



Included in this Kit:

- (1) LRF120VPR1L-LS Receiver
- (1) 3-Button Transmitter with Light
- (1) Long Range Antenna LRA340

Available accessories:

- Extra Long Range Antenna LRA-340
- 3-Button Waterproof Transmitter KF340-3L-WP
- Rechargeable Transmitter GKF-WPTX-3L
- 3-Button Keyfob Transmitter KF340-3
- Package of 6 A23 12V Alkaline Batteries A23-6
- Clear Protective Transmitter Pouch ZLB-67

The LRF120VPR1L is an RF receiver operating at a fixed frequency of 340 MHZ. It operates from 120VAC and provides one polarity reversing output for use with a four/six lead AC motor. The receiver has provision for two normally-closed limit switches, one for either direction. The receiver is not designed to operate with any existing hand or drum switch. The receiver is equipped with a manual toggle switch. An additional latching output is available for connecting to a 120VAC light. Up to thirty, three-button keyfob transmitters can be used to activate the receiver's relay. The receiver has a terminal block for connecting the power and relay contacts. Each transmitter has a unique address that is transmitted when a button is pressed. A "program" button is provided on the receiver to program the transmitter(s) address into the receiver's memory. An LED on the receiver indicates the receiver's programming status and illuminates when the receiver is energized. The receiver is encased in a waterproof enclosure. The operating range is approximately 500 ft. Operating temperature range is 0°F to 160°F.

Polarity Reversing Output: The transmitter has two buttons assigned to the motor output. The up (^) button runs the motor in one direction and the down (v) button runs the motor in the opposite direction. The reversing function accomplished by reversing the phase on two of the four motor connections at the receiver output.

Manual Switch: The receiver is equipped with a manual switch. This switch replaces any hand or drum switch previously connected to the motor. The switch will operate the control in the same mode as the remote control (momentary or latching).

Limit Switches: The receiver is equipped with 2 limit switch provisions. This switch allows the user to stop the motor using a normally closed limit switch on either direction. *NOTE: The system is shipped with the limit switches disabled. To use the limit switches you will need to remove the jumper wire between the COMMON and LIMIT SWITCH inputs.

Light Output: The light output is activated using the light button on the transmitter. Press the light button once to latch this output on. Press the light button again to turn the light output off.

Maximum Ratings: Power for the receiver can be in the range of 100VAC to 132VAC. The relay contacts are rated at 20 Amps.

Programming Instructions

Each transmitter has its own unique internal address along with the data as to which button is pressed and transmitted. The receiver needs to be programmed to respond only to the specific transmitter it is intended to operate with. The following steps configure the receiver to operate with a particular transmitter. Up to 30 transmitters can be programmed to one receiver. Please read the entire programming procedure before starting.

1. Locate the pushbutton labeled "LEARN" on the receiver. Press and hold this button until the red LED next to the program button illuminates (approximately 3 seconds). The receiver is now in the transmitter program mode. Release the button. At this point all previously programmed transmitter addresses are erased from the receiver's memory.
2. To configure the receiver for a latching output, go to Step 4.
3. To configure the receiver for momentary output, press and release the DOWN button on the transmitter ONCE and verify that the red program LED extinguishes and then illuminates. Proceed to Step 5.
4. To configure the receiver for latching output, press and release the UP button on the transmitter ONCE and verify that the red program LED extinguishes and illuminates.
5. Repeat previous step for additional transmitters that will operate with this particular receiver. The red LED on the receiver will extinguish and illuminate (blink) once each transmitter being programmed. The receiver will flash the LED rapidly to transmitters that have already been programmed. The last transmitter that is programmed determines the receiver's relay operating mode (momentary or latching).
6. The receiver will return to normal mode if no transmitter buttons are pressed for 5-seconds. The red LED on the receiver will blink rapidly, then extinguish. The receiver is now in the normal mode of operation. This completes the programming instructions. The receiver will retain all of its programming even when power is removed.

To erase the receiver's memory of programmed transmitters, perform Steps 7 & 8

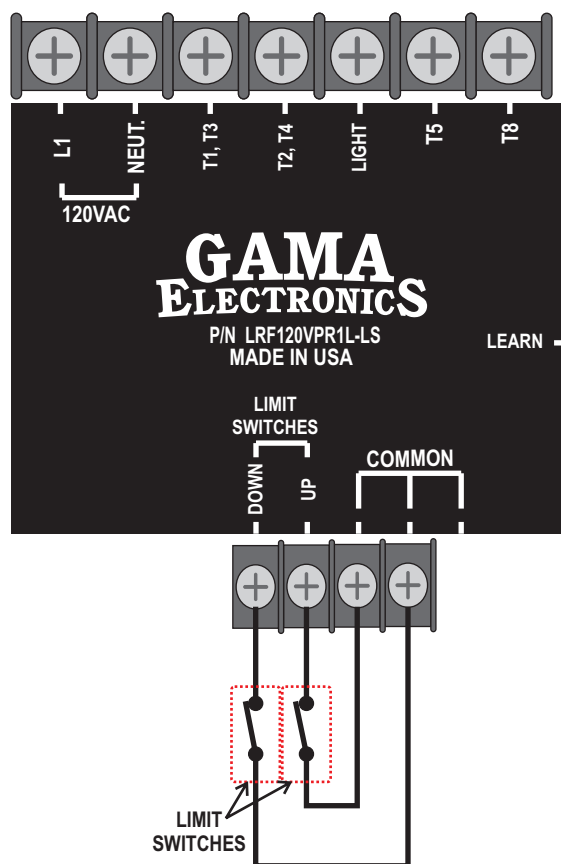
7. Press and hold the program switch until the front panel LED illuminates.
8. Release the program switch and immediately press and hold the program switch a second time. The LED will start blinking rapidly, then release the program switch. The receiver's memory is now cleared.

