Quadrature Clock Converter

The quadrature LS7084 Module is CMOS quadrature clock converter. Quadrature clocks derived from optical or magnetic encoders, when applied to the A and B inputs of the LS7084 are converted to strings of a Clock and an Up/down direction control. These outputs can be interfaced directly with standard Up/Down counters for direction and position sensing of the encoder.
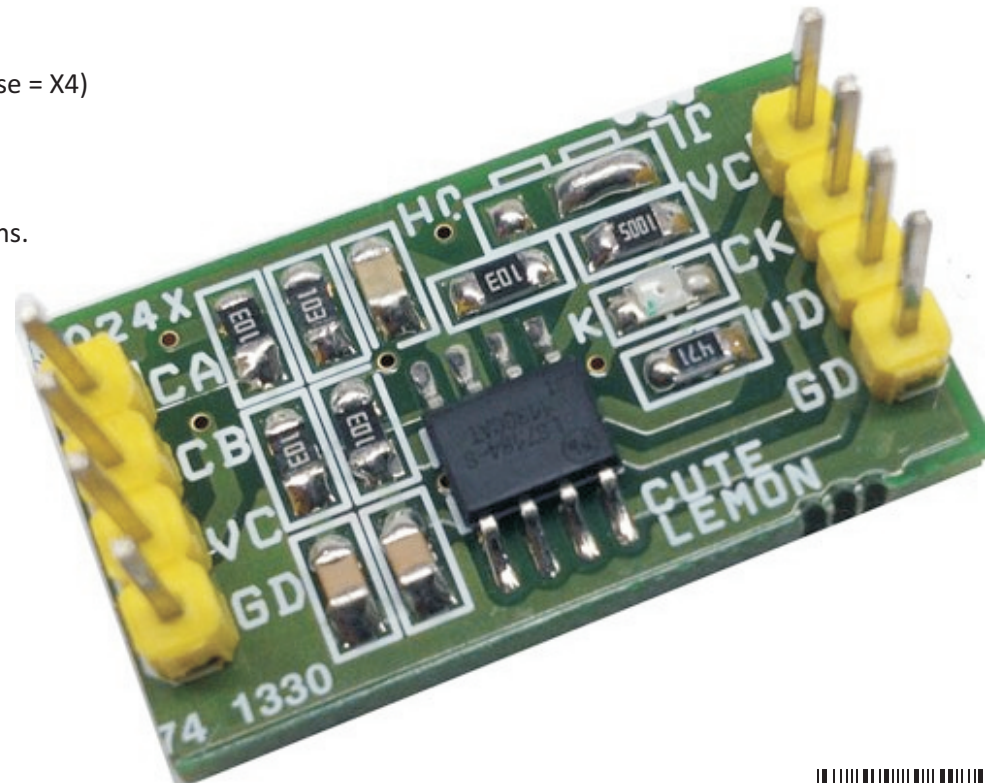
J1 Jumper input selects between x1 and x4 modes of operation. A high level selects x4 mode and a low-level selects the x1 mode. In x4 mode, an output pulse is generated for every transition at either A or B input. In x1 mode, an output pulse is generated in one combined A/B input cycle.
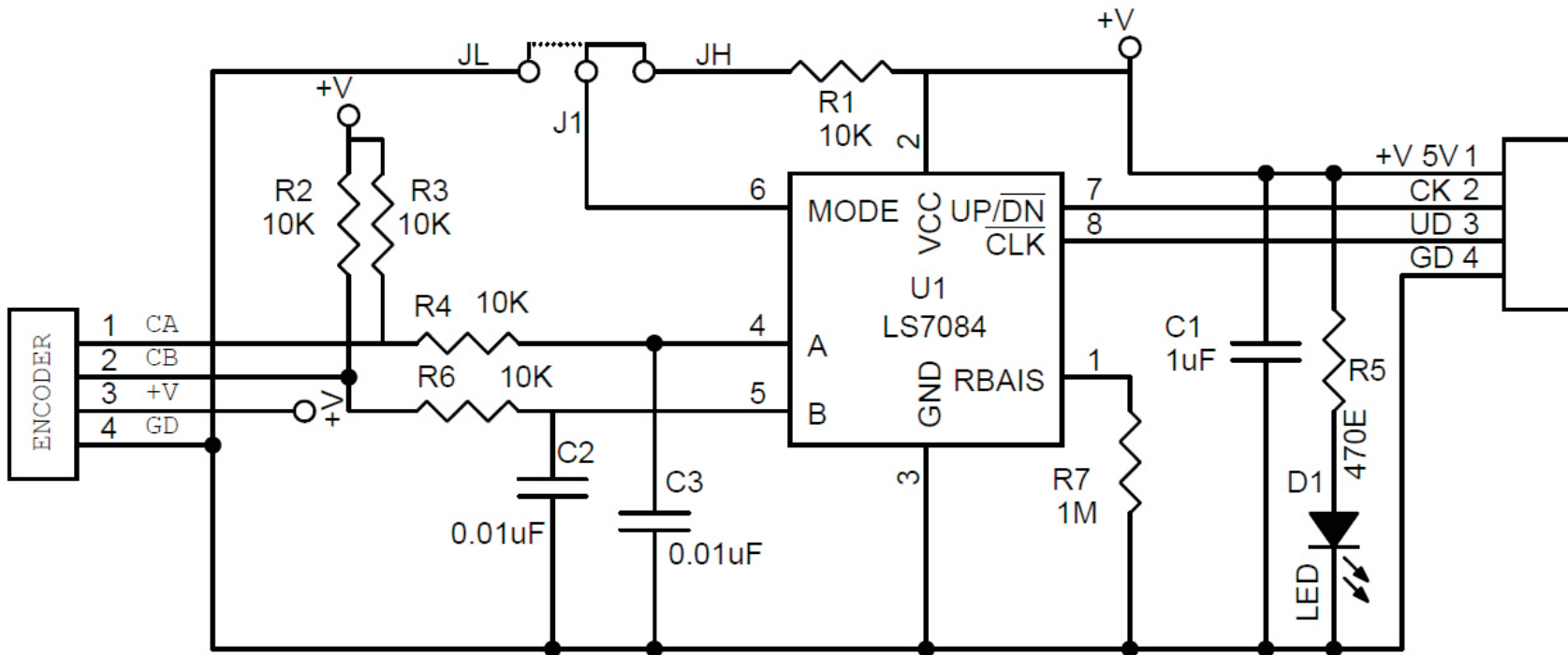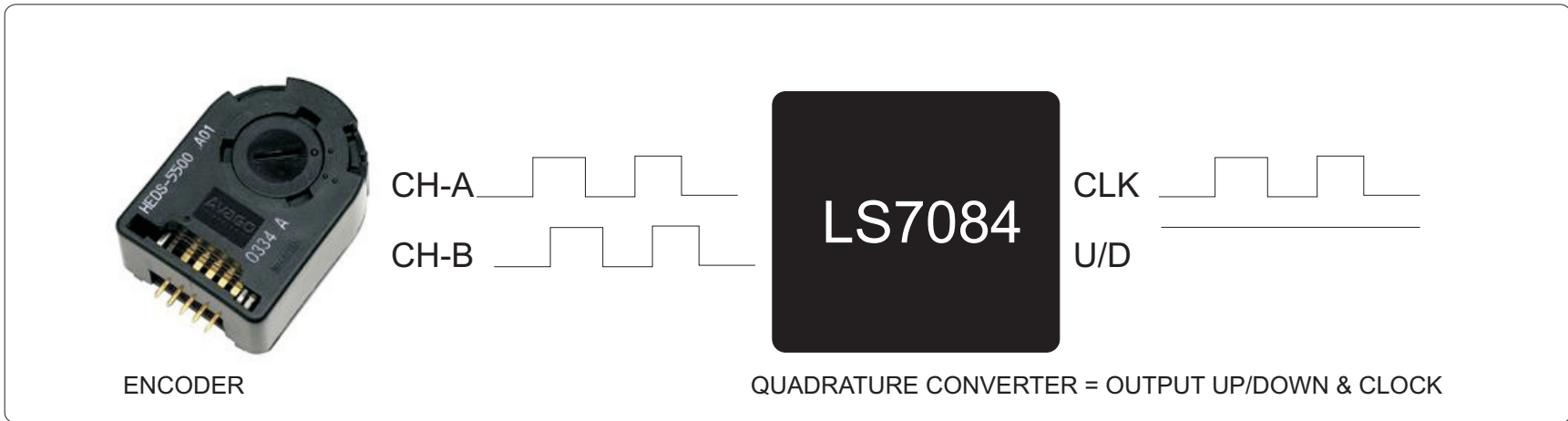
Resistor R7-RBIAS (Pin 1) Input for external component connection. A resistor connected between this input and VSS adjusts the output clock pulse width (Tow). For proper operation, the output clock pulse width must be less than or equal to the A, B pulse separation (TOW £ TPS).
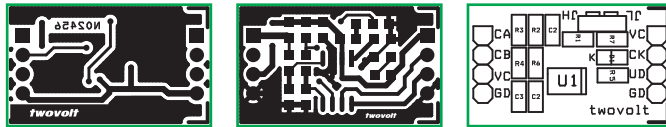
Note: Check Graph for R7- Bias Selection

