



# Speech Codes support information provision for constricted user groups

Speech Codes are printable 2D coloured data matrix codes with unprecedented capacities and multi-level encoding/encryption capabilities:

## Calibration

Speech Codes are colourful.

To ensure scanability under all light situations, calibration dots are spread dynamically throughout the printed codes. The algorithm for placing such calibration dots is **kept undisclosed**.

## Redundancy

Speech Codes are flexible in transmission and redundancy.

To ensure seamless data streams, an optimised low-density-parity-check-code (LDPC) is used for data transmission over "noisy" channels. The parameters and LDPC algorithm adjustments are **kept undisclosed**.

## Compression

Speech Codes are matchless in storage capabilities.

The data stored within a code is compressed using an adapted Huffman compression. The language dependent weighting of the characters and cyphers are **kept undisclosed**.

## Encryption

Speech Codes guarantee the safety and 100% accuracy of the stored content.

All data inside a code are encrypted with AES 256bit keys. Of course these keys are **kept undisclosed**.

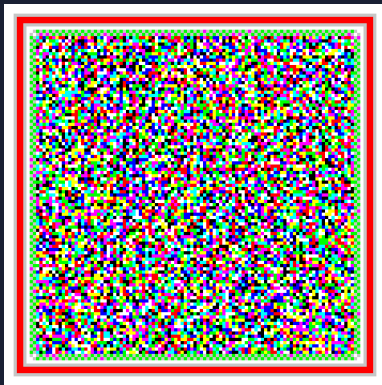
## PIN protection

Speech Codes are data safes for constricted user groups.

To enable restricted access to the content, codes can be protected with 4 to 8 PINs, which are modulated over the AES encryption. The modulation algorithm is **kept undisclosed**.

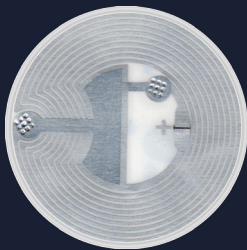
## Services protection

- SSL protected webservice hosted at HostEurope GmbH
- Dev sources, algorithms and documentation hosted and protected by EVVA Sicherheitstechnologie GmbH



## Speech Codes USPs

- printable
- multi-level encoding/encryption
- SSL protected generation
- offline content
- 4-8 PINs protection
- 4 code patterns
- up to 10KB storage
- Do-it-Yourself code generation
- SDK available



## NFC Speech Tags USPs

- NXP MIFARE DESFire EV1 components
- 3DES encryption
- SSL protected re-writability
- offline content
- 4-8 PINs protection
- up to 8KB storage
- Do-it-Yourself tag generation

**Can it be hacked?**  
**Yes, of course - what can't?**  
**But it takes a very looong time!**

Brute force methods with 1 second cycles (scan/decode/decrypt)  
would take 84 years to test all  $2.6e10^9$  combinations

## Contact

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