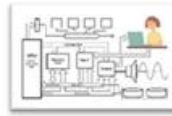


Lessons for Beginning Digital Electronic Engineering

Rev. 003 (MLK Day/2026)

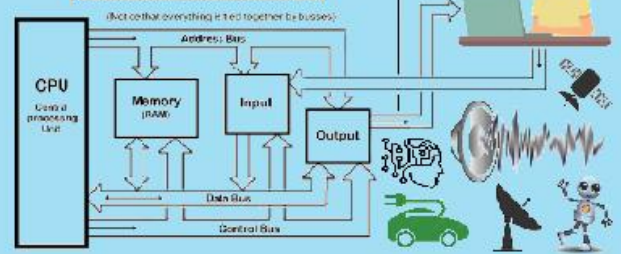
Section 04 – The CPU and Computer System



Covers the computer's CPU. Here, we bring all of the pieces of the course together for an in-depth understanding of exactly what the computer is doing in order to run software and applications. We start by exploring the Clock mechanism that is the computer's engine and wind up with a holistic view of a computer's operation.

Definition of a Computer

- 1) It has a Central Processing Unit (CPU).
- 2) It has Random Access Memory (RAM).
- 3) It has Input and Output capabilities (I/O).



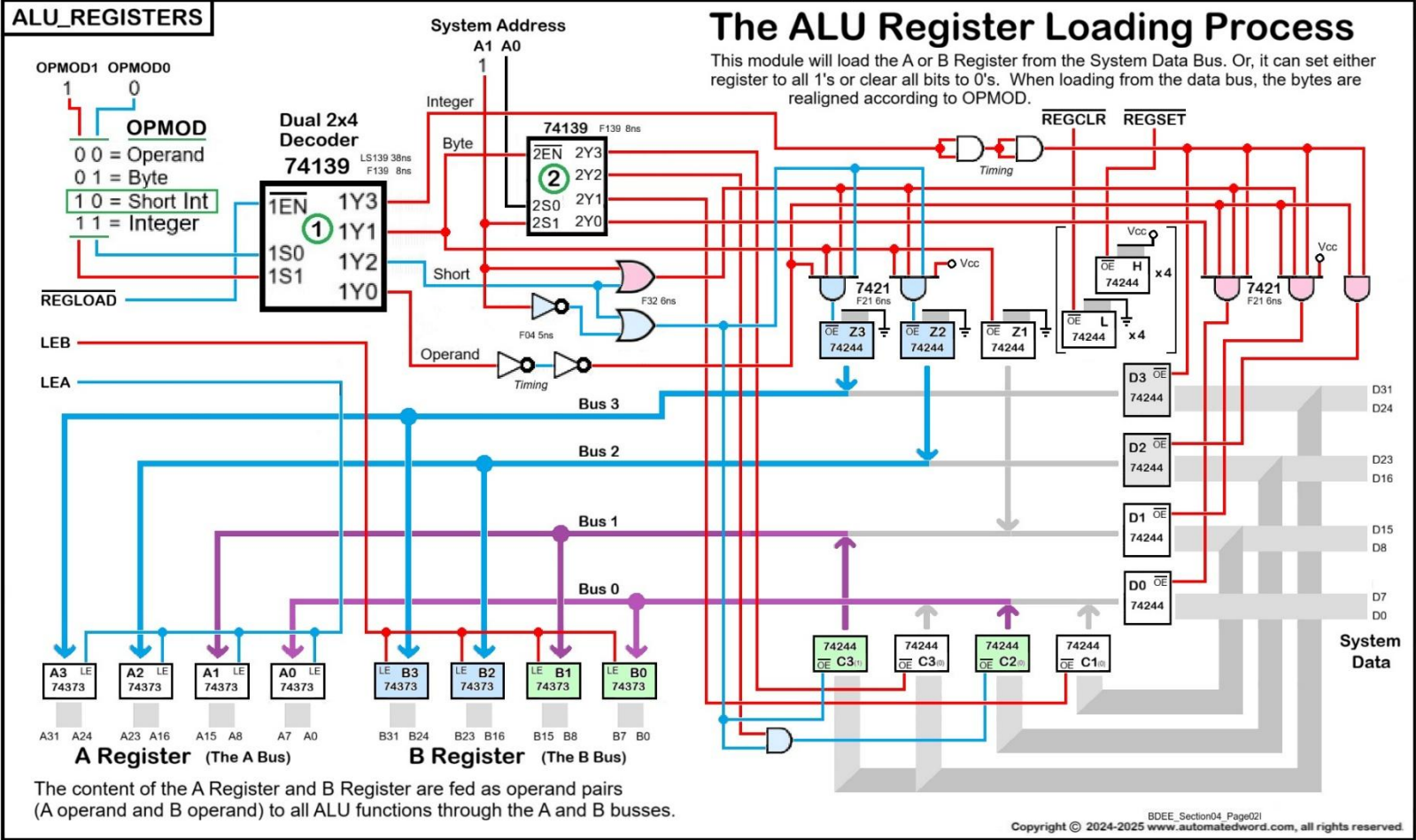
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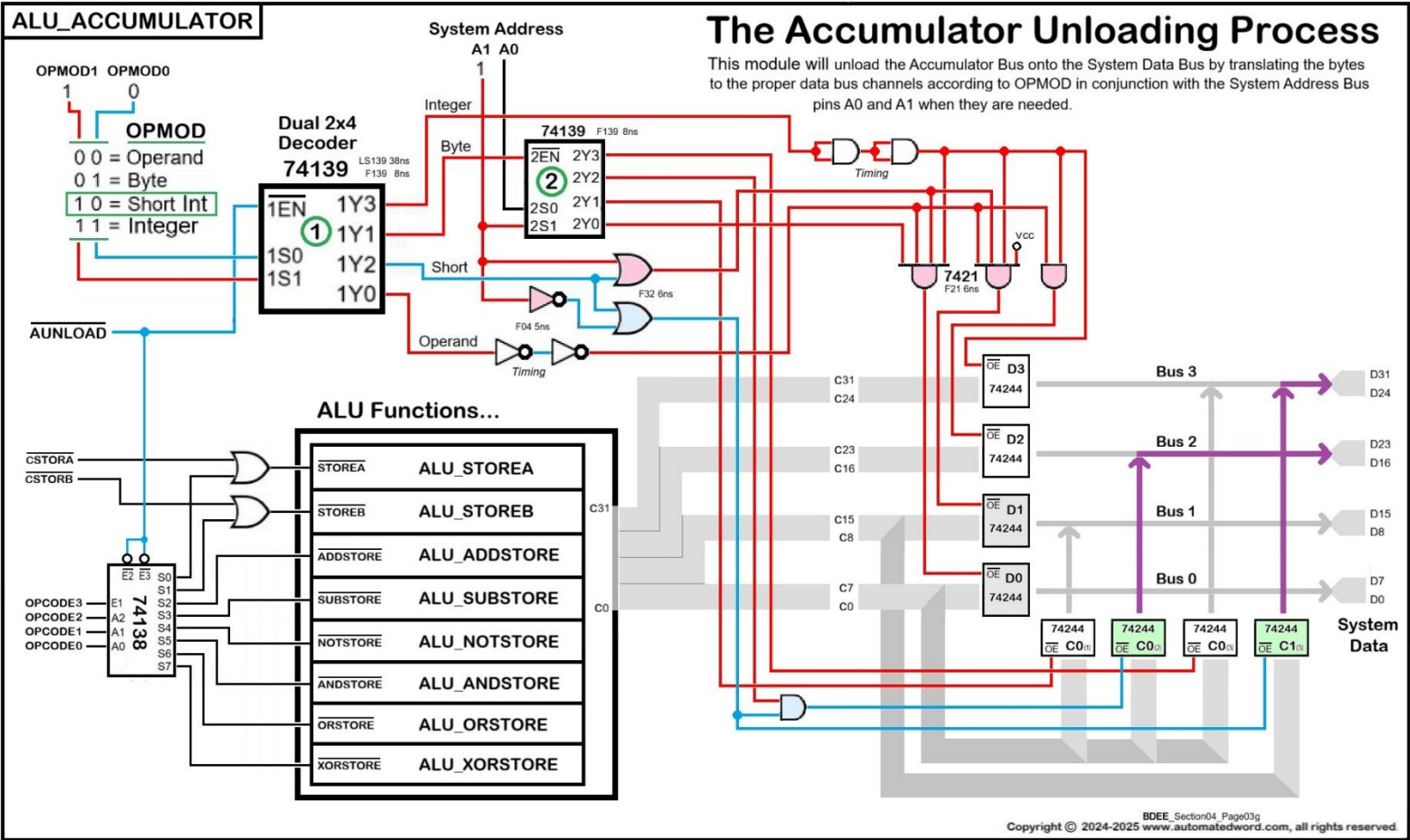
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“Digital parts work together in a circuit like people play their best parts in a community!”