Wiring Instructions

Prior to this, verify that there is no power at any of the motor terminals.

1. Disconnect or turn off the circuit breaker to remove power (if a hand or drum switch is connected to the motor it will need to be disconnected). Takes notes before disconnecting the switch in the unlikely event it will need to be reconnected.
2. See motor connections guide for details on your specific motor.
3. 120VAC power is connected to the line and neutral terminal of the receiver.

NOTE: After completing the installation, if the motor goes the wrong direction, simply swap the wires connected to T5 and T8 on the receiver. The motor will now rotate in the correct direction. The 120VAC light connects between “common” and “light” terminals on the receiver.



NOTE: The unit is shipped with the limit switches bypassed. To use the limit switches, remove the wire between the common and limit switch input and connect normally closed limit switches as shown.

Troubleshooting

All remote-control systems shipped by GAMA Electronics are 100% functionally tested just prior to shipment.

If your RF remote control system does not work out of the box, stops working or functions intermittently please take the following steps to resolve common issues. Please note that you must be 2-3 feet away from the receiver when operating the remote control. Operating within 2-3 feet may result in no operation or intermittent operation.

1. Replace the A23 12V Battery in the transmitter

- The remote control can activate during shipping and drain the battery that is installed in the control. We send a replacement battery with the system if this occurs.

2. Check the voltage supply at the receiver

- The receiver is designed to function at 100-132VAC. Voltage on the (+) and (-) terminals on the control should be within this range.

3. Reprogram the remote control

- If the system is non-functional try to reprogram the remote control. The program may not have taken during the programming process or the program button may have been pressed. If the program button is pressed the memory of the remote controls programmed to the receiver are erased.

4. Listen and look for functionality on the receiver.

- The LED that is used for programming the system will illuminate when the receiver is activated. You will also hear a “click” when the internal relays engage. If you can see the LED illuminate and you hear the relay “click” the issue is most likely in the wiring or device being controlled.

WARRANTY:

GAMA Electronics, Inc. warrants to the **original purchaser** only that its products will be free from defects in material and workmanship at the time of shipment for a period of one (1) year from the date of shipment, unless a different period is expressly stated on the product, quotation, or invoice.

This Limited Warranty applies only to defects that existed at the time of shipment. Because GAMA Electronics, Inc. has no control over installation, wiring, power supply, environmental conditions, vehicle conditions, or the specific application in which the product is used, this warranty does not cover any failure, damage, or malfunction that occurs after the product has left GAMA's control.

Exclusive Remedy

GAMA Electronics, Inc.'s sole obligation, and the original purchaser's exclusive remedy, under this warranty shall be limited to, at GAMA's sole option, the repair or replacement of the defective product or a refund of the purchase price actually paid. All warranty claims must be submitted in accordance with the procedures set forth below.

THIS WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND LIMITATIONS:

- (a) This warranty extends only to the original purchaser and is non-transferable. It does not extend to any subsequent owner or user.
- (b) The product must be returned to GAMA Electronics, Inc.'s factory, transportation prepaid, promptly after discovery of the alleged defect, together with proof of purchase and a detailed description of the problem.
- (c) This warranty does **not** apply if the product has been:
operated beyond its rated capacity; installed, wired, or applied improperly; modified, altered, or repaired by anyone other than GAMA; exposed to improper voltage, reverse polarity, excessive heat, vibration, moisture, corrosion, or unsuitable environmental conditions; used with incompatible or non-approved components, wiring, or systems; or damaged by accident, misuse, abuse, or neglect.
- (d) This warranty does **not** cover failures or malfunctions caused by installation, vehicle wiring, grounding issues, voltage fluctuations, customer-supplied components, improper fusing, short circuits, or any other condition outside GAMA's direct control.
- (e) GAMA Electronics, Inc. shall not be liable for any labor, diagnosis, troubleshooting, installation, removal, reinstallation, transportation, downtime, loss of use, incidental damages, consequential damages, or any other indirect or consequential damages arising from any defect or warranty claim.

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Inspection

Any inspection or evaluation of a returned product by GAMA Electronics, Inc. does not constitute an admission that the product is defective or that the claim is covered by this warranty. GAMA reserves the right to determine, in its sole discretion, whether a product qualifies for repair, replacement, or refund.

No Modifications

No employee, distributor, dealer, installer, representative, or agent of GAMA Electronics, Inc. is authorized to modify, extend, or expand this warranty in any manner. Any such modification must be made in writing and signed by an authorized officer of GAMA Electronics, Inc.

Governing Law

This Limited Warranty shall be governed by and construed in accordance with the laws of the State of Illinois, without regard to its conflict of laws principles. Any legal action arising out of or relating to this warranty must be brought exclusively in the state or federal courts located in McHenry County, Illinois.