

#### Included in this Kit:

(1) HPC-2-24V Receiver

(1) 2-Button Transmitter \*Image shown with standard transmitter\*

#### Available accessories:

- Additional Transmitter KF340-2

- Waterproof Transmitter KF340-2WP

- Rechargeable Transmitter GKF-WPTX-2

- 6-Pack of Replacement A-23 12V Batteries A23-6

- Clear Protective Transmitter Pouch ZLB-67

- Long Range Antenna LRA340 \*\*SEE PAGE 3 FOR SETUP\*\*

The HPC-2-24V remote control receiver operates from a single 20VDC-28VDC power supply. Three non-isolated outputs are controlled by relays which, when energized, route the input power supply voltage directly to the corresponding output(s).

The receiver is encased in a waterproof mounting tray and provides wire leads for connecting the input power and outputs. The "PROGRAM" push button switch on the receiver is used to learn the transmitter(s) address and store it in memory. The "PROGRAM" LED on the receiver indicates the receiver's programming status and also illuminates when a relay is energized. For more details on how to program the receiver, please go to page 2.

The keyfob style RF transmitter (model KF340-2) supplied with the unit has two momentary switches that control normally-open contacts on the receiver which remain energized for as long as the buttons are pressed. A third set of non-isolated relay contacts close automatically when either of the two main relays are closed.

To extend the receiver's range of operation, an optional external antenna is available. It is enclosed in a separate waterproof housing and increases range performance up to 900 feet under ideal conditions. The LRA-340 long-range antenna is supplied with a 4-foot cable with waterproof connector that attaches to the receiver. For the longest possible range of reception, the antenna should be mounted vertically, above the receiver, such as on a vertical pole. The antenna can either be purchased with the kit by selecting the "long-range" option for the "communication range", or it may be purchased separately. For more details on how to install a long-range antenna, please see page 3.

Up to thirty 2-Button transmitters can be programmed and used with the receiver.

**Power Supply:** 20VDC-28VDC, 10A. Reverse polarity protected. Not fused.

**Output Relays:** 8A maximum switching current (total not to exceed maximum power input rating).

**Power Consumption:** <50mA

**Input Power Connection:** 18AWG 300V stranded MTW or equivalent.

**Output Connection:** 18AWG 300V stranded MTW or equivalent

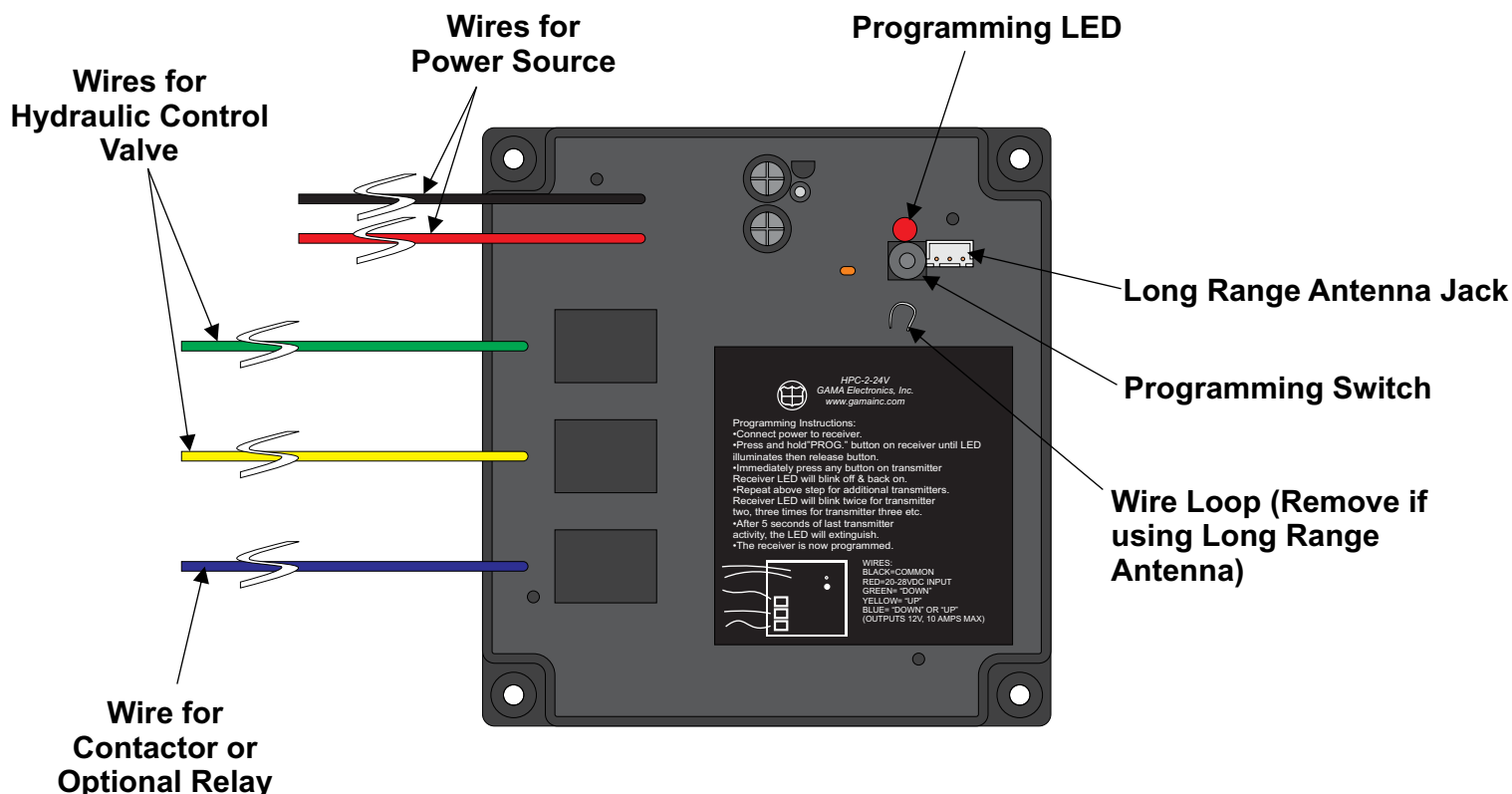
**Switch settings:** One momentary programming push button

