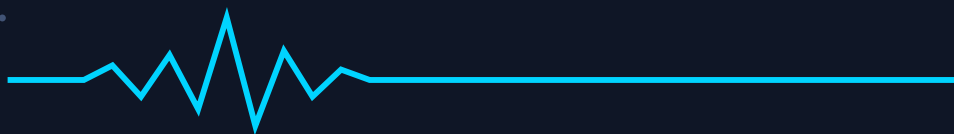




User Manual

DecoDXLog

The station log of the Decodium family



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github.com/iu8lmc/DecoDXLog · License GPL-3.0

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How to read this manual

This manual describes **DecoDXLog 1.16.47** and is derived from the code and the official documentation of the project on GitHub. The **figures** are illustrative diagrams (not screenshots): they are there to help you find your way, and the data shown in them is invented.

The names of menus, buttons and Setup pages are written as they appear in the **English** interface. Keys are written like this: **Ctrl+N**. Command-line examples and file paths are in a fixed-width font.

1. What DecoDXLog is

DecoDXLog is the **station log of the Decodium family**. It is designed for those who use digital modes (FT2, FT8, FT4...) but works perfectly well for CW, phone and RTTY too.

In short:

- **Offline-first:** the log is a single SQLite file on your computer. No mandatory server, no subscription.
- **It fills itself in:** it receives QSOs from Decodium, WSJT-X and JTDX as soon as they log them, and completes them with callbook data.
- **FT2 is a first-class mode:** it is saved as `MODE=MFSK`, `SUBMODE=FT2` and shows up as «FT2» throughout the interface.
- **Same look as Decodium:** three themes (Ocean Blue, Stellar Light, Darkcodium), with accent variants and row density.
- **Interface in 15 languages**, your choice (or the same as the system).
- **Everything a modern log needs:** awards, QSL (LoTW, QRZ, eQSL, Club Log, paper), DX Cluster, map with grey line, statistics, propagation, contests with Cabrillo export, POTA/SOTA activations, radio via Hamlib, rotor, sync between computers with the Cloud.

Your log is yours. The QSOs live in a file on your disk. You can export to ADIF whenever you like, with no loss, and installing or uninstalling the program never touches the log.

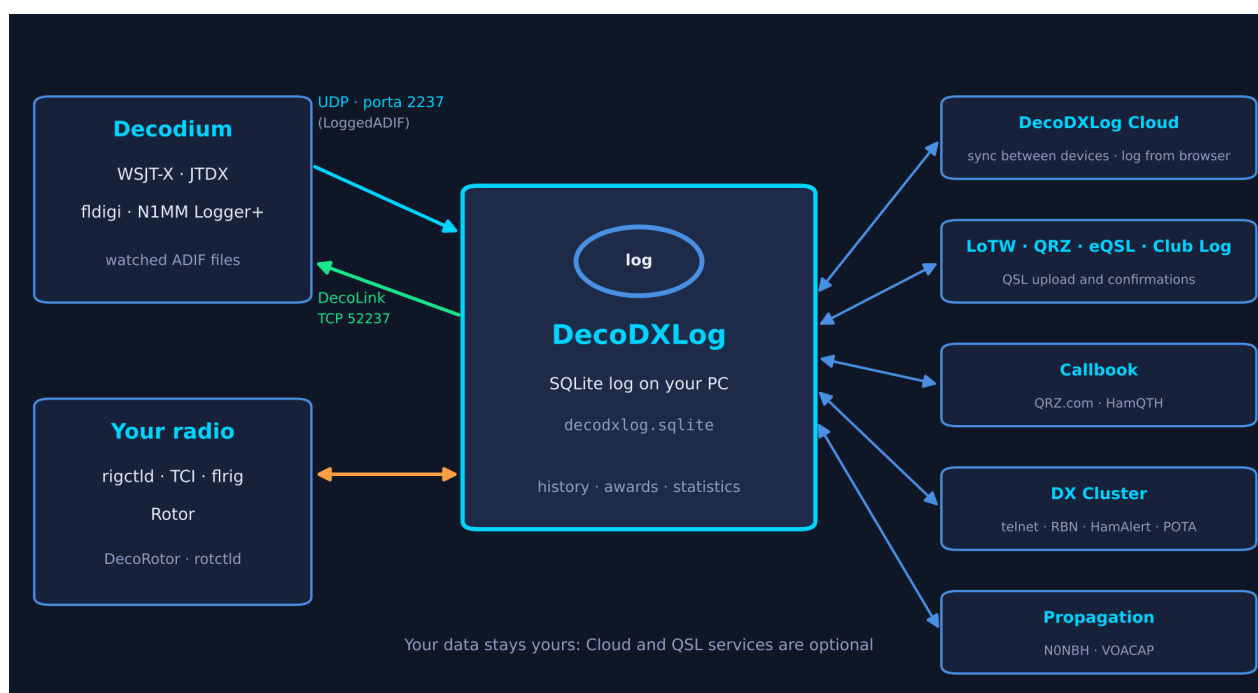


Figure 1 — Where DecoDXLog fits in your station (diagram). QSOs arrive from Decodium or other programs; the log stays on your PC; Cloud and QSL services are optional.

2. Installation

Always download the latest version from the project's **Releases** page:

<https://github.com/iu8lmc/DecoDXLog/releases>

Windows

There are two ways:

Way	How	When to choose it
Installer (.exe file)	Double-click and follow the procedure.	Normal use.
Portable archive (DecoDXLog-<version>-win64.zip)	Unzip the folder wherever you like and double-click DecoDXLog.exe.	USB stick, tests, no installation.

The exact file names change from one release to another: look at the list of attachments of the version you download.

