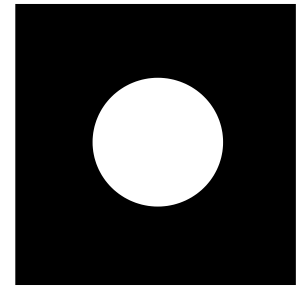# On the Subject of The Sphere

And you thought The Cube was bad...

- The module will show a rotating sphere. The sphere will blend through 5 of 8 potential colours before repeating.
- The colour options are red, blue, green, orange, pink, purple, grey and white. The cycle will not necessarily be in that order. Colours may be repeated.
- Each transition will take 3 seconds before holding at black for 1 second.
- The sphere will emit a distinct sound before it blends into its 5th colour.

- To disarm the module, you must enter a series of 6 taps and 5 holds. Taps are determined by the serial number, holds by the sphere colours.
- To calculate the taps, take each character of the serial number, converting any letters to equivalent numbers, modulo 10 (e.g. A = 1). Tap and release the sphere when the final digit of the second timer is equal to that number.
- To calculate the holds, use the table below and hold sphere for the given number of seconds (according to the second timer).
- Each time you click, the sphere will emit a sound (and hum upon holding).
- Tapping will trigger a green LED. Holding will trigger a blue LED.
- Enter all inputs in the correct order to disarm the module.
- Entering any incorrect inputs will cause a strike upon completion of the full sequence of 11. Correct inputs will be indicated by a pink LED, with incorrect inputs indicated with a red LED.

- For each colour, calculate the appropriate hold time using the formulae below. A '%' sign refers to the modulo operation:
  - Red = ((DVI-D ports + unlit indicators)^2 % 10) + 1.
  - Blue: x = (Batteries + parallel ports + lit indicators)^3. If x > 9, blue = 'tens' digit. Otherwise, or if the 'tens' digit is 0, blue = 5.
  - Green = Digital root of (the converted serial number digits). If the converted serial number digits are all 0, green = 4.
  - Orange: x = (Battery holders + port plates + 7) * (RJ45 + parallel ports + unlit indicators + 3). y = the sum of x's digits. Orange = (y % 10) + 1.
  - Pink = ((Difference between (lit indicators)^2 and (batteries)^2) % 10) + 1.
  - Purple: x = (Total ports + port plates + unlit indicators + battery holders)^3. If x > 99, purple = 'hundreds' digit. Otherwise, or if the 'hundreds' digit is 0, purple = 7.
  - Grey = Digital root of ((port plates)^2 + (batteries)^3). If 0, grey = 4.
  - White = Digital root of ((batteries + lit indicators + 13) * (ports + indicators + port plates + 9)).

Ordering

- If you have exactly 2 AA batteries, 1 serial port, an unlit FRQ indicator, 2 battery holders and 3 port plates, submit your answer in order 10.
- Otherwise, add together the number of lit indicators, battery holders, serial ports and RJ-45 ports.
- Add together the number of unlit indicators, port plates, D batteries and Stereo RCA ports.
- Multiply the numbers together and modulo 10.
- Submit your answers in the corresponding order.
- T# refers to the tap position of the given serial number digit (e.g. T1 is the converted digit in the first position of the serial number).
- H# refers to the hold position of the colour in the sphere cycle (e.g. H1 is the answer yielded from the first colour of the sphere cycle).

#	Order
0	T4, T1, H5, T2, H3, H1, T6, T3, H2, H4, T5
1	H3, T2, T6, T1, H2, H5, T3, T4, T5, H1, H4
2	H5, H1, T3, T4, H3, T6, T1, H2, H4, T5, T2
3	T1, H2, T3, H5, T6, H4, H1, T2, T4, T5, H3
4	H1, T5, T3, H4, H2, T6, T1, T2, T4, H3, H5
5	T2, T4, H5, H1, T3, T1, H2, H3, H4, T5, T6
6	T6, H3, T2, H1, T5, T4, H4, H2, T3, T1, H5
7	H4, H1, H3, T2, T6, H5, H2, T4, T3, T5, T1
8	T4, T6, H3, T1, T2, H5, H1, T3, H2, T5, H4
9	H2, T2, H3, T6, H1, T5, T4, H4, H5, T1, T3
10	T1, H1, T2, H2, T3, H3, T4, H4, T5, H5, T6