



# ComJoT CJ-1 Open Source Android Amateur Radio User Guide

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# ComJoT

CJ-1  
Open Source Android Amateur Radio



USER GUIDE

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## **FOREWARD**

Thank you for purchasing the ComJoT CJ-1 radio.

The ComJoT CJ-1 VHF/UHF transceiver was designed and built with ComJoT's custom Android Operating System and internal craftsmanship, combining traditional analog RF technologies with new Digital Radio technology for a balanced design and optimum usage.

With proper care, the ComJoT CJ-1 should provide you with years of reliable operation.

We thank you for making the ComJoT CJ-1 your personal radio. Since its initial development, we have dedicated our team to provide continual updates as we continue to improve the CJ-1 product and expand its capabilities.



## Features



- Android 14 Platform
- Open Source Application system with Google Play Preinstalled
- Full Multimedia Capabilities
- Fast setup with Continuous Updates for lifetime of device.

- 4G LTE
- DMR/DMRoIP/FM Radio
- PTT Key + POC Key
- 4 Inch Screen
- Camera: 8 Mega Pixel (Front), 13 Mega Pixel Rear
- 802.11 B/G/N Wireless Connectivity
- 2 Watt Front Speaker
- NFC 13.56 MHZ
- IP67: Waterproof/Dustproof/Shockproof

**Specifications**

**Connectivity**

4G LTE Bands	B1/B2/B3/B4/B5/B7/B8/ B12/B17/B20/B38/B39/ B40/B41/B66/BC0
Device Class	4

**Radio**

Frequency Bands	136-174, 350-490
RF Output Power	4 Watts
Emmission Type	FM, DMR
Operations	Digital and Analog Conventional
Encryptions	AES256
Channel Spacing	12.5, 25 kHz
Frequency Stability	± 0.5 ppm
Spurious Rejection	70 dB

**Bluetooth**

Version	5
Range	800ft/250m

**Location**

GPS	GPS/A-GPS/GLONASS/BeiDou
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**Sim Cards**

Card Type	Micro-SIM
Number of Sim Cards	2

## Audio

Audio Output	Maximum 2 Watts
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## Wi-Fi

Standards	802.11 a/b/g/n/ac
Frequency Range	2.4/5 GHz

## Specifications Cont. Hardware

Main Display	4 in. Color display, Resistant to false actuations
Memory	64GB Internal Storage 4GB RAM
SD Card	Supports up to 256GB
Camera	Front: 8 MP Rear: 13 MP

## Ruggedness

Ingress Protection	IP68
Proofing	Waterproof Dustproof Shockproof

## Physical

Size	5.83in x 2.8in x .98in
Weight	0.79 lbs

## Environmental

Recommended Operating Temperature	-35 to +70°C (-31 to +158°F)
Storage Temperature	-40 to +85°C (-40 to +185°F)
Humidity	Per MIL-STD 810
Thermal Shock	Per MIL-STD 810
Packaging Test	Per MIL-STD 810

## Battery

Capacity	3000mAh Li-ion
Power Supply	7.6 V (Nominal)

## Location

GPS	GPS/A-GPS/GLONASS/BeiDou
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## Software

Operating System	Android 14
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## DEFINITIONS

WORD	DEFINITION
DANGER!	Personal death, serious injury or an explosion may occur.
WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	Recommended for optimum use. No risk of personal injury, fire or electric shock.

## IMPORTANT INFORMATION

READ ALL INSTRUCTIONS carefully and completely before using the ComJoT CJ-1 radio.

## Supplied Accessories



## IMPORTANT INFORMATION

**DANGER!** Never short the battery pack terminals.

**DANGER!** Do not use third-party battery packs. Use only the tested and approved batteries with your ComJoT CJ-1 Radio.

**WARNING!** The ComJoT CJ-1 Radio emits RF energy. Always exercise caution when using an RF-emitting device.

**WARNING!** Ensure that no part of the antenna is touching an exposed part of your body while transmitting. Testing shows the ComJoT CJ-1 will perform best if the microphone is roughly 2-4 inches away from your mouth and the radio is held in a vertical position.

**WARNING!** Do not insert the CJ-1 radio into the charging cradle while wet.

**DO NOT** push the PTT unless you intend to transmit on the currently programmed frequency.

**DO NOT** operate the ComJoT CJ-1 near unshielded electrical blasting caps or in an explosive area.



## GETTING STARTED



## **What is DMR Radio?**

Digital Mobile Radio (DMR) is a globally recognized standard for professional mobile radio communications. Designed to meet the needs of business and industry, DMR provides a wide range of features and benefits that enhance communication efficiency, reliability, and security.

### **Key Features of DMR:**

1. **Digital Clarity:** Unlike analog systems, DMR offers crystal clear voice quality with no background noise, even at the edge of coverage areas.
2. **Enhanced Capacity:** DMR uses Time Division Multiple Access (TDMA) technology, which splits the radio channel into two time slots. This effectively doubles the capacity of a single channel, allowing for more simultaneous conversations without the need for additional frequencies.
3. **Improved Battery Life:** The TDMA technology in DMR systems allows radios to spend less time transmitting, significantly reducing power consumption and extending battery life.
4. **Secure Communication:** DMR provides advanced encryption options to ensure that your conversations remain private and secure, protecting sensitive information from eavesdropping.
5. **Versatile Applications:** DMR supports a wide range of applications, including voice calls, text messaging, GPS location tracking, and data transfer, making it a versatile solution for various communication needs.
6. **Interoperability:** As an open standard, DMR ensures interoperability between different manufacturers' equipment, providing flexibility and choice in the selection of radios and infrastructure.

