

# MysteryTwister C3

THE CRYPTO CHALLENGE CONTEST

## ASAC – A STRONG(ER) ADFGVX CIPHER – PART 2

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# Introduction (1/2)

Even today it could be useful for short texts to know a strong cipher which is doable by hand. A computer could be compromised without noticing it. Our own head, a pen, and a sheet of paper (for this cipher some more sheets) are unlikely to be compromised unnoticed.

The cipher in this series of challenges consists of three steps: A Polybius square, a pseudorandom number generator ('PRNG') out of a Polybius square, and a double-column transposition.

This series consists of 5 challenges that are based on each other. The first part only involves the Polybius square and serves as introduction, part 2 adds the PRNG, and part 3 uses the complete cipher but substitutes the double-column transposition with a single-column transposition (as in ADFGVX). Part 4 works with the complete ASAC cipher. At last, part 5 is a "bonus challenge" which just modifies the PRNG step in part 2 of the series.

## Introduction (2/2)

The goal of the author was to get a cipher that – only just – can be done by hand, ensures a hopefully high degree of security even against computerized attacks and that can be easily remembered and built from memory.

The cipher is similar to ADFGVX, but has three major changes:

1. The Polybius square is a little bit bigger. This allows (by approximation) a compensation for the frequency of single characters.
2. A simple PRNG has been added.
3. Instead of the single-column transposition a double-column transposition is used.

# Challenge Description

In the second part of the series for ASAC the three-step cipher is aborted after the second step.

A description of the complete cipher together with a detailed example can be found in the template of part 1 of this series. The goal of this challenge (part 2 of the series) is to decrypt the given ciphertext that can be found in the additional text file `mtc3-fendt-02-asac-02-ciphertext.txt`.

As solution, please enter the numbers you find in the plaintext in the order of their occurrence in the text, parted by commas and without spaces.