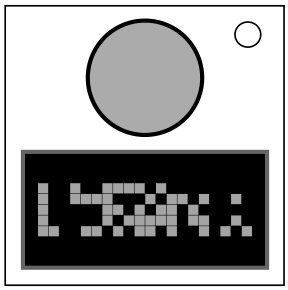
On the Subject of The Sapphire Button



It's XOR all the way down.

Tap the button between 1 and 3 times to access bitmaps 1-3.

Obtain three further bitmaps by applying the xor operation to the bitmaps as follows:

- Bitmap 1 xor bitmap 2
- Bitmap 1 xor bitmap 2 xor bitmap 3
- Bitmap 2 xor bitmap 3

Each resulting bitmap contains letters that spell out a word, although the word has been cycled left by a number of letters. A gap of at least two pixels between letters indicates where the word starts.

Convert the words into 5×5 bitmaps in which each row represents the A1Z26 value of each letter in binary. Then apply a transformation to these bitmaps depending on how many letters each word has been cycled:

- 1 = mirror about the / diagonal
- 2 = 90° clockwise
- 3 = 90° counter-clockwise
- 4 = mirror about the \ diagonal.

Finally, xor all three bitmaps and convert each row of the result from binary back to a letter (A1Z26) to obtain the solution word.

Tap the button four times to proceed to input mode. Enter the solution word by tapping the button when the correct sections of the alphabet and individual letters are lit.

Hold the button to cancel input mode and restore view of the original bitmaps.