## **OPEN SOURCE**



### **Commitment to Open Source**

At ComJoT LLC, we are deeply committed to the principles and practices of open-source development. This commitment is reflected in the design and functionality of the ComJoT CJ-1, our state-of-the-art Android Amateur Radio. Embracing open source not only aligns with our values but also brings a host of benefits to our users and the broader community.

### **Why Open Source Matters for the CJ-1:**

1. **Transparency and Trust:** Open-source software allows anyone to inspect, modify, and enhance the code. This transparency builds trust with our users, as they can verify the integrity and security of the software running on their CJ-1 radios.
2. **Collaboration and Innovation:** By adopting an open-source approach, we foster a collaborative environment where developers, hobbyists, and experts from around the world can contribute to the continuous improvement of the CJ-1. This collective effort drives innovation and ensures that the CJ-1 remains at the cutting edge of technology.



3. **Flexibility and Customization:** Open source provides our users with the flexibility to tailor the CJ-1 to their specific needs. Whether it's integrating new features, modifying existing functionalities, or developing custom applications, the open-source nature of the CJ-1 empowers users to make the radio truly their own.
4. **Community Support:** An active open-source community means robust support.  
Users of the CJ-1 can benefit from the shared knowledge and expertise of the community, accessing resources such as forums, documentation, and user-generated content to enhance their experience.
5. **Cost-Effectiveness:** Open-source software eliminates the need for expensive licensing fees, making high-quality technology more accessible. This costeffectiveness allows us to offer the CJ-1 at acompetitive price without compromising on features or performance.
6. **Security and Reliability:** The open-source model encourages rigorous peer review and rapid identification of vulnerabilities. As a result, the software running on the CJ-1 is more secure and reliable, benefiting from the collective scrutiny and expertise of the global open-source community.

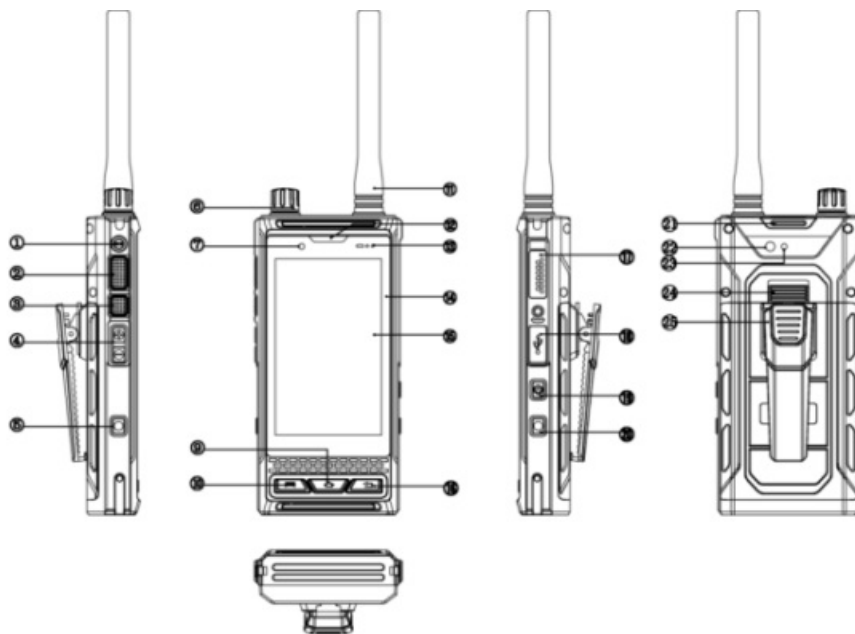
### **Commitment to Open Source**

We invite you to explore our API documentation and join our growing community of developers and enthusiasts. Your contributions and feedback are invaluable in helping us continuously improve the CJ-1.

Access the ComJoT CJ-1 API Documentation via at <http://comjot.com>

Thank you for being a part of our open-source journey and for helping us make the ComJoT CJ-1 an even better tool for amateur radio operators around the world.

### **CONTROLS**



1. SOS Key
2. PTT Key
3. Poc key
4. Volume key
5. Camera key
6. Channel knob
7. Front camera
8. Speaker
9. Home key

10. Menu key
11. Intercom antenna
12. Receiver
13. Indicator light
14. Screen
15. TP
16. Back key
17. M6 port
18. Charger port
19. Power key
20. Video record key
21. Lanyard hole
22. Rear camera
23. Flash light
24. Battery cover buckle
25. Back clip

## Compatible with Your Favorite Apps

The ComJoT CJ-1 is an innovative amateur radio that integrates seamlessly with the Android ecosystem, transforming your radio experience. This cutting-edge device runs on the Android platform, offering unparalleled versatility and functionality by supporting any Android app.

