# VarAC Log Mapper - de IU7IWT

VarAC Log Mapper is a web-based application that expands the functionality of the VarAC software. Specifically, I designed and programmed the VarAC Log Mapper to optimize the representation of VarAC incoming data so that all data is immediately available. Ideally, you use the VarAC for transmission on your computer's main monitor, and then launch the VarAC Log Mapper on a secondary monitor. It comes with a wealth of features that will simplify your connections.

The application requires no installation and runs in your favorite browser. Upon startup, you simply need to load the VarAC database, from which all data will be read in real time.
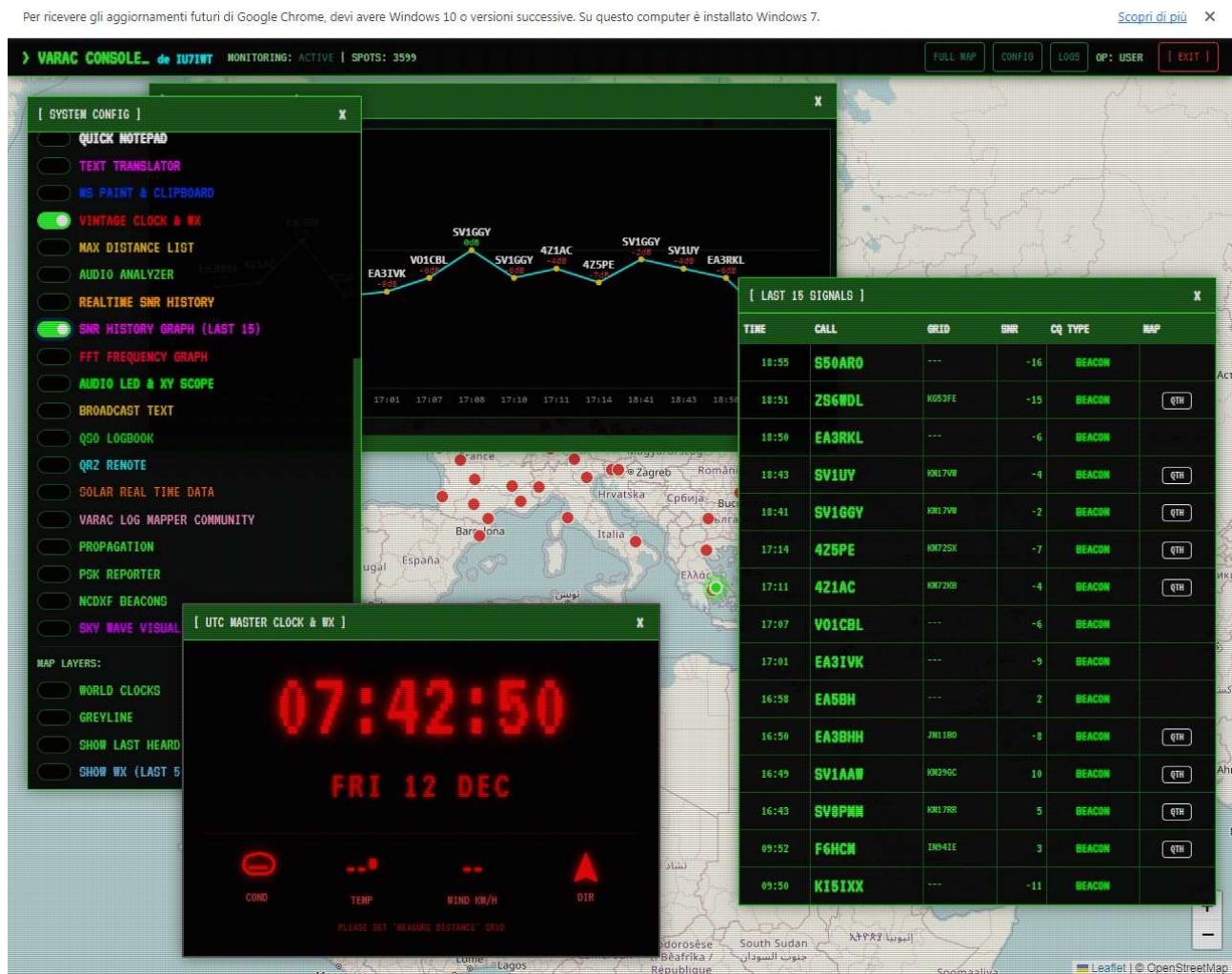
User Operation Manual

System Access

To access the console, you must authenticate using your operator credentials.

1. **Use these credentials to try the software:**
2. **call: user**
3. **password: demo**
4. Click **[AUTHENTICATE]**.

VARAC LOG MAPPER_

OS EDITION de IU7IWT

OPERATOR CALL:

USER

ACCESS PASSWORD:

••••

[AUTHENTICATE]

SYSTEM LOCKED

authenticate with:

OPERATOR CALL: user

ACCESS PASSWORD: demo
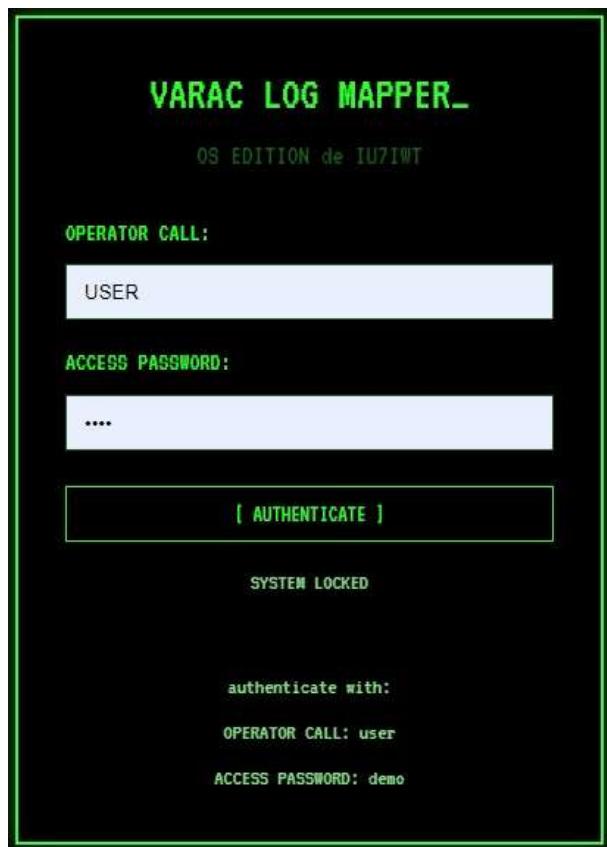
Getting Started (Crucial Step)

This dashboard runs locally in your browser using data from your computer. It does not upload your logs to a server.

To view your data:

1. Click the **CONFIG** button in the top-right menu to open the System Configuration window.
2. Click the blue button **[LOAD VarAC.db]**.
3. A file browser will open. Locate and select your c:\Varac\`VarAC.db` file (usually located in your VarAC installation folder).
4. The system will start monitoring the file. A green indicator "MONITORING: ACTIVE" will appear in the top bar.
5. *Optional:* To stop monitoring, click **[STOP MONITOR]** inside the Config window.


Interface & Window System

The interface is designed like a retro Operating System.

- **Move Windows:** You can drag any window by clicking and holding its header (top bar).
- **Open/Close Windows:** Use the toggle switches in the **CONFIG** menu to show or hide specific tools (Audio, Propagation, Solar, etc.).

