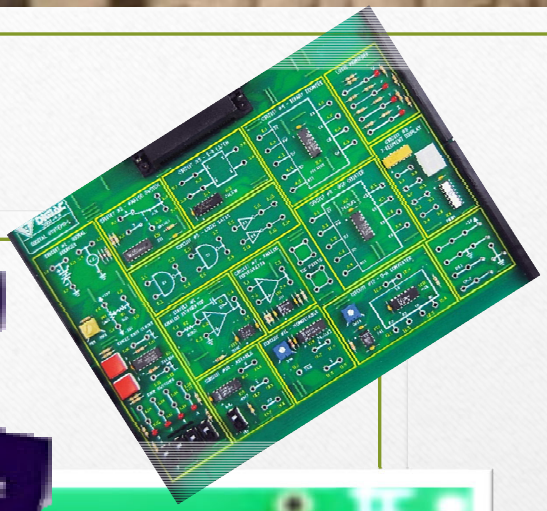

ELECTRONICS II

Lecture No.(12)- Semester 2

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Al-Muthanna University

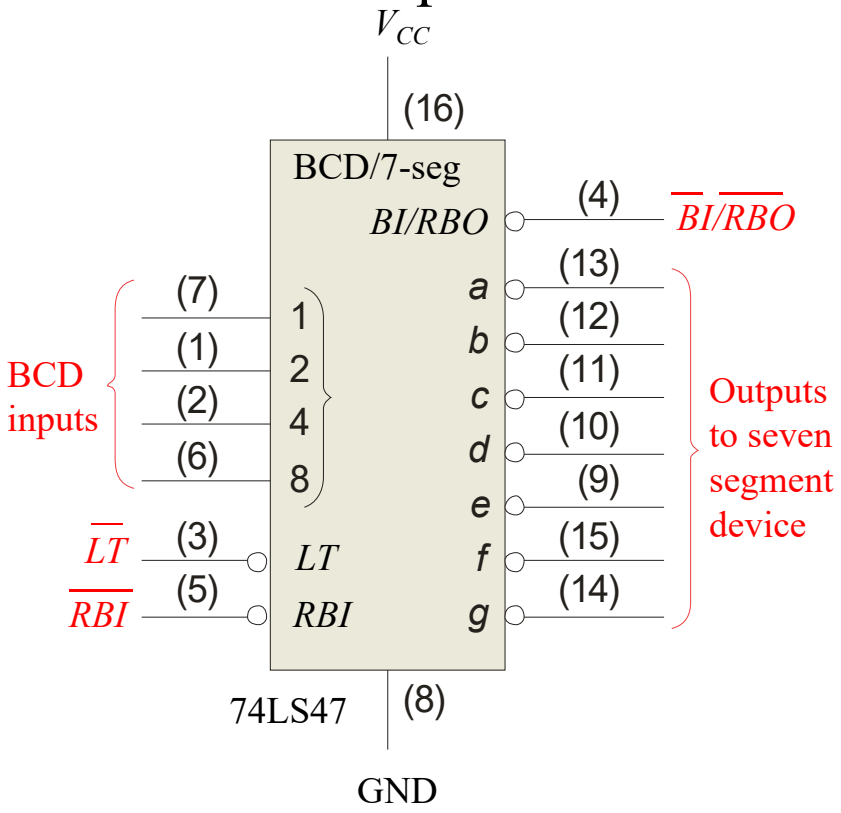
2018-2019

Summary

BCD Decoder/Driver

Another useful decoder is the 74LS47. This is a BCD-to-seven segment display with active LOW outputs.

