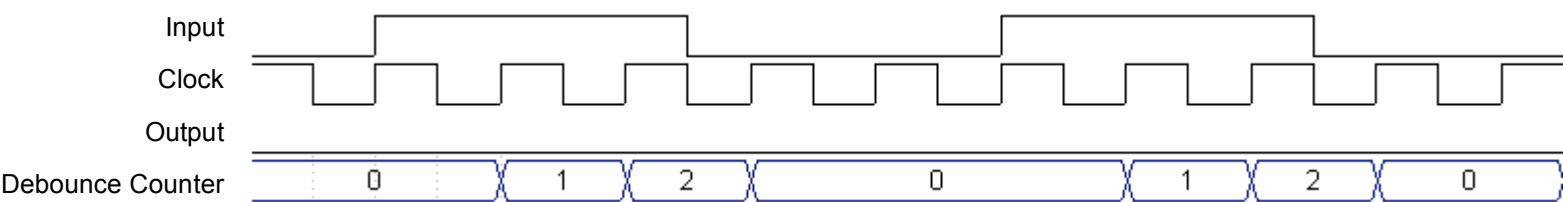
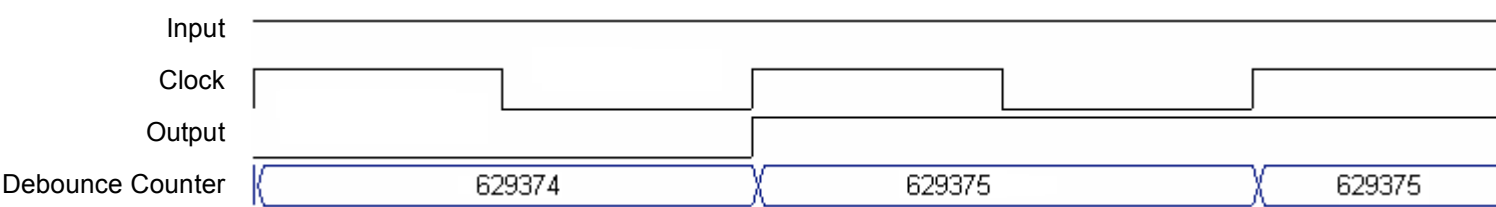


Component: Debouncer

The following tests whether the Debouncer smooths the input signal.



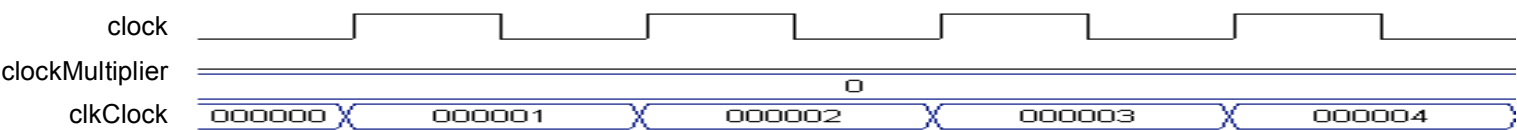
This waveform identifies that the Debounce Counter starts counting on the rising edge clock, when the input is high (button is press) and reset the counts when the input is low and the desire Debounce Counter value was not reached.



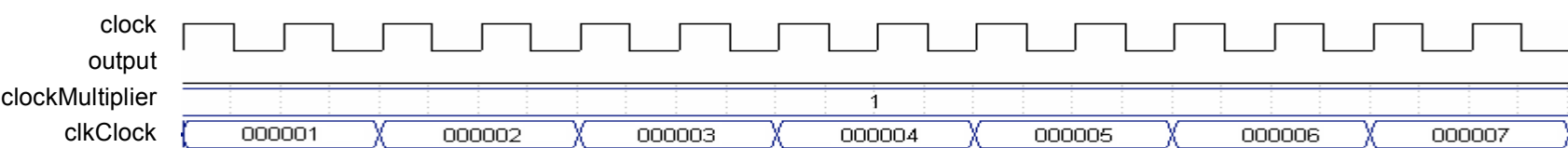
After the input has been high for approximately 25ms, the counter stops and the output is activate on the rising clock edge. Hence the debouncer operates correctly.

Component: clockDivider

The following tests the operations of the Clock Divider. For purposes of simulation the clkClock signal was clocked off a test bench clock not the board clock and the clockMultiplier counting sequence was reduce to view a several clkClock transition.

