



**Included in this Kit:**

- (1) RF340-400APR Receiver**
- (1) 2-Button Transmitter**

**Available accessories:**

- Package of A23 12V Alkaline Batteries A23-6**
- 2-Button Waterproof Transmitter KF340-2WP**
- 2-Button Rechargeable Transmitter GKF-WPTX-2**
- 2-Button Keyfob Transmitter KF340-2**
- 340MHz Long Range Antenna LRA-340**

The RF340-400APR is a Heavy Duty, Long Range Polarity Reversing R.F. Remote Control is designed for bi-directional control of DC motors. This control is intended for high current applications. The output is rated for a 100 amp continuous load and up to a 400 amp intermittent load (10% duty cycle).

This system is ideal for controlling lifts, jacks, winches, and agricultural applications where large capacity 12 VDC polarity reversing DC motors are used. The keyfob transmitter has two buttons. The left button runs the motor in one direction and right button runs the motor in the opposite direction. There are also auxiliary waterproof pushbutton switches mounted on the receiver. This permits operation of the control without using a transmitter.

The control can be configured for either momentary or latching operation. In the momentary mode, the motor will operate as long as the buttons are held down. In the latching mode, pressing either button will start the motor and pressing the button a second time will stop the motor. The auxiliary switches on the receiver only provide momentary operation.

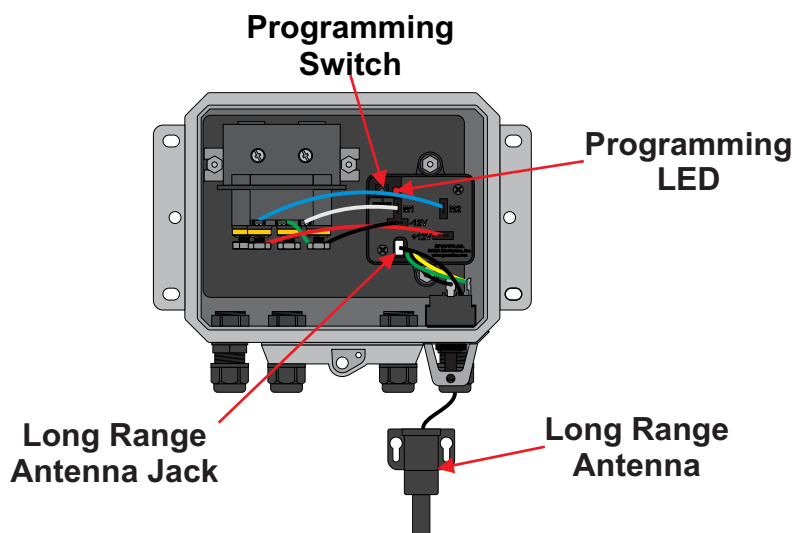
The control is housed in a IP-68 waterproof enclosure and is suitable for use in harsh environments. The enclosure dimensions are approximately 9" L x 6" W x 4" H. The long range antenna is housed in a separate housing and connects to the receiver with a 5 foot cable.

There are four screw terminals for the connections. Two connect 12 volts and Ground and the other two connect to the DC motor. Transmit range is greater than 500 feet under normal operating conditions and can go as far as 900 feet under ideal conditions. FCC Approved. Proudly made in the U.S.A.

## 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. When the receiver enters program mode, all previous transmitter addresses that were programmed will be erased from the receiver's memory.

1. Locate the pushbutton labeled "PROGRAM" 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 UP button on the transmitter and verify that the red program LED extinguishes and then illuminates (blinks once). Proceed to Step 5.
4. To configure the receiver for latching output, press and release the DOWN button on the transmitter and verify that the red program LED extinguishes and illuminates (blinks once).
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 for the first transmitter being programmed, twice for the second, three times for the third, etc. The receiver will not respond to transmitters that have already been programmed. The first transmitter that is programmed determines the receiver's relay operating mode.
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 Add Long Range Functionality

The remote control system is equipped with an internal antenna. The expected range in normal conditions is approximately 100 feet. When additional range is needed, or if the control is placed locations adverse to RF signal reception, a long range antenna can be added to the system. GAMA Electronics long range antenna, part number LRA-340, replaces the internal antenna on the system. In normal operating conditions expected range is greater than 500 feet. If the long range option is purchased with the system, this modification will be made prior to shipment.

