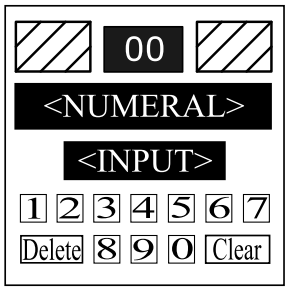
# On the Subject of Roman Numerals




*Ok! Ok! IV = 4 and IX = 9, are you happy now?*

This module has twelve buttons arranged as an input keyboard and two displays above the keyboard. This is a needy module, which means that it can't be solved but will activate every so often with a time limit and must be neutralized.

After the module activates, the top-most display will show a random Roman numeral (1-3999) and the keyboard will be unlocked. The defuser will have 35 seconds to input the correct number using the keyboard to neutralize the module. This number is gotten through converting the displayed Roman numeral on the top-most display into an Arabic number. If you need help figuring out how to convert from a Roman Numeral to an Arabic number, go to '**Converting the Numeral**'.

## Converting the Numeral

Start with the number B, where B is initially 0. Starting from the very left of the Roman numeral, go through each character all the way until the last one on the right converting each character to its Arabic number value below and adding it to B. HOWEVER, if any characters in the numeral have occurances of themselves before them but have a different character separating them, then you have a special occurance. Take the different character and the repeated one and switch them around, converting them to their respective Arabic number values. Take the values and subtract them, and add that number to B. For example, say you had XIX. The first X is equal to 10, so B is now 10. Take IX and reverse it, so XI, and their respective values are 10 and 1. 10 - 1 = 9, so add 9 to B to get 19 as XIX in Arabic number form.

- M = 1000
- D = 500
- C = 100
- L = 50
- X = 10
- V = 5
- I = 1