Theme

- Prefer a modern look? Open **CONFIG** and toggle **LIGHT THEME**.
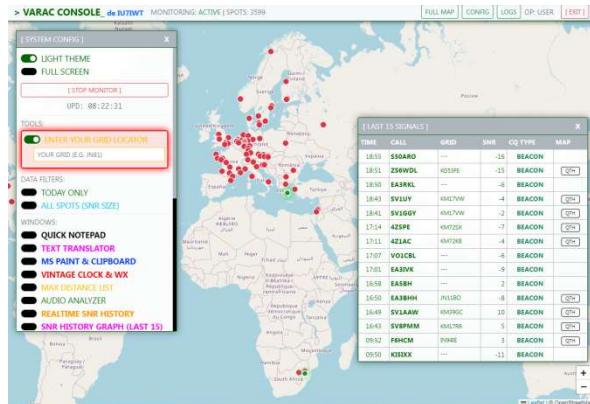
Fullscreen

- Toggle **FULL SCREEN** in Config for an immersive experience.

Configuration & Tools

Located in the `[ SYSTEM CONFIG ]` window:

Enter your grid locator fo distance Measurement and more

To calculate the distance between you and other stations:

1. Toggle **ENTER YOUR GRID LOCATION** to ON.
2. A text box will appear below it. Enter **YOUR Grid Square** (e.g., `JN81`).
3. The map will now draw a dashed line and show the distance (in KM) from your location to the latest spot received.
4. **You need to enter your grid locator to activate the Varac Log Mapper features.**
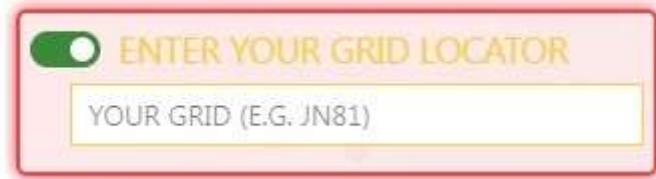

TODAY ONLY

If enabled, the map and logs will only show activity from the current day (starting at 00:00 local time).

- Green spots: Shows specific markers for 5 Last Heard .
- Red spots: Shows specific markers for all Last Heard .

ALL SPOTS (SNR SIZE)

- If enabled, all historical spots in the DB are shown. The size of the dot on the map changes based on the SNR (Signal-to-Noise Ratio).
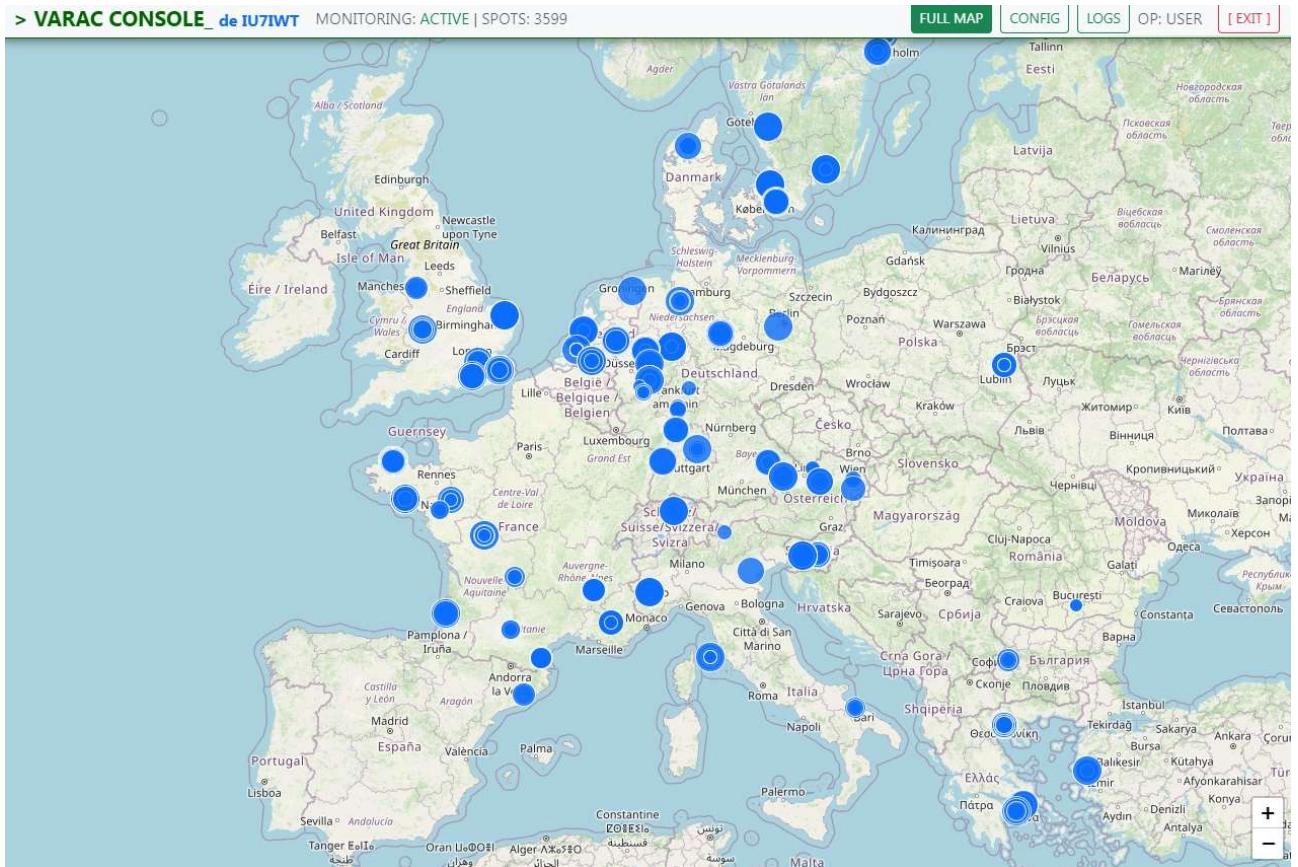
Last 15 Signals window

- Shows a quick list of the most recent spots heard.
- Displays your confirmed contacts with details (Freq, SNR, Name, QTH). *Note: You must load the DB for this to populate.*
- QTH button enabled the display of the grid map of heard calls.

[LAST 15 SIGNALS]

TIME	CALL	GRID	SNR	CQ TYPE	MAP
18:55	S50ARO	---	-16	BEACON	
18:51	ZS6WDL	KG53FE	-15	BEACON	QTH
18:50	EA3RKL	---	-6	BEACON	
18:43	SV1UY	KM17VW	-4	BEACON	QTH
18:41	SV1GGY	KM17VW	-2	BEACON	QTH
17:14	4Z5PE	KM72SX	-7	BEACON	QTH
17:11	4Z1AC	KM72KB	-4	BEACON	QTH
17:07	VO1CBL	---	-6	BEACON	
17:01	EA3IVK	---	-9	BEACON	
16:58	EA5BH	---	2	BEACON	
16:50	EA3BHH	JN11BO	-8	BEACON	QTH
16:49	SV1AAW	KM39GC	10	BEACON	QTH
16:43	SV8PMM	KM17RR	5	BEACON	QTH
09:52	F6HCM	IN94IE	3	BEACON	QTH
09:50	KI5IXX	---	-11	BEACON	

Quick notepad window

- Quick notepad: You can now take notes by typing text. Text can be deleted, copied, or pasted.