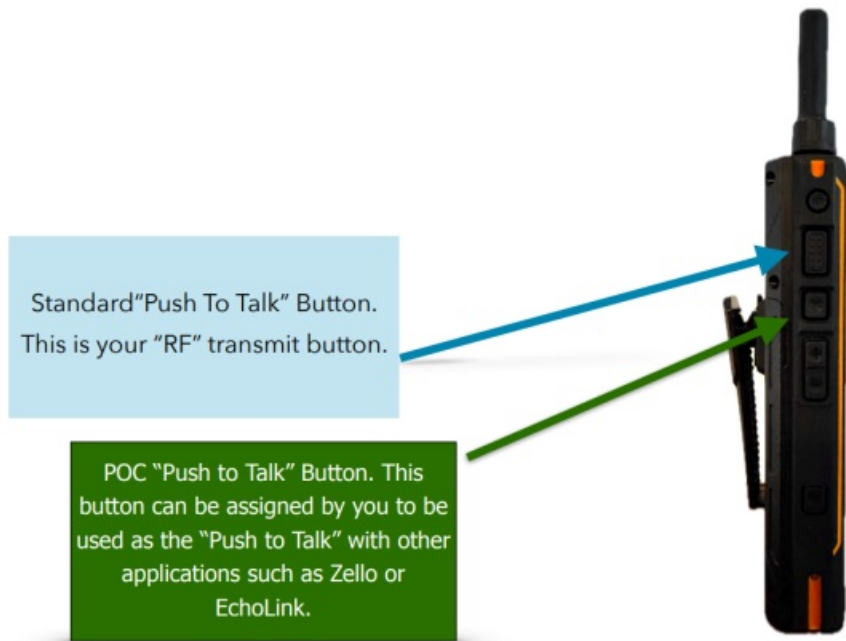
### Key Features and Benefits

- **Android Integration:** The CJ-1's Android OS allows you to use a vast array of apps available on the Google Play Store, ensuring you can enhance and customize your amateur radio experience like never before.
- **App Compatibility:** Here are some of the popular apps that work perfectly with the CJ-1:
  - **EchoLink:** Connect to the EchoLink network, which links amateur radio stations worldwide using VoIP (Voice over Internet Protocol). With EchoLink, you can communicate with other hams globally from your CJ-1.
  - **RepeaterBook:** Access a comprehensive directory of repeaters worldwide. RepeaterBook provides essential information on repeater locations, frequencies, and offsets, ensuring you stay connected wherever you go.
  - **Zello:** Transform your CJ-1 into a powerful push-to-talk (PTT) device with Zello. This app turns your radio into a real-time voice communication tool, perfect for group communications and emergency use.
  - **Ham Radio Deluxe:** Utilize this all-in-one software suite for radio control, logging, and digital modes. It brings advanced capabilities to your CJ-1, making it a versatile tool for serious amateur radio enthusiasts.
  - **APRSdroid:** This app enables real-time tracking and messaging using the APRS (Automatic Packet Reporting System) network. APRSdroid is ideal for keeping track of your location and sending/receiving messages over the APRS network.
- **Enhanced User Experience:** With a familiar Android interface, the CJ-1 is user-friendly and intuitive. You can easily navigate through apps, settings, and features, ensuring a smooth and enjoyable user experience.



## Understanding 2 PTT Buttons

The ComJot CJ- 1 in its modern engineering design contains two “Push to Talk” buttons for your use with different Android applications.



## Powering on your CJ-1

To Power on your ComJoT CJ-1, Press and hold the power button for 2-3 seconds. Next, the images below will appear on the screen. This confirms that the radio is booting into its Android Operating System.



## First Time Setup – Registration

To begin using your ComJoT CJ-1, you need to provision your radio by launching the ComJoT Radio application and following a few essential steps. This process ensures your device is configured correctly for optimal performance. Here's a simple guide to help you get started:

### **Step 1: Open the ComJoT Radio Application**

1. Locate the App: Find the ComJoT Radio application icon on your CJ-1's home screen or in the applications menu.
2. Tap to Open: Tap the ComJoT Radio icon to open the application and start the setup process.

### **Step 2: Confirm the Permissions**

1. Permission Requests: When you first open the ComJoT Radio application, it will ask for permissions to access features like your location, microphone, and contacts.
2. Review Permissions: Carefully read each permission request.
3. Grant Permissions: Tap "Allow" or "Accept" for each permission to ensure the app can fully utilize your CJ-1's features.

### **Step 3: Enter the Registration Information**

1. Registration Prompt: After confirming permissions, the app will prompt you to enter your registration information.
2. Required Information: Enter details such as your name and email address accurately.
3. Submit Registration: Once you've filled in the required fields, tap "Submit" or "Register." The app will process your information and complete the registration.

### **Step 4: Initial Setup**

1. Configuration Settings: Follow any additional on-screen instructions to customize your preferences.
2. Network Connection: Ensure your device is connected to a reliable network (Wi-Fi or cellular) to download necessary updates and complete the setup.

### **Step 5: Ready to Use**

1. Completion Message: Once all steps are completed, you will receive a confirmation message indicating that your ComJoT CJ-1 is ready to use.

## **DMR RADIO**



## **UNDERSTANDING DMR RADIO IDS**

## What is a DMR Radio ID?

A DMR (Digital Mobile Radio) Radio ID is a unique identifier assigned to each user of a DMR network. This ID is crucial for operating on DMR systems, as it ensures that each transmission can be accurately identified and managed within the network. Here are some key points about DMR Radio IDs:

- **Unique Identification:** Just like an amateur radio callsign, a DMR Radio ID uniquely identifies an operator within the DMR network. It is essential for maintaining organized and efficient communication.
- **Digital Communication:** DMR technology provides high-quality voice communication and supports data transmission, making it a popular choice for amateur radio operators, commercial users, and public safety organizations.
- **Operational Requirement:** To transmit on most DMR networks, you must have a registered DMR Radio ID. This ID is programmed into your DMR radio and used to identify your transmissions on the network.

## Why Get Your DMR Radio ID from RadiolD.net?

RadiolD.net is the premier platform for obtaining and managing DMR Radio IDs. It is recognized globally and widely used by the amateur radio community for several compelling reasons:

### First Time Setup – DMR ID – Optional

To fully utilize the capabilities of your ComJoT CJ-1, you will need a unique DMR ID. This ID is essential for identifying your device on the Digital Mobile Radio (DMR) network, enabling effective communication with other users. Follow these steps to obtain your DMR ID from [RadiolD.net](https://radiold.net).

