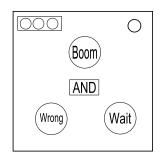
# On the Subject of Logical Buttons

It has logical in the name, so if it doesn't make sense to you that's your fault.

SEE APPENDIX LOGBTNSX100 FOR LOGIC GATE REFERENCES.

• This module consists of 3 buttons, a stage counter and a screen stating a logic gate. To solve it you will have to go through 3 stages.



- In each stage you will have to determine which of the buttons you will have to press based on their color, label and the logic gate present.
- If multiple buttons have to be pressed in a stage you will have to determine the order in which you must press them.
- The buttons are numbered in reading order.
- Both the label and the color of a button will hold a true/false value. Once you get both values you run them through the logic gate and get an answer.
- If you get true, the button should be pressed and if you get false it shouldn't.
- If no button has to be pressed you must press the logic gate screen until you get a logic gate that allows you to press a button.

### Determining values of colors/labels:

The value of the color/label is true if the condition is met.

#### Colors

- Red No blue button present.
- Blue Another blue button present.
- Green The next button in clockwise order is purple or white.
- Yellow The button's label is not "Wrong" or "Logic".
- Purple No buttons in primary colors.\*
- White One or more buttons is in a primary color.\*
- Orange The top button is not orange.
- Cyan The button's label is exactly 5 letters long.
- Gray The button has the same label as another button.

### Labels

- "Logic" There are no gray buttons.
- "Color" The button's color is not green, yellow or orange.
- "Label" The top button's label is not exactly 5 letters long.
- "Button" The next button in clockwise order's label is not "Hmmm" or "No".
- "Wrong" The next button in counter-clockwise order's color is the same as this one.
- "Boom" The other two buttons have the same color.
- "No" This button's color condition is false.
- "Wait" The module is in stage 3.
- '. "Hmmm" The left button's color condition is true.

### <u>Determining order of presses:</u>

Columns refer to which stage the module is in, rows refer to the arbitrary group that the present logic gate is in.

	Stage 1	Stage 2	Stage 3
Group 1	1,2,3	2,1,3	3,2,1
Group 2	3,1,2	2,3,1	1,3,2

## Appendix LOGBTNSX100

Logic gates:

- AND True if both inputs are true Group 1
- OR True if either input is true Group 1
- XOR True if exactly one input is true Group 1
- NAND True unless both inputs are true Group 2
- NOR True unless either input is true Group 2
- XNOR True unless exactly one input is true Group 2

<sup>\*</sup>Primary colors are red, blue and yellow.