Wireless Remote System
RC-12v & 24v Standard RF Remote Control System

INSTALLATION MANUAL AND OWNERS GUIDE

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Warning:  Verify which Receiver you are installing, either the 12 volt or 24 volt and you are not exceeding the Current (amperage) per output rating as shown in the specification table on pages 4 & 5.

➢ WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THE RECEIVER TO RAIN OR DIRECT WATER SPRAY. DO NOT OPEN THE CASE. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.
➢ FCC NOTICE: 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, IC Rule and meet CE requirements. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
➢ WARNING: Changes or modifications made to this equipment, not expressly approved by BlueFin LED could void the user's authority to operate the equipment.
➢ Important Safety Instructions:

1. Please read these instructions and keep for future reference.
2. Follow all instructions carefully.
3. Only install the Receiver in an area that is dry and protected from excessive moisture.
4. Do not install near any heat source.
5. Do not install in a location exposed to direct sunlight.
6. Use accessories specified by Bluefin LED or the manufacturer. See Overview section.
7. Never overload circuits.
8. Refer all servicing to qualified personnel.
9. If the Receiver should emit smoke or an unusual odor, immediately disconnect power.

➢ Overview:

This New Bluefin LED Wireless Remote System allows the skipper to turn on Bluefin LED's full line of underwater LED lights from up to 250 feet/76m away; Other systems that this remote system can operate are; boarding, spreader, aft, and cabin lights, as well as any other “On/Off” functions on the vessel along with an “All Off” single button press. This new wireless system adds Safety, Convenience and Reliability factors to the skipper which are priceless, whether cruising, docked at your slip, or tendering up to your vessel at night. The Bluefin LED Wireless Remote System puts the lighting controls in your hands whether docked or underway.

This new and proven technology allows the boat owner to control virtually any DC marine system function on any size vessel equipped with 12 volt or 24 volt systems. The system includes a fixed mount receiver and one or more IP68 waterproof seven-button remote FOB (transmitters) with five programmable buttons that can be used to control any 12VDC or 24VDC powered systems.
### Quick Reference Specifications:

<table>
<thead>
<tr>
<th>P/N</th>
<th>FOB Battery</th>
<th>FOB Rating</th>
<th>Receiver Rating</th>
<th>Operating Frequency</th>
<th>Channel Rating</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC-12v 12 Volt System</td>
<td>CR2032</td>
<td>IP-68</td>
<td>IP-67</td>
<td>433.92mHz</td>
<td>15 Amps Per Channel</td>
<td>250ft. 76M</td>
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### FOB (Transmitter) Specifications (Black) (RC-FOB)

- Supply Voltage (Typical) 3.0 DC.
- Battery CR2032
- Battery Life 2-3 Years.
- Back Lighting Yes.
- Operating Frequency 493.92 MHz
- Range Distance 250ft/76M.
- IP Rating 68.
- Colors Black.
- Dimensions 86 X 54 X 22 mm.
- Operating Temperature 32°F / 0°C.

### Receiver: Remote 12 Volt Model (RC-12v-REC)

- Supply Voltage (Typical) 10.0-16.0 DC
- Operating Current Per Channel 12 Amps
- Number Of Transmitters paired to a Receiver 32
- IP Rating 67
- Number of Transmitters in Kit 1
- Antenna Length Optional 16ft.
- Dimensions (L X W X H) 4.63 X 4.63 X 2.36 in. (117.60 x 117.60 x 59.94mm)
- Weight 4.5 lbs.
- Storage Temperature -50°C - 85°C (-58°>185°F)
- Operating Temperature -40°C - 85°C (-40°>185°F)
- Output Channels 2

### Receiver: Remote 24 Volt Model (RC-24v-REC)

- Supply Voltage (Typical) 18.0-32.0Vdc
- Operating Current per Channel 15 Amps
- Fobs Paired to a Receiver 32
- IP Rating 67
- Number of Transmitters in Kit 1
- Antenna Length Optional 16ft.
- Dimensions (L X W X H) 6.63 x 4.68 x 2.37in (168.40 x 118.87 x 60.20mm)
- Weight 6.5 lbs.
- Storage Temperature 50°C - 85°C (-58°>185°F)
- Operating Temperature -40°C - 85°C (-40°>185°F)
- Output Channels 2
Making sure your features can be controlled:

For each of the features selected to be controlled remotely, locate the existing vessels on/off switch(s) if applicable, as some or all features will be controlled ONLY by the FOB (transmitter). Manual switches supply 12VDC or 24 VDC when turned on. The Receiver makes the same assumption as the mechanical On/Off switch. The voltage should be measured at each switch of the feature that will be controlled remotely. This step is to make sure the mechanical switch is switching the high side (B+) and NOT Ground (Negative).

For each of the features being controlled, the load or "ON" current should be measured with a clip on DC current probe or similar type meter, verifying that the currents are less than what the receiver is rated for that is being installed.