**Operating Temperature:** 0°F - 160°F

### 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. Connect power to the receiver. 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. Within 5 seconds of releasing the program button, press any button on the transmitter. The receiver LED will blink off then on.
3. 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.
4. 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.

## **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 20-28VDC. 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.**

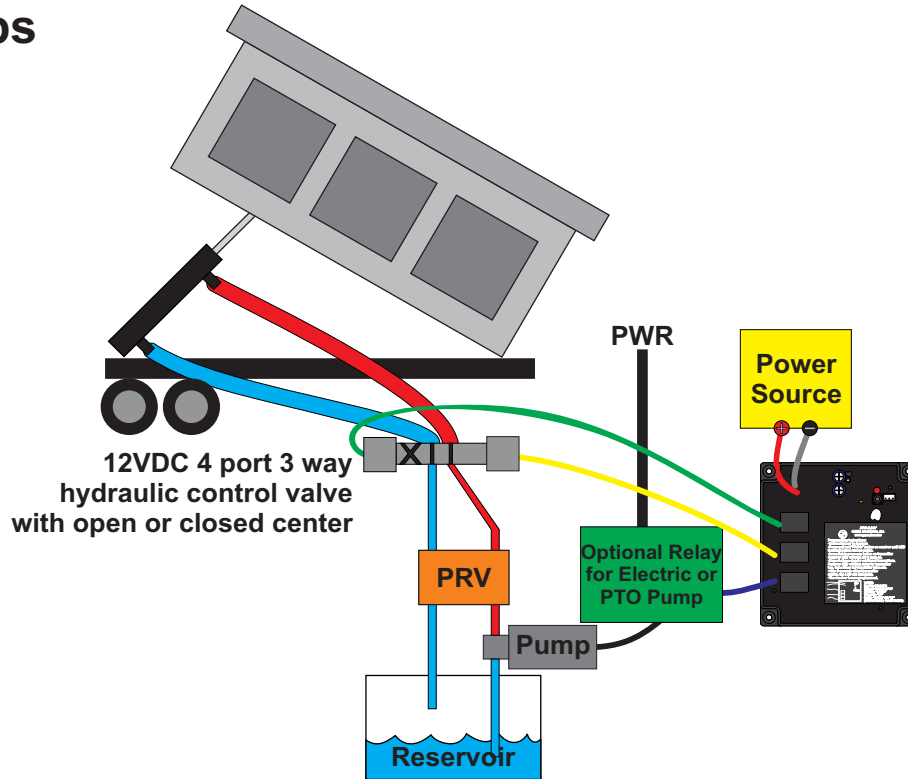
- The LED that is used for programming the system will illuminate when the receiver is activated. You will also hear a “click” when the internal relays engage. If you can see the LED illuminate and you hear the relay “click” the issue is most likely in the wiring or device being controlled.

### **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.

### Wiring Diagram

#### Mobile Pumps



#### Stationary Pumps

