A/D Homework

Refer to the attached diagram of a counter-type A/D converter for the following questions. The latch and counter control logic tables are:

Counter	
RST	Output
H	count
L	0

Latch Control		
ENB	D	Q
H	H	H
H	L	L
L	x	Q_o

The DAC is a DAC0800.

1.) What logic level must the enable lead take for the converter to function (H, L) _____

2.) The LED lights when the A/D converter is making the conversion (Yes, No) _____

3.) Compute the reference current for the DAC _____

4.) If the value of V_{in} = 3.594 Vdc, how many clock cycles are required to make the conversion. (Hint: compute the voltage value of the LSB of the DAC) SHOW ALL CALCULATIONS.
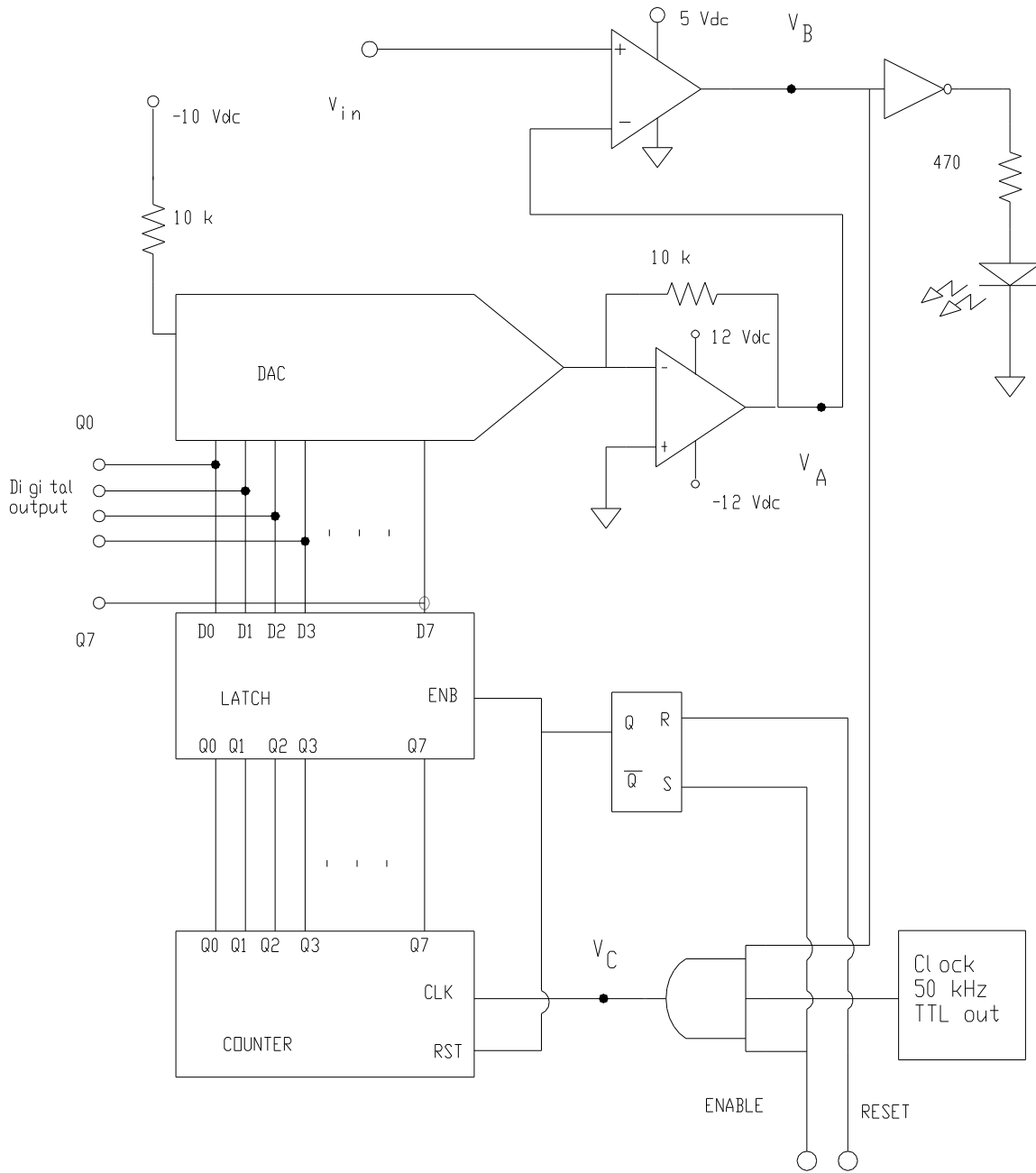
Figure 1. Analog-to-digital Converter.