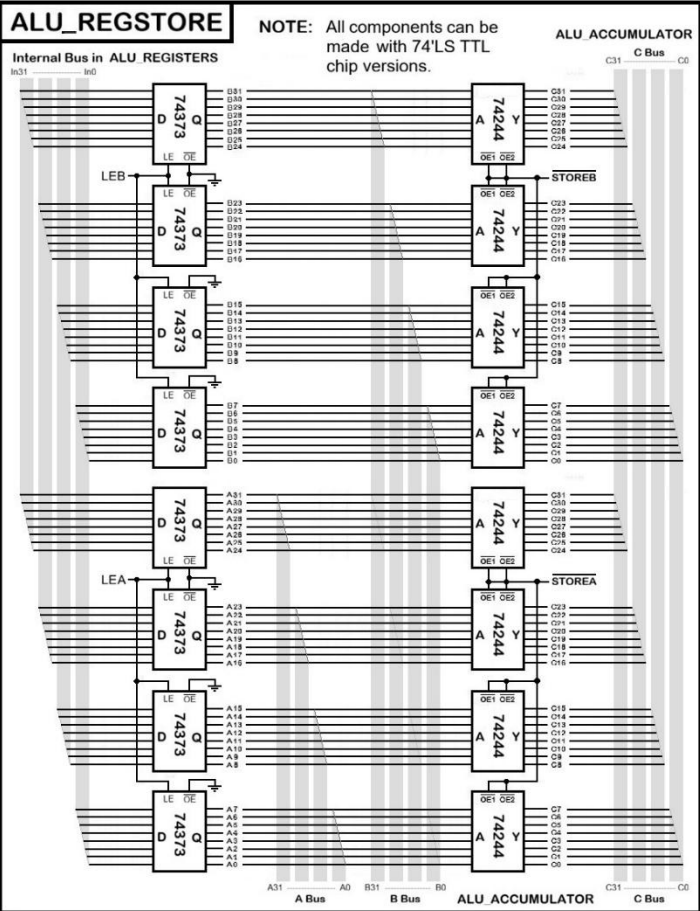
ALU_REGISTERS



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