[QUICK NOTEPAD]

73 de iu7iwt

[CLEAR] [LOAD FROM FILE.TXT] [COPY] [PASTE]

Text translator window

- A text translator has been activated, which is very useful for QSOs in different languages. Text can be deleted, copied, pasted, and translated into the chosen language.
- The Bufferize button is used to queue up various texts stored at different times, and by clicking the Print button, you can print all the stored texts. The bufferize function is very useful if you want to store and print several sentences from a QSO or contact notes. The printout will also include the date and time of the various texts stored using the bufferize button.
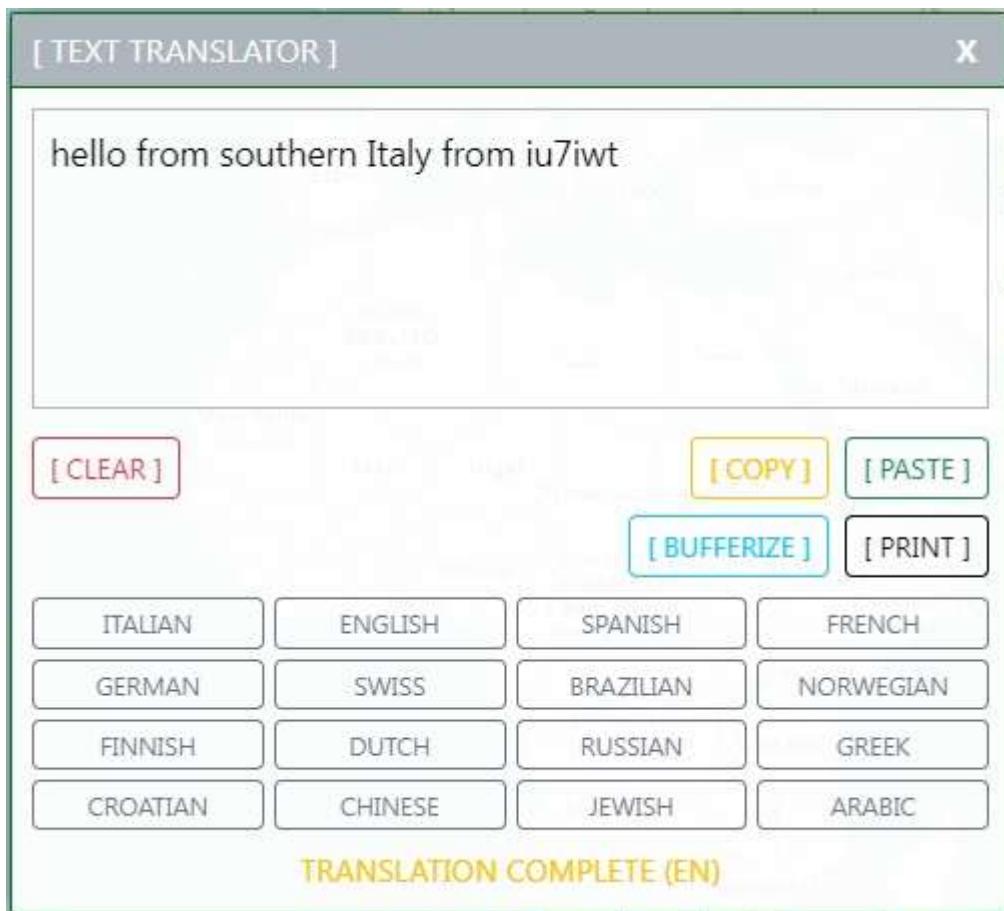
Ms Paint & clipboard window

- MS Paint & Clipboard has been added: it's a mini-paint tool where you can paste images, draw on them, write text, and save them to then post them on

the VarAc Log Mapper Community page. Text and drawings can be enlarged using the slider.

Vintage clock& WX window

A retro-style LED display showing:

- Current UTC Time and Date.
- Weather conditions (Temp, Wind, Direction) at **your** location (requires your Grid Square to be set in Config in **"ENTER YOUR GRID LOCATOR"**).

Max distance list window

- Activating this option displays a window with a list of the most distant calls.

CALL	GRID	KM
ZL2TNB	RF71CA	18112 km
K9AHO	EM12TQ	9312 km
N4WFF	EM61XM	8694 km
WJ4K	EM73BR	8521 km
N4SDN	EM90FN	8437 km
KD9VUW	EM49HW	8430 km
K1AJD	EM83XG	8282 km
W2JKT	EM95FG	8106 km
N8CMB	EM79VN	7991 km
W1NAT	EM89LX	7884 km
ZS5GJK	KG42XG	7779 km
NC3Z	FM15QD	7761 km
ZS6WDL	KG53FE	7689 km
ZS3TG	KG12MH	7679 km

Audio Spectrum Analyzer window

Visualizes audio signals from your radio:

1. Open the **AUDIO ANALYZER** window.
2. Select your input device (microphone/virtual cable) from the dropdown.
3. Click **[POWER]**.
4. Use the **ZOOM** and **GAIN** sliders to adjust the waterfall visualization.
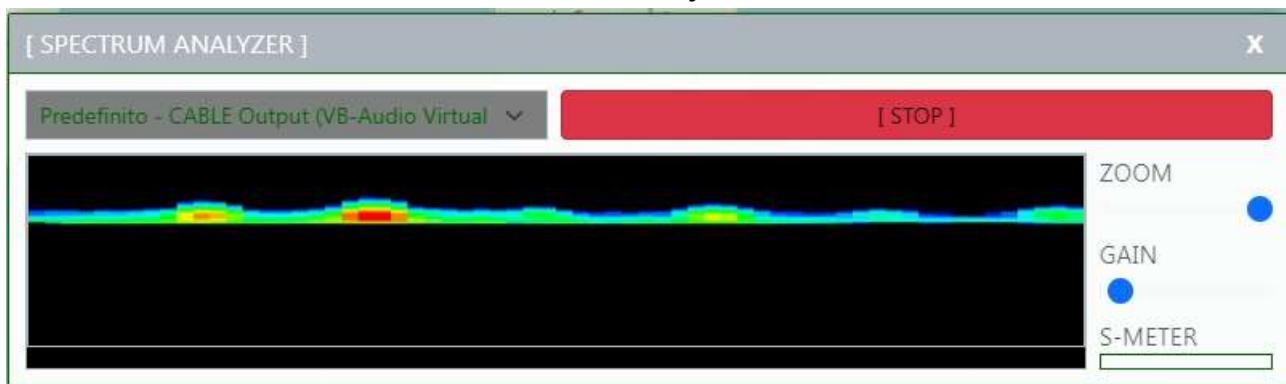
Audio snr history window

- In this window you can see a graph of the various calls with their respective SNR ratios over time.

[AUDIO SNR HISTORY]

SPEED: ● (SLOW)

REALTIME AUDIO LEVEL / SNR TREND

SNR History graph (last 15) window

- This graph shows the various SNRs received from the last 15 calls. It also shows the listening time, dB, and call.