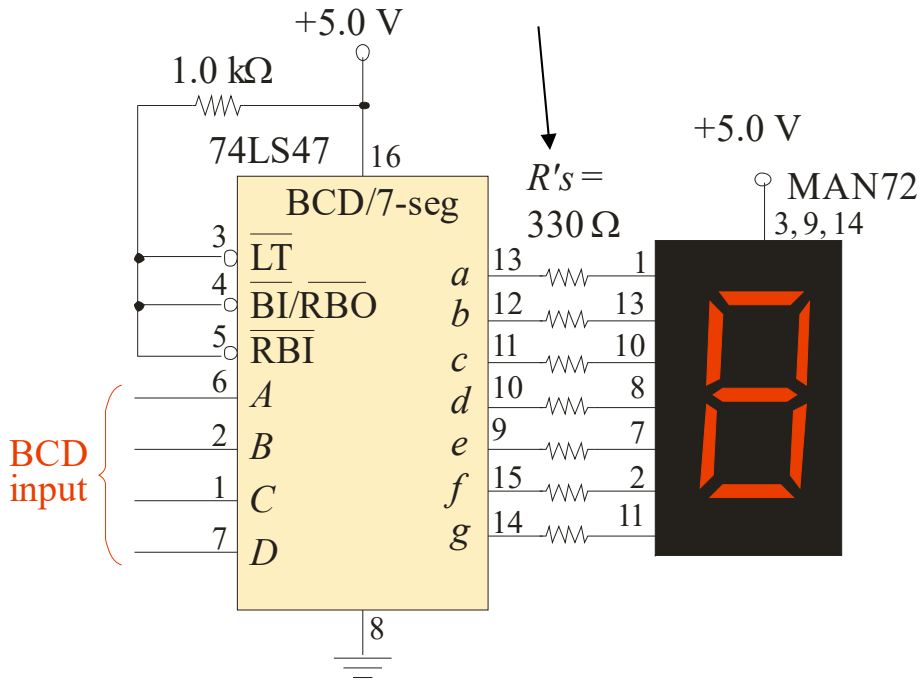
The *a*-*g* outputs are designed for much higher current than most devices (hence the word driver in the name).



Summary

BCD Decoder/Driver

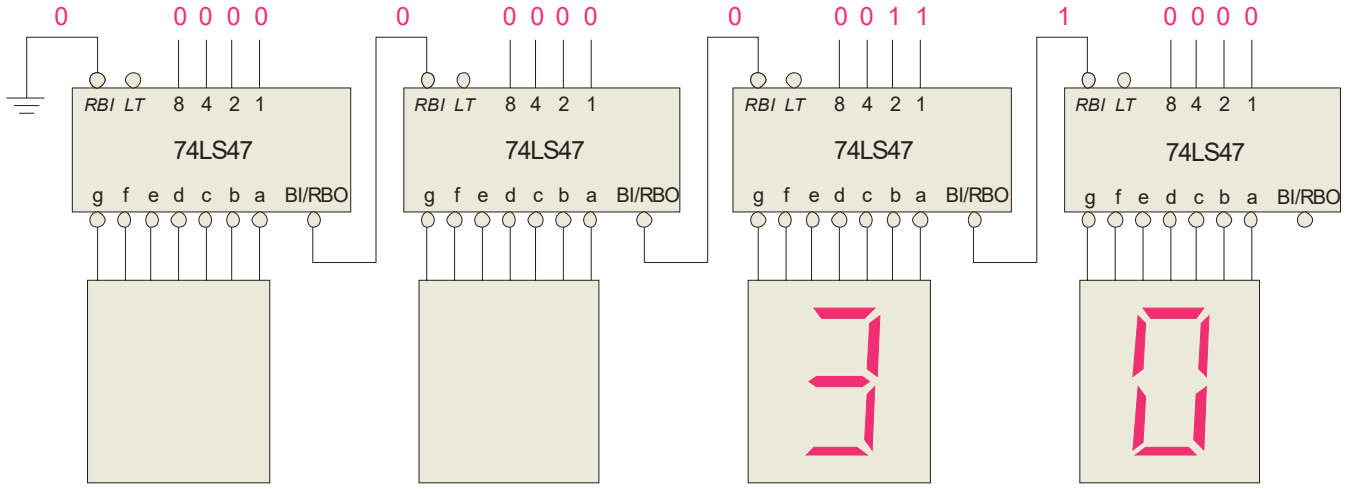
Here the 7447A is an connected to an LED seven segment display. Notice the current limiting resistors, required to prevent overdriving the LED display.



Summary

BCD Decoder/Driver

The 74LS47 features leading zero suppression, which blanks unnecessary leading zeros but keeps significant zeros as illustrated here. The $\overline{BI}/\overline{RBO}$ output is connected to the $\overline{RBI}$ input of the next decoder.