Features

- Supply 5V DC
- +4.5V to +10V operation (VDD - VSS)
- On Board Power LED
- J1 Encoder pulse multiplication (Jumper JL Close =1X, Jumper JH Close = X4)
- Header Connector for Encoder Interface
- X1 and X4 mode selection
- Programmable output clock pulse width
- On-chip filtering of inputs for optical or magnetic encoder applications.
- TTL and CMOS compatible I/Os
- Up to 16MHz output clock frequency

07005

ENCODER

CH-A

CH-B

LS7084

CLK

U/D

QUADRATURE CONVERTER = OUTPUT UP/DOWN & CLOCK

+V

JL

JH

J1

R1
10K

2

+V 5V 1

+V

R2
10K

R3
10K

6

MODE

VCC

UP/DN

7

CK 2

8

UD 3

CLK

GD 4

U1
LS7084

ENCODER

1 CA
2 CB
3 +V
4 GD

R4 10K

4

A

+V

R6 10K

5

B

GND

RBAIS

C1
1uF

R5

C2

C3

3

1

470E

0.01uF

0.01uF

R7
1M

D1

LED

BOM			
SR.	**QNTY.**	**REF.**	**DESC.**
1	2	CN1,CN2	4 PIN HEADER CONNECTOR
2	1	C1	1uF SMD 0805
3	2	C2,C3	0.01uF SMD 0805
4	1	D1	LED SMD 0805
5	1	J1	PCB SOLDER JUMPER
6	5	R1,R2,R3,R4,R6	10K SMD 0805
7	1	R5	470E SMD 0805
8	1	R7	1M SMD 0805
9	1	U1	LS7084 S08

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