



# M17 Protocol Codeplug

*DRAFT*

## M17 Working Group:

Wojciech	SP5WWP
Juhani	OH1CAU
Elms	KM6VMZ
Nikoloz	SO3ALG
Mark	KR6ZY
Steve	KC1AWV
Rob	WX9O
Tom	N7TAE
Mike	W2FBI

Mar 12, 2021

Published March 12, 2021

Copyright © 2019-2021 M17 Working Group

Permission is granted to make and distribute verbatim copies of this document provided the copyright notice and this permission notice are preserved on all copies.

Permission is granted to copy and distribute modified versions of this document under the conditions for verbatim copying, provided that the entire resulting derived work is distributed under the terms of a permission notice identical to this one.

Permission is granted to copy and distribute translations of this document into another language, under the above conditions for modified versions, except that this permission notice may be included in translations approved by the Free Software Foundation instead of in the original English.

See the GNU General Public License version 2 for more details.

---

## Part II - Codeplug:

---

<b>1</b>	<b>Recommendation for the codeplug structure</b>	<b>1</b>
1.1	Introduction . . . . .	1
1.2	Codeplug file structure . . . . .	1
1.3	Example Codeplug . . . . .	2



---

## Recommendation for the codeplug structure

---

### 1.1 Introduction

Codeplugs are ordinary text files with *.m17* extension. They provide an information on:

- channel banks
- channel frequencies
- destination IDs
- transmission mode
- payload type
- encryption mode

Codeplugs should be human-readable and easily editable with common text editors.

### 1.2 Codeplug file structure

We recommend using YAML for the codeplug files.

#### 1.2.1 Keywords

**codeplug:**

**author:** String - Codeplug author, max 16 characters

**version:** Date and time in YYYY-MM-DDTHH:MM:SS format

**bank:**

**name:** String - Channel bank name, 16 characters maximum

**channel:**

**name:** String - Channel name, 16 characters maximum

**descr:** String - Channel Description, 16 characters maximum

**freq\_rx:** Integer - Channel RX Frequency in Hz

**freq\_tx:** Integer - Channel TX Frequency in Hz

**mode:** Integer - Channel mode. Valid modes are: 0 - Analog, 1 - Digital Voice, 2 - Digital Data, 3 - Digital Voice and Data

**encr:** Integer - Is encryption enabled? 0 for no encryption, 1 - AES256, 2 - scrambler etc. (refer to M17\_spec for details)

**nonce:** String - 14-byte hex value without leading 0x. nonce for ciphers or initial LFSR value for scrambler

**gps:** Boolean - If true, and mode value enables digital data, gps data will be transferred along with payload

## 1.3 Example Codeplug

```
codeplug:
  author: SP5WWP
  version: 2020-28-09T13:20:49
  - bank:
    name: M17
    - channel:
      name: M17_DMO
      descr:
      freq_rx: 439575000
      freq_tx: 439575000
      mode: 2
      encr: 0
      nonce: 0
      gps: false
    - channel:
      name: M17_DMO_2
      descr:
      freq_rx: 439975000
      freq_tx: 439975000
      mode: 2
      encr: 0
      nonce: 0
      gps: false
  - bank:
    name: Repeaters
    - channel:
      name: SR5MS
      descr:
      freq_rx: 439425000
      freq_tx: 431825000
      mode: 2
      encr: 0
      nonce: 0
      gps: false
#codeplug end
```