Things to know about the installer:

- It installs **per user** in %LOCALAPPDATA%\Programs\DecoDXLog: it **does not ask for administrator privileges**.
- For the same reason, the **automatic update** («Update now») can start without asking anyone.
- If DecoDXLog is open during installation, the installer tells you and offers to close it.
- **The log and the settings are not touched, either by installing or by uninstalling.**

In the portable folder you will also find:

File	What it is for
DecoDXLog.exe	The program.
decodxlog_udpsend.exe	Pretends to be Decodium and sends a test QSO (useful to try things without a radio).
decodxlog_clusterprobe.exe	Tests a spot source from the command line.
decodxlog.ico	The icon, to create a shortcut by hand.
voacap\	VOACAP, the propagation forecast engine.
LEGGIMI.txt	The first steps, in brief.

Linux and macOS

The releases also include a package for **Linux** (AppImage:

DecoDXLog-<version>-linux-<architecture>.AppImage) and one for **macOS** (.dmg). On Linux, if the graphics give trouble, see chapter 22.

Where the data is kept

On Windows the log and the settings are in:

```
%APPDATA%\Decodium
  decodxlog.sqlite  ← your log
  DecoDXLog.ini     ← the settings
```

To move DecoDXLog to another computer, just copy these files (or use the Cloud). In the **File** menu there is the item «**Open the log folder**», which takes you straight there.

Updates

DecoDXLog warns you when a new version is available (a pill at the top) and opens the update window.

«**Update now**» **appears only for signed releases**: the program checks the signature and the SHA-256 fingerprint of the package before installing it. If a release is not signed, you still see it but you **download it by hand** from the Releases page.

3. First launch in five steps

1. **Start DecoDXLog** (double-click `DecoDXLog.exe`).
2. **Setup → Decodium link**: check the **UDP port** on which DecoDXLog listens for QSOs. The default is **2237**. If another program already uses that port, change it here and add it among Decodium's UDP destinations as well.
3. **Station profiles**: enter the **callsign and locator** of your station. If you use Decodium, the **first profile is created by itself** with the callsign and locator that Decodium sends in its Status.
4. **Setup → QSL services**: enter your **LoTW** username and password (and those of the other services you use) so that you can download confirmations.
5. **Ctrl+K**: open the **DX Cluster**. In the **Sources** tab switch on the nodes, the Reverse Beacon Network, HamAlert and the POTA activations you are interested in.

In **Decodium** set the UDP server to the address and port of DecoDXLog (normally `127.0.0.1` and `2237`). From then on every QSO you log in Decodium appears in DecoDXLog.

Want to try it without a radio? Start `decodxlog_udpsend.exe --port 2237`: it sends a test FT2 QSO as Decodium would. See chapter 22.

4. The main window

The window follows the same layout as Decodium and DecoRTTY. From top to bottom:

4.1 Top bar

- **Program menu** (the icon at the top left): *About DecoDXLog..., Settings..., Station profiles..., Panels..., DX Cluster..., Import a log (ADIF, CSV, N1MM)..., Export ADIF..., Open the log folder, Quit.*
- **Quick buttons**: *Logs* (list of logs), *Import*, *Export*, *Awards*.
- **Radio**: frequency, mode, VFO A/B, split, RIT and XIT (when the radio is connected — see chapter 16).
- **Sync**: the state of the Cloud queue, always in view.
- **Panels menu**: tells you for each panel whether it is *docked*, *in a window* or *closed*, and has the command to **restore the starting layout** («Reset the layout»).

4.2 The three columns

Column	Content
Left	The New QSO panel (quick) and the card of the selected QSO.
Centre	The Logbook : the table of your QSOs.

Column	Content
Right	The callsign card («Call info»): already worked?, distance, azimuth, callbook, FT2 Award, locator map.

The callsign that Decodium is working at that moment **follows itself** in the right-hand card.

