

On the Subject of Digit Sum

Your bomb status equals $\text{hex}(21781 + (\text{digit sum of } 2^{1e4}) + (\text{digit sum of } 3^{1e4}))$

This module consists of three displays and an input keyboard. The upper display shows the number "K" and the display below it shows the number "X". Find the number "Z" and enter it using the input keyboard. The number "K" changes over time in such a way that the answer never changes.

Input keyboard also has button "<" to delete input and button "S" to submit your answer. The entry will be shown in the third display.

$$A = (\text{digit sum of } X) + 1$$

Y = sum of:

- 19 * Remaining time in minutes
- 13 * Batteries
- 17 * Modules
- 5 * DVI ports
- 2 * Sum of most significant digit of each two factor code
- 7 * Unlit indicators
- 11 * Last digit of serial number
- 3 * Starting time in minutes

$$D = (Y + K) \text{ modulo } A$$

Z = smallest number such that digit sum of $((X + Z) \text{ modulo } 1'000'000)$ is equal to D

