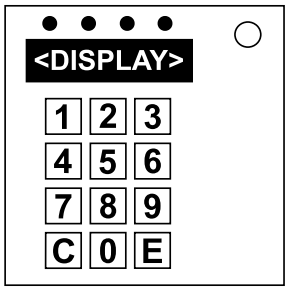
On the Subject of Number Sequence



Math isn't THAT daunting....well it's a different story when it's strapped to a bomb.

This module contains a twelve-button keypad, a display, and four LEDs.

Solving this module is split into two phases; the "Cycling" phase and the "Submitting" phase.

Cycling Phase

The module will start cycling through the four two-digit numbers in the number sequence, displaying each one on the display.

Each time the module cycles through all four numbers in the number sequence, the lights above the display will change colour. Once the number sequence has been cycled through four times, the lights will return to green and a new number sequence will be generated.

Pressing the green "Enter" key at any point during this phase will cause the module to stop cycling and will begin the "Submitting" phase. Once in the submitting phase the module will not display the number sequence again unless the module strikes.

Before entering the "Submitting" phase, make sure to note down the current sequence's numbers and what order they are in.

Submitting Phase

This phase requires the defuser to enter the correct number, found in the equation table below, four times to solve the module. While in this phase pressing the red "Clear" key will clear the display in the case of erroneous input. Pressing the green "Enter" key will submit the number currently typed into the module. If a wrong number is submitted during this phase, the module will incur a strike and will return to the "Cycling" phase.

Using the Equation Table

The equation table below is key to solving the module, so it's imperative to understand the table and what equations to use.

Finding the Correct Row

The rows on the equation table are labelled with the six basic ports found on most bombs, as well as a row if the bomb does not contain any of the six basic ports.

The correct row to use is the row labelled with the port that appears on the bomb first when reading the list top down. If the bomb does not contain any of the six basic ports, use the "No Ports" row.

- *Refer to Appendix C for port identification.*

Finding the Correct Column

The columns on the equation table are labelled with the numbers 1-4.

The correct column to use is the number of the currently blinking LED light (the left-most LED light is the 1st light and the right-most LED light is the 4th light).

Solving the Equation

When solving the equation found, there are a few rules that must be followed:

1. The Order of Operations **MUST** be followed.
2. If the result of the equation is not a whole number, the result **MUST** be rounded **UP**.
3. The result **MUST** be clamped (made 0 if negative, made 9999 if greater than 9999) to be within 0-9999.

Equation Table

		Currently Lit LED			
		1	2	3	4
Ports	Stereo RCA	n_1^2	$(n_2 - n_4) \times 2$	$50 - n_3$	$n_1 \times n_4$
	RJ-45	$n_3^3 - n_1 \times 5$	$25 + n_1$	n_2	$100 / n_4$
	PS/2	$n_1 + n_2 / 2$	$n_4 \times 5 - n_3$	$500 - n_3 \times 10$	$n_4 / n_1 + n_2 \times 25$
	Parallel	$9999 - n_4 \times n_4$	$n_2 \times 75 + 1000$	$n_3 / 99 \times 3500$	$1 / n_4 \times n_1^2$
	Serial	$n_1 \times n_3 \times n_4$	$n_2 + n_1 / 35$	$8500 - n_3 \times 100$	n_4 / n_1
	DVI-D	$n_1 \times n_4 + 6000$	$n_2 / 80 \times n_3^2$	$n_1 + n_2 + n_3 + n_4$	$350 \times n_4 / (n_1 + n_2)$
	No Ports	$n_1 \times n_2 + 1250$	$n_2 \times n_3 + 1500$	$n_3 \times n_4 + 1750$	$n_4 \times n_1 + 2000$

- *The variable "n" refers to a number in the number sequence. Which number it refers to is denoted by the number in subscript following the variable (i.e. n_1 refers to the 1st number in the sequence, n_2 refers to the 2nd number in the sequence, etc). Superscript, n^2, denotes an exponent.*
- *Refer to Appendix C for port identification.*