IR-D14
14-Bit Infrared Remote Control Decoder IC

Quick & Easy - Infrared Remote Control

The IR-D14 IC is a custom pre-programmed microcontroller designed by Reynolds Electronics to decode Sony® Corporation's infrared remote control command protocol. Add instant remote control to your next robotics application, OEM products, or hobby projects with the IR-D14 and an "off-the-shelf" inexpensive universal remote control transmitter.

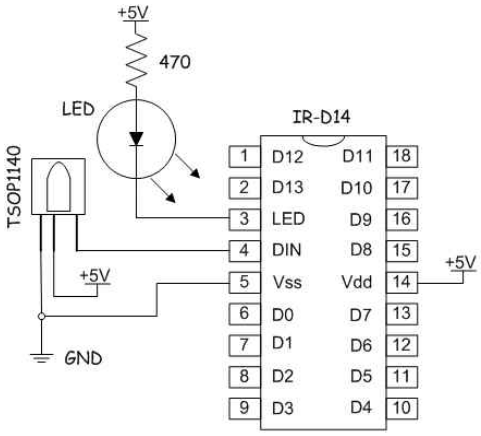
Use the IR-D14 IC with any universal IR remote control transmitter that supports the Sony® IR protocol for simple, and "instant" remote control solutions. If you can program your IR remote control transmitter to use the Sony® IR data protocol, you can control the IR-D14 IC.

The IR-D14 provides 14 individually controlled digital outputs + one additional 15th bit as an LED status indicator, and requires only a single external component. The IR detector module.

IR transmitter buttons 1 through 0, channel up, channel down, volume up, and volume down are used to control the 14 individual IR-D14 digital output pins shown in the table below.

The IR-D14 ignores data received for buttons not shown in the table - allowing unobtrusive system range performance testing without disturbing logic states of the 14 digital outputs.

Include IR remote control in your next product, robot, or home control project in minutes…!



A single 40KHz infrared detector module with the IR-D14 IC completes the entire remote control receiver assembly.

The LED drive output can be used as a 15th digital output providing a 15-bit IR decoder IC in a single 18-pin DIP device package.

Transmitter Button #	Toggles IR-D14 Output Pin #	Transmitter Button #	Toggles IR-D14 Output Pin #
1 ->	6 / D0	8 ->	13 / D7
2 ->	7 / D1	9 ->	15 / D8
3 ->	8 / D2	0 ->	16 / D9
4 ->	9 / D3	Channel Up ->	17 / D10
5 ->	10 / D4	Channel Down ->	18 / D11
6 ->	11 / D5	Volume Up ->	1 / D12
7 ->	12 / D6	Volume Down ->	2 / D13

Operation:

On power-up the IR-D14 digital outputs default to logic 0 or ground. The LED drive output defaults to logic 1 to turn off the status LED. A valid button press received from the universal IR transmitter corresponding to an IR-D14 digital output will toggle that outputs logic state from ground to logic 1. Pressing the same button a 2nd time will toggle the same digital output pin from logic 1 back to ground.

Depressing and holding a button on the transmitter will cause the corresponding output to toggle from logic 1 to logic 0 at rates of approximately ½ second "500 millisecond" intervals.

Note: The LED output pin will always toggle when a valid Sony® IR data packet is received, and will always return to a default logic 1 state during idle, or non-transmit periods.

The IR-D14 IC uses the internal oscillator of the microcontroller, requires no external oscillator or crystal for operation, and the IR-D14 IC firmware is "self-tuning" to help reduce false digital output triggers.

Maximum Output Sink / Source Current On Any Output 25mA
Maximum Output Sink / Source Current Total 200mA
Operating Voltage 5.0VDC
Avg. No Load Operating Current ..... <2mA @5.0VDC

Refer to the Microchip® PIC16F62x series datasheet at http://www.microchip.com for detailed device electrical specifications.

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IR-D14 application notes: http://www.rentron.com/IR-D14.htm