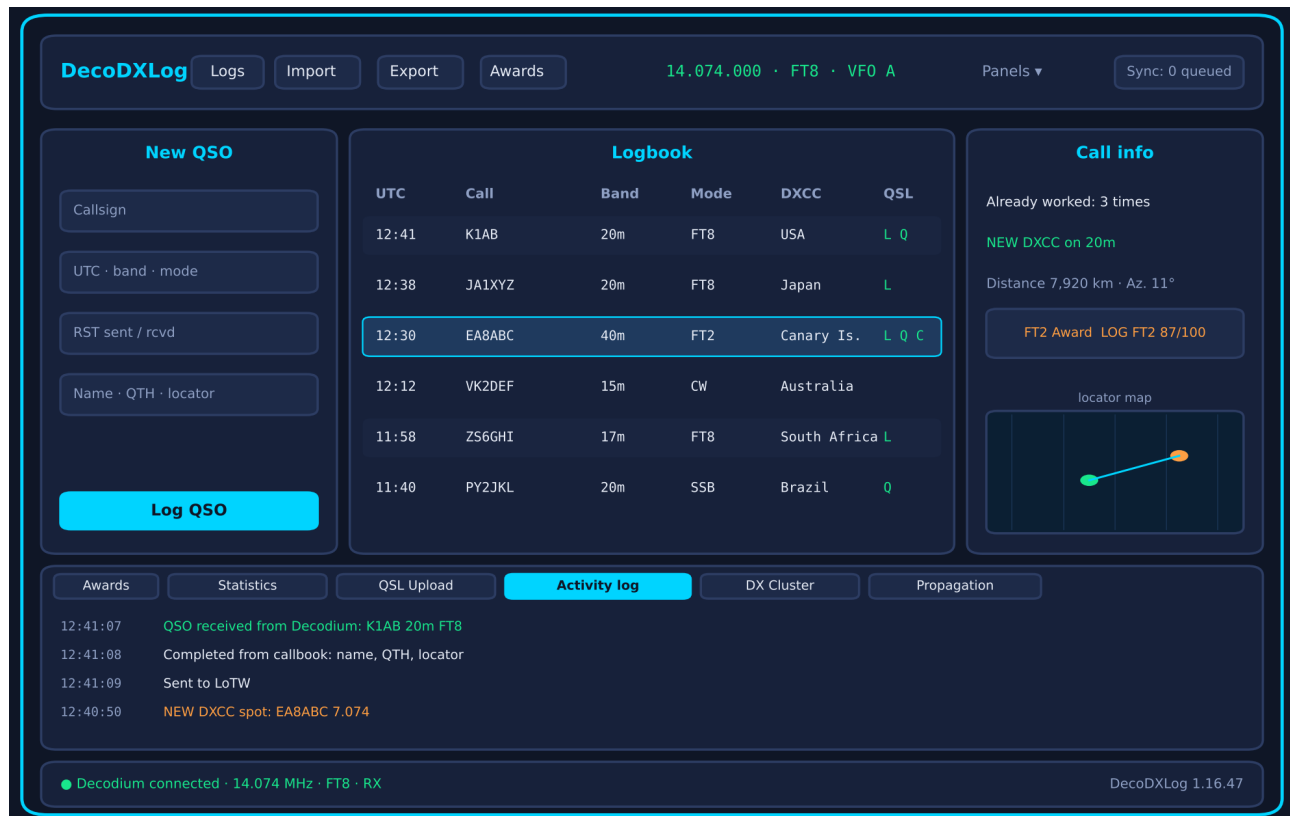


Figure 2 — The main window (illustrative diagram, not a screenshot): top bar, three columns, tabs at the bottom and status bar.

4.3 The six tabs at the bottom

Tab	What it shows
Awards	Your tallies: DXCC, WAZ, WAS, WPX, FT2 Award...
Statistics	QSOs by year, month, UTC hour, band, mode, continent.
QSL Upload	Counts and buttons for LoTW, QRZ, eQSL, Club Log, paper.
Activity log	Everything the program does, with severity colours.
DX Cluster	The spots, compared with your log.
Propagation	Solar numbers and band conditions.

4.4 Status bar

At the bottom: state of the Decodium client (who is connected, frequency, mode, TX — with a warning if it goes silent), sync queue, counts.

4.5 Every window is a real window

Awards, Setup, the QSO card, New QSO, profiles, activation and Cabrillo can be **moved to any screen and enlarged**, and they reopen where you left them. The **panels also detach** into a window of their own (position and size are remembered) and can be closed. Every **divider can be dragged** and the sizes are kept.

5. Receiving QSOs from Decodium, WSJT-X and JTDX

DecoDXLog listens on the WSJT-X **UDP protocol**, so it works with Decodium, WSJT-X, JTDX and compatible programs.

5.1 How they arrive

- **Port:** 2237 by default (changeable in *Setup* → *Decodium link*). **Multicast** is also possible.
- **LoggedADIF is the preferred source:** it is the complete message and loses no fields. *QSOLogged* is used only if the ADIF does not arrive within 1.5 seconds, or if you choose it as the source in Setup. If both arrive, **only one QSO** is written.
- **Station profile:** the QSO takes the profile that matches the callsign it was made with; otherwise the active one.
- **DXCC entity** (DXCC, country, zones, continent): added on the fly.

5.2 If DecoDXLog was closed: recovery from the Decodium log

Every **5 minutes** DecoDXLog reads the tail of the `decodium_log.adi` file and saves the QSOs it does not have (DecoDXLog closed, wrong port, network down).

- A QSO that you have **corrected or deleted** in DecoDXLog **does not come back**.
- A QSO that ended up in **another log** on the list **does not come back**.
- By hand you can also recover the **last 30 days** or the **whole file**.

5.3 Duplicates

The duplicate window is **configurable** and differs for digital QSOs and manual ones. The default values are **±2 minutes** for digital and **±10 minutes** for manual QSOs.

5.4 Other programs

Feature	What it is for
UDP repeater («Forward to other programs»)	What arrives from Decodium also goes to other programs; their replies go back to Decodium.
N1MM Logger+	Receives ContactInfo via UDP (port in Setup).
Watched ADIF logs	Follows the ADIF files of fldigi, WSJT-X, JTDX and saves new QSOs.
Local HTTP interface	With a key, for your scripts. Described in docs/API.md .
HamAward / HamConnect	Enter <code>127.0.0.1:12060</code> in the «Forward to other programs» line: manual QSOs are forwarded in the required N1MM XML format, with band and SSB→USB handled the way HamAward expects.

6. The Logbook

6.1 The table

Columns are chosen from the columns menu and can be hidden. Those available include: UTC, callsign, band, frequency, mode, RST, locator, name, city/QTH, country, state, county, CQ zone, ITU zone, IOTA, DXCC, QSL, origin and tags.

- The border between two headers **can be dragged**; the width is kept (by column name, also in the detached log).
- The **QSL** column shows four letters: **L** (LoTW), **Q** (QRZ), **C** (Club Log), **E** (eQSL). If you **hover the mouse** over the letters, the program tells you **in words** how it went: confirmed, sent and waiting, not sent.
- **«Pop»** detaches the log into a separate window, handy for a second monitor.

6.2 Filters

Filters are «pills» that add up:

- text, **band**, **mode**, **month** or date range, **DXCC entity**, **QSL status**, **station profile**, **tag**;
- **«Filters → + add → Other field»**: search by CQ zone (WAZ), ITU zone, continent (WAC), WPX prefix, QTH, state/province, IOTA, POTA, SOTA, WWFF, other references (SIG), QSL manager, propagation, satellite, contest, month of the card sent or received, month of the LoTW confirmation. Pick the field and then the value from a list that tells you **how many QSOs each one has**; as you type, the list narrows.
- Filters can be **saved under a name** and reapplied.
- **«Actions → Search these filters in every log...»** applies the same filters to all the logs you have.

6.3 Selection and actions

- **Left click**: adds a row to the selection or removes it. **Shift** takes everything in between. **Esc** drops the selection.
- **Right click on several rows**: deletes them all, **asking you for confirmation twice**.
- **Actions on the rows shown**: assign a tag to all, remove a tag, export to ADIF.
- **Row menu**: open, delete, complete from the callbook, filter by callsign, filter by entity, tag, send the QSL (LoTW, eQSL, QRZ Logbook, Club Log) or queue it for bureau/direct.
- **«Actions → Colour the rows by QSL confirmation»**: green = confirmed by LoTW or by card; light blue = card only; yellow = eQSL/QRZ only (which do not count for DXCC); orange = card sent and not yet returned. The legend is next to the filters.
- **Whole-log jobs** (Actions menu): complete from the callbook all the QSOs without a locator (queued, one at a time, can be stopped), clean up QSOs damaged by an old ADIF import, find and merge **duplicates**, change **one field on many QSOs** (each with its own history).

