Infra-red Remote Control
Code: PAC 1210

Infra-red Remote Control Kit Contents
1x infra-red transmitter keypad
1x infra-red receiver board

Also required:
4 x AA batteries

Introduction
The infra-red remote control features a tv style remote and receiver with 6 digital and 2 analogue channels - each with 56 logarithmic power levels. The analogue outputs, P1 and P2, use a method called Pulse Width Modulation (PWM). In this scheme, the output is simply switched on and off very quickly, about 8,000 times each second in this case. The amount of time spent on relative to off is varied so that the average voltage gives the output level desired. The outputs will source a current of up to 800mA, enabling small motors, bulbs and buzzers to be connected directly to the receiver. The remote control has a range of approximately 10 metres, although this may vary according to light conditions. Possible applications for the controller include: electronic locks, model vehicle control, robotics, appliance control for disabled users, model rocket launching, control in high risk environments, etc.

Programming the Transmitter
Before use, the transmitter must be programmed as follows:
1. Hold down ‘SET’ and ‘TV1’ for 2 seconds.
2. Key in 124.

Note: other ‘all-in-one’ transmitters can be used with the receiver, but their layouts may differ. Also, the programming code may differ from the one supplied.
Preparing the Receiver

Insert 4 x AA batteries into the battery box provided and connect it to the receiver board. NEVER USE A 9V PP3 TYPE BATTERY. Aim the transmitter at the sensor on the receiver from a distance of about 1m and press the buttons 3 to 8 in turn. It is better to aim the transmitter slightly above the sensor, not directly at it. As each button is pressed, the green LED on the receiver should flash and the red LED should light up to indicate one of the digital channels is on.

The two analogue outputs ‘P1’ and ‘P2’ on the receiver can each be set to one of 56 different power levels - like the volume on a TV. This enables, for example, variable speed control of a motor or adjustable brightness of a bulb. The yellow ‘flag’ LED will change in brightness according to the power level.

Using the Receiver

Each of the receiver’s outputs can source up to 800mA as they are interfaced via a darlington driver IC. The output devices are connected at the points marked P1, P2 and 3 to 8. The illustration shows a filament bulb connected to output 3.

Note that certain output devices, such as LEDs and some buzzers, have a polarity. When connecting these devices to the receiver, ensure that their positive and negative legs/wires are connected to the corresponding positive and negative connections on the board. The connecting points on the right of the board are positive, the inner points are negative.

Optional Power Supply For Output Devices

As an option, a second battery can be connected to the board to power high current output devices. This prolongs the life of the receiver battery and prevents any malfunction if, for example, several outputs switched on together cause the receiver battery voltage to drop. If a second battery is used, it is connected at the points marked ‘EXT PWR’ and it is necessary to remove the jumper block as shown in the illustration. Ensure you remove the jumper block before you connect the second battery.

For more information please contact:

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