R/C Relay Kit

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Thank you for your purchase. Your RC relay kit is hand assembled and tested for quality assurance.

The relay board includes the following features:

- No extra battery needed. Unit runs off 4.8-6V receiver battery
- Signals are opto-isolated from your receiver - offers **MAXIMUM** interference protection.
- Programmable threshold - sets up with any transmitter/receiver pair.
- Can be used with nitro or electric cars/boats/helis (1/12 to 1/4 scale with existing receiver).
- RC relay outputs are electrically isolated from receiver electronics.
- RC relay outputs rated at 1A current draw – so you can control a high-current device on a separate battery.
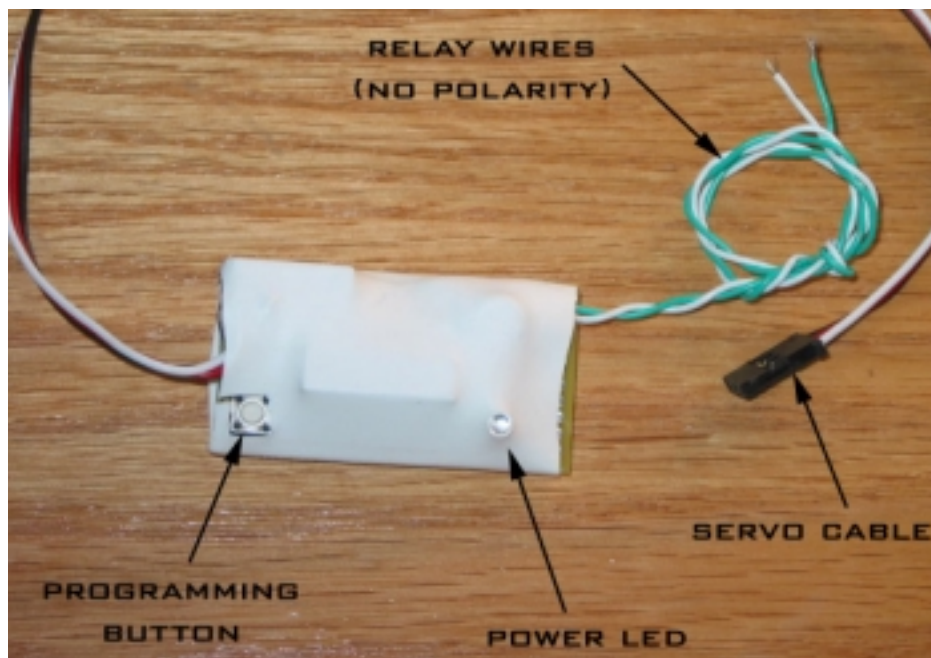
PACKAGE CONTENTS

Your RC relay board comes with the following:

1. Assembled RC relay board
2. Servo connector
3. Wires for relay switching another circuit, light, etc

HOOKING UP YOUR BOARD

Here is a picture of the assembled board (protected with heat wrap):

NOTE: The board is shipped with Hitec/JR servo connectors, unless otherwise specified.

For these servo connectors, the black (or brown) wire is negative, the middle red wire is positive, and the yellow (or white) wire is the servo control line. **MAKE SURE** you abide polarity when plugging the connectors into your receiver and servo. Plugging them in wrong will damage your servo and possibly the board! We are not responsible for damaged equipment due to user error.

Servo connections

First, find a free channel on your RC receiver. You can even use an existing channel if you use a Y-cable to split the servo signal between the relay board and the other device on the channel.

Take the male servo connector and plug it into the channel servo connector (abiding polarity).

INSTALLING THE BOARD

To install the RC relay board into your RC car, all you need to do is mount the board in your RC body, plug the servo connector into your receiver, and connect the relay wires to the circuit or other device that you wish you turn on and off using the receiver.

PROGRAMMING THE BOARD

Turn on your receiver power and the power LED on the board will blink on and off.

Once you have turned on your transmitter, the power LED will now blink rapidly, telling you the board is detecting transmitter activity.

To program in your threshold, press the small pushbutton on the relay board for 2 seconds, then release it. When you release it, the power LED should flash several times then stay on.

Now move your transmitter stick, switch, or whatever input device that the relay board is connected to. Place it in the desired "ON" point, which could be full brake on a car, the flipping of a switch, etc. Hold the input on the transmitter and press the small pushbutton on the relay board once more. The power LED will flash quickly again. You can now release the transmitter input.

Your board has successfully been programmed with your custom relay threshold!

You can reprogram the board at any time by following the above procedure. For example, if you re-trim your servo throw on that channel, you probably want to reprogram the relay threshold.

If you attempt to program the board while the transmitter is off, the program will fail. You will have to turn on your transmitter and reprogram the board twice in order for the new threshold to take effect.

