

Here is a highly detailed User Manual for **QSOLink V1.2.0**.

---

# QSOLink User Manual

## Version 1.2.0

Welcome to QSOLink, a lightweight and efficient Reflector/Hotspot client. This guide covers every aspect of the interface, configuration, and advanced audio settings.

---

## 1. The Main Interface

The screen is divided into distinct zones for quick access to essential features.

### A. The Top Bar (Controls)

From left to right:

#### 1. Connect Button (Link Icon):

- **Blinking:** Connecting.
- **Solid Link:** Connected.
- **Broken Link:** Disconnected.
- *Action:* Tap to Connect/Disconnect. If you are disconnected, tapping this opens the connection popup for the selected network.

#### 2. Network Name: Displays the name of the currently selected configuration.

#### 3. Smart TG Button (The colored rounded box):

- Displays current TalkGroup (e.g., "TG 208").
- Displays Monitoring status (Scan, Pause, or Revert Timer).
- *Short Click:* Opens the **Change TalkGroup** popup to manually enter a TG.
- *Long Press:* Opens the **Monitor/Scan Configuration** menu.

#### 4. Audio Device Icon (Phone/Headset):

- Shows the current audio output (Speaker, Wired Headset, Bluetooth, Car).
- **IMPORTANT:** If you plug in a headset or connect Bluetooth *after* the app started, **tap this icon once**. It triggers a "Force Audio Restart" to re-detect the best audio device immediately.

#### 5. Mute Button (Speaker): Toggles incoming audio On/Off.

#### 6. Menu Button (Gear): Opens the main Settings.

### B. Network Grid

Located below the Top Bar.

- Contains **10 Memory Slots**.
- **Blue/Highlighted:** Active configuration.
- **Grey:** Empty or inactive configuration.
- **Short Click:** Selects the network. If disconnected, it prompts to connect. If connected to another network, it disconnects and connects to the new one.
- **Long Press:** Opens the **Network Editor** to configure that specific slot.

### C. Status Frame (The "Ticker")

A rounded rectangle that displays real-time info:

- **Ready:** System is idle.
- **Transmitting (Red):** You are on air (shows TX timer).
- **Receiving (Green):** Shows the callsign of the person talking and their TG.
- **Scan Info (Orange):** Shows scanning status.

### D. Log & Dashboard (Middle Section)

This area has two tabs:

1. **HISTORY:** A list of recent calls received.
  - *Click a line:* View details (Callsign, Date, Duration) or look up the user on **QRZ.com**.
2. **DASHBOARD:** Shows currently active stations on monitored TGs.
  - **Mute Icon:** Mute a specific TG temporarily.
  - **JOIN Button:** Immediately QSY (switch) your TX TalkGroup to that station's TG.

### E. VU Meter

A compact bar above the PTT.

- **Left (RX):** Green bar showing incoming audio level.
- **Right (TX):** Red bar showing your microphone level. Use this to check if your Mic Gain is too high or too low.

### F. PTT Button (Push-To-Talk)

- **Green:** Ready to TX.
  - **Red:** Transmitting.
  - **Lock Icon / "RX BUSY":** The button is disabled because someone else is talking (unless "Duplex" behavior is allowed by the reflector).
-

## 2. Configuration (Network Setup)

To set up a hotspot or reflector:

1. **Long Press** an empty slot in the Network Grid.
2. Fill in the fields:
  - **Name:** A label (e.g., "Home Hotspot").
  - **Host:** IP Address or DNS (e.g., srv.reflector.com or 192.168.1.50).
  - **Port:** Usually 5300 or 5301.
  - **Callsign:** Your callsign.
  - **TG:** The default TalkGroup to connect to (e.g., 208).
  - **Password:** The hotspot/reflector password.
3. **Import from Clipboard:** If you have a JSON config string copied, paste it in the bottom field and click "IMPORT" to auto-fill.
4. Click **SAVE**.

---

### 3. Monitoring & Scanning (The "Smart TG" Button)

QSOLink includes a powerful TalkGroup monitor.

**To Configure:** Long-press the **Smart TG Button** (top center).

#### Settings:

- **Enable Switch:** Turns monitoring On/Off.
- **Mode:**
  - *Info Only:* Shows activity on screen but does not switch audio.
  - *Auto-Switch (Favorites):* Switches audio to the active TG if it is in your list.
  - *LIVE SCAN (ALL):* Listens to *any* traffic sent by the reflector (promiscuous mode).
- **Revert Delay:** If the app switches to a monitored TG, it will wait this many seconds of silence before returning to your "Home TG".

#### Adding TGs:

1. **Priority:**
  - **Normal:** Standard priority.
  - **High (+):** Interrupts Normal traffic.
  - **Max (++):** Interrupts everything (Red).
  - **Low (-):** Only listened to if channel is totally free.
2. **TG ID:** Enter the number (e.g., 91).
3. Click **ADD**.

