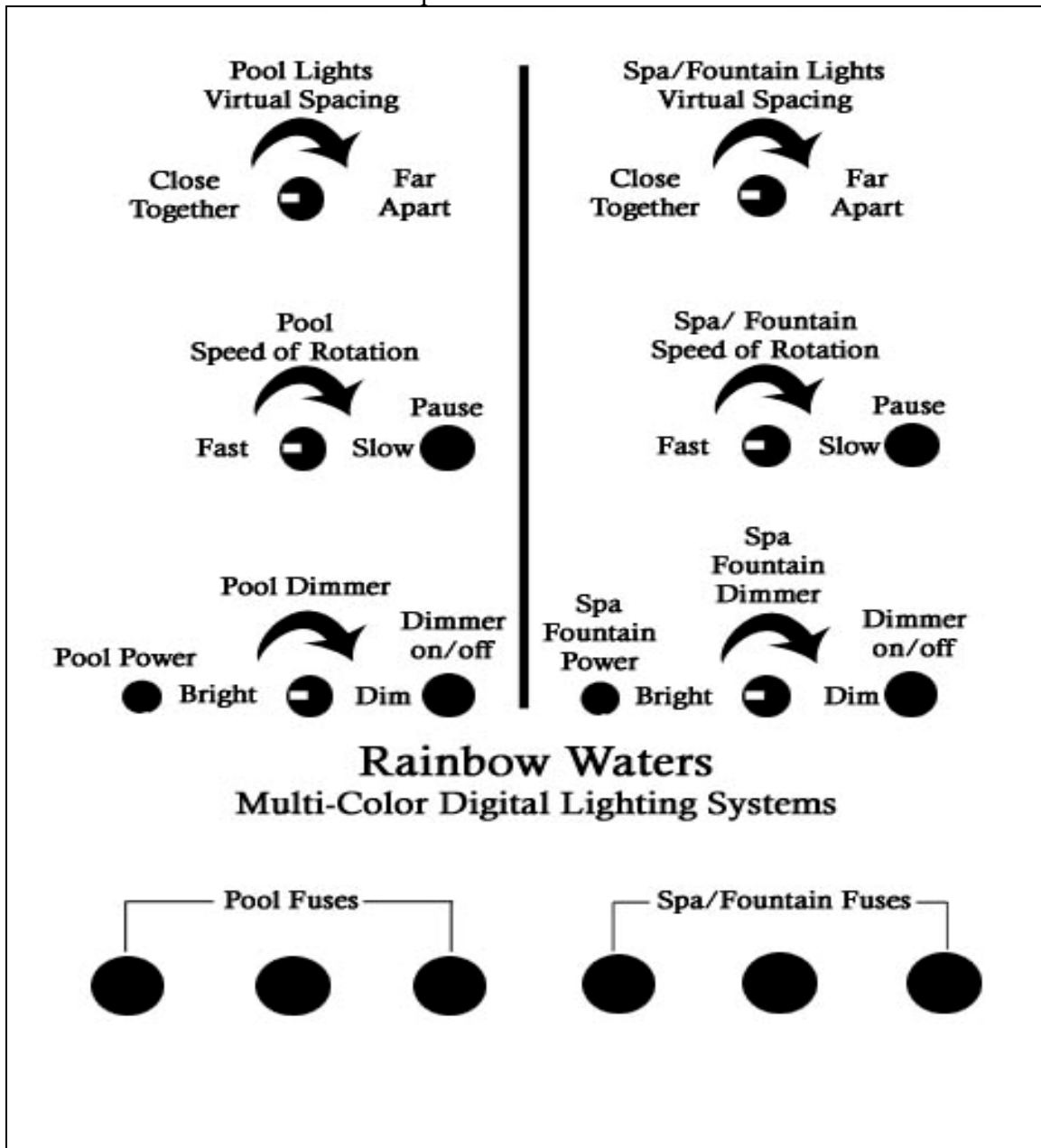
Any added holes to either box should be sealed with silicone sealant since the electronics inside are sensitive to moisture.

Section VI: Initial testing

Pool lamps should not be run out of water for more than a few seconds, or damage may occur as per manufacturer specifications.

For the PLC600 and up there are two sets of identical controls. One set for the pool, one for spa/fountain.

Below is an explanation of each of the controls.



Power: There is a power button for the Pool and the Spa. So you have the ability to have the pool or spa on independently. Also the power button acts as a reset if there is a problem in the AC line that is causing the lights to flicker. Since it is a computer, the power acts like a reboot.

Virtual Spacing Knob: This is a very important adjustment the first time you turn the system on. This knob affects the difference in brightness between the three lights. On the close together setting, the lights come up close together at near equal brightness. On the far apart setting, the lights are “spread” out so they are at very different brightness setting. This allows you do pick how you want the blending to occur. Close together will create a lot of blending, far apart will allow each color to be more dominant. Also if you have a large or unique shaped pool this knob can help you “tune” the lights to the effect you like. Make sure when you adjust this knob to allow one rotation for the setting to take effect. It is HIGHLY RECOMMENDED that you start with the **far apart** setting on both the pool and spa.

Speed of Rotation: This adjust how long one cycle takes. On the very slow setting the system may seem paused since the lights are moving very slowly. If the system does not seem to be responding, try turning the speed to a fast setting.

Pause: During the rotation if you like a specific color blend you can hit pause and stop the rotation. The pool will stay at the blend until you release pause.

Dimmer function: Simply hit the “dimmer on/off” button and all the lights will go to an equal brightness level. You can then turn the dimmer knob to set how bright you want all the lights to be. There is no rotation in this setting. If you want the rotation to start up again, simply hit the “dimmer on/off” button again.

Trouble shooting: If the unit is not responding, check the circuit breaker and fuses. If the unit is still not responding reset the power. Make sure the unit is not on dimmer mode and at a very dim setting. If the unit does not seem to be rotating, turn the speed knob up and make sure it is not paused or is on a very slow rotation.

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