

Keyboard or mouse controlled chasing LED

Consider the Chasing LEDs experiment (Lab 6). Instead of switches and buttons, we can use the keyboard to set the speed and the pause operation (i.e. moving the LED to the rightmost position)

- Use the P (for “pause) key to pause and resume the chasing operation
- Use the following key sequence to enter the desired flashing period: F1 and then three-digit keys (i.e. 000 to 999)
- All other keys or illegal sequences should be ignored

If your keyboard doesn’t support Boot HID, use a USB mouse instead to implement a similar functionality:

- Use the left mouse button to pause and resume the flashing operating.
- Use right mouse button to enter a new speed. Use the value of x to increment or decrement the period, then press the right mouse button again to resume chasing with the new speed.

Whether you use a Mouse or a Keyboard, use the seven-segment display to show the status of the system:

- Display the letter “P.” on the left most seven-segment (segment: 7) whenever the system is in a pause state
- Display the letters “SP:” in the seven-segments (3, 4, 5)
- Display the system’s speed (000 to 999) on the right most seven-segment (segments: 0, 1, 2)
- The image below shows an example of a paused system with a speed of 834