#### Steps to Obtain Your DMR ID:

1. Visit RadiolD.net:
  - Open your web browser and go to [RadiolD.net](https://radiold.net).
2. Create an Account:
  - Click on the “Register” button on the homepage.
  - Fill in the required information, including your name, email address, and password. Ensure that the information you provide is accurate and complete.
3. Verify Your Email:
  - After submitting your registration details, you will receive a verification email from [RadiolD.net](https://radiold.net).
  - Open the email and click on the verification link to activate your account.
4. Login to Your Account:
  - Once your account is verified, log in using your email address and password.
5. Apply for a DMR ID:
  - Navigate to the “Request DMR ID” section.
  - Complete the application form with the necessary details, such as your callsign (if applicable), name, address, and contact information.
6. Submit Your Application:
  - Review your application to ensure all details are correct.
  - Click the “Submit” button to send your application for review.
7. Approval Process:
  - The team at RadiolD.net will review your application. This process typically takes a few days.
  - Once approved, you will receive an email notification with your unique DMR ID.

## First Time Setup – Loading DMR Database

Upon successfully completing the registration of your ComJoT CJ-1, you will be prompted to download the complete DMR Database. This essential step ensures that your device is equipped with the latest information and can operate seamlessly within the global DMR network.

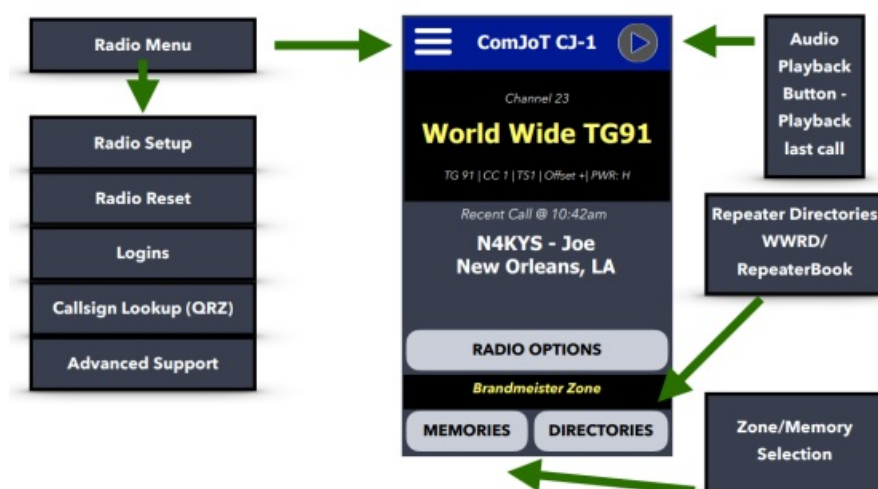
### What is the DMR Database?

The DMR Database contains a comprehensive list of DMR IDs and associated information, sourced from RadioID.net. This data is crucial for enabling effective communication and ensuring compatibility with other DMR users worldwide.

### Steps to Download the DMR Database:

1. Prompt for Download:
  - After completing the registration process, a prompt will appear on your screen, asking you to download the DMR Database.
2. Stable Connection:
  - Ensure your ComJoT CJ-1 is connected to a stable Wi-Fi or cellular network. A reliable internet connection is necessary to download the database quickly and efficiently.
3. Initiate Download:
  - Tap the “Download” button to start the process. The application will connect to RadioID.net and retrieve the latest DMR Database.
4. Download Speed:
  - The download should only take a few seconds if you have a strong internet connection. The database is optimized for fast and efficient downloading.
5. Automatic Integration:
  - Once the download is complete, the DMR Database will automatically integrate with your ComJoT CJ-1. This integration ensures that your radio has access to the latest DMR IDs and can communicate effectively with other devices on the network.

## COMJOT APP DISPLAY



## SETTING A FREQUENCY

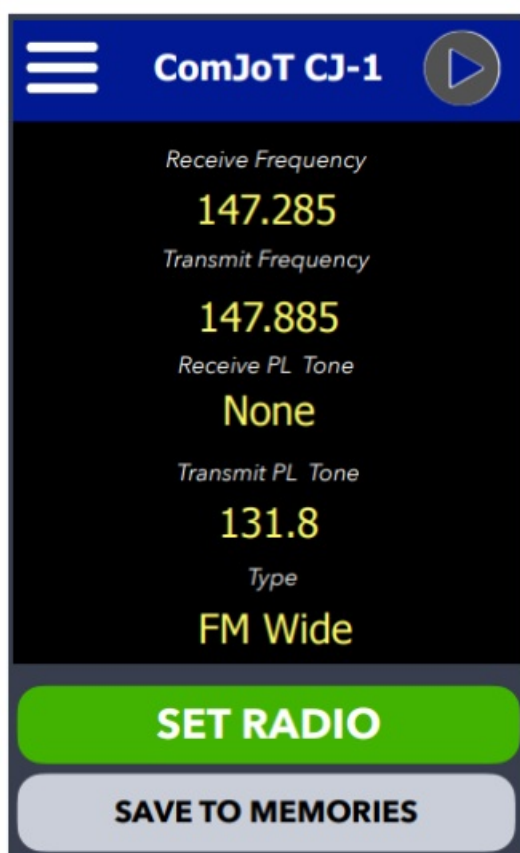
The ComJoT CJ-1 allows you to manually input frequencies, giving you precise control over your radio communications. This feature is particularly useful when you need to access a specific frequency that isn't pre-

programmed or stored in your device's memory.