---

## 4. Main Settings Menu (Gear Icon)

### A. SYSTEM

- **Network Quality (Jitter):** *Crucial for audio stability.*
  - *40ms - 80ms:* Only for perfect Wi-Fi.
  - *150ms - 250ms:* Recommended for 4G/LTE.
  - *400ms - 500ms:* Use in cars or areas with bad signal. Higher = more delay but fewer audio cuts.
- **Time-Out Timer (TOT):** Automatically stops transmission after 60/90/120/180 seconds to prevent overheating or blocking the channel.

### B. DISPLAY

- **Show Networks:** Toggle between 10 slots (small) or 5 slots (large).
- **Show Logo / Status Bar / Logbook:** Hide elements to save screen space.

### C. AUDIO (Advanced)

- **Mic Gain:** Hardware amplification.
  - *Adjust while watching the TX VU Meter.* The red bars should peak near the top but not hit the max constantly.
- **AGC TX (Auto Level):** Automatic Gain Control for your microphone.
  - *Enabled:* The app dynamically adjusts volume to hit the "TX Target" (e.g., -10dB). Recommended.
- **AGC RX (Limiter):** Automatic volume leveling for incoming audio. Prevents loud stations from hurting your ears.

### D. OPTIONS (PTT Config)

- **Screen PTT Mode:**
  - *PTT (Momentary):* Press and Hold to talk. Release to listen.
  - *Switch (Locked):* Tap once to talk. Tap again to stop.
- **External PTT Mode:** Same logic but for Bluetooth buttons/Headsets.
- **Bluetooth Button Setup:**
  - Enable "Bluetooth Button".
  - Click **SCAN**.
  - A popup appears ("Bluetooth Sniffer").

- Press the physical button on your Bluetooth Handmic/Headset/Pedal.
- The code appears (e.g., "Code: 126" or "Code: 79").
- Click **SAVE**.

## **E. DATA & STORAGE**

- **Backup Config (JSON):** Saves all your networks and settings to a file in your Downloads folder. Use this to transfer settings to another phone.
- **Restore Config:** Loads a previously saved JSON file.
- **Export Logbook (ADIF):** Exports your received calls history to a standard ADIF file for logging software (QRZ, LOG4OM, etc.).

---

## 5. Troubleshooting / Pro Tips

### Audio Routing Issues

If the audio is coming out of the wrong speaker (e.g., phone ear-piece instead of loudspeaker, or not going to Bluetooth):

1. Connect your Bluetooth device.
2. **Tap the Audio Device Icon** (top bar, next to Mute).
3. You will see a small animation. This forces the internal audio engine to restart and grab the correct device.

### "RX BUSY" on PTT

If the PTT button shows a lock icon and says "RX BUSY":

- This means someone is currently talking.
- QSOLink blocks TX by default to prevent "doubling" (talking over someone).
- Wait for the person to finish.

### Backing up before update

Always go to **Menu > DATA & STORAGE > EXPORT > Backup Config** before uninstalling or updating the app to ensure you don't lose your 10 memory slots.

Use Arrow Up and Arrow Down to select a turn, Enter to jump to it, and Escape to return to the chat.

Here is the **Support & Information** section, professionally translated into English, ready to be added to the end of your User Manual.

---

## 6. SUPPORT & INFORMATION

### Need Help?

If you encounter configuration issues, bugs, or have feature requests, please contact the developer:

- **Support Email:** [f4jgi.cedric@gmail.com](mailto:f4jgi.cedric@gmail.com)
- **QRZ.com Page:** <https://www.qrz.com/db/F4JGI>

### Support the Project

QSOLink is free software developed during spare time. If you enjoy using this application and wish to contribute to server costs or encourage future development, you can make a donation via PayPal:

- **PayPal Donation:** [redgis01@free.fr](mailto:redgis01@free.fr)
- *Or simply click the "Donate" link at the bottom of the main screen in the app.*

### Credits & Acknowledgments

QSOLink is an evolution based on the open-source project **Latry**.

- **Android Development & Adaptation:** Cedric F4JGI.
- **Original Core Code:** Special thanks to **Silviu YO6SAY** for his formidable work on the original Latry engine.

### Legal Information

#### QSOLink V1.2.0

Copyright © 2025 Cedric F4JGI.

This program is free software: you can redistribute it and/or modify it under the terms of the **GNU General Public License**.

*Disclaimer: This software is provided "as is", without warranty of any kind, express or implied. The author cannot be held liable for any direct or indirect damages resulting from the use of this application. Please use it responsibly and in accordance with the amateur radio regulations in your country.*

---