6.4 Row colours

In *Setup* there is the **«Log row colors»** section: every category (new callsign on the band, confirmed on LoTW, confirmed by card, confirmed on eQSL/QRZ only...) has its own colour and a switch. **Categories that are switched off are skipped**: the row takes the colour of the first switched-on category that applies to it. For confirmations the order of precedence is: **LoTW**, then **card**, then **eQSL/QRZ only**.

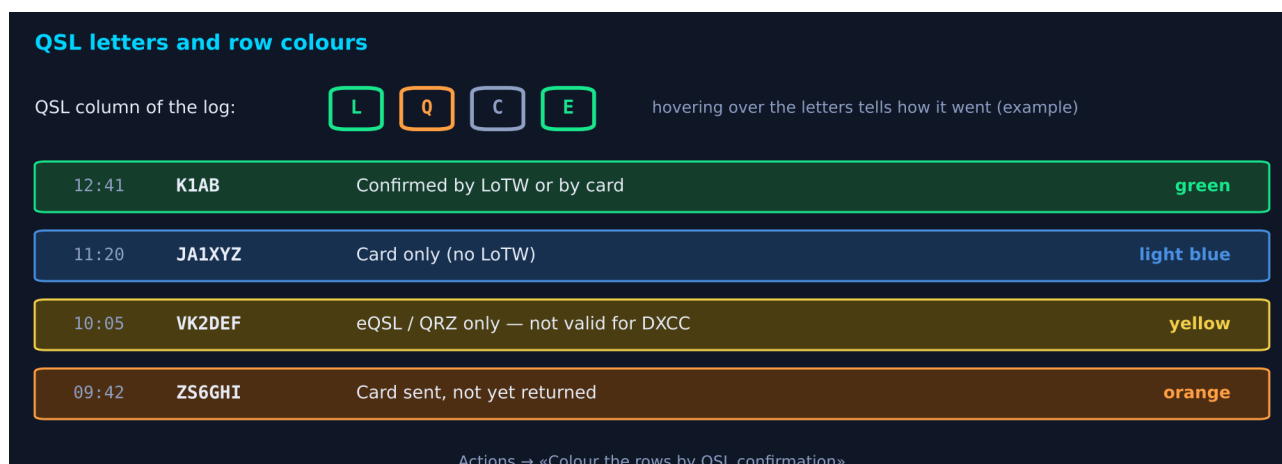


Figure 3 — The QSL letters in the log and the row colours by confirmation (illustrative diagram).

6.5 Importing and exporting

- **Import** (Ctrl+I): ADIF, **CSV** sheets (the columns are recognised automatically) and the **N1MM Logger+** database.
- **Export** (Ctrl+E): **lossless** ADIF. Fields that have no column of their own stay in `adif_extra` and come back out identical; QSL statuses also make the round trip.
- The **missing DXCC** of imported QSOs can be completed in one go (every QSO becomes a new revision).

7. New QSO and the QSO card

7.1 New QSO

There is a **quick panel** always in view and a **full card** (Ctrl+N) with all the useful ADIF fields.

- **UTC time with one click**; the **band** is derived from the frequency; **RST** values have defaults.
- While you type the callsign, the log tells you what it knows: **already worked**, **new DXCC**, **new on this band**.
- The **callbook fills in empty fields only** (name, QTH, locator) and never overwrites what you have written.
- If the locator is missing, it is derived from the station's position; a **four**-character locator becomes **six** when the callbook confirms the same square (a different square is left as it is).
- **Tags** on QSOs (activation, contest, event, portable) and, in contests, **sent and received number**.
- **«Log & keep»** for a series of QSOs.
- **The QSO you have just written completes itself**: name, QTH, locator, address, state, county and zones come from the callbook right after logging, **without touching what is already there**.

7.2 The QSO card

It opens with **Enter** on a log row. The fields are divided into five sections: **General**, **Location**, **QSL**, **ADIF extra**, **History**.

- **Free fields**: add your own; they stay in the export.
- **QSL per service**, with sent, received and dates.
- **Award impact**: is this QSO a new DXCC in FT2?
- **Distance and azimuth** from the locator.
- **Export the single QSO**.

7.3 History and deletion

- Every save creates a **new revision**: the previous ones stay in the **History** and can be **read again and restored**.
- **Deletion is «soft»**: the QSO stays in the history and can be recovered.

8. Station profiles

A **station profile** describes where you operate from: callsign, operator, locator, CQ/ITU zones, radio, antenna, power and the LoTW *station location*. You can have **more than one** (home, portable, event).

- There is a **default profile** and an **active profile** (the one used for new manual QSOs).
- Profiles can be **duplicated** and show **how many QSOs** they have.
- eQSL and QRZ accounts can be set **per profile**.
- Open the window from the menu → **Station profiles....**

9. DXCC entities and callbook

9.1 DXCC from the callsign

DecoDXLog includes **AD1C's** `cty.csv` (country-files.com). From it, it derives the DXCC, country, CQ/ITU zones and continent of every callsign. It is updated from *Setup* → *General* («cty.csv from country-files.com» field).

For **awards** the program also uses the entity dates from Club Log's `cty.xml` (operations not accepted, deleted entities).

9.2 Callbook

In *Setup* → *Callbook* choose the source:

- **Off** (log and `cty.csv` only),
- **QRZ.com (XML)**,
- **HamQTH**.

The callbook supplies name, QTH, locator, zones, photo and whether the station is a LoTW/eQSL user. The session renews itself and results stay in memory **for a day**. If the chosen source does not know the callsign (or answers without saying where the station is), the program **also asks the other one** and merges the answers.