#### Steps to Manually Input Frequencies:

1. Access the Frequency Input Mode by clicking the Frequency or channel name in the main display:
  - Open the ComJoT Radio application on your device.
2. Enter the Desired Frequency:
  - Use the on-screen keypad to input the desired frequency.

Ensure you enter the frequency accurately, including all necessary decimal points.
3. Confirm the Frequency:
  - After entering the frequency, review it to ensure it is correct.
  - Tap the “Set Radio” to set the frequency.



## MEMORY MANAGEMENT

### Introduction to Memory Management on the ComJoT CJ-1

The ComJoT CJ-1 is a pioneering device in the realm of amateur radio technology, offering a seamless integration of traditional radio functionality with modern Android capabilities. One of the standout features of the CJ-1 is its comprehensive and highly intuitive memory management system. This system is meticulously designed to cater to both novice users and experienced operators, ensuring that everyone can efficiently organize, access, and utilize their stored data with ease.



## The Importance of Memory Management

In the world of amateur radio, the ability to quickly and accurately access various frequencies, settings, and configurations is paramount. Whether you're engaging in routine communications, participating in emergency response operations, or exploring new frequencies, having a reliable and well-organized memory management system can make a significant difference. The ComJoT CJ-1 excels in this aspect by providing a robust platform that allows for the storage and management of thousands of memories, ensuring that your important data is always at your fingertips.

## Recalling a saved memory



## MEMORIES-MENU

The ComJoT CJ-1's memory management system is designed to be intuitive and user-friendly, providing you with various options to organize and control your stored data effectively. Here's how you can manage your memories:

### 1. Selecting Your Zone:

- **Zones:** A Zone is a grouping of memories that you can organize based on your preferences or operational needs. For instance, you might create separate zones for local repeaters, DX contacts, or specific events.
- **Selecting a Zone:** From the Memories menu screen, you can easily navigate through different zones. Simply select the desired zone to access its stored memories.

### 2. Renaming or Deleting a Zone:

- **Renaming:** Customize your zones by renaming them to reflect their purpose or contents. This makes it easier to identify and manage your memory groups.
- **Deleting:** Remove any unwanted or obsolete zones to keep your memory management clean and efficient. Deleting a zone will also remove all memories associated with it.



## Cloud Save and Restore Memories

The ComJoT CJ-1's cloud memory features provide a powerful and convenient way to manage your data. These features ensure that your settings and memories are not only securely backed up but also easily accessible across multiple devices. Whether you're setting up a new unit, recovering lost data, or simply ensuring your information is safe, the cloud save and restore functions offer unmatched flexibility and peace of mind.

### Cloud Save Memories

#### 1. Saving to the Cloud:

- **Data Security:** Ensure your valuable data is secure by saving your memories to the cloud. This feature allows you to back up your settings and memories, providing peace of mind in case of device loss or damage. Your configurations, frequencies, and other essential data are safely stored, protecting against unforeseen events.
- **Access Anywhere:** With cloud storage, you can access your saved memories from any device, ensuring continuity and convenience across multiple ComJoT CJ-1 units. This means you can seamlessly transfer your settings from one device to another, or quickly set up a new device with your preferred configurations.

### Cloud Restore Memories

#### 1. Importing from the Cloud:

- **Easy Restoration:** Easily restore your cloud-saved memories to your ComJoT CJ-1. This is particularly useful when setting up a new device or recovering lost data. By simply accessing your cloud storage, you can quickly import all your saved memories, ensuring minimal disruption to your operations.
- **Synchronization:** Keep your memories synchronized across multiple devices by regularly updating and restoring from the cloud. This feature ensures that all your devices are always up-to-date with the latest settings and configurations, providing a consistent experience no matter which ComJoT CJ-1 unit you are using.

The cloud save and restore features of the ComJoT CJ-1 enhance the usability and security of your amateur radio operations, making it easier than ever to manage and protect your data. With these powerful tools at your disposal, you can focus on enjoying seamless communication without worrying about data loss or device configuration issues.

## Location Override – Menu Item

The ComJoT CJ-1 offers a versatile Location Override feature, enabling you to manually set your device's location. This is particularly useful when you need to find local repeaters for a secondary location, such as when planning a trip or preparing for an event in a different area. By overriding the device location, you can access repeater information for any specified location, enhancing your operational flexibility.



### Using the Location Override

To manually set your device's location and view local repeaters in the area of your choice, follow these steps:

### 1. Enter Location Details:

- Address, City Name, or Zip Code: Input the full address, city name, or zip code of the desired location into the top line of the location entry field.
- Latitude and Longitude: Alternatively, you can enter the precise latitude and longitude coordinates of the location for more accurate results.

### 2. Disable Automatic Location Detection:

- Uncheck Allow Device to Use Current Location: To use the manually entered location, uncheck the option that allows the CJ-1 to use your device's current location.

### 3. Set the Location:

- Click SET LOCATION: After entering the desired location details and disabling automatic location detection, click the "SET LOCATION" button to override your device's location.

## Amateur Radio Callsigns

Amateur radio callsigns are unique identifiers assigned to licensed amateur radio operators. These callsigns serve as an essential part of radio communication, ensuring that operators can be easily identified and their transmissions can be tracked for regulatory and safety purposes. This section will provide a comprehensive overview of amateur radio callsigns, including their structure, purpose, and the process of obtaining one.