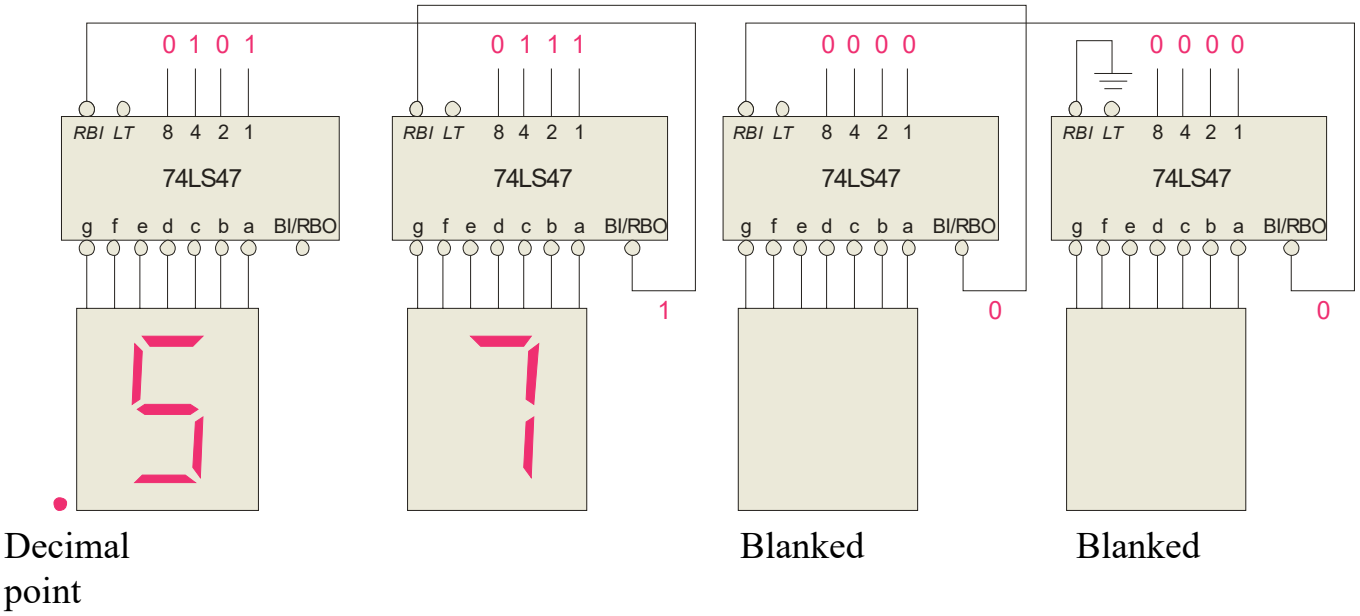


Depending on the display type, current limiting resistors may be required.

Summary

BCD Decoder/Driver

Trailing zero suppression blanks unnecessary trailing zeros to the right of the decimal point as illustrated here. The $\overline{RBI}$ input is connected to the $\overline{BI/RBO}$ output of the following decoder.