9.3 The callsign card («Call info»)

It shows, for the selected callsign (or for the one Decodium is working):

- **already worked**: how many times, on which bands and modes, last five QSOs;
- **NEW DXCC** and **NEW DXCC on <band>** while you work;
- **distance, azimuth, approximate local time**;
- callbook data (name, QTH, locator, photo, LoTW/eQSL user);
- the **QSL status** of the last QSO;
- the **band-by-mode grid**, twice: for the callsign and for its DXCC entity. One row for CW, digital and phone; one column per band. Empty cell = never worked; **orange** = worked; **green** = confirmed, with the letters of who confirmed (L LoTW, e eQSL, C Club Log, Q QRZ, K card).



Figure 4 — The band-by-mode grid of the callsign card (example with invented data).

10. Awards

Awards are **calculated from your log**, every time, with the program's rules: if you correct a QSO, the tallies change immediately.

Award	Notes
DXCC and DXCC Challenge	Challenge: the same DXCC entities counted band by band, from 160 to 6 metres (eleven bands), goal one thousand slots.
FT2 Award	DXCC and locators in FT2, LoTW confirmations. The panel is always in view.
WAC	The six IARU continents (Antarctica is shown but does not count), also band by band.
WAAC	Worked All Africa.
WAZ, WAS, WPX, Locators	With a map of worked and confirmed locators.
WAJA, AJD	47 Japanese prefectures (from the STATE field) and the ten districts (from the callsign digit).
JCC, JCG	JARL cities and districts (gun), read from the CNTY field. Goal 100 and 100.
IOTA, POTA, SOTA, WWFF	From the references written on the QSOs.

How to read the table

For every award there is a **per-band table**: ● confirmed, ○ worked, with **totals per band** and **band slots**. The «**What is missing**» list shows entities, zones and states never worked.

Filters

Band, **mode group**, station profile, tag. And above all **which confirmations to accept**: LoTW, card, eQSL (choose how the award you are chasing sees it).

11. QSL confirmations and uploads

Everything is managed from the **QSL Upload** tab (and from *Setup* → *QSL services*).

11.1 Uploading

Service	How it works
LoTW	DecoDXLog has the installed TQSL sign a temporary ADIF : your certificate stays where it is. In Setup you indicate where the TQSL program is and, if you have more than one, the <i>station location</i> .
QRZ Logbook	With the logbook API key .
eQSL	With username and password.
Club Log	The QSO you have just logged goes out by itself; the backlog goes out as a single ADIF . Email, password, callsign and API key are needed.
Wavelog	Among the supported services.

Uploading can be **manual** or **automatic after every QSO**, with a queue and counts per service.

- A **duplicate counts as sent**.
- A **rejection stays written on the QSO with the reason**.

11.2 Confirmations received

- **LoTW**: downloads from lotwreport.adi **only the new confirmations** since the last sync, by hand or **every 6/12/24 hours**. You can also download a specific period («LoTW from... to...»).
- **eQSL** (the eQSLs that have arrived in the inbox, without SWL reports) and **QRZ Logbook** (the QSOs the other station has confirmed): by hand or every 6/12/24 hours, new ones only.
- **Matching**: by callsign, band, mode group and time **within 30 minutes**. The details received fill **only empty fields**. New confirmed DXCC entities end up in the activity log.

11.3 Passwords

The credentials for Cloud, QRZ.com, QRZ Logbook, LoTW, Club Log, eQSL, HamQTH and HamAlert are kept in the **system keychain** (Windows Credential Manager, macOS Keychain, Secret Service on Linux). Only the **username** stays in the settings file.

Warning: if the program is built without keychain support (`qtkeychain`), **passwords are not saved at all** (never in clear text). The distributed versions include it.

Network errors **never show the address with the password inside**.

12. Paper QSL, labels and QSL card

12.1 The queue

Paper QSLs have a **queue**: *to send, sent, received*, and how many are awaiting a reply. You get there from the «**Paper QSL**» button in the *QSL Upload* tab.

- **Queue** them from the log row menu (bureau or direct), or **all together** those to be returned.
- The **route** (bureau, direct, electronic) stays on the QSO and comes back in the export as `QSL_SENT_VIA`.

12.2 PDF labels

One label for each correspondent, with **up to six QSOs**; **four commercial label sheet formats** are supported, with optional **cut marks**. A **PDF** is generated, with no printer in between.

12.3 The QSL card

With «**QSL card**» you design your own QSL:

1. **Load the image** of your card.
2. **Drag the fields** onto it with the mouse: callsign, date (whole or split into day/month/year), UTC, MHz, band, mode, RST, name, QTH, locator, your details and free text.
3. For each field choose **size, bold, colour and alignment**.
4. The «**The usual eight**» button places callsign, day, month, year, UTC, MHz, mode and RST in the boxes where a QSL usually has them.
5. You export to **PDF** (one, two or four cards per A4 sheet) or to **one PNG per QSO**. **What you see in the preview is what gets printed.**

12.4 QSL by email

The address is taken from the **callbook**; the program draws the card for that QSO and sends it **from your mailbox** as a PNG attachment, **only over an encrypted connection**. Anyone without an email in the callbook is **skipped and named**. In Setup you choose whether to send with *The Cloud*, *in my name* or *My own mailbox*.

13. DX Cluster

It opens with **Ctrl+K** (own window) and is also in the tab at the bottom.

13.1 Sources

All in a single list:

- **Telnet nodes** (DX Spider, CC Cluster). DecoDXLog logs in as `CALLSIGN-2`, so that Decodium's session is not closed. It reconnects by itself.
- **Reverse Beacon Network** (CW/RTTY and FT8/FT4).
- **HamAlert** (password in the keychain).
- **POTA activations**.

13.2 Every spot is compared with your log

Possible labels: **NEW DXCC**, **NEW BAND**, **NEW MODE**, **NEW SLOT**, already worked, unconfirmed entity, LoTW user. In addition: distance and azimuth, POTA/SOTA/WWFF/IOTA references read from the comment, skimmer SNR, spots of the same DX grouped together.

13.3 Filters

Band, mode, state, continent of the DX and of the spotter, source, **callsigns with wildcards**, text, **minimum SNR**, age, activations only, LoTW users only, no skimmers, Decodium's band. Filters can be **saved under a name**.