[LAST 15 SNR HISTORY]

- If you click on a QRZ you will see a graph of the history of signals received from the selected call.
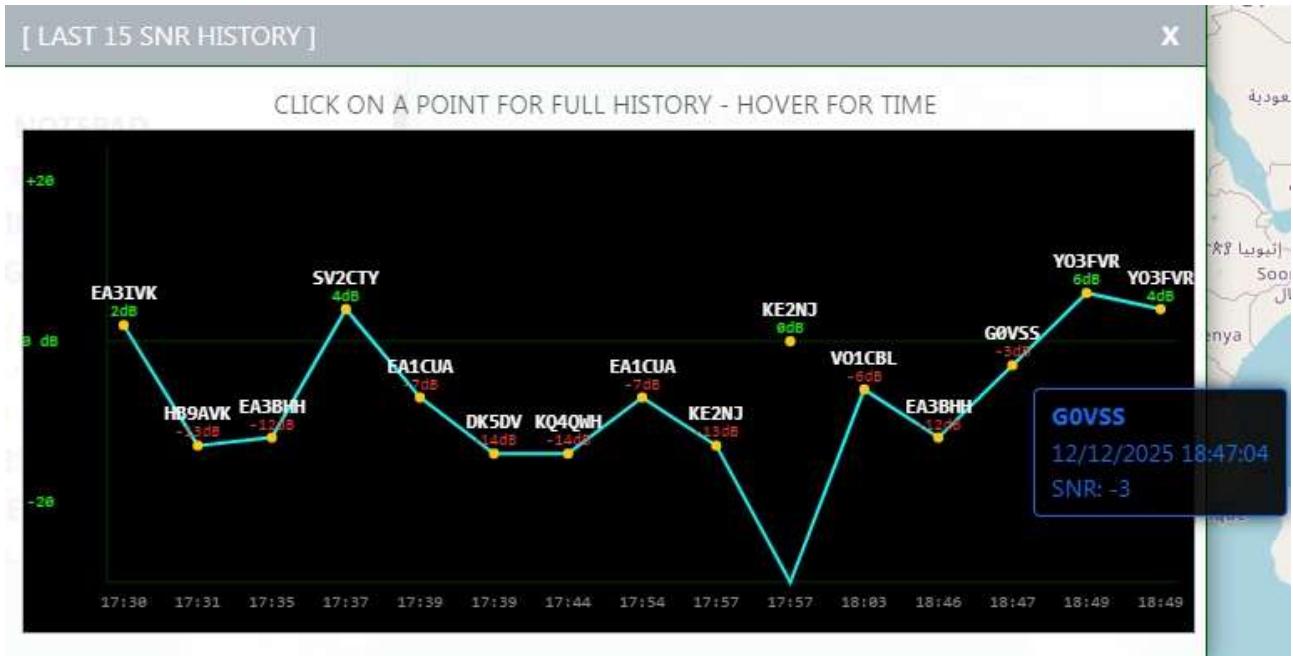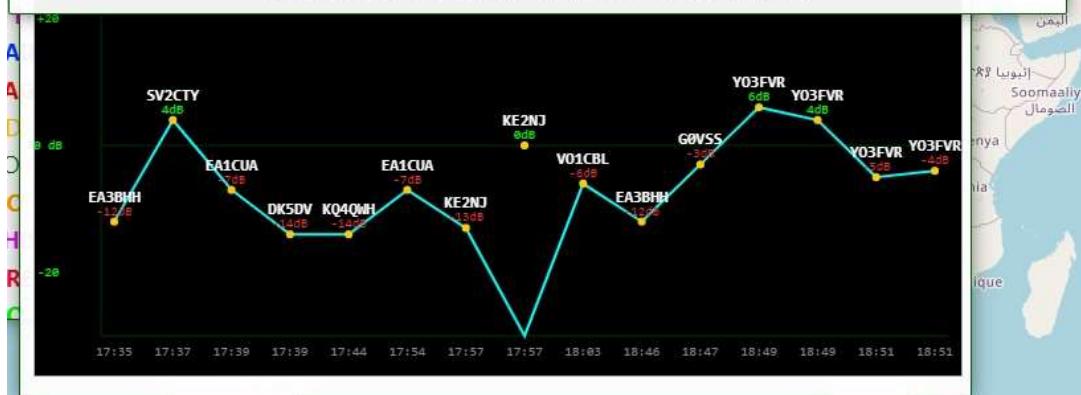
FFT Frequency Analyzer window

- Analyzes audio frequencies and dB in real time, displaying them on a graph. Useful for quickly viewing signal and dB levels.

-

Audio LED & XY Scope window

- Activating this function creates an audio signal analyzer that analyzes frequencies and displays them using LEDs. The center of the audio bandwidth is represented by the red LED. The box also displays an oscilloscope with an XY signal, useful for determining when digital signals are in phase with QRM noise.
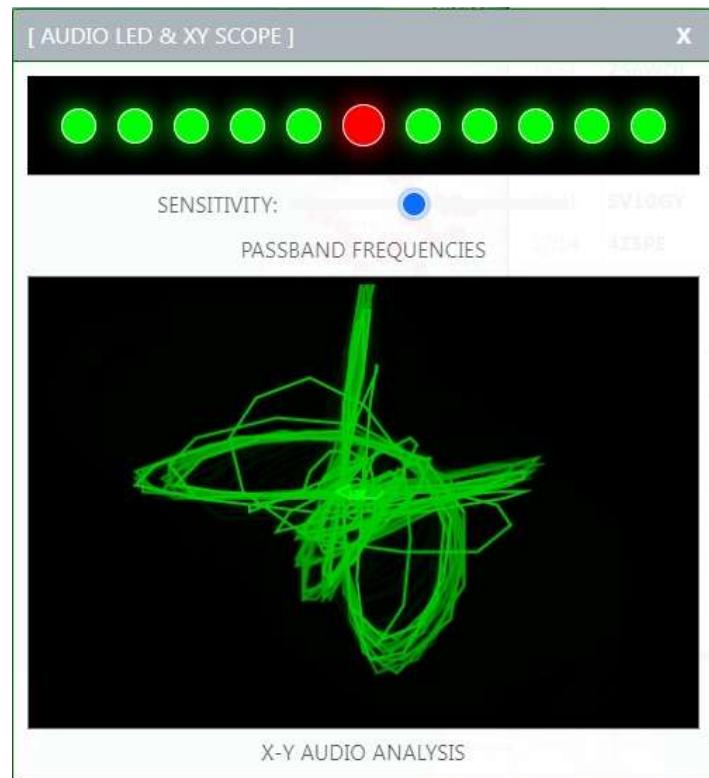
Broadcast text wondow

- In this window, you'll see all the broadcast messages and QSO messages you've had with your contacts. The messages are displayed chronologically.

[BROADCAST TEXT]   X

4/12/2025, 12:04:14   BCST
F6HCM → ALL

MIMIZAN beach 40200/ Landes department/ Nouvelle-
Aquitaine region

4/12/2025, 11:40:50   BCST
G1ZRN → ALL

Voice announcements are being transmitted. Check default
sound-card settings.

4/12/2025, 10:13:25   BCST
→ ALL

INCOMING CONNECTION REQUEST. Still don't know who that
is.

3/12/2025, 18:18:26   BCST
G1ZRN → ALL

Would 30M be better? Less SSB QRM?