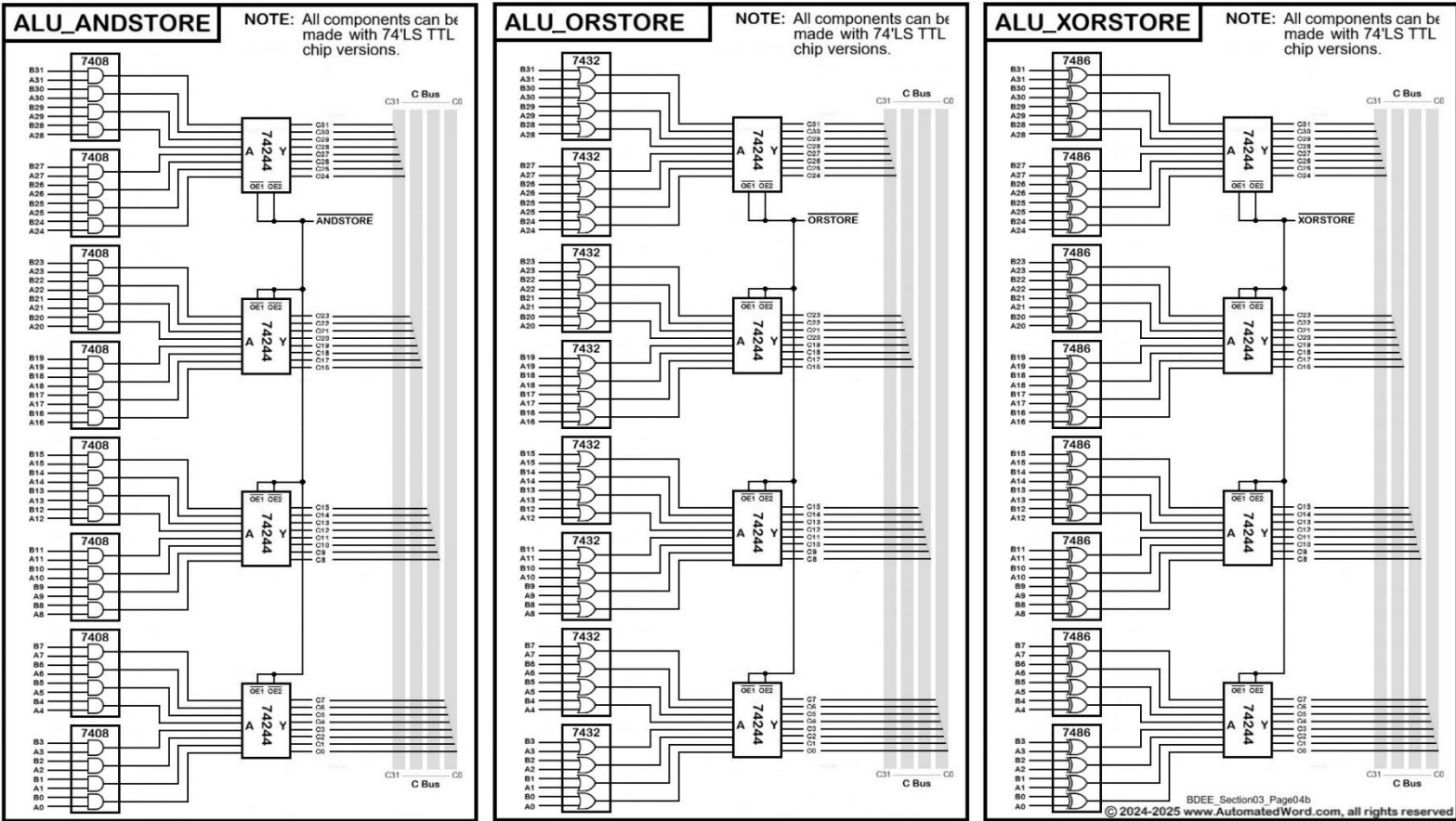


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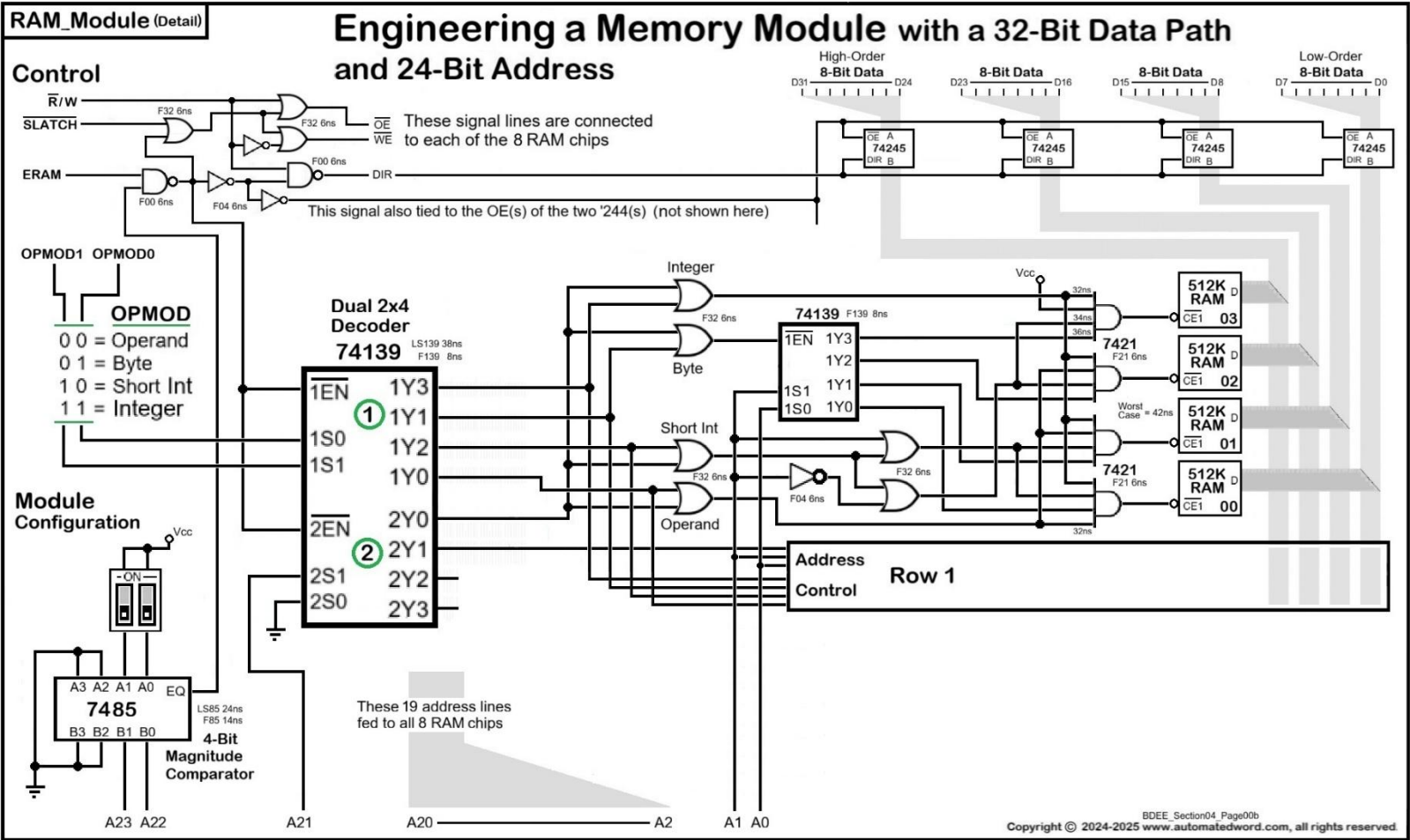