13.4 Alerts and actions

- **Alert rules** with **voice announcement** (system voices, Italian or English, phonetic alphabet), highlighted row in the log and sending to Decodium.
- **Double-click on a spot: Decodium tunes** (calling frequency, mode, DX ready). DecoDXLog **never transmits**.
- **Spot menu**: points the **rotor** at the degrees already calculated.
- **Console**: commands to the node and **posting a spot**.
- The ARRL **list of LoTW users** updates itself once a week.

14. Map, statistics and propagation

14.1 Map

- World coastlines (Natural Earth) **included in the program**: it downloads nothing.
- **Grey line** calculated from the position of the Sun, updated by itself.
- **Worked locators**, **cluster spots** coloured by status, your station and the **great circle** to the selected callsign. The **layers can be switched on and off**.
- You can also see **where the antenna is pointing** (if you have the rotor connected).
- On Linux the default map is a «compatible» version that does not use **Canvas**, to avoid problems with some graphics drivers.

14.2 Statistics

In a window of its own (or in the tab at the bottom): totals, QSOs **by year, month, UTC hour and band**, modes and continents, and the **band-by-hour heat map**, which tells you **when a band is open**. Filters by mode and by year.

14.3 Propagation

- **Solar numbers**: SFI, sunspots, A and K indices, aurora, X-rays, geomagnetic field, noise, solar wind.
- **Band conditions** by day and by night, plus aurora and E-skip on VHF, colour-coded.
- It updates **by itself every hour** or on command (source: NONBH's XML, hamqsl.com).
- **History next to your QSOs**: last fourteen days, QSO bar and average flux of the day.
- **VOACAP**: in the *path forecast* you see, for each hour and band, the **QSO probability** in the chosen mode, with power, antennas and noise of your location.

15. Activations (POTA, SOTA...) and contests

15.1 Activation sessions — Ctrl+T

A **session** (POTA, SOTA, WWFF, IOTA, contest or free) puts on **every QSO** the activator fields (**MY_SIG**, **MY_SIG_INFO**, **MY_POTA_REF**, **MY_WWFF_REF**, **MY_SOTA_REF**, **MY_IOTA**), the **locator of the site**, a **tag** and the **serial number** (STX); the received number (SRX) is written in the New QSO panel.

- Within the session a callsign **worked again on the same band and mode is a duplicate, at any time.**
- **Real-time counts:** QSOs, different callsigns, duration, by band and mode, and **how many QSOs are still needed to validate** (10 for POTA, 4 for SOTA).
- **ADIF export** of the session with the name POTA expects (for example **IU8LMC@IT-1234-20260917.adif**).
- **The session lives in the log:** it survives closing the program.

15.2 Contest window — Ctrl+Shift+T

- Type the **callsign**, **Enter logs**, **Esc clears**, the space bar moves to the report.
- The **dupe** is highlighted **as you type** (same callsign, same band, same mode in the session).
- **Rate:** QSOs in the last ten minutes and the last hour, QSOs/h, DXCC entities and locators gained.
- **Serial number** from the session; the received exchange goes into a single field.
- **Eight CW macros** on the **F1-F8** keys, with fields that fill in at the moment of sending: **{CALL}**, **{MYCALL}**, **{RST}**, **{NR}**, **{EXCH}**. The speed (words per minute) can be changed while you operate; **Esc** stops the transmission.
- **Rules per edition**, time on air and breaks as per the regulations, **call history** in N1MM format and **serial numbers shared** over the network.

15.3 Cabrillo export

From the contest window menu, «**Cabrillo...**»: it produces a **Cabrillo 3.0** file with header (categories, locator, score, soapbox), fixed-column QSO lines, frequencies in kHz and modes CW/PH/RD/DG/FM.

With «**Send the log...**» DecoDXLog writes the Cabrillo where you tell it and **opens the contest page**, which is where the log has to be uploaded. **The program sends nothing by itself:** you do the upload, seeing what you upload.

16. Radio, CW and rotor

16.1 The radio (CAT) — via Hamlib

Setup → Radio (CAT). DecoDXLog talks to **rigctld** (Hamlib): it reads frequency and mode, moves the VFO and controls the **PTT**. Three ways to connect: **rigctld already running**, **serial cable** (choose the Hamlib model and port: DecoDXLog starts rigctld), or **TCI** or **flrig**.

- **Find the radio:** tries ports and speeds one by one until one answers, and keeps that one.
- The **PTT** can be on another port (RTS or DTR) for those with two COM ports.
- **Split, VFO A/B, RIT and XIT** are controlled from the top bar (with rigctld, TCI and flrig).

16.2 The CW panel

Docked or in its own window (and, when detached, it **stays in front of the other windows**). It contains macros, speed, a line to send what you type and the **decoder**.

- Built-in **CW decoder** (ggmorse, MIT license): it reads the audio coming out of the radio, **finds the tone between 200 and 1200 Hz by itself** and measures the speed. On an empty band it **stays silent**: anything that does not sufficiently resemble Morse does not get through.
- The **keyer** is the radio's own.

Yaesu (FTDX10, FTDX101, FT-991, FT-891...)

For these radios Hamlib writes the text into the keyer memory (KM) and makes it play (KY). DecoDXLog therefore:

- always sends the text in **upper case** and with CW characters only (letters, digits, / ? . , = + -);
- if the radio **rejects** a message, it tells you **why** (is the radio in CW? is break-in on? is the port the right one?) and **leaves the keys enabled**;
- warns you if the radio is **not in CW** («the radio is in USB...»);
- a macro **longer than 50 characters** is flagged (a Yaesu limit).