Qso Logbook window

- This window displays all the QSOs you have made in date order.

| TIME	FREQ	CALL	R(RX)	R(TX)	NAME	QTH
2025-11-27 17:06:02	14.104	PE1LUP	0	-4		
2025-11-25 22:34:53	7.105	F4LYP		-9		
2025-11-25 21:34:21	7.105	IU7IWT	6	0	enzo	Ruvo di Puglia
2025-11-24 20:19:25	7.104	DF1VB	-12	-9		
2025-11-23 21:06:40	7.105	SM7OYP	9	-9	Lars	Helsingborg
2025-11-19 11:07:36	14.105	DL4DTL	4	4	Maik	Rauenberg
2025-11-18 23:17:31	7.105	4Z5PE		-12	Meir	Tsfat
2025-11-17 18:17:23	14.105	W2MX	-12	-19		
2025-11-16 08:07:43	7.106	IZ1FKS	-7	-9	Phil	Casale
2025-11-15 20:40:15	7.105	G3TXA		-16		
2025-11-15 15:11:53	14.103	DL9EAC	-15	-12	Hans-Peter	Kamp-Lintfort NE...
2025-11-14 20:23:29	7.105	PE1BMM	-4	-15	William	Obdam
2025-11-13 18:23:41	7.103	LX1XC	-17	-4	STEVE	LUXEMBOURG
2025-11-12 19:58:12	7.106	M0BLH	-21	-16		
2025-11-12 19:56:30	7.104	DL4QB		-16		
2025-11-12 18:19:17	7.105	SQ6MTB	-16	-8		

Qrz remote window

- This window is plays all the information relating to contacts who launch a beacon or make a CQ call. It displays the contact's photo, callsign, city, country with flag, local QRZ time, compass to point our directional antenna with degrees displayed, the show location button which displays the main photos of the QRZ city, the open /update QRZ popup button and the auto update popup button which, if activated, will display the qrz.com window.
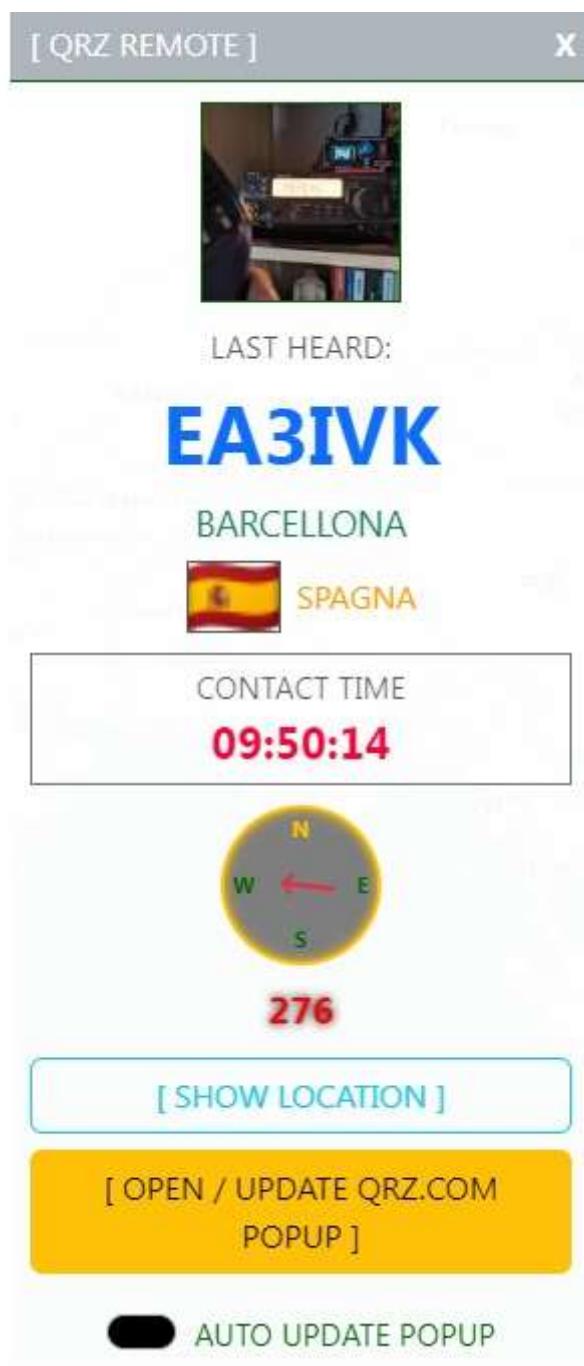
Solar real time data window

- Displays sunspot indices and geomagnetic storms that influence propagation.
- with each new call.
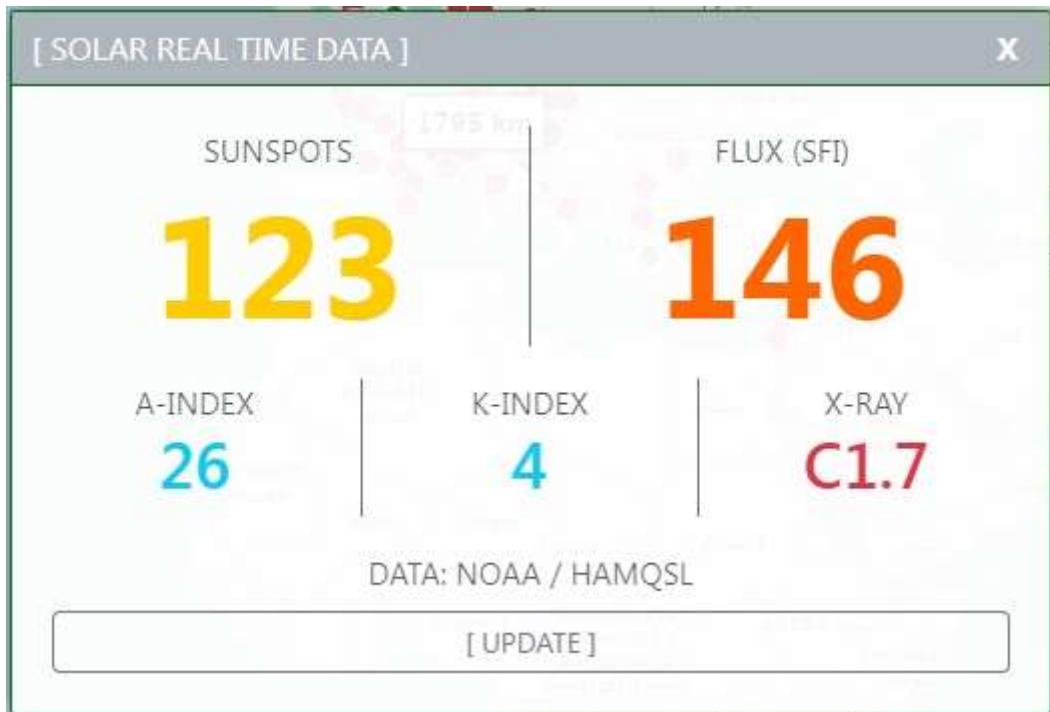
Varac Log Mapper Community window

- With this new feature, contacts can easily exchange photos. The content will be visible to all Varac Log Mapper users as it is a shared photo gallery. Photos can be uploaded from files or pasted from memory via Windows screenshots.Shared content will be automatically deleted from the server at 00:00 UTC.

[Varac Log Mapper Community]   X

> VARAC LOG MAPPER COMMUNITY_

>> SECURE IMAGE UPLINK ESTABLISHED <<

[SYSTEM NOTICE]
ALL CONTENTS OF THIS PAGE ARE AUTOMATICALLY PURGED AT 00:00 UTC DAILY.
ENSURE DATA IS SAVED LOCALLY BEFORE THE FLUSH CYCLE.

Scegli file | Nessun file selezionato

> INITIATE UPLOAD   > PASTE IMAGE

SERVER TIME (UTC): 08:53:35

> LIVE FEED GALLERY_

- Photos uploaded to the Varac Log Mapper Community are made available to all users connected to the page and are visible at the bottom of the page. Clicking on the image will display the standard resolution.

