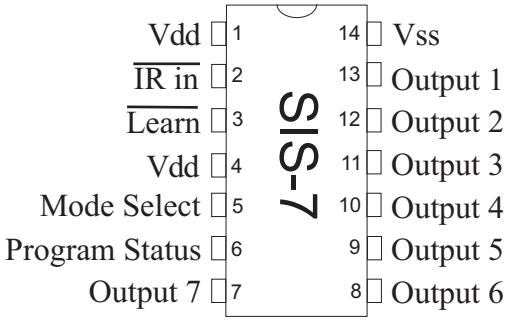
SIS-7

7 Output, Universal IR Remote Control Receiver Switch

General Description:

The SIS-7 makes it simple to implement an infrared (IR) remote controllable switching solution for a wide variety of applications. When used with an inexpensive IR receiver module, The SIS-7 recognizes IR signals from 7 independent IR remote control sources, and provides 2 modes of switching for your application. The IR sources can be from the same or multiple remotes.

Works with over 99% of IR remotes, both universal and dedicated types.
IR code is easily "taught" by user with a few simple button presses on the IR remote.
Application examples include signal switching, on/off control, volume control, digital pots, and servos.



Vdd (with respect to Vss): 2-5.5V
Provides up to 25 mA per Output pin
Package: 300mil wide Plastic DIP

IR in from IR module: No signal = Vdd, Pulses = Vss
IR code is stored in non-volatile, re-programmable memory.
Logic levels of Outputs 1-7 on power up: Vss (low)

Normal Operation of the SIS-7

After the SIS-7 has learned to recognize 7 IR codes, there are two modes of normal operation:

Mode 1 -- Mode Select pin = Vss (pin5=low):

Output (1-7; pins 13-7) will toggle (change to the opposite logic level) each time its corresponding IR code is received.

Mode 2 -- Mode Select pin = Vdd (pin5=high):

Output (1-7; pins 13-7) is normally low, but goes to Vdd (high) when its corresponding IR code is received.

(In Mode 2, the output pin will stay continuously high (Vdd) for as long as the IR code is being received. As long as you hold down on the properly aimed IR remote button, the output pin will stay high.)

Programming the SIS-7

Each of the 7 IR codes is learned by the SIS-7 sequentially. This means that once the programming process is started, all 7 IR codes are programmed one after the other as prompted by Program Status (pin 6). An LED, logic probe, or other indicator should be connected to Program Status (pin 6) during the learning/programming process.

Once the SIS-7 has learned all 7 IR codes, each code will correspond to the Output# in which it was learned. In other words, the first IR code that is learned corresponds to Output 1 (pin 13), the second IR code that is learned corresponds to Output 2 (pin 12), and so on.

So that the IR codes are properly learned by the SIS-7, you will be prompted to press each of the seven buttons on your IR remote(s) 2 times per button.

Steps to program the SIS-7:

1. Select the 7 buttons from your IR remote(s) that you want the SIS-7 to learn.
2. Momentarily pull pin 3 low until pin 6 pulses then remains high, indicating that learning mode is active.
3. Aim the remote at the IR receiver and press the button on the IR remote. When pin 6 goes low, release the button.
4. Pin 6 will go back high after about 2 seconds. Repeat the above step one more time for the same button.
5. After steps 3 and 4 are completed, pin 6 will pulse several times, then remain high. This indicates that the SIS-7 has learned the IR code for that button, and is now ready to learn the IR code for the next button.
6. Repeat steps 3 and 4 for the remaining 6 buttons. When complete, pin 6 will pulse several times, then remain low. This indicates that all buttons have been programmed/learned.

The SIS-7 is now ready for normal use.

Considerations Using the SIS-7

Delay Between Repeated IR Remote Button Presses

In Mode 1 (toggle mode), there is a minimum of a 250ms delay between consecutive IR code recognition. This is designed to prevent unwanted toggling of the output if the user presses the IR remote button a little too long.

Incompatible IR Remotes

The SIS-7 is known to work with over 99% of existing IR remotes. However, it has not been tested with Bang & Olufsen high-frequency remotes, and is assumed not to work.

IR Receiver Modules

The vast majority of IR receiver modules are use negative logic -- the output from the receiver is high when no IR signal is being detected. The SIS-7 requires a negative logic signal on pin 2. If you choose to use a positive logic IR receiver module, simply use an inverter between the receiver's output and pin 2 of the SIS-7.

If you have a problem or questions regarding the SIS-7, contact us: SUPPORT@SIMEREC.com