16.3 The rotor — Ctrl+R

DecoDXLog talks to **DecoRotor** (WebSocket, port 8765) or to any **rotctld** (port 4532). **It never touches the serial port.**

- The **control post** (Ctrl+R) reproduces DecoRotor's «Control» page: indicators, dial, satellite map, CCW/CW display, six direct-key memories, steps with STOP in the middle, PARK, memory list, pointing **by degrees or by locator** (short or long path).
- **Diagnostics and gateway settings**: serial frames in hexadecimal, position trend, counters, network addresses, and the parameters written in the gateway's `config.json`.
- **From the cluster**: a spot's menu points the rotor at the degrees already calculated.
- **On the DX** you are working, by hand or **following it automatically**.
- **One antenna per band, with its offset** (*Setup* → *Rotor* → «Antennas per band»): on the same mast not all antennas point where the rotor points (a rotatable dipole mounted crosswise, a beam turned sideways...). For each band you choose the antenna in use and how many degrees to the side it points (from -180 to +180). When the radio is on that band, the dial, the degrees and the map show where **that antenna** is pointing; pointing at a bearing turns the rotor so that it is that antenna that looks there. Bands not listed stay as before. Memories, park and end stops remain positions **of the rotor**.

17. DecoDXLog Cloud

The Cloud is the **sync between devices**: the same log, the same settings, on several computers — and the log also **from the browser**.

The Cloud is **optional**. Without it, DecoDXLog works perfectly well on its own.

17.1 Access

Setup → *Sync & Cloud*: server address, **callsign and password**. DecoDXLog keeps only the token, in the keychain.

17.2 How it syncs

- One sync round: **first what has changed elsewhere, then what is in the queue.**
- **Conflicts: the last change wins**; the one that loses **stays in the history**. A local change not yet sent is **never overwritten**.
- **Deletions** travel as changes; duplicates with a different **uuid** are recognised.
- The **queue** is always visible in the top bar and in the status bar.

17.3 Not just the QSOs

Also travelling:

- the **station profiles** (with the active profile recognised by **uuid**);
- **all the settings**: theme, language, saved columns and filters, cluster, awards, automatic uploads, propagation, rotor, backups, and also ports, paths and addresses of the neighbouring programs. The second computer finds **the same station**. Settings received take effect **immediately**, without restarting;
- the **passwords of the services**, but **sealed on your computer** (AES-256-GCM, key derived from the Cloud password): what reaches the server is a block that **cannot be opened without that password**. There is a switch in *Settings* → *Sync & Cloud*.

Stays at home, and not for style: the record of what is saved in the keychain of *that machine* and the sync «notebook».

17.4 The log from the browser

It is **the same window** as the program: top bar made of blocks, three columns, the six tabs at the bottom and the status bar, with the **colours of your station**. Pick a QSO and the columns follow. Inside the tabs you find statistics, awards, QSL (with the paper queue), the record of what has arrived on the Cloud and from which device, the cluster sources and propagation. There is also the button to **download everything again as ADIF**.

The numbers are **the same on both sides**: they are rebuilt from the QSOs with the same rules, not from summary tables.

The **PDF QSL labels** and the **contest files** are made from the program: on the Cloud you see the queue, but you cannot print.

17.5 Shared log

For a club or a multi-operator contest: several operators, each with their own account, **invitations with a code**, **operator** role (sends and receives QSOs) or **viewer** (looks only).

17.6 Emptying the Cloud

In *Setup* → *Sync & Cloud* there is the command to **empty the Cloud of your callsign**: it deletes QSOs, history, profiles, settings and sealed credentials **from the server**. It cannot be undone from there, and to confirm you must **type DELETE**. The log on your computer stays where it is.

18. DecoLink: the log inside Decodium

DecoLink is the local **Decodium** ⇄ **DecoDXLog** link (TCP on `127.0.0.1`, port **52237**, loopback only). QSOs keep arriving over the UDP channel; DecoLink adds the other direction — DecoDXLog telling Decodium what is in the log:

- **the log inside Decodium**: worked and confirmed callsigns, even those that are not in its ADIF;
- **confirmation of every QSO written**, with a message in Decodium's status bar;
- **FT2 Award status** in Decodium («LOG FT2 x/y»);
- **cluster spots** inside Decodium's list and waterfall, marked;
- **tuning to a spot** requested by DecoDXLog (it never transmits).

Decodium **reconnects by itself every 5 seconds** until DecoDXLog is open. The protocol is described in [docs/DECOLINK.md](#).

19. Backups

- **Nightly copy** with **VACUUM INTO**: it works even while DecoDXLog is writing.
- **Rotating copies**: choose folder, time and how many to keep. A **copy on demand** is also available.
- **If the PC was off** at the time of the copy, it is made **as soon as DecoDXLog opens**.
- To go back to an earlier copy: *Setup* → *Backup* → «Restore a backup...».

Practical advice: point the backup folder at a **different disk** from the one holding the log, or at a synchronised folder.

20. Settings, page by page

They open with **Ctrl+,** (comma) or from the menu → **Settings...** The column on the left lists nine pages:

Page	What you find there
General	Interface language (like the system, Italiano, English, Deutsch...), <code>cty.csv</code> update, duplicate window, log row colours, ADIF logs to watch, Decodium log file, warnings.
Theme & density	Ocean Blue, Stellar Light, Darkcodium; accent variant; row density; custom colours.
Decodium link	UDP port and multicast, QSO source (LoggedADIF or QSOLogged), repeater to other programs, N1MM port, HTTP interface, list of connected DecoLink clients, frequency of log recovery.
Sync & Cloud	Server, account, sealed-credentials switch, shared log, «Empty the Cloud».
QSL services	Accounts for LoTW (with the TQSL program), QRZ Logbook, eQSL, Club Log, Wavelog; automatic upload; download of confirmations by hand or every 6/12/24 hours; QSL by email.
Callbook	Off, QRZ.com (XML) or HamQTH, with credentials.
Radio (CAT)	Connection to rigctld/TCI/flrig or serial cable, PTT, radio search, CW keyer and macro settings.
Rotor	DecoRotor/rotctld, degrees, antennas per band.
Backup	Folder, time, number of copies, «Restore a backup...».

The text fields (UDP and N1MM ports, multicast group, forwarding, HTTP interface, Cloud server, folder, time and number of copies) are saved with the **Apply** button.