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Engineering (The Three Fundamental Logic Gate Functions)

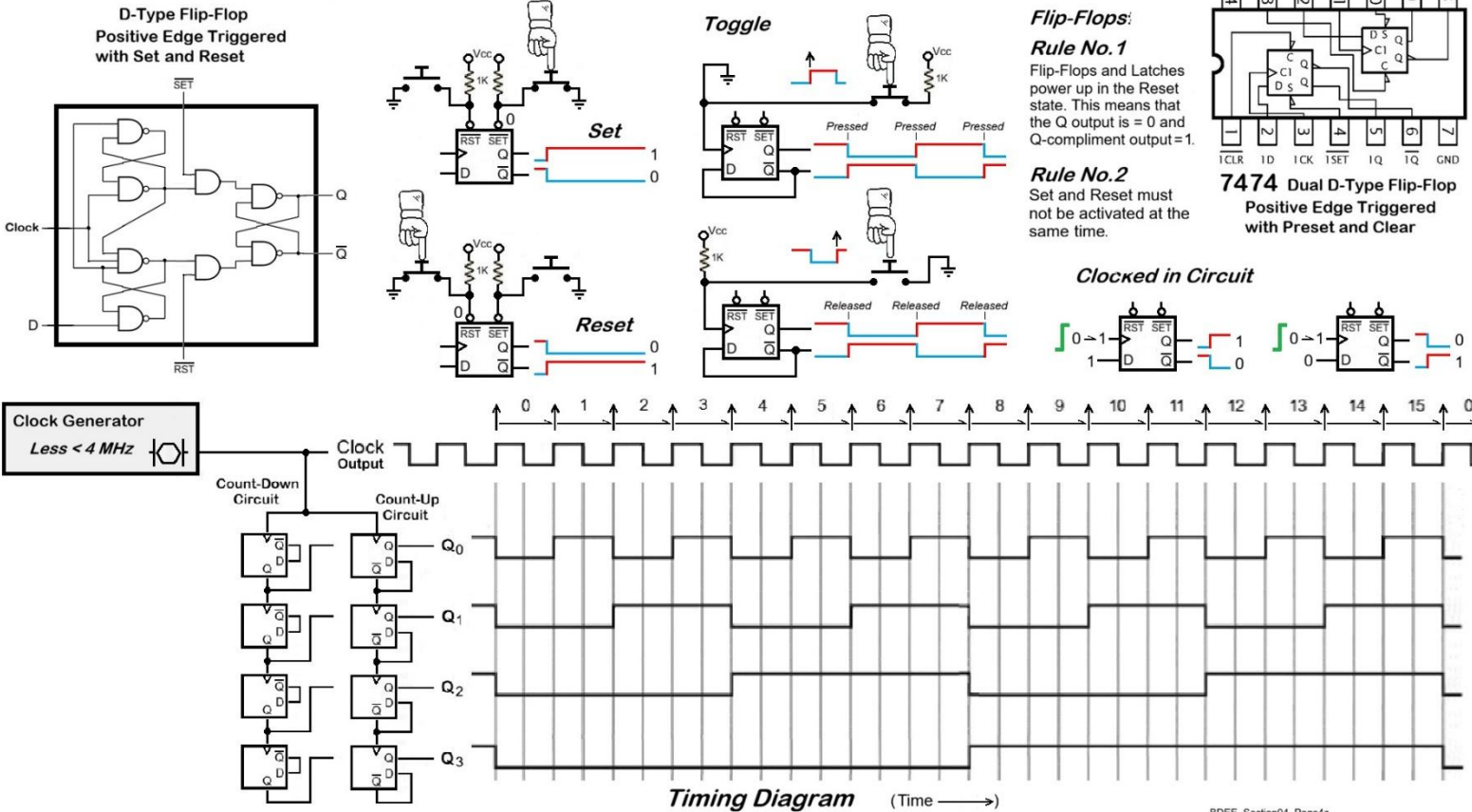