Best Receiver Location & Mounting Practices:

Locate the optimum mounting location where the receiver is out of weather and temperature conditions and not exceeding the rating of the receiver. The best location to mount the receiver is near a 12 volt or 24 volt power source capable of carrying the full module amperage rating. Identify a location where it will be easiest to service, routing wires and controlling the remote functions, either by the Remote only or by the Remote and vessels manual switches.

1. Mount the receiver in a location where the signal has the least about of obstacles as possible.
2. Do not install receiver anywhere near radios, battery chargers or any device that transmits EMI.
3. Mount receiver in as high as possible position to overcome any obstacles for the transmitter RF signal.
4. Mount the receiver in a dry location.
5. Mount the receiver within its intended temperature range. Cooler the environment the better the performance and longevity of the unit.
6. Ensure all connectors are water tight to prevent corrosion at the electrical interfaces using a professional crimping tool on all crimp terminals.

FOB (transmitter) / Receiver Wiring & Functions

<table>
<thead>
<tr>
<th>FOB Button No.</th>
<th>12 or 24 Volt Receiver wire color &amp; number</th>
<th>12 or 24 Volt FOB Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Light or Dark Brown (1)</td>
<td>On/Off (X1 Press ON. X2 for OFF).</td>
</tr>
<tr>
<td>2</td>
<td>Light or Dark Blue (2)</td>
<td>On/Off (X1 Press On. X2 for OFF).</td>
</tr>
<tr>
<td>3</td>
<td>None</td>
<td>On/Off for output’s 1 &amp; 2. (X1 Press ON. X2 for OFF).</td>
</tr>
<tr>
<td>4</td>
<td>None</td>
<td>All-Off Function for both outputs 1 &amp; 2</td>
</tr>
</tbody>
</table>

The Remote Systems are available in two models:

1. Part Number RC-12v: The Remote 12 volt Model is capable of controlling ON/OFF Function’s up to 12 amps per output.
2. Part Number RC-24v: The Remote 24 volt Model is capable of controlling ON/OFF Function’s up to 15 amps per output.
Wiring the 12 or 24 Volt Remote Control System Directly to the LED Lights to be controlled remotely.

1. Verify that you have the correct module and Kit number for the application you are going to remotely control 12 or 24 Volt System.
2. Locate the two RED 8 or 10 Gauge power feed from receiver labeled B+ and connect to 12 or 24 power source depending on which receiver is being installed.
3. Locate Black 14 gauge Ground wire and connect to Battery and or ground plate.
4. Add additional wire to each receiver wire with the same or larger wire gauge using crimp connectors and or solder.
5. **Button 1:** Connect Brown wire #1 to B+ side of Light. FOB function 1 completed.
6. **Button 2:** Connect Blue wire #2 to B+ side of Light. FOB function 2 completed.

**IMPORTANT NOTE:** Yellow wire only used for Programming or Clearing FOB’s. See instructions on Page 10 for both the 12 and 24 Volt Receivers.

**BATTERY**

12 or 24 Volts

**FOB Button Functions:**
- Button 1: Brown
- Button 2: Blue
- Button 3: N/A Controls output 1 & 2.
- Button 4: N/A. All Off function both 1 & 2.

**Wiring Numbers & Color:**
- Red: B+ 12 or 24V.
- Black: Ground.
- Brown: Output #1
- Blue: Output #2
- Yellow: 12 VDC Programming.

Note: Yellow to be used for programming & Erasing FOB(s) only. See Page 10.
Schematic below shows receiver wired directly to LED lights for remote control. Diagram shows outputs 1 & 2 wired directly to lights.

Receiver to Mechanical Switch(s).
1. Verify that you have the correct module and Kit number for the application you are going to remotely control. Either a 12 or 24 Volt System.
2. Locate the two RED 8 or 10 Gauge power feed from receiver labeled B+ and connect to 12 or 24 power source depending on what receiver.
3. Locate Black 14 gauge Ground wire and connect to Battery and or ground plate.
4. Add additional wire to each receiver wire with the same or larger wire gauge using crimp connectors and or solder.
5. **Button 1:** Connect Brown wire #1 to load side of switch. FOB function 1 completed.
6. **Button 2:** Connect Blue wire #2 to load side of switch. FOB function 2 completed.

**IMPORTANT NOTE:** Purple and Yellow wires are only to be used for Programming or Clearing FOB’s. Refer to Programming and Erasing FOB’s (transmitter) instructions on Page 11 for both the 12 and 24 Volt Receivers.

Schematic below shows Output #1 (Brown Wire) wired to mechanical switch output/load side which allows for both the Mechanical switch and or Remote to control the light function.

