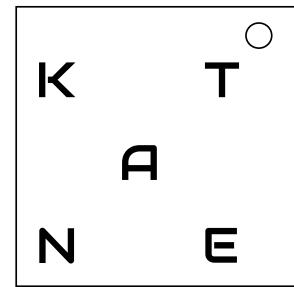


## On the Subject of XmORse Code

*This would be easier to solve if these flashes made actual letters.*

On the module you will see 5 letters that will repeatedly flash. Your goal is to figure out what order you should press the letters. Pressing the letters in the wrong order will cause a strike and generate a new set of letters and flashes.



### Step 1: Getting the first string

- Each letter will have a different sequence of flashes, each comprised of 2 parts with a pause between.
- The first part is used for this step. It is marked with a long pause before it.
- This part is a sequence of dots and dashes but it won't necessarily be valid letter or number in morse.
- Take each part in reading order (left to right, top to bottom) and convert them into binary where a dot = 0 and a dash = 1.
- Concatenate the binary into one string.

### Step 2: Getting the second string

- Convert each letter to morse code (use Appendix MORSE if you don't know morse code).
- Convert the morse code to binary in the same way as before.
- Concatenate the binary into one string.
- Both strings will always be the same length.

### Step 3: XOR

- Use the truth table below to XOR the 2 binary strings.

Bit 1	Bit 2	Output
0	0	0
0	1	1
1	0	1
1	1	0

- The second part of the flashes is a number in morse code.
- Use the 5 numbers to break the output of the XOR into 5 parts.
- For example, if the 5 numbers were 3, 1, 2, 2, and 1 and the binary string was 101101100, the result would be 101, 1, 01, 10 and 0.

**Step 4: Getting the order**

- Convert the binary into morse where 0 = a dot and 1 = a dash.
- Translate the morse into a word (use Appendix MORSE if you don't know morse code).
- Look up the word in the table below to get the order that the letters should be pressed.

Word	Order	Word	Order
ADMIT	4 2 3 5 1	MUTED	1 5 4 3 2
AWARD	2 5 3 4 1	NERDS	5 4 3 1 2
BANJO	4 2 1 5 3	NIXIE	2 4 3 5 1
BRAVO	3 2 4 5 1	OOZED	1 4 2 5 3
CHILL	3 2 5 4 1	OXIDE	1 3 4 2 5
CYCLE	4 1 5 2 3	PARTY	2 5 3 1 4
DECOR	3 1 5 4 2	PURSE	1 4 5 3 2
DISCO	1 2 5 3 4	QUEST	1 2 3 4 5
EERIE	5 3 2 1 4	RETRO	4 2 1 3 5
ERUPT	4 3 1 2 5	ROUGH	1 4 5 2 3
FEWER	2 4 5 3 1	SCOWL	4 1 3 5 2
FUZZY	2 1 4 5 3	SIXTH	4 3 1 5 2
GERMS	4 1 3 2 5	THANK	5 3 2 1 4
GUSTO	2 3 4 5 1	TWINE	4 2 5 1 3
HAULT	4 5 3 2 1	UNBOX	2 3 5 1 4
HEXED	1 2 5 3 4	USHER	5 3 2 1 4
ICHOR	1 3 5 4 2	VIBES	4 1 5 3 2
INFER	3 1 4 5 2	VOICE	1 4 2 3 5
JEWEL	3 1 5 2 4	WHIZZ	1 3 4 2 5
KTANE	5 4 1 2 3	WRUNG	1 2 4 5 3
LADLE	1 5 3 2 4	XENON	2 1 4 3 5
LYRIC	3 5 2 1 4	YOLKS	3 2 4 5 1
MANGO	5 1 4 3 2	ZILCH	4 5 3 1 2

Appendix MORSE

A ● ■■  
B ■■ ● ● ●  
C ■■ ● ■■ ●  
D ■■ ● ●  
E ●  
F ● ● ■■ ●  
G ■■ ■■ ●  
H ● ● ● ●  
I ● ●  
J ● ■■ ■■ ■■  
K ■■ ● ■■  
L ● ■■ ● ●  
M ■■ ■■  
N ■■ ●  
O ■■ ■■ ■■  
P ● ■■ ■■ ●  
Q ■■ ■■ ● ■■  
R ● ■■ ●  
S ● ● ●  
T ■■

U ● ● ■■  
V ● ● ● ■■  
W ● ■■ ■■  
X ■■ ● ● ■■  
Y ■■ ● ■■ ■■  
Z ■■ ■■ ● ●

0 ■■ ■■ ■■ ■■ ■■  
1 ● ■■ ■■ ■■ ■■  
2 ● ● ■■ ■■ ■■  
3 ● ● ● ■■ ■■  
4 ● ● ● ● ■■  
5 ● ● ● ● ●  
6 ■■ ● ● ● ●  
7 ■■ ■■ ● ● ●  
8 ■■ ■■ ■■ ● ●  
9 ■■ ■■ ■■ ■■ ●