HOW TO USE — IC-980Pro YSF Decoder/Encoder (by LU7CGJ)

This toolset includes **decoder.py** and **encoder.py** to convert IC-980Pro YSF codeplugs between **YSF files** and **editable CSV files**.

1. Decode a YSF file into CSV

1. Export a **.YSF** file from the radio's CPS software.
2. Drag and drop the **YSF file** onto **decoder.py**.
3. The script will generate a new **CSV file** in the same folder.
4. Open the CSV with any editor (Excel, LibreOffice, Notepad++).
5. Edit the channels as needed **without changing the column structure** or adding/removing columns.

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2. Encode the CSV back into a YSF file

1. Once the CSV is edited and saved, drag and drop the **CSV file** onto **encoder.py**.
2. The script automatically:
    - Builds a valid **YSF file** using your CSV data
3. The resulting **.YSF** file will appear next to the script, ready to load into the CPS and write to the radio.

Notes & Requirements

- Do not change column names or order in the CSV.
- Do not delete mandatory fields; leave unused fields blank.
- The scripts must stay in the same folder as the **base YSF templates**.
- Drag-and-drop is the intended way to run both scripts — no command-line arguments required.

Workflow Summary

1. **YSF → CSV**
   Drag YSF → decoder.py → edit CSV
2. **CSV → YSF**
   Drag CSV → encoder.py → Final YSF for the radio

CSV Column Specification

Below is the complete definition of every column used in the CSV.
The order must remain exactly as shown.

CSV Column Order

1. RX Freq.
2. TX Freq.
3. QT/DQT Dec
4. QT/DQT Enc
5. TX Power
6. Bandwidth
7. Scan
8. Busy Inhibit
9. Special DCS
10. Compandor
11. Scramble
12. Name

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1. RX Freq.

Description: Receive frequency in MHz
Format: Decimal, **5 decimal places**
Example: 144.00000

2. TX Freq.

Description: Transmit frequency in MHz
Format: Decimal, **5 decimal places**
Example: 144.00000

3. QT/DQT Dec

Description: Decode tone (CTCSS or DCS)
Allowed values:

- CTCSS (e.g., 67.0, 69.3, 74.4, 88.5, etc.)
- DCS (e.g., D023N, D043I, D155N, etc.)
- OFF

4. QT/DQT Enc

Description: Encode tone (CTCSS or DCS)
Allowed values:
Same as decode:

- CTCSS: 67.0, 74.4, 88.5, etc.
- DCS: D043N, D754I, etc.
- OFF

5. TX Power

Description: Transmission power
Allowed values:

- Low
- High

6. Bandwidth

Description: Channel bandwidth
Allowed values:

- Narrow
- Wide

7. Scan

Description: Include/exclude channel from scan
Allowed values:

- ADD
- DEL

8. Busy Inhibit

Description: Prevent TX under certain conditions
Allowed values:

- OFF
- DQT
- CAT

9. Special DCS

Description: Special digital squelch modes
Allowed values:

- OFF
- Special DCS 1
- Special DCS 2
- Special DCS 3

10. Compandor

Description: Audio companding
Allowed values:

- ON
- OFF

11. Scramble

Description: Voice scrambler
Allowed values:

- OFF
- Scramble1
- Scramble2
- Scramble3
- Scramble4
- Scramble5
- Scramble6
- Scramble7
- Scramble8

12. Name

Description: Channel name
Allowed format:

- Up to **10 characters**
- ASCII recommended
- Cannot contain commas (CSV limitation)