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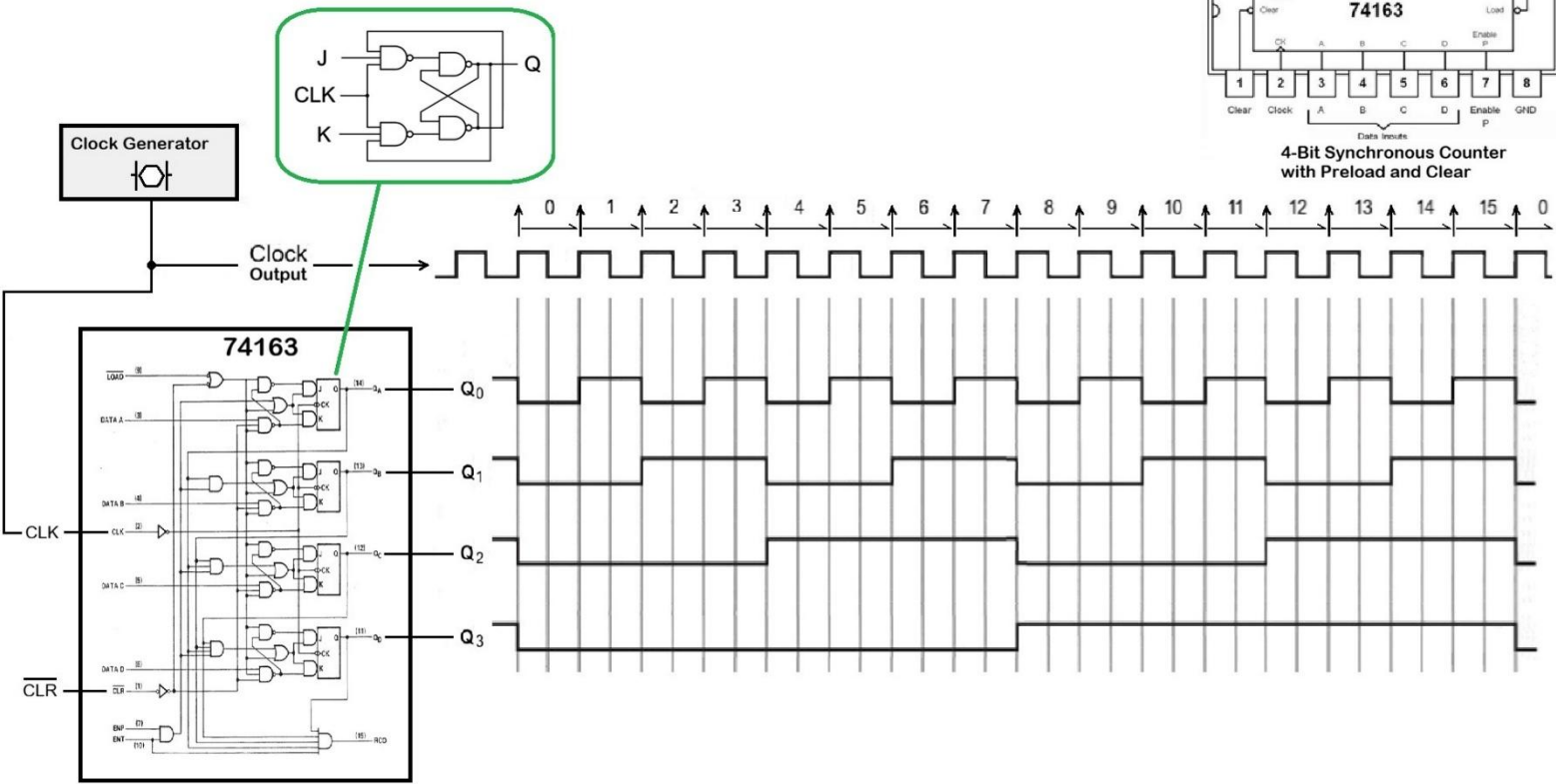
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A Practical Introduction to Flip-Flops (The 7474)



