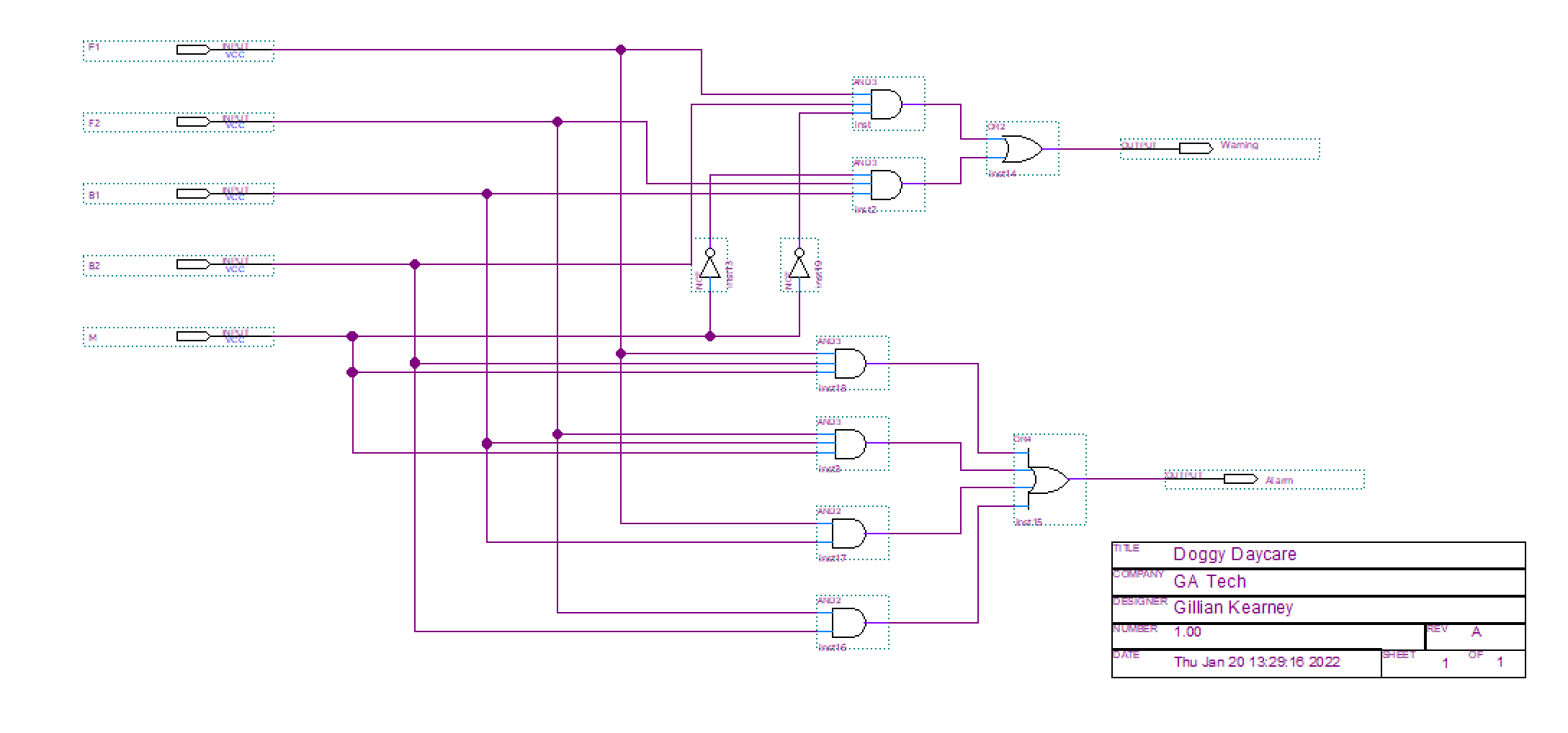
Gillian Kearney

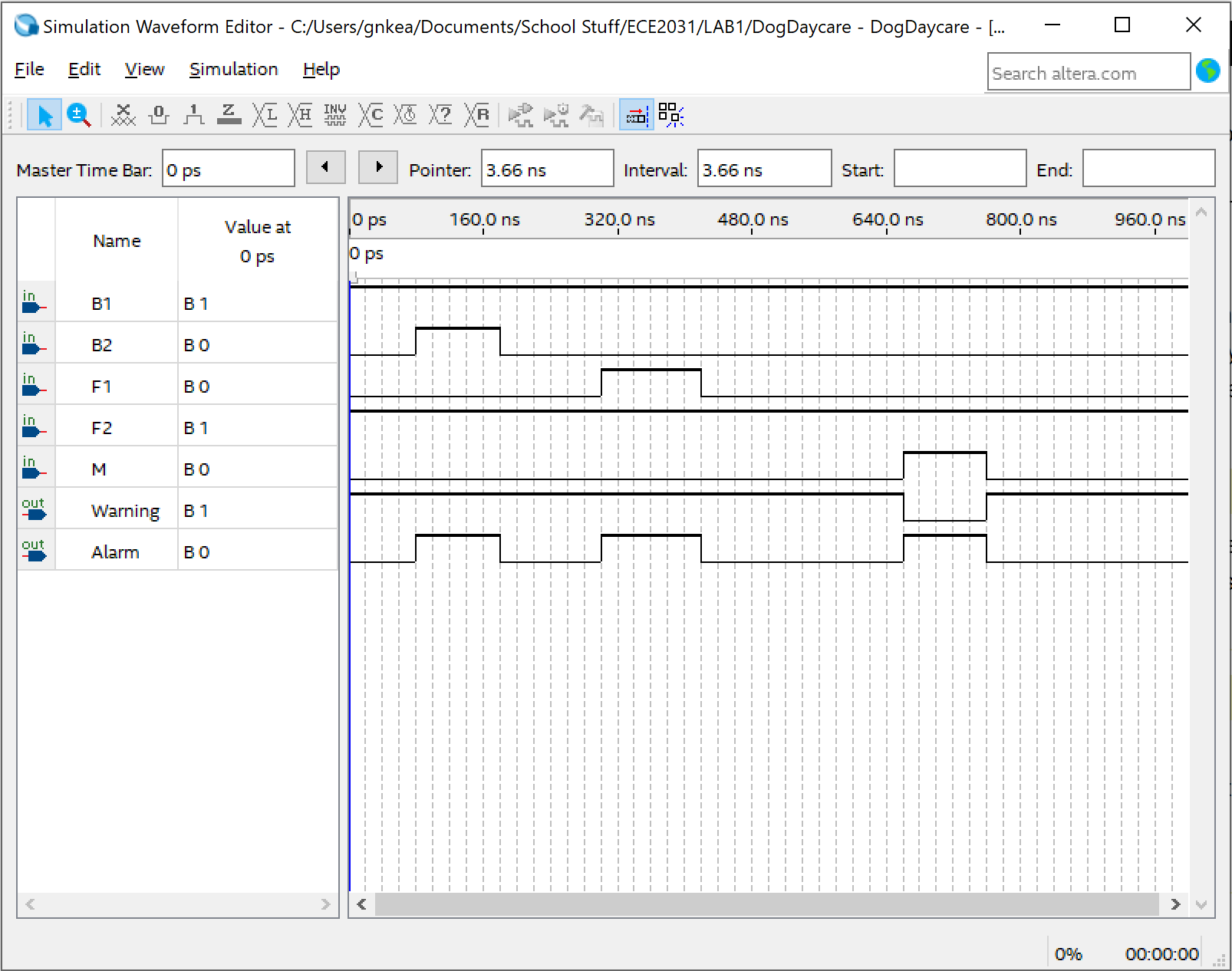
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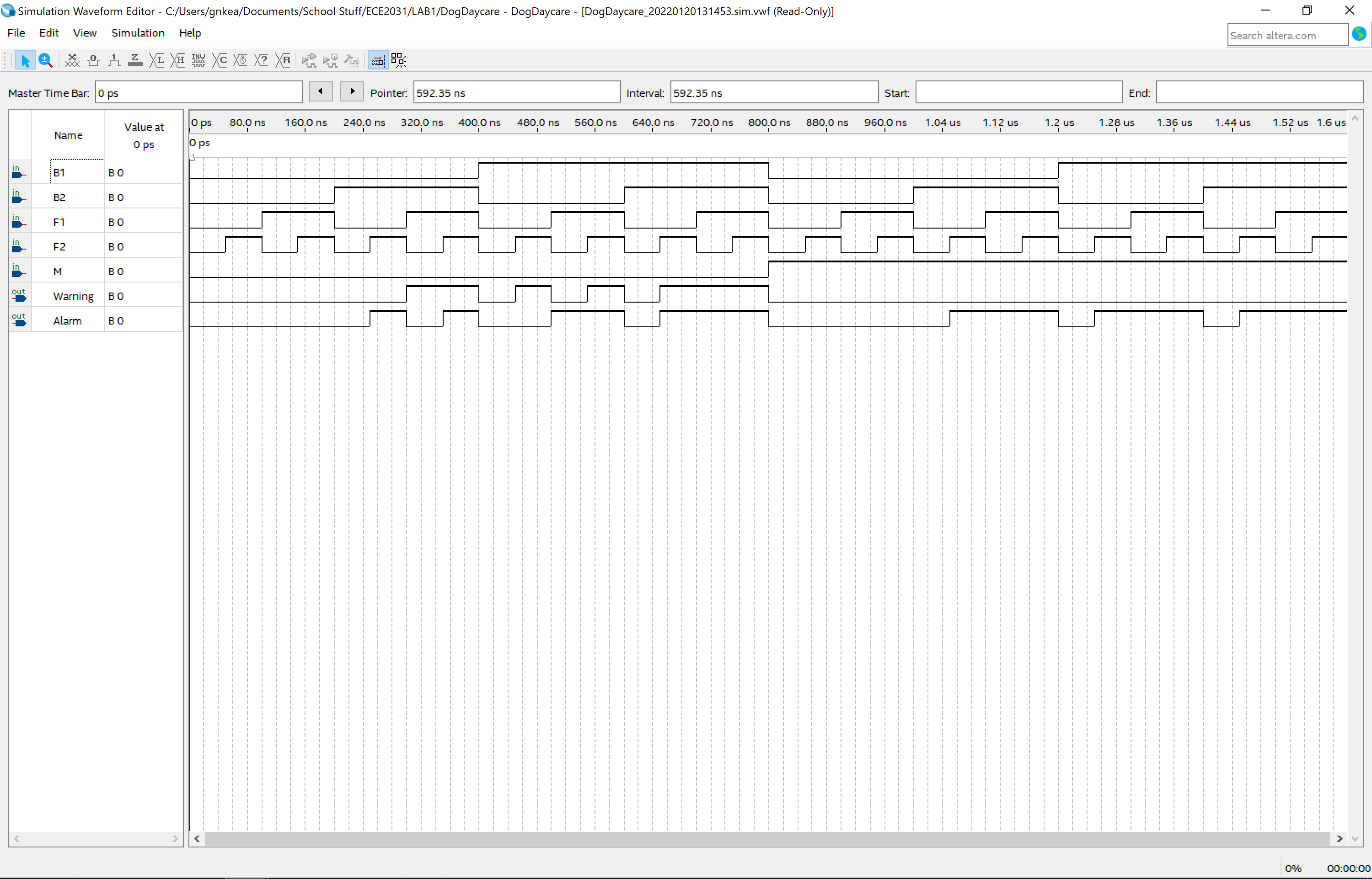
27 January 27, 2022



**Figure 1.** Circuit that activates an alarm and warning. The alarm output follows the following logic: Alarm = F1\*B1 + F2\*B2 + F2\*B2\*M + F2\*B1\*M. The warning follows: Warning = F1\*B2\*/M + F2\*B1/M.



**Figure 2.** Functional simulation waveform implementing the dog alarm/warning system for a subset of all possible input combinations to determine the accuracy of the circuit.



**Figure 3.** Functional simulation waveform implementing the dog alarm/warning system for all possible input combinations to confirm the accuracy of the circuit.

A screenshot of a computer

Description automatically generated with low confidence

**Figure 4.** Circuit implementing the dog/alarm logic (Alarm = F1\*B1 + F2\*B2 + F2\*B2\*M + F2\*B1\*M Warning = F1\*B2\*/M + F2\*B1/M ) with specified pin locations for both inputs and outputs.