



HAT-12D8L Latched o/p, 8 bits data

This chip emulates the Holtek decoding protocol. The decoder waits for two transmissions with the proper format (the data is encoded with a one third on, two thirds off encoding scheme as shown below), then decodes the incoming data and latches it to the outputs. The Valid Transmission (11) pin goes high at the same time the data is sent to the outputs.

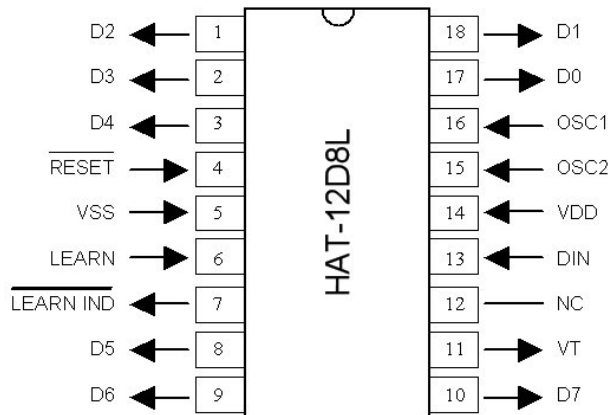
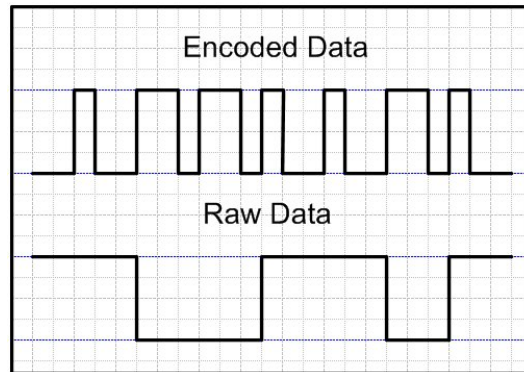
The eight bits of data that are received are the first eight bits received. The last four bits contain the address. The address of the decoder can be set by bringing the Learn (6) pin high for approximately 3.5 seconds. After 3.5 seconds Learn IND (7) goes low ; which can be used to sink up to 15mA to drive an LED, and the first valid transmission received sets the address. This address is stored in EEPROM memory and will be retrieved on power up. If being used with a Holtek HT-12E encoder, its oscillator should be configured with a 680k resistor.

Features

- Operating voltage: 4.5V-5.5V
- 4 Bit address
- 8 Data outputs which are latched
- Active high valid transmission pin
- Very few external components (10MHz crystal and two 22pF capacitors)

Typical Applications

- Security systems
- Remote monitoring
- Remote control
- Smoke/Fire alarm systems



Pinouts

PIN	Function	Signal Direction
1	D2	Output
2	D3	Output
3	D4	Output
4	RESET	Input
5	VSS	Input
6	LEARN	Input
7	LEARN IND	Output
8	D5	Output
9	D6	Output
10	D7	Output
11	VT	Output
12	NC	N/A
13	DIN	Input
14	VDD	Input
15	OSC2	Input
16	OSC1	Input
17	D0	Output
18	D1	Output

Pin Descriptions

D0—D7: The received data is latched to these outputs. Active high, can sink/source up to 15mA.

RESET: Active low. Tie high for normal operation.

VSS: Ground reference.

LEARN: When pulled high for 3.5 seconds the chip goes into learn mode. The next valid transmission received sets the address of the decoder and it automatically exits learn mode.

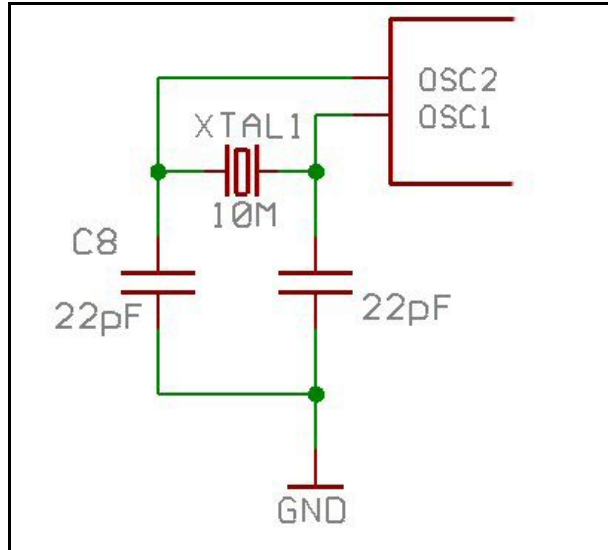
LEARN IND: When the chip goes into learn mode (LEARN pin has been high for 3.5s) this pin goes low. Can be used to sink up to 15mA to drive an LED indicator.

VT: Upon reception of a valid transmission, this pin goes high until 50ms after the last proper data packet has been received.

DIN: Encoded data input (from the receiver). Encoded data should be encoded according to the Holtek HT-12E protocol as shown on the previous page. **NOTE:** With respect to the HT-12E, A0 to A7 are decoded as data, and D0 to D3 are used as the address. If used with a Holtek HT-12E encoder, its oscillator should be configured with a 680k resistor.

VDD: Positive voltage reference.

OSC1—OSC2: Oscillator input. Each should have a 22pF capacitor to ground and a 10MHz crystal across the pins. See the figure below.



Oscillator configuration.

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