VarAC Log Mapper - OS Edition 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

1. 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]**.

2. 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.

3. 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.

4. Configuration & Tools

Located in the `[ SYSTEM CONFIG ]` window:

Distance Measurement

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.**

Data Filters
- **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).

5. Modules & Windows

Last 15 Signals / QSO Logbook
- **Last 15 Signals:** Shows a quick list of the most recent spots heard.
- **QSO Logbook:** 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.

Quick notepad

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

Text translator

- 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.

Ms Paint & clipboard

- 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

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

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

Audio Spectrum Analyzer

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 LED & XY Scope

- 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.

Realtime snr history

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

SNR History graph (last 15)

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

FFT Frequency Analyzer

- 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

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Broadcast text

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

Qso Logbook

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

Propagation& Solar

- **Propagation:** Fetches real-time data from *HamQSL* to show band conditions (Day/Night) and Solar indices (SFI, A, K).
- **Solar real time data:** Displays sunspot indices and geomagnetic storms that influence propagation.

Qrz remote

- This window displays 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 with each new call.

Varac Log Mapper Community
- 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.

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 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.

PSK Reporter & Beacons
- **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.

Sky wave visualizer

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

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.

Config Key

- activating this button activates or deactivates the configuration window.

Logs key

- activating this button activates or deactivates the last 15 calls.

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:** Flashes when you break your distance record for the current session.

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.

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