

Troubleshooting Guidelines:

Fault	Possible Problem
No motion and light does not turn on	<ul style="list-style-type: none"> •No 12VDC power at light (black negative, yellow positive) •Batteries in remote are depleted •Remote and light are not paired •Wrong A or B channel selected •A second remote is still connected. Any number of remotes can be paired with a light but only one remote can be connected at a time. Hold the OFF pushbutton of the active remote for 5 seconds to release a connection.
Light does not turn on or flashes and goes out but motion works	<ul style="list-style-type: none"> •Filament is burned out •High inrush current of the HID, Halogen and Incandescent lamps can cause a voltage drop and controller drop out, make sure the feed wires are large enough for the wire length and the engine is running •Poor or corroded power or ground connection
Tilt direction is reversed	If the tilt motion passes through the vertical position, the control tilt direction will appear to be reversed. Either pass back through vertical or, with power to the light and the lamp off, hold the UP and DOWN pushbuttons for 10 seconds to reverse control
Pan direction is reversed	If the NightRay LR is mounted upside-down or the tilt motion passes through the vertical position, the left and right direction will appear to be reversed. With power to the light and the lamp off, hold the LEFT and RIGHT pushbuttons for 10 seconds to reverse control

IMPORTANT FCC INFORMATION (Contains FCC ID: WAP2006 IC: 7922A-2006)

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 and correct the interference by one of the following measures:

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

FCC CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. **K&H INDUSTRIES INC. ASSUMES NO LIABILITY FOR DAMAGES RESULTING FROM MISUSE OR ABUSE OF THIS PRODUCT**

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



KH INDUSTRIES

The Permanent Name in Temporary Lighting & Power

NightRay™ Long Range Conversion Instructions

This conversion kit is compatible with NightRay Spotlight systems with model numbers starting with NR3 and NR4.

The NightRay Long Range system uses updated low energy wireless networking technology to provide longer range and enhanced motion control:

- Typical operation is 100 feet, and communication can be achieved up to 200 feet line of sight.
- Provides improved RF noise immunity caused by other remote controls, garage door openers, crane controls, tire pressure monitoring systems and high intensity discharge lighting.
- An accelerometer in the remote allows the user to control the motion of the light simply by moving the remote up, down, left or right.
- More precise directional control with slow speed for the first 1-1/2 seconds then fast motion thereafter.
- Compatible with existing wired controller.

This conversion kit Part Number KH200-02998 includes the following items:

- (1) NightRay LR Back Cover Receiver Board (KH200-02871)
- (1) Long Range Wireless Controller (NR2CB-W)
- (1) Wire tie (KH200-00401)
- Instructions (KH200-02552)

Tools Required:

- Small Flat Blade Screw Driver

Phone: 716-312-0088

Fax: 716-312-0028

Email: sales@khindustries.com

Web: www.khindustries.com

Address: KH Industries

160 Elmview Avenue

Hamburg, New York 14075 USA

Instructions to replace the control board:

1. Disconnect power from the NightRay light.
2. Use a small flat head screw driver to carefully pry the back cover over the two retaining pins on the back of the NightRay light.



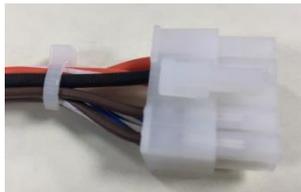
Retaining Pin

3. Push the release tab on the white and clear connector housings and pull the connectors free.



Tab

4. Secure the wires near the white connector with the wire tie provided.

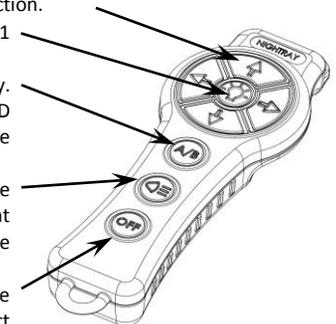


5. Reconnect the connectors into the new back cover until they latch in place.
6. Align the two holes of the back cover with the two retaining pins of the NightRay light.
7. Snap the back cover onto the NightRay light.
8. Reapply power and test the NightRay LR light.

Remote Control Operation

Two controllers are available, a wired controller which will control one NightRay LR, and a wireless remote which can control two NightRay LR lights independently. Each light can be paired with any number of wireless remotes but only one wireless remote can be connected and in control at a time. A wired controller will take precedence over a wireless remote. The controllers have eight push buttons:

- **UP, DOWN, LEFT, RIGHT** controls the tilt and pan motion direction.
- **FLASHLIGHT** (only on the wireless remote) will shut off after 1 minute to conserve battery power.
- **A/B** pushbutton control of two lights A and B independently. The active light control is indicated by a red or green LED within the NightRay logo. (Only the red LED is active on the wired controller)
- **ON** pushbutton turns the NightRay LR lamp on and will cycle between the flood and spot filaments on the dual filament models. After turning OFF, the last flood or spot setting will be recalled the next time the ON is pressed.
- **OFF** pushbutton turns the lamp off. If held for 5 seconds, the wireless remote will go to sleep and disconnect communication from the light to enable another wireless remote to take control.
- **SLOW START:** To provide more accurate control, the pan and tilt motion will operate at a slow speed for the first 1-1/2 seconds and then revert to full speed.
- **TILT & ROLL CONTROL:** (only on the wireless remote) Press and hold the **ON** pushbutton then tilt the remote up or down and/or roll the remote left or right to control the tilt and pan motion.



Wireless Remote (NR2CB-W)

- The NR2CB-W wireless remote is powered by three AAA batteries. The batteries can be replaced by removing the two screws securing the battery cover on the back of the remote.
- The remote can remember two paired lights red (A) and green (B) that are retained even when the batteries are changed.
- The red (A) and green (B) control can be paired to the same light.
- Any number of remotes can be paired with a NightRay LR light.
- The red or green indicator will stay lit while it is connected to the NightRay LR light. It will release connection after 15 minutes or if the **OFF** pushbutton is held for 5 seconds.
- Your NightRay LR Conversion Kit is factory paired to the remote. Use the following procedure to pair the NightRay LR light to additional remotes:
 1. Connect power to the NightRay LR light.
 2. Bring the remote to within 10 feet of the NightRay LR light and make sure any other NightRay LR lights are farther than 20 feet away or not powered.
 3. Make sure the light is not currently connected to another wireless remote. (Hold the off pushbutton for 5 seconds to release a connection.)
 4. Press and hold the **A/B** pushbutton for either green or red control until both red and green LEDs come on (10 seconds)

NOTE:

Both red and green LEDs will light while the remote searches for the NightRay LR light. Once the remote is paired with a NightRay LR light, the red or green indicator will stay lit corresponding to the one that was selected. The corresponding red or green LED will flash while a command is actuating the light.

Reversing the UP/DOWN or LEFT/RIGHT Control

NOTE: If using a wireless remote, first make sure it is paired to the NightRay LR light.

1. Connect power to the NightRay LR light and make sure the lamp is off.
2. To reverse the tilt direction, **press and hold** the **UP and DOWN** pushbuttons for 10 seconds.
3. To reverse the pan direction, **press and hold** the **LEFT and RIGHT** pushbuttons for 10 seconds.
4. Release the pushbuttons when the lamp comes on indicating the change has been accepted.

The change is stored in the NightRay LR light and will apply to all remotes connected to the light.