### The Structure of Callsigns

Amateur radio callsigns are composed of a combination of letters and numbers, following a specific format. The structure of a callsign typically includes the following elements:

1. Prefix: The initial letter(s) of the callsign, which indicate the country or region where the operator is licensed. For example, "K", "N", and "W" are common prefixes for the United States, while "G" is used for the United Kingdom.
2. Numerical Digit: Following the prefix, a numerical digit is included. This digit often indicates the specific region within the country where the license was issued. For instance, in the United States, the digit ranges from 0 to 9, representing different call areas.
3. Suffix: The final part of the callsign consists of one or more letters, which uniquely identify the individual operator.



Example: A typical US callsign might be "K5XYZ," where "K" is the prefix, "5" is the region number, and "XYZ" is the unique identifier.

## Callsign Lookup – menu Item

The ComJoT CJ-1 includes a robust Callsign Lookup feature designed to provide you with the most up-to-date information about amateur radio operators directly from the FCC's database.

This feature is essential for verifying the credentials and details of fellow operators, ensuring that your communications are always legitimate and compliant with regulations.



### Using the Callsign Lookup

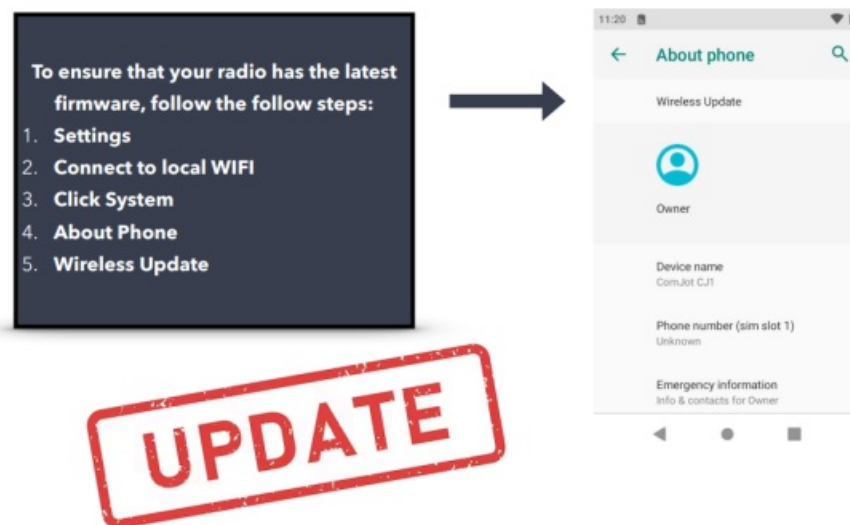
To use the Callsign Lookup feature, navigate to the menu option dedicated to this function. Here, you can enter the callsign of any amateur radio operator to retrieve their latest information from the FCC database.

#### Information Displayed

Upon entering a callsign, the system will fetch and display the following details:

- **Callsign:** The unique identifier assigned to the radio operator by the FCC.
- **Address:** The registered address of the operator, which can be useful for identifying the geographical location and for record-keeping.
- **License Class:** The class of the operator's license, such as Technician, General, or Extra, indicating their level of certification and the frequencies they are authorized to use.
- **Codes:** Additional codes related to the operator's license, which might include special permissions or endorsements.

### Updating your Radio



### Online Programming – Cloud Memories

#### Comprehensive Cloud Storage

##### 1. Secure Backup:

- **Peace of Mind:** The cloud storage feature ensures that all your ComJoT CJ-1 memories and settings are backed up regularly. This means that in the event of device loss, damage, or data corruption, you can quickly restore your information without losing any critical data.
- **Automatic Sync:** Whenever you make changes to your radio settings or add new memories, these updates are automatically synced to the cloud. This continuous backup process ensures that your data is always current and protected.

## 2. Easy Restoration:

- Effortless Recovery: If you ever need to restore your radio's settings, the process is straightforward. Simply access the cloud storage through your ComJoT CJ-1, and you can download your backed-up memories and configurations instantly.
- Device Replacement: In case you upgrade to a new ComJoT CJ-1 or need to replace your device, the cloud storage



## Online Programming Cont.

Once logged in you can manage your “Cloud Memories”.

Choose Zone – Select the Zone you would like to edit.

Rename Zone – Change the Name of the zone.

Delete Zone – Removes the Zone you are working on.

New Zone – Create a new Zone of memories.

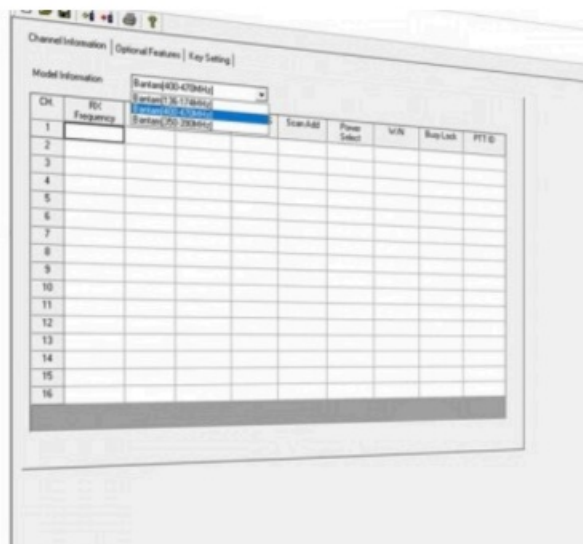
Add Preset Zone – Add a new zone with preconfigured set of frequencies. This can include: FRS, GMRS, MUHRS, Marine, Offroad, UHF.

New Memory – Create a new cloud memory channel.

Backup to File – Saves your cloud memories to a file on your computer.

Choose File – Select the backed up file from your computer to be restored into the cloud.

Restore from File – Upload the memories from your chosen file into the ComJoT Cloud.



## Online Programming Cont.

Editing your ComJoT Cloud Memory.