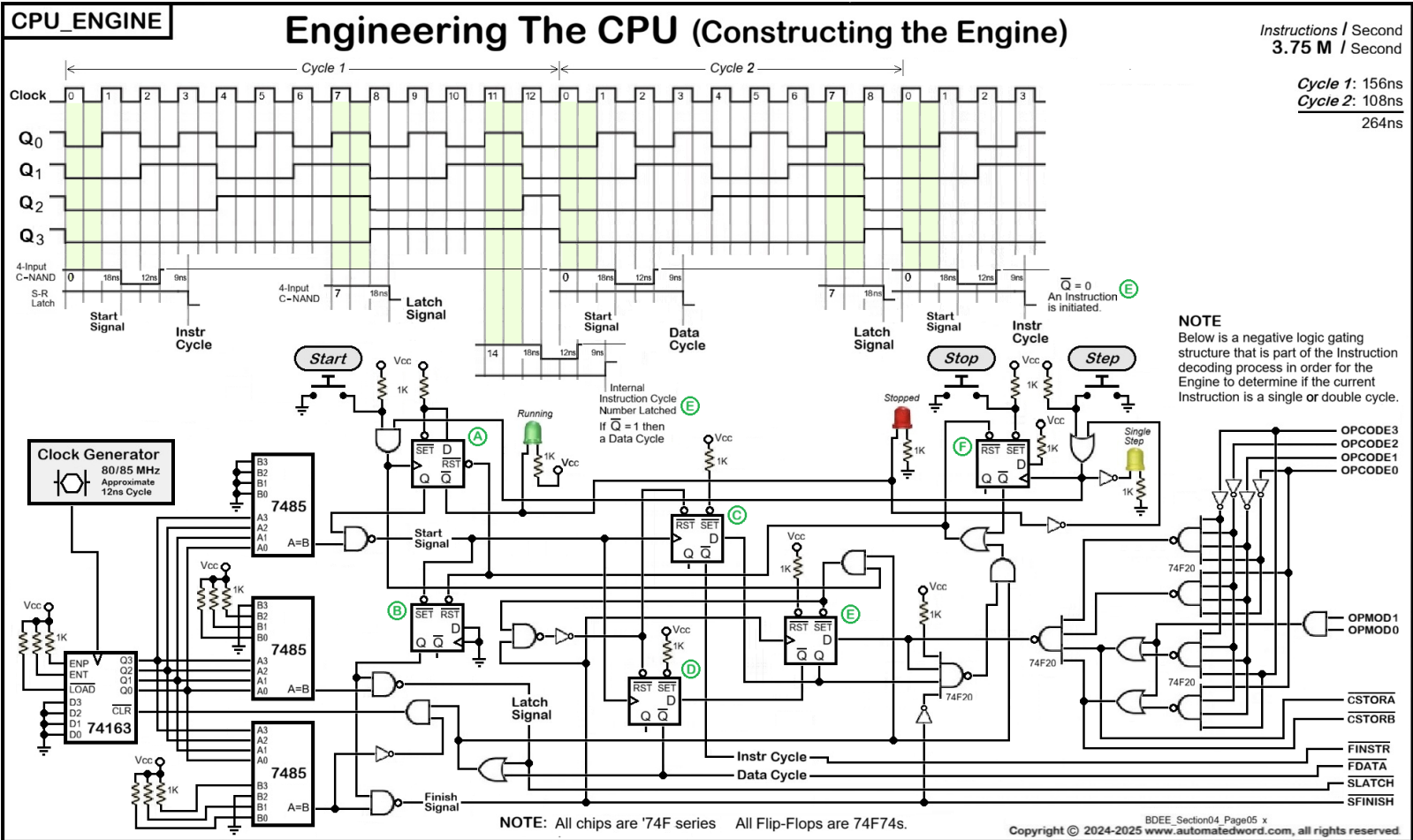
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Analysis of the Binary Ripple Counter (The 74163)