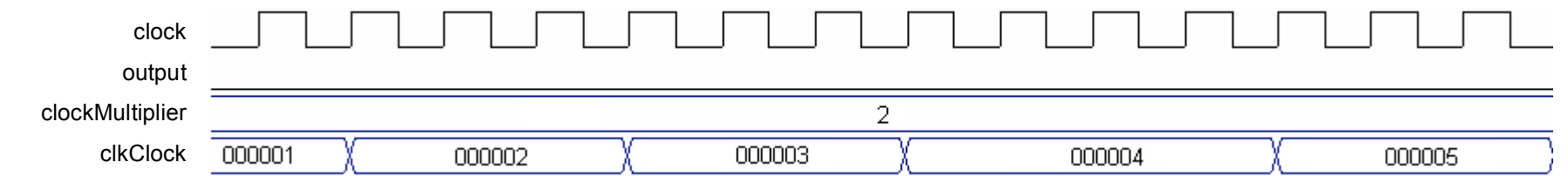


This figure identifies that the clkClock does increment on the clock edge when clockMultiplier is zero.

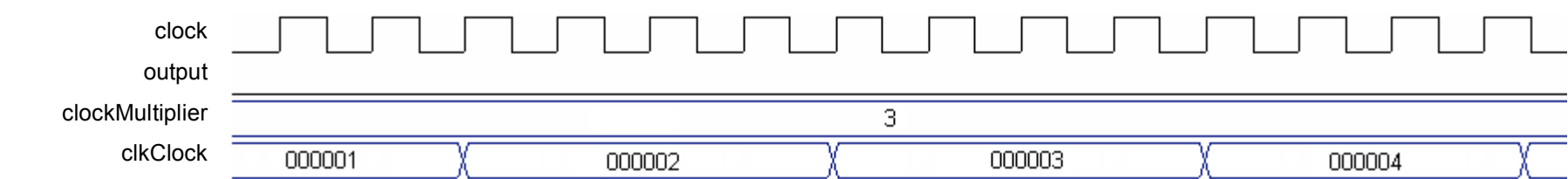


This figure identifies that the clkClock does increment on the clock edge when clockMultiplier is one.

Component Continue: clockDivider



This figure identifies that the clkClock does increment on the clock edge when clockMultiplier is two.



This figure identifies that the clkClock does increment on the clock edge when clockMultiplier is three.

The above four waveforms indicates that the clkCounter operates according to the design, in different clockMultiplier.

Component: segment decoder

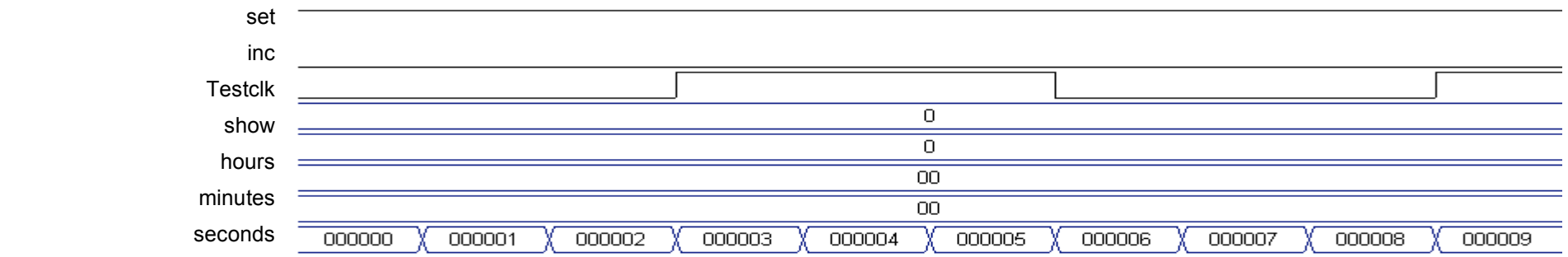
To examine whether the 'value' signal is properly converted to be display on the seven segment display.

value	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	0	1
segDisplay	C0	F9	A4	B0	99	92	82	D8	80	90	88	83	C6	A1	86	8E	C0	F9

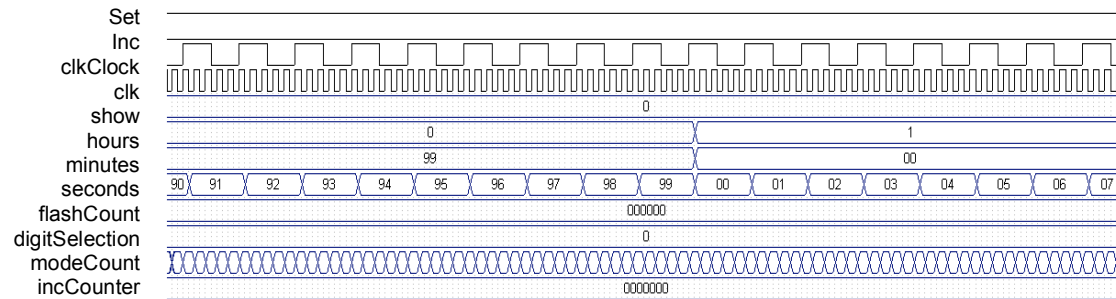
The segDisplay changes appropriately (in Binary Coded Decimal and it includes the strobe value).

