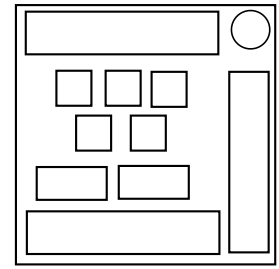


## On the Subject of Ternary Converter

*Not only \*Stores uses balanced ternary now*

- On the module you see 5 input buttons, a Submit, a Clear button and 3 displays.
- The upper displays shows a number in a range of 0-9999 in either standard ternary or balanced ternary form.
- The lower display shows the number you entered so far.
- The side display will show the number in decimal (base 10) after you solved the module.
- To disarm the module enter the number in it's other ternary form! (If the display shows it in standard you need to input it in balanced and vice versa.)
- Submitting an incorrect number will result in a strike.



## What is standard- and balanced ternary?

- Standard ternary: Normal base 3 form of a number (Using the digits 0; 1; 2)
- Balanced ternary: Base 3 form of a number using numbers 0; 1; -1
- Balanced ternary is shown using '+' instead of '1' and '-' instead of '-1'. For ex. 010(-1)1(-1)0 is 0+0-+-0

## How to convert them?

- To convert from standard to balanced ternary do: Using the standard ternary number going from right to left subtract 3 from every number that's 2 or bigger and add 1 to the number left to it!
- For ex. 2021 in standard ternary is 2202212. After doing these steps the balanced ternary form of it is +0--+00--.
- To convert from balanced ternary to standard ternary do the reverse of the steps above: Going from right to left add 3 to every number that's -1 or lower and subtract 1 from the number left to it!
- For ex. 1405 in balanced ternary is +-0--+00+. After doing these steps the standard ternary form of it is 1221001.