Scegli file　Nessun file selezionato

> INITIATE UPLOAD　　　　> PASTE IMAGE

SERVER TIME (UTC): 16:41:25

> LIVE FEED GALLERY_

SCANNING FOR NEW FILES...
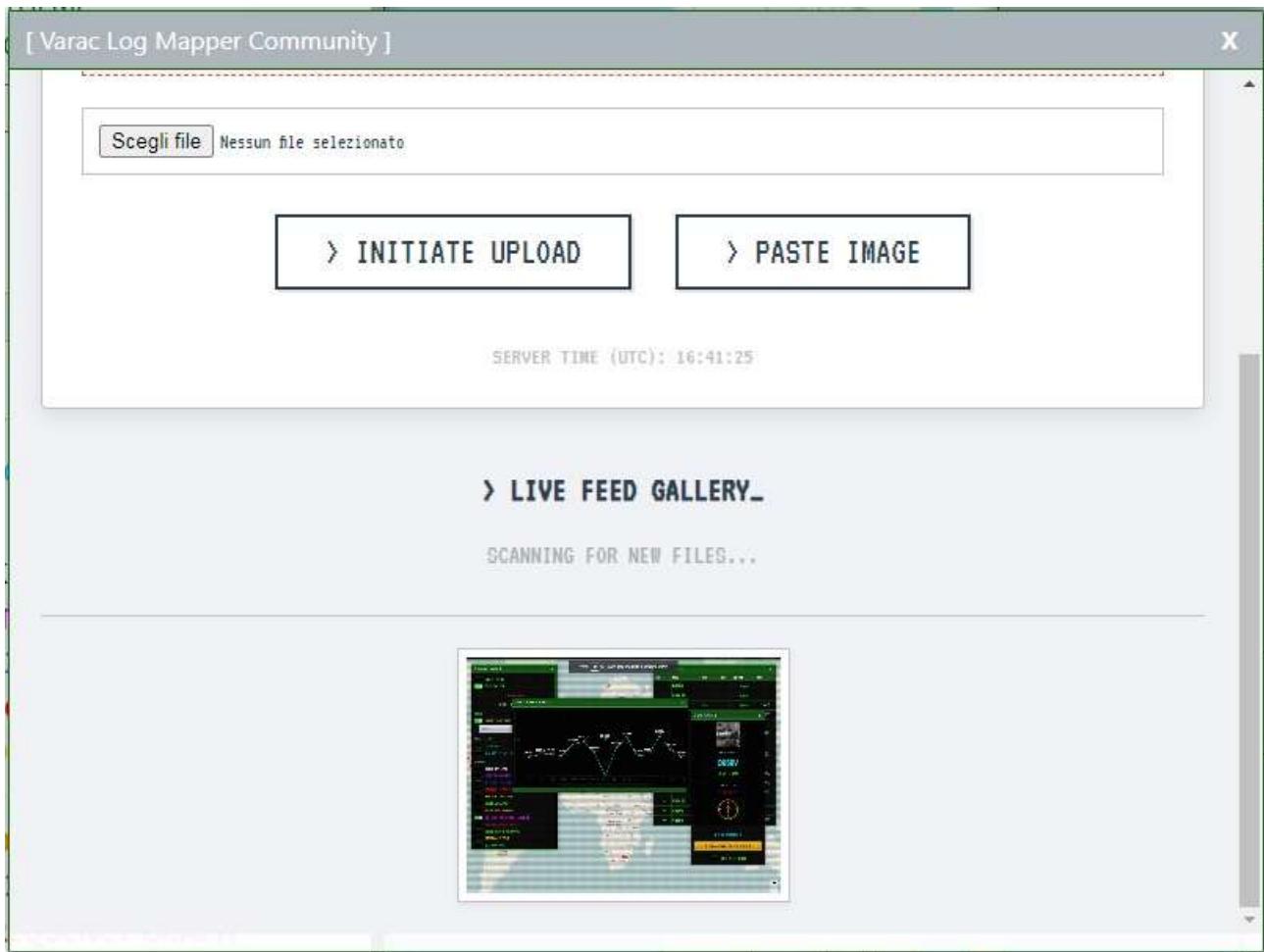
Propagation window

- Fetches real-time data from *HamQSL* to show band conditions (Day/Night) and Solar indices (SFI, A, K).

[PROPAGATION]　　　　　　　　　　　X

SFI	SN	A	K
146	123	26	4

BAND	DAY	NIGHT
80m-40m	Poor	Fair
30m-20m	Fair	Fair
17m-15m	Fair	Fair
12m-10m	Fair	Poor

Src: HamQSL

PSK Reporter

- Enter a Callsign and click **NR.SPT** to check spot counts, or **MAP** to open the PSK Reporter map directly within the dashboard.
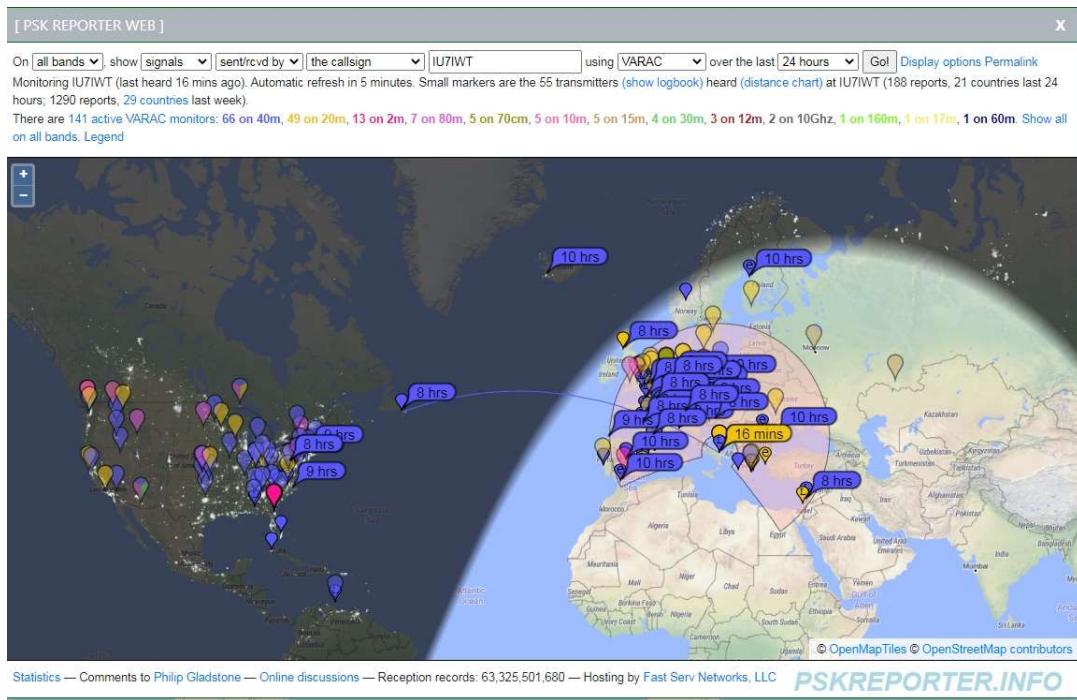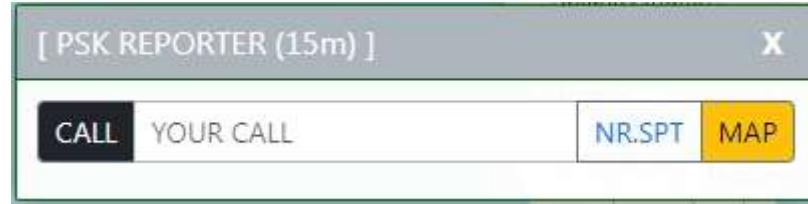

NCDXF Beacons

- Tracks international beacons. The active beacon on the selected band will blink green.