Component: clock

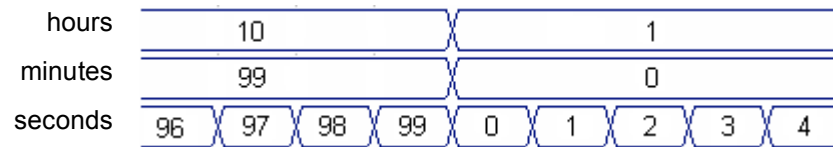
To test the complete operations of the clock module. Which includes the set, hours, minutes and seconds functionality.



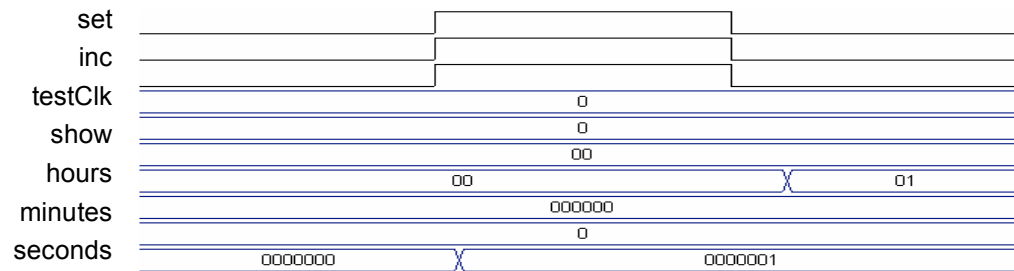
When in set mode (high in this example), the hours, minutes and seconds do not increment. Also the flashCount increases which results in the display flashing.



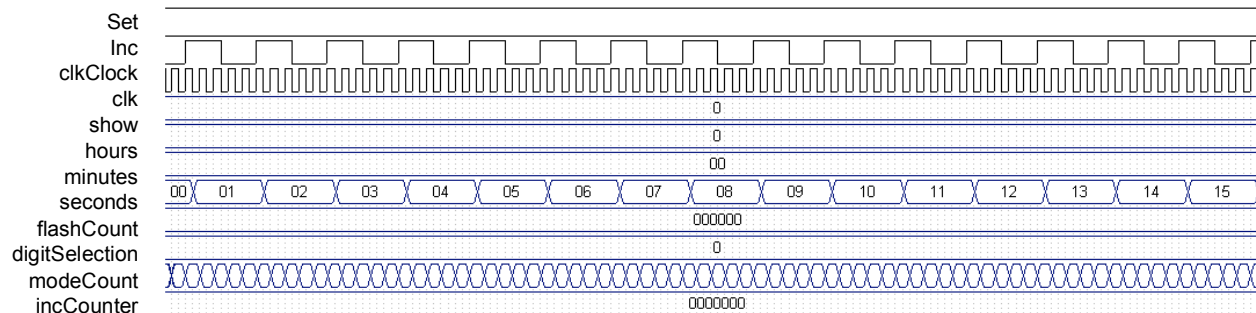
Left, highlights that the hours, minutes and seconds are counting in sequence with each other.



The waveform to the left, indicates that the clock does count and cycle through.



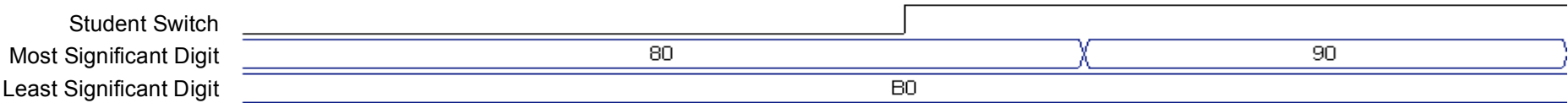
The waveform to the left, indicates that the second signal is incremented when the advance button is push.



On reset the hours, seconds and minutes reset.

Component: Student switch

This test whether or not the student display is swapped on the switching the student Switch.



After the student switch has gone high, and on the clock rising edge the most significant digit change. The least significant digit remains the same, because the last significant digit of our student numbers are the same.

Components: All

This waveform identifies that the integration individual module produce the same results.