New Memory – Placeholder for Channel Name

Callsign – Subtext to channel name, i.e Repeater Callsign or Location

Output – RX or Receive Frequency

Offset Sign – Frequency Offset (+, -, blank)

Offset – Frequency Offset (0.600, 5.00)

## Type – Channel Type

- DMR – Digital DMR Mode
- FM – FM Wide (25k Spacing – Standard for Amateur Radio)
- FM-N – FM Narrow (12.5k Spacing – Standard for Non-Amateur Radio Frequencies)

Color Code – DMR Color Code

PL – Transmit PL

DCS – Transmit DCS Code

Receive PL – Receive PL

Receive DCS – Receive DCS Code

Time Slot – DMR Time Slot (1 or 2)

Group – DMR Talkgroup

**NOTE:** TG 98 – Testing Talkgroup

TG 91 – World Wide Talkgroup

TG 3100 – US Nationwide Talkgroup

## ROIP VIA DROIDSTAR

DroidStar is an innovative application designed for Android devices, enabling users to connect to and use digital voice modes such as DMR, D-STAR, Yaesu System Fusion (YSF), NXDN, P25, and M17. These digital modes are essential for modern amateur radio communications, offering clear audio quality and robust data transmission capabilities. DroidStar simplifies the process of accessing these modes, providing an easy-to-use interface that can be operated from any Android device, including the ComJoT CJ-1.

### **Compatibility with the ComJoT CJ-1**

The ComJoT CJ-1's integration with the Android operating system makes it an ideal platform for running DroidStar. Here's how DroidStar enhances the functionality of the CJ-1:

- **Seamless Integration:** The CJ-1's Android OS ensures that DroidStar runs smoothly, providing users with a reliable and efficient way to access digital voice modes. The app's interface is fully compatible with the CJ-1's touchscreen, making it easy to navigate and use.
- **Extended Capabilities:** By using DroidStar on the CJ-1, operators can tap into digital voice networks that were previously only accessible through specialized hardware. This expands the range of communication options available on the CJ-1, making it a versatile tool for amateur radio enthusiasts.
- **User-Friendly Interface:** DroidStar's intuitive interface is complemented by the CJ-1's ergonomic design and responsive touchscreen. This combination ensures that users can quickly connect to digital voice modes and manage their settings with ease.
- **Portable Digital Communications:** The CJ-1's portability, combined with DroidStar's digital voice capabilities, allows operators to stay connected wherever they go. Whether you're in the field, at home, or on the move, the CJ-1 with DroidStar provides robust and flexible communication options.



## Echolink – Talk around the world



EchoLink is a powerful application designed for amateur radio operators, enabling users to connect with other operators worldwide using Voice over Internet Protocol (VoIP). By linking radio stations over the internet, EchoLink facilitates seamless global communication, providing clear audio quality and robust connectivity. The app is user-friendly and can be operated from any Android device, including the ComJoT CJ-1, making it an essential tool for modern amateur radio communications.

### **Compatibility with the ComJoT CJ-1**

The ComJoT CJ-1's integration with the Android operating system makes it an ideal platform for running EchoLink. Here's how EchoLink enhances the functionality of the CJ-1:

- **Seamless Integration:** The CJ-1's Android OS ensures that EchoLink runs smoothly, providing users with a reliable and efficient way to access VoIP-based communications. The app's interface is fully compatible with the CJ-1's touchscreen, making it easy to navigate and use.
- **Extended Capabilities:** By using EchoLink on the CJ-1, operators can connect to a vast network of amateur radio stations globally, expanding their communication reach far beyond traditional radio capabilities. This makes the CJ-1 a versatile tool for amateur radio enthusiasts looking to explore global communications.
- **User-Friendly Interface:** EchoLink's intuitive interface is complemented by the CJ-1's ergonomic design and responsive touchscreen. This combination ensures that users can quickly connect to other operators and manage their settings with ease.
- **Portable Global Communications:** The CJ-1's portability, combined with EchoLink's VoIP capabilities, allows operators to stay connected wherever they go. Whether you're in the field, at home, or on the move, the CJ-1 with EchoLink provides robust and flexible communication options.

By leveraging EchoLink's powerful features on the ComJoT CJ-1, amateur radio operators can enjoy seamless global communication, enhancing their radio experience with modern technology.

## APRSdroid – Location tracking



APRSdroid is a specialized application designed for tracking and messaging using the Automatic Packet Reporting System (APRS). This powerful tool allows amateur radio operators to send and receive real-time position reports, weather data, and messages over the APRS network. APRSdroid enhances situational awareness and communication capabilities, making it an essential tool for modern amateur radio operations. The app is user-friendly and can be operated from any Android device, including the ComJoT CJ-1.

### **Compatibility with the ComJoT CJ-1**

The ComJoT CJ-1's integration with the Android operating system makes it an ideal platform for running

APRSdroid. Here's how APRSdroid enhances the functionality of the CJ-1:

- **Seamless Integration:** The CJ-1's Android OS ensures that APRSdroid runs smoothly, providing users with a reliable and efficient way to access APRS functionalities. The app's interface is fully compatible with the CJ-1's touchscreen, making it easy to navigate and use.
- **Extended Capabilities:** By using APRSdroid on the CJ-1, operators can track their position in real-time, send and receive APRS messages, and monitor weather data. This expands the range of communication and tracking options available on the CJ-1, making it a versatile tool for amateur radio enthusiasts.
- **User-Friendly Interface:** APRSdroid's intuitive interface is complemented by the CJ-1's ergonomic design and responsive touchscreen. This combination ensures that users can quickly connect to the APRS network and manage their settings with ease.
- **Portable Real-Time Tracking and Messaging:** The CJ-1's portability, combined with APRSdroid's real-time tracking and messaging capabilities, allows operators to stay connected and informed wherever they go. Whether you're in the field, at home, or on the move, the CJ-1 with APRSdroid provides robust and flexible communication options.