[NCDXF BEACONS]

| 14.100 | 18.110 | 21.150 | 24.930 | 28.200 |

SEQ	CALL	LOC	STATUS
10	4S7B	6.9,79.9	STBY
11	ZS6DN	-25.9,28.2	STBY
12	5Z4B	-1.3,36.8	STBY
13	**4X6TU**	**32.1,34.8**	**TX**
14	OH2B	60.2,24.9	STBY
15	CS3B	32.7,-16.9	STBY

Sky wave visualize window

- Addition of the new function for displaying skips and propagation jumps based on MUF, frequency, ionospheric height, Earth's curvature, and angle.

[SKY WAVE VISUALIZER]

OPERATING FREQ (MHz):

7,105

ESTIMATED HOPS: 1
DISTANCE: 1914 KM

ME

DX

GRAPHIC REPRESENTATION OF THE POSSIBLE JUMPS CALCULATED BASED ON THE MUF, ANGLE AND FREQUENCY.
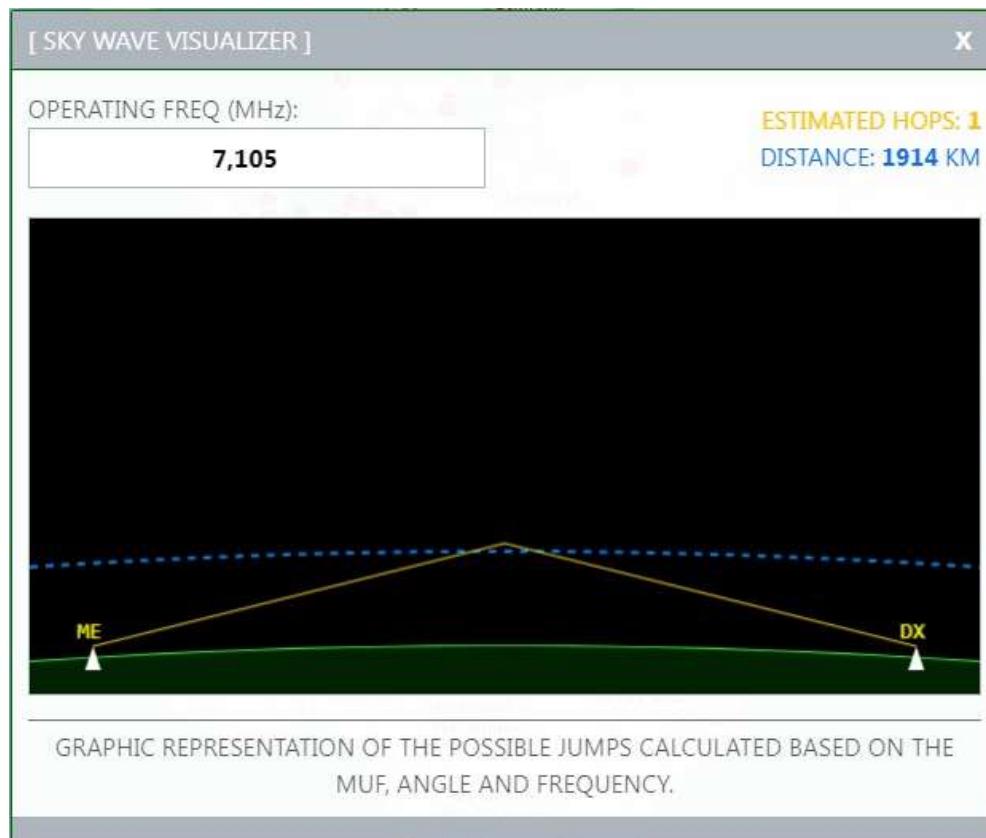
MapLayers

In the Config menu, you can toggle:

World Clocks
- Shows current time in major cities overlaid on the map.
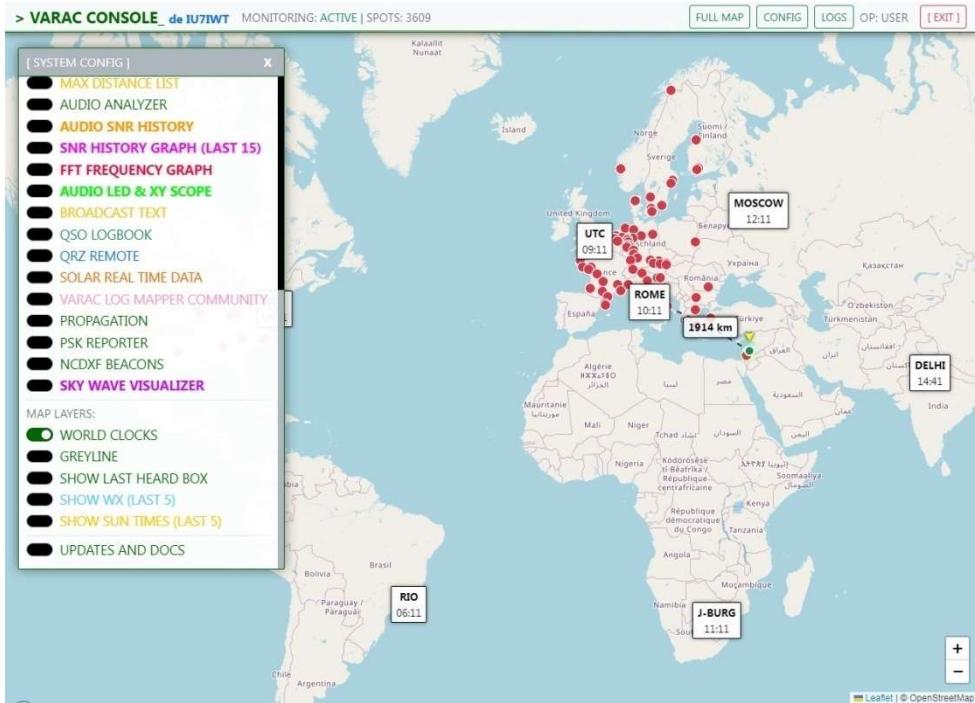
Greyline
- Displays the terminator line (day/night boundary).
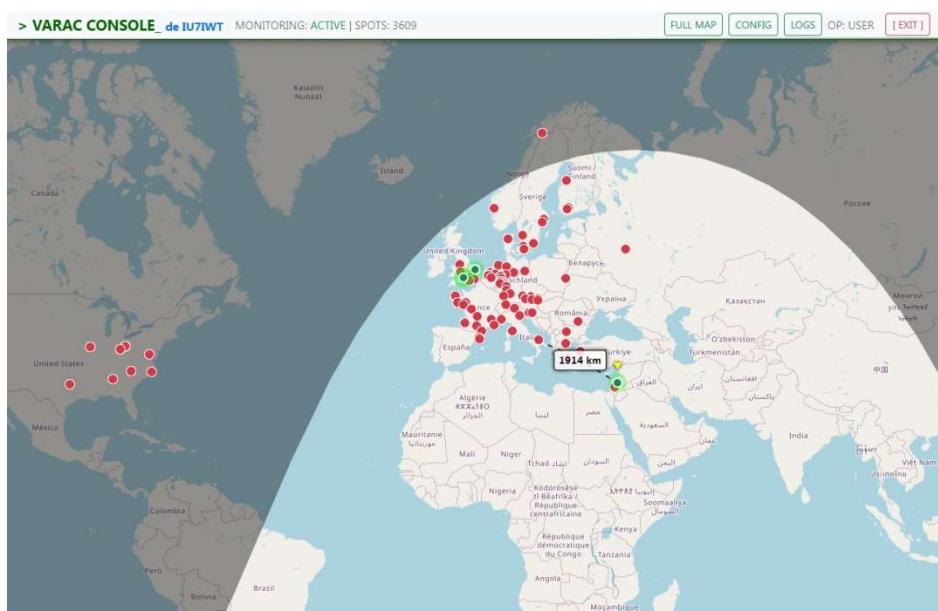
- **Show last heared box:**
    - This box displays the last 5 listens, which are displayed on the map with the green dot. The box also shows the QRZ and the SNR.