21. Keyboard shortcuts

Main window

Keys	Action
Ctrl+N	New QSO (full card)
Ctrl+F	Search the log
Ctrl+,	Settings
Ctrl+I	Import
Ctrl+E	Export
Ctrl+K	DX Cluster
Ctrl+T	Activation session
Ctrl+Shift+T	Contest window
Ctrl+R	Rotor (control post)
Arrows / Enter	Move around the log / open the QSO
Esc	Drop the multiple selection

Contest window

Keys	Action
Enter	Log the QSO
Esc	Clear the fields / stop CW transmission
Space	Move to the report field
F1 - F8	CW macros
Ctrl+W	Clear the entry field (contest panel)

22. Command-line options and graphics

The options are useful for tests, for screenshots and for computers with graphics problems.

Tests and screenshots

```
DecoDXLog.exe --db prova.sqlite --port 22370      # test log, other port
DecoDXLog.exe --settings C:\prova --db prova.sqlite --port 0  # test settings
DecoDXLog.exe --import file.adi                  # import at startup
DecoDXLog.exe --theme "Stellar Light"            # choose the theme
decodxlog_udpsend.exe --port 22370               # test FT2 QSO, like Decodium
decodxlog_udpsend.exe --port 22370 --call K1AB --mode FT8 --freq 7074000 --only-qsologged
```

Other options: `--show new|qso:<id>|profiles|setup:<page>` (opens a window), `--grab file.png` (saves the screenshot and quits), `--spots`.

Graphics (rendering)

DecoDXLog uses the same modes as Decodium 4. The `--graphics` option chooses the backend:

Mode	Backend	When
auto	Metal on macOS, D3D11 on Windows, OpenGL on Linux	Normal use.
opengl	OpenGL	Recommended fallback on Linux if Vulkan/Mesa gives problems.
vulkan	Vulkan	Only with stable drivers.
d3d11	Direct3D 11	Windows (default).
d3d12	Direct3D 12	Windows, on request (about 360 MB more memory).
software	CPU renderer	Without a GPU or with problematic drivers.

Aliases: `--disable-gpu`, `--software-renderer`, `--safe-graphics`. For startup scripts there is also the `DECOXLOG_GRAPHICS_BACKEND` variable.

If the graphics fail to start, the program **reopens by itself** with the next backend: on Windows D3D11 → software, on Linux OpenGL → software, on macOS Metal → software.

23. When something goes wrong

Problem	What to check
QSOs from Decodium do not arrive	That the UDP port in <i>Setup</i> → <i>Decodium link</i> is the same as the one set in Decodium; that no other program uses the same port; the client dot in the status bar (it warns if Decodium goes silent). If you have lost QSOs, the recovery from the Decodium log picks them up within five minutes.
Duplicate QSOs appear	Check the duplicate window in Setup. With several sources active (UDP + watched ADIF log) the same call can arrive twice: use «Find duplicate QSO...».
A QSO I deleted does not come back	This is intended: QSOs deleted or corrected in DecoDXLog are not re-imported by the recovery. They can be recovered from the history.
Passwords are not saved	The system keychain is needed. Use the distributed versions, which include it.
LoTW does not upload	Check that the TQSL program is installed, that the path in Setup is right and that the <i>station location</i> matches the profile. The reason for a rejection is written on the QSO.
Confirmations do not match	Matching requires callsign, band, mode group and time within 30 minutes.
CW does not start (Yaesu)	Radio in CW mode? Break-in on? Right port? The error message says so. Max 50 characters per macro.
The radio does not respond	Try «Find the radio»; check that rigctld is running or that the COM port is not busy.
Black window / map not visible	Start with <code>--graphics software</code> or <code>--graphics opengl</code> (see chapter 22).
The rotor does not move	DecoRotor on 8765 or rotctld on 4532? Look at the Diagnostics tab of the control post.
I do not see the update	Check your connection; updates are signed and are downloaded from the Releases page.

Problem	What to check
I want to understand what is going on	Open the Activity log : everything the program does is written there, with severity colours.

If the problem persists, open a report (chapter 25) attaching the version, the operating system and what is written in the Activity log.

24. Glossary

Term	Meaning
ADIF	Standard exchange format for amateur radio logs.
Band slot	An entity+band pair (used in the DXCC Challenge).
Cabrillo	Format in which contest logs are submitted.
Callbook	Service that associates a callsign with name, QTH and locator (QRZ.com, HamQTH).
CAT	Computer control of the radio.
cty.csv	List of DXCC entities and prefixes, by AD1C.
DXCC	Award for entities (countries) worked.
FT2	Digital mode «Fast Track 2»; in ADIF it is MODE=MFSK , SUBMODE=FT2 .
Grey line	The band of dusk/dawn on the Earth.
IOTA / POTA / SOTA / WWFF	Islands, Parks, Summits, Flora and Fauna on the Air.
LoTW	Logbook of The World, the ARRL confirmation system.
Locator	The Maidenhead square (for example JN71DC).
QSL	Confirmation of a contact.
rigctld / rotctld	Hamlib's daemons for radio and rotor.
TQSL	The ARRL program that signs logs for LoTW.
WAZ / WAS / WAC / WPX	Awards: zones, US states, continents, prefixes.

25. Help, reports and credits

- **Report a problem or suggest a feature:** <https://github.com/iu8lmc/DecoDXLog/issues>
- **Latest news:** [docs/CHANGELOG.md](#) in the repository, or the Releases page.
- **Full list of features** (Italian and English): [docs/FEATURES.md](#).
- **Website:** <https://www.ft2.it/decodxlog/>
- **Do you find it useful?** You can buy the author a coffee: <https://buymeacoffee.com/iu8lmc>

Credits: DecoDXLog is written by Martino Merola IU8LMC with Salvatore Raccampo 9H1SR; support and social media by Filippo Ricci G0YCE. The CW decoder is **ggmorse** by Georgi Gerganov (MIT license); the entity list is **AD1C's cty.csv**; the map coastlines are **Natural Earth** (public domain); VOACAP is by NTIA/ITS (public domain), in J. A. Watson's voacapl version (CC0).

73 de IU8LMC.