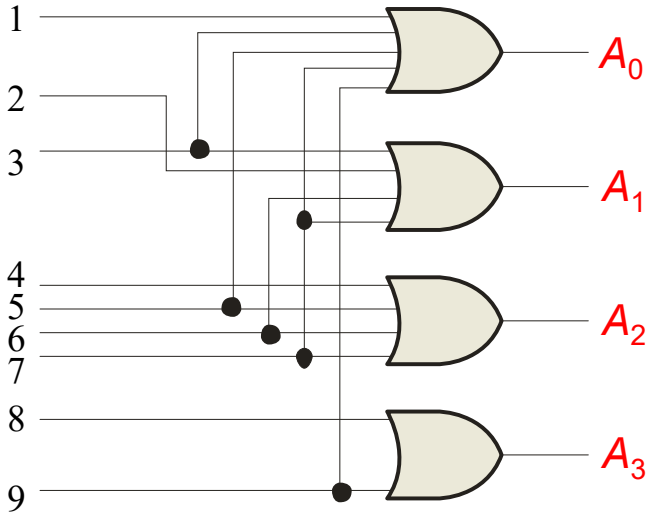


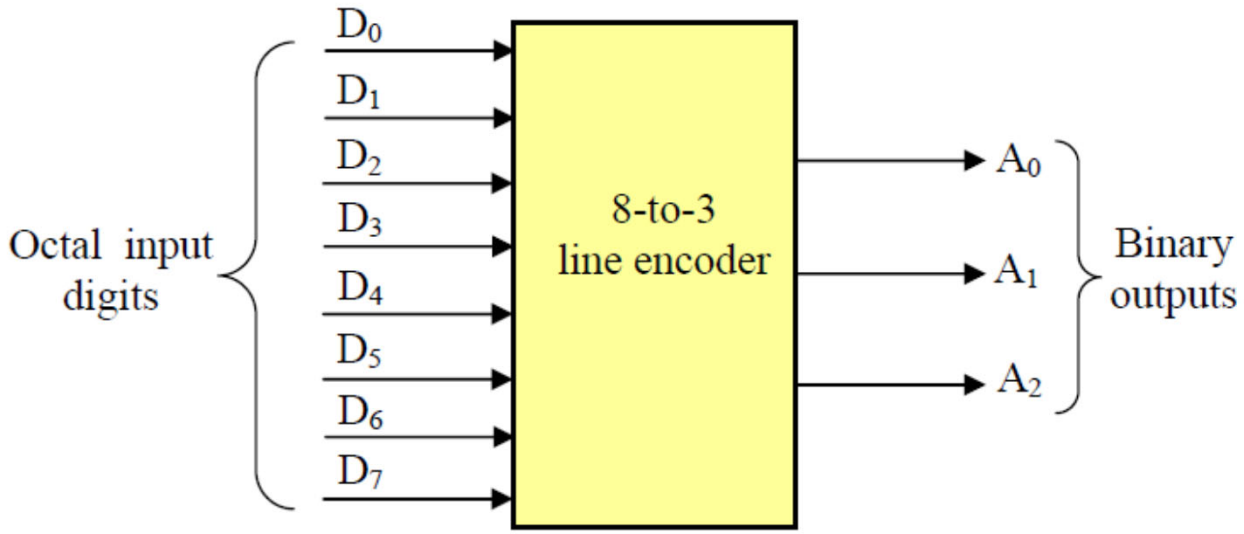
Summary

Encoders المشفر

An **Encoder** accepts an active logic level on one of its inputs and converts it to a coded output, such as BCD(Binary Coded Decimal) or binary.

The decimal to BCD is an encoder with an input for each of the ten decimal digits and four outputs that represent the BCD code for the active digit. The basic logic diagram is shown. There is no zero input because the outputs are all LOW when the input is zero.



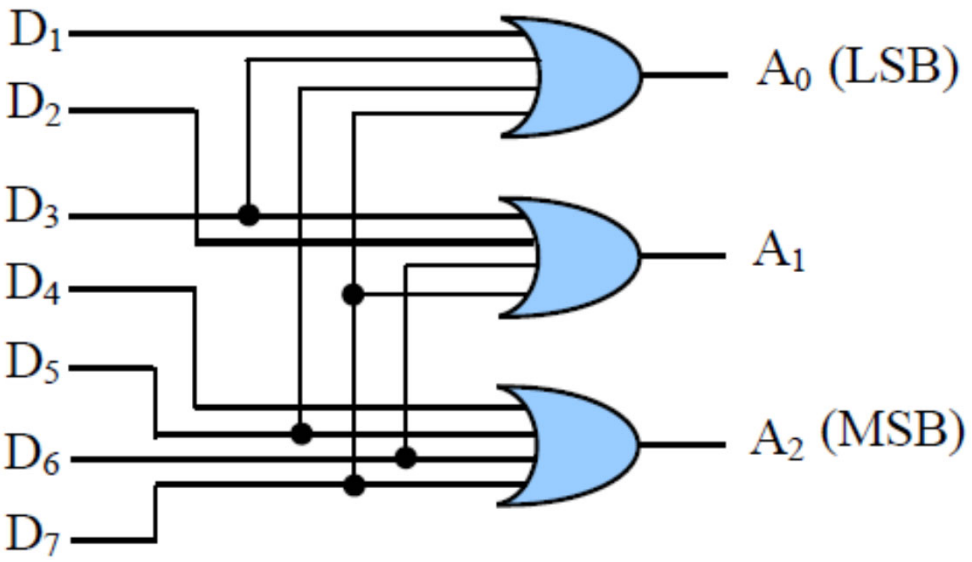


المدخلات	الخرج		
الأرقام الثمانية	A_2	A_1	A_0
D_0	0	0	0
D_1	0	0	1
D_2	0	1	0
D_3	0	1	1
D_4	1	0	0
D_5	1	0	1
D_6	1	1	0
D_7	1	1	1

$$A_2 = D_4 + D_5 + D_6 + D_7$$

$$A_1 = D_2 + D_3 + D_6 + D_7$$

$$A_0 = D_1 + D_3 + D_5 + D_7$$



Finish