**Verifying The Functions;**

At this point the Remote Control System should be fully installed and operational. Check all FOB functions for correct operation. A single short FOB button press turns on a function. Two short button press operations turn’s off a function. Check all boat switch functions for correct operation. Switches should operate normally.
Fob (Transmitter) Battery Replacement

Your Bluefin LED FOB (transmitter) is designed to be efficient and should perform properly without a battery change for up to two years. The need to change the battery will be indicated by the Fob’s LED blinking when a button is pressed (with normal operation the LED remains lighted until the button lights turn off).

The replacement battery is one (1) CR2032 battery.

IMPORTANT: Before proceeding with battery replacement, please make note of the following important information.

- Do not touch the battery terminals that are on the Printed Circuit Board (PCB).
- Before proceeding please be sure to ground yourself to avoid a static discharge onto the PCB.
- Do not touch the battery terminals that are on the PCB.
- Avoid touching the new battery with your fingers. Skin oils may cause battery deterioration. If you touch the battery, clean it with rubbing alcohol.
- A weak battery or a radio transmitter such as SHIP TO SHORE radio and or some other marine electronic equipment may negatively impact performance.
- Battery access is gained by opening the upper and lower Fob housing.

When removing and replacing the batteries.

Step 1: Remove the two Phillips screws from the back of the housing, using the correct size Phillips screwdriver.

Step 2: Placing a small flat head screwdriver, near the upper and lower housing key ring location (plastic housing), pry the two halves apart gently.

Step 3: Remove the battery by placing the screw driver or any other sharp object being careful of the PCB behind one side of the battery clip rear access holes and push gently forward releasing the battery.

Step 4: With the Plus (+) side facing up (away from PCB), slide the new battery completely into the battery clip holder.

Step 5: Reposition the upper and lower housing together, making sure that the button pad is positioned correctly, then snap both halves together.

Step 6: Replace the two Phillips screws. Do not over tighten.
Functionality

"On": Press button (firmly) and release within 1 second.
"Off": Press button twice (quickly).

Button #2: ON/OFF Function. Output 2.
"On": Press button (firmly) and release within 1 second.
"Off": Press button twice (quickly).

Button #3: ON/OFF Function. Controls both outputs 1 & 2.
"On": Press button (firmly) and release within 1 second.
"Off": Press button twice (quickly).


Color Change & Strobe.

Option 1: Changing color on a single output 1 or 2. Turn LED’s “On” with a single press to either FOB buttons 1 or 2 depending on which output the LED’s are wired to. After turning on the LED’s and within 1-2 seconds, turn LED’S “Off” by pressing button 4. Repeat step by toggling between the “On” and “Off” buttons (1 or 2 and 4) until the desired color is achieved. Once color is achieved, turn output “Off” (4) and then back “On” (1 or 2).

Option 2: Changing color on both outputs 1 & 2. To change LED color on both Output channels 1 & 2, turn LED’s “On” with a single press to FOB button 3. Within 1-2 seconds, turn LED’S “Off” by pressing button 4. Repeat step by toggling between buttons 3 and 4 until the desired color is achieved. Once color is achieved, turn outputs “Off” (4) and then back “On” (3).

Option 3: Out of Sink. LED’s out of color Sink when wired to both outputs 1 & 2. Activate by turning on only one output at a time (1 or 2) and pressing button 4 for “Off”.

Option 4: Strobe LED’s. Turn outputs “On” and “Off” 3 times (x3) in 1 second intervals.
Adding or Replacing FOB’s (transmitter(s)) To Your System.

1. Connect the Yellow wire to 12 Volt Battery source. Note yellow wire is the source used for 12 DCV. (Disconnect when programming is completed and reseal end of wire so as to prevent any electrical shorting).
2. Remove Plastic Plug located on Right Side or Bottom of receiver housing depending whether it is a 12 or 24 Volt system for viewing proposes of the programming LED.
3. With the Yellow wire connected, Press FOB buttons 1 & 7 at the same time until LED blinks indicating you are in programming mode.
4. Press any FOB button until LED blinks indicating FOB has been programmed.
5. Disconnect the Yellow wire (12 DCV) source and reseal wire ends.
6. Place plastic viewing plug back into receiver housing with sealant.

The Fob(s) that have been purchased with your system are programmed to the receiver. The system is capable of up to 32 Fobs. If additional Fobs are required, see your authorized dealer.

Erase all Fobs

1. Connect the Yellow wire to 12 Volt Battery source. Note: Yellow wire is the source used for 12 DCV. (Disconnect when programming is completed and reseal end of wires so as to prevent any electrical shorting).
2. Remove Plastic Plug located on Right Side or Bottom of receiver housing depending whether it is a 12 or 24 Volt system for viewing proposes of the programming LED.
3. With the Yellow connected, Press FOB buttons 1 & 7 at the same time until LED blinks indicating you are in programming mode.
4. Continue holding buttons 1 & 7 until LED blinks again indicating FOB(s) have been erased.
5. Disconnect the Yellow wire (12 DCV) source and reseal wire ends.
6. Place plastic viewing plug back into receiver housing with sealant.

Receiver Serial Number: ________________
FOB Serial Number: ________________