

## On the Subject of Not Complicated Wires

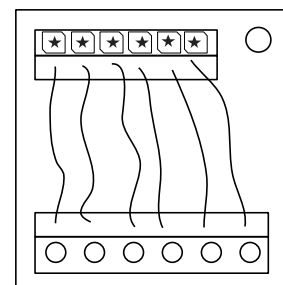
*These wires are just like the others. They have stripes! That makes them exactly the same. The good news is that we've found a stupid set of trickeries on what to do about it! Maybe too stupid...*

Look at each wire: there is an LED below the wire and a space for a '★' symbol above the wire.

A '★' symbol or lit LED represents a 1; a blank space or unlit LED represents a 0, and each wire represents a logic operation.

For each wire, evaluate the operation, and only cut the wire if it returns a 1.

*See Appendix L for logic operation descriptions.*



Second character of serial number	White	Red	Blue	White/Red	White/Blue	Red/Blue
1/6/E/J	AND	XOR	OR	XNOR	IMPLIES	NAND
2/7/D/I	OR	IMPLIES	NAND	AND	XOR	XNOR
3/8/C/H	XNOR	AND	XOR	IMPLIES	NAND	OR
4/9/B/G	IMPLIES	NAND	XNOR	XOR	OR	AND
5/0/A/F	XOR	OR	AND	NAND	XNOR	IMPLIES
Otherwise	NAND	XNOR	IMPLIES	OR	AND	XOR

\* IMPLIES means TOP implies BOTTOM.

## Appendix L: Logic Operations

The table below describes logic operations that are used by various modules, and provides truth tables showing the output for each pair of inputs.

Operation	Description	L	R	Output
OR ( $\vee$ )	Outputs 1 if <u>any</u> input is 1.	0	0	0
		0	1	1
		1	0	1
		1	1	1
AND ( $\wedge$ )	Outputs 1 if <u>all</u> inputs are 1.	0	0	0
		0	1	0
		1	0	0
		1	1	1
XOR ( $\veebar$ )	Outputs 1 if <u>exactly one</u> input is 1.	0	0	0
		0	1	1
		1	0	1
		1	1	0
NOR ( $\downarrow$ )	Outputs 0 if <u>any</u> input is 1. Equivalently, outputs 1 if <u>all</u> inputs are 0.	0	0	1
		0	1	0
		1	0	0
		1	1	0
NAND ( $\uparrow$ or $\downarrow$ )	Outputs 0 if <u>all</u> inputs are 1. Equivalently, outputs 1 if <u>any</u> input is 0.	0	0	1
		0	1	1
		1	0	1
		1	1	0
XNOR ( $\leftrightarrow$ )	Outputs 1 if the inputs are equal.	0	0	1
		0	1	0
		1	0	0
		1	1	1
IMPLIES ( $\rightarrow$ )	Outputs 1 <u>unless</u> the first input is 1 and the second input is 0. Equivalently, outputs 1 if the first input is 0 or the second input is 1.	0	0	1
		0	1	1
		1	0	0
		1	1	1