- **Show WX:** Clicking a spot on the map will attempt to fetch weather data for that location.
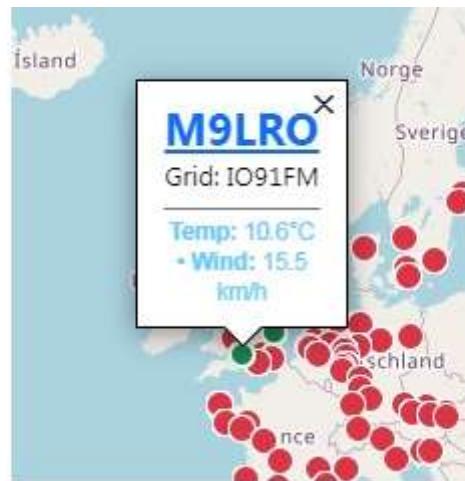

- **Show Sun Times:** Clicking a spot shows Sunrise/Sunset times for that station.

Contact info windows

- The contact info window is activated only if you are contacted or contact someone and allows you to quickly view all your contact information.
- Addition of the "qrz log" button in the contact window. This button allows you to directly access the log entry page on qrz.com.

Full map key

- A button called "Full Map" has been added to the top right bar. This activates the full-screen map and closes all windows. Clicking the button again reopens closed windows.

FULL MAP

Config Key

- activating this button activates or deactivates the configuration window.
-

CONFIG

Logs key

- activating this button activates or deactivates the last 15 calls

LOGS
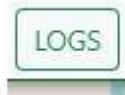
6. On-Screen Alerts

The system provides large visual overlays for specific events:

- **CQ:** Flashes when a "CQ" is detected.
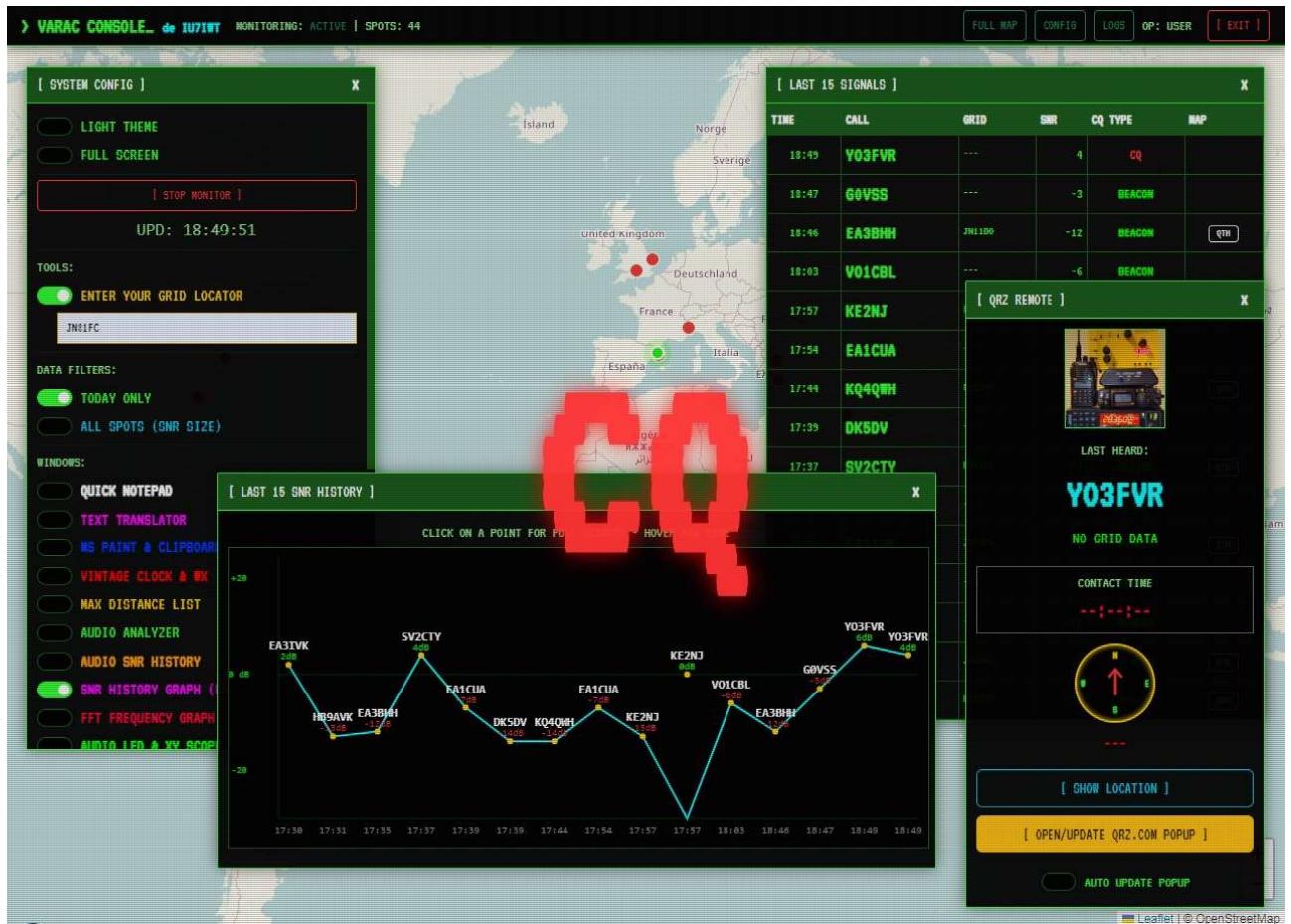
- **73:** Flashes when a "Disconnected" message is seen.
- **ON AIR:** Flashes when a connection or beacon transmission starts.
- **MAX DISTANCE REACHED:** Flashes when you break your distance record for the current session.
- **MERRY CHRISTMAS AND HAPPY NEW YEAR:** View the greeting message.

7. Technical Requirements

- **Browser:** This application uses the *File System Access API*. It works best on **Google Chrome**, **Microsoft Edge**, or **Opera** (Desktop versions). Itmaynot work on Firefox or mobile browsers.
- **Microphone/AUDIO:** You must grant microphone permission to use the Audio Analyzer.

Link to my site for the Varac log Maps project:

https://www.curiositaastronomiche.it/public/phpBB-3.3.8/PHPBB3/viewtopic.php?t=223

Link to youtube video tutorial:

https://www.youtube.com/watch?v=dDY19jaDQi0&t=297s

Link to Varac Log Mapper:

https://www.curiositaastronomiche.it/varac_db/index.php

Link to Varac software by Irad Deutsch, 4Z1AC:

https://www.varac-hamradio.com/

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