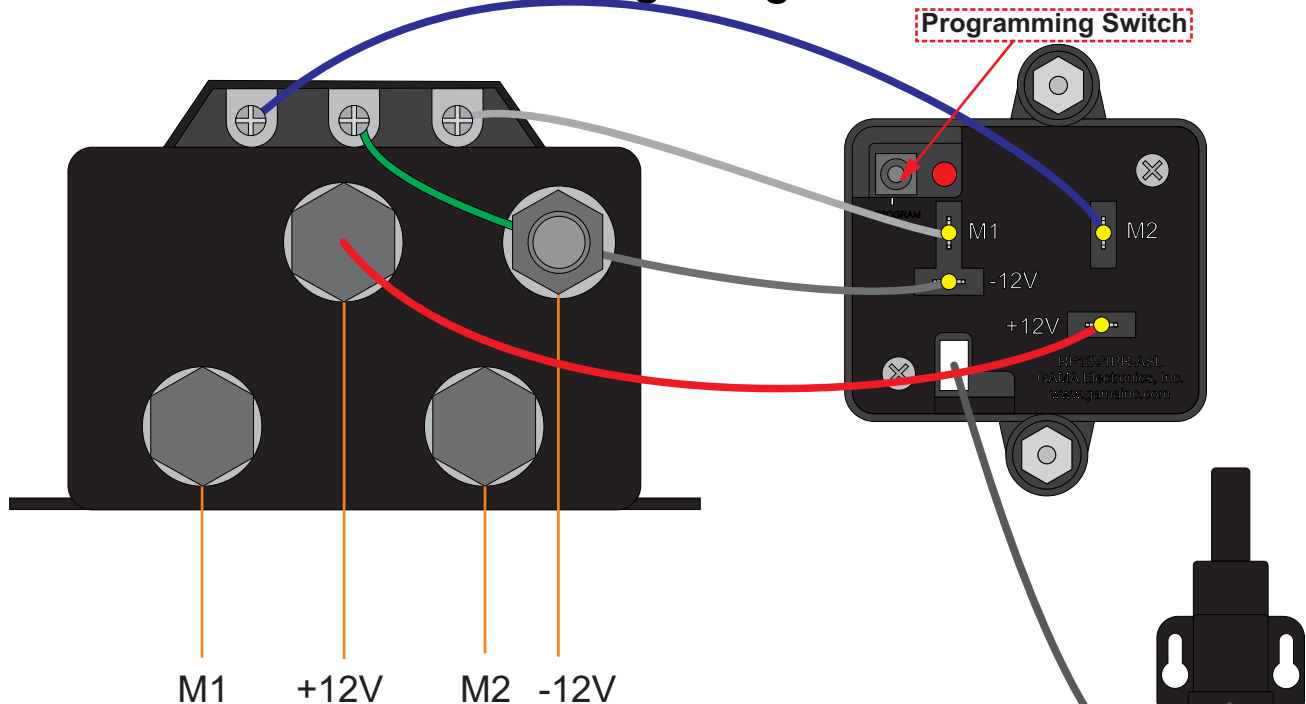
**NOTE: ONCE THE LONG RANGE MODIFICATIONS HAVE BEEN MADE TO THE SYSTEM THEY CANNOT BE REVERSED.**

#### To add long range functionality:

1. Plug long range antenna (Part number LRA-340) into the long range antenna jack.
2. Clip the Long Range Antenna Bypass Wire (This will deactivate the internal antenna)

NOTE: It is recommended that you cover the exposed wires with RTV silicone sealant.

### Wiring Diagram



## **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 10-15VDC. 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.

### **5. Add a long-range antenna**

- If the receiver is in an area that is averse to the reception of an RF signal, such as near a motor or in a metal casing, a long-range antenna may solve the issue. Connect the antenna per the instructions on page 3 and mount the antenna in an exposed area away from any motor.