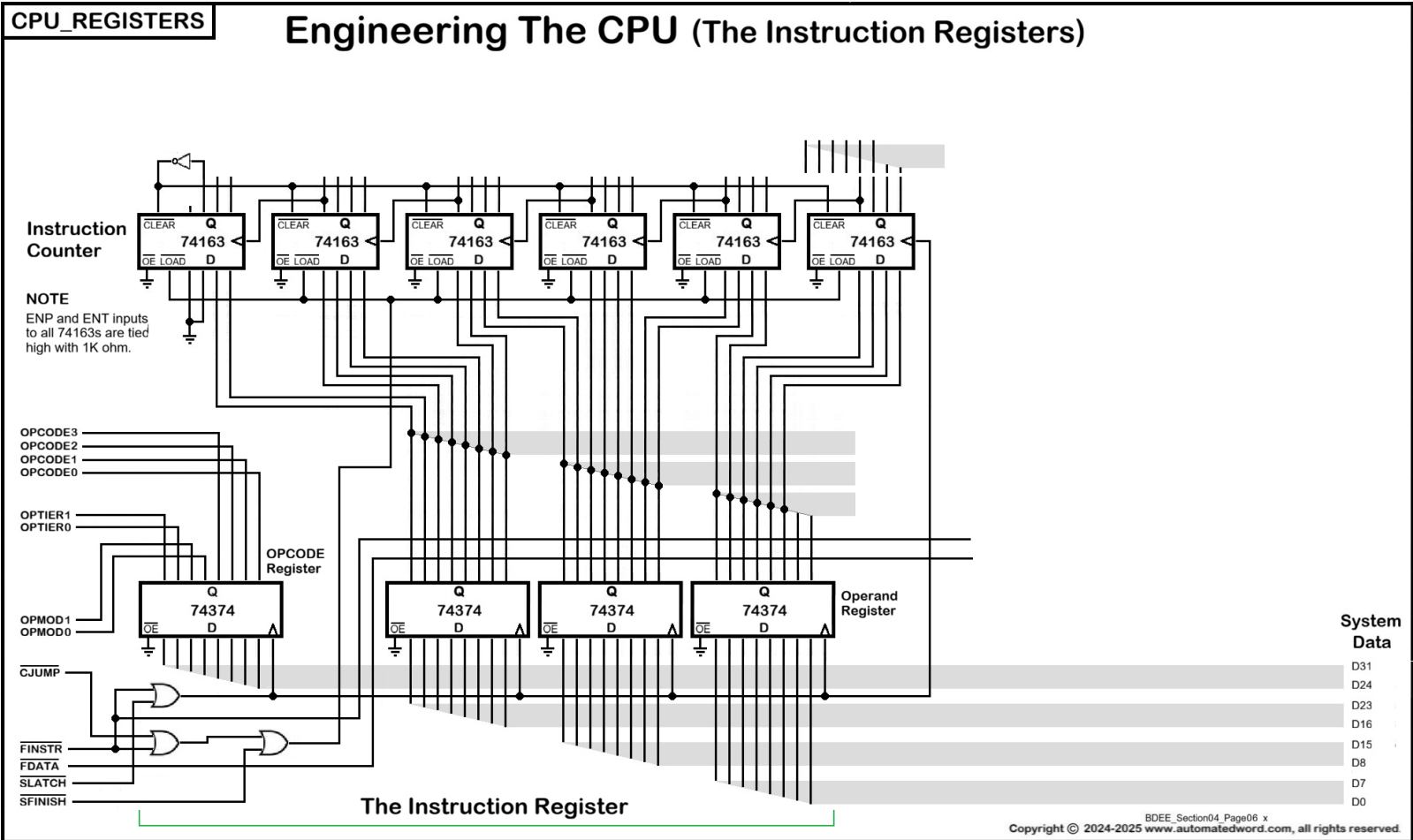


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