<u>Summary of LED blinking:</u>

- Rapid pulse blinking – transmitter signal detected
- Steady blinking – no transmitter signal
- Three pulses and then steady on – in program mode

TESTING THE BOARD

The relay board is "OFF" by default. This means that the 2 wires coming off the board are electrically isolated. If you want to electrically connect the 2 wires, place the transmitter input to the programmed ON threshold, and the wires now are active. You can hook the wires up to a separate circuit with its own battery, another servo device, or any other electrical circuit that needs an electronically controlled on/off binary switch.

When you surpass the relay threshold using your transmitter input, the power LED will illuminate, telling you that the wires are now active. You can test this out before hooking up a device to the relay board.
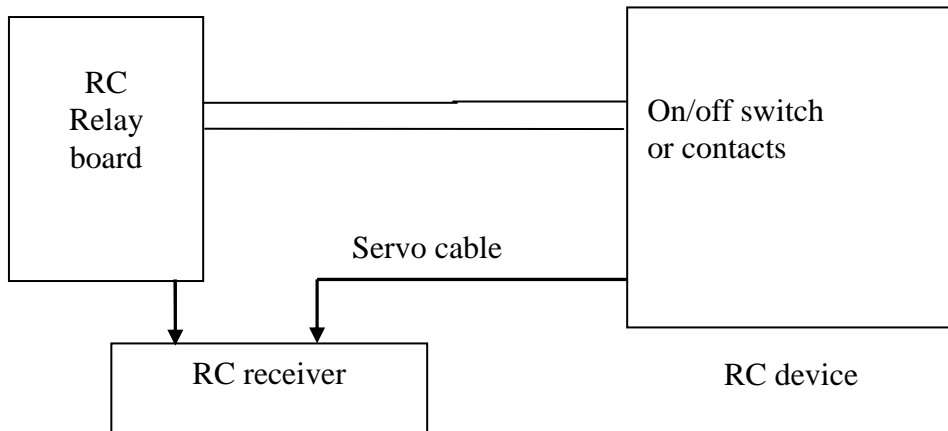
Below is an example of a simple hookup using the relay board. The below diagram shows how a lamp circuit using its own battery can be remotely switched on and off using the RC relay board.
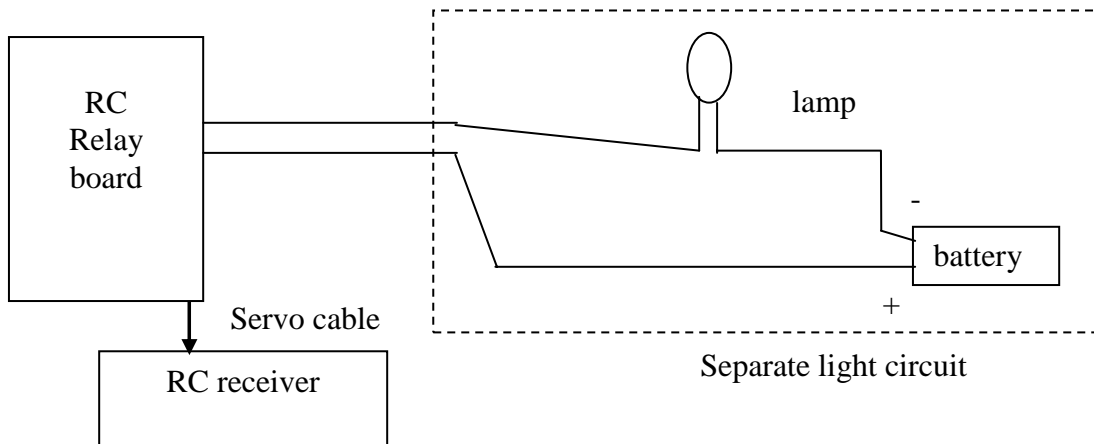
The lamp can be replaced with a motor circuit, sound circuit, or any other device.

NOTE: The outputs of the RC relay board are **not** powered. The relay board electrically connects the wires so you can turn on and off another (separate) circuit board. This allows you to drive any type of circuitry, and the RC relay board can pull 1A of current through its relay if you are wanting to switch a motor or other high-current device.

You can also use the RC receiver battery to power another device that you simply want to control from your receiver. So even though the boards share the same power source, you can still turn it on and off using the relay board.

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┌─────────┐                          ┌──────────────┐
│   RC    │                          │              │
│  Relay  │══════════════════════════│ On/off switch│
│  board  │                          │ or contacts  │
│         │        Servo cable       │              │
│         │        ┌──────────┐      │              │
└────┬────┘        │          └──────┤              │
     │             │                 └──────────────┘
     ▼             ▼
┌──────────────────────┐
│      RC receiver     │             RC device
└──────────────────────┘
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If you have any problems, please contact hyperdyne@hyperdynelabs.com

ENJOY!!