Encoder Specification

Length of a license key: 20 symbols or 10 bytes.

An amount of the checksum symbols - 4 symbols or 2 bytes.

An amount of the date symbols - 6 symbols or 3 bytes

An amount of the domain symbols - 10 symbols or 5 bytes

Each symbol is represented as a HEX digit (0-F)

Symbols that corresponds to different parts of a key are mixed with each other.

Here is a schema of a internal representation of a key.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |

Checksum symbols are represented as red cells

Domain cells are represented as blue cells

Date cells are represented as yellow cells

**Checksum**

Checksum is a sum of other symbols divided by 2^16(1 symbols - 4 bites, ) by module(% operation) so it takes only 4 symbols. It’s used for a key verification. Written and calculated checksums must be equal.

**Date**

Month is encoded by the 6 cell because it has a limit 12, and 1 cell can encode up to 16 values.

Day is encoded in the 10 and 11 cells. It consists of 2 cells because of its maximal value. So it must be encoded with 2 cells(1 byte).

Year is encoded in the 13, 14, 15 cells. It consists of 3 cells because of its maximal value(we limited it to 4095, or 1.5 bytes)

String representation of data is transformed to HEX and divided in cells.

**Domain**

Domain keeps all other cells. All domain cells are calculated as one sequence and later is divided by cells.