By leveraging APRSdroid's powerful features on the ComJoT CJ-1, amateur radio operators can enjoy enhanced tracking, messaging, and situational awareness, elevating their radio experience with advanced technology.

## **ZELLO – Radio over IP**



Zello is a versatile push-to-talk (PTT) application that transforms your device into a powerful communication tool, enabling instant voice communication over the internet. By providing real-time voice messaging, Zello facilitates clear and efficient communication, making it ideal for both casual conversations and critical communications. The app is user-friendly and can be operated from any Android device, including the ComJoT CJ-1, making it a valuable addition to modern amateur radio operations.

### **Compatibility with the ComJoT CJ-1**

The ComJoT CJ-1's integration with the Android operating system makes it an ideal platform for running Zello. Here's how Zello enhances the functionality of the CJ-1:

- **Seamless Integration:** The CJ-1's Android OS ensures that Zello runs smoothly, providing users with a reliable and efficient way to access push-to-talk communications. The app's interface is fully compatible with the CJ-1's touchscreen, making it easy to navigate and use.
- **Extended Capabilities:** By using Zello on the CJ-1, operators can connect to a wide network of users across the globe, expanding their communication options beyond traditional radio frequencies. This makes the CJ-1 a versatile tool for amateur radio enthusiasts and professionals alike.
- **User-Friendly Interface:** Zello's intuitive interface is complemented by the CJ-1's ergonomic design and responsive touchscreen. This combination ensures that users can quickly initiate and manage voice communications with ease.
- **Portable Instant Communications:** The CJ-1's portability, combined with Zello's real-time voice messaging



capabilities, allows operators to stay connected wherever they go. Whether you're in the field, at home, or on the move, the CJ-1 with Zello provides robust and flexible communication options.

By leveraging Zello's powerful push-to-talk features on the ComJoT CJ-1, amateur radio operators can enjoy instant, reliable communication, enhancing their radio experience with modern technology.

## **Repeater book – directory**



RepeaterBook is a comprehensive application designed to provide amateur radio operators with detailed information about repeater frequencies worldwide. This app is an invaluable resource for anyone looking to find repeaters in their area or while traveling, offering an extensive database that is both user-friendly and highly functional. RepeaterBook can be easily operated from any Android device, including the ComJoT CJ-1, making it a must-have tool for modern amateur radio enthusiasts.

### **Compatibility with the ComJoT CJ-1**

The ComJoT CJ-1's integration with the Android operating system makes it an ideal platform for running RepeaterBook. Here's how RepeaterBook enhances the functionality of the CJ-1:

- **Seamless Integration:** The CJ-1's Android OS ensures that RepeaterBook runs smoothly, providing users with reliable and efficient access to repeater information. The app's interface is fully compatible with the CJ-1's touchscreen, making it easy to navigate and use.
- **Extensive Database:** RepeaterBook offers a comprehensive and regularly updated database of repeater frequencies. Users can search for repeaters by location, frequency, or type, ensuring that they have access to the most current and relevant information.
- **User-Friendly Interface:** RepeaterBook's intuitive interface is complemented by the CJ-1's ergonomic design and responsive touchscreen. This combination ensures that users can quickly and easily find the repeater information they need.
- **Offline Access:** One of the standout features of RepeaterBook is its ability to function offline. Users can download repeater data for specific areas, allowing them to access critical information even when they don't have an internet connection. This is particularly useful for field operations or remote locations where connectivity

## **Understanding AES256 Encryption**

### **What is AES256 Encryption?**

AES256, short for Advanced Encryption Standard 256-bit, is a robust encryption method that secures data using a symmetric key algorithm. This standard is widely regarded as one of the most secure encryption methods available, ensuring the highest level of data protection.

### **How AES256 Encryption Works**



- **Symmetric Key Algorithm:** AES256 uses the same key for both encryption and decryption. This means that the same secret key must be used to encrypt the data and later decrypt it.
- **256-bit Key Length:** The “256” in AES256 refers to the key size—256 bits. A longer key length means a more complex encryption that is significantly harder to break. With  $2^{256}$  possible key combinations, AES256 offers a virtually unbreakable level of security.
- **Encryption Process:** Data is divided into blocks and processed through several rounds of transformation involving substitution, permutation, and mixing of the data and the key. This process ensures that the original data is transformed into a secure, encrypted format.

### **Benefits of AES256 Encryption in the ComJoT CJ-1**

- **Enhanced Security:** AES256 provides a high level of security for your communications. It ensures that your data remains confidential and protected from unauthorized access.
- **Reliability:** AES256 encryption is a well-established standard trusted by governments, financial institutions, and security professionals worldwide. Implementing this standard in the ComJoT CJ-1 guarantees reliable and secure communication.
- **Compliance:** Utilizing AES256 encryption helps meet various regulatory and compliance requirements for secure communication, making the CJ-1 suitable for professional and mission-critical applications.

### **Accessories**

Discover the essential accessories designed to enhance your experience with the ComJoT CJ-1, our state-of-the-art open-source Android Amateur Radio. Whether you're a seasoned radio enthusiast or a professional requiring reliable communication tools, these accessories ensure that your ComJoT CJ-1 is always ready for action. Each accessory is crafted with the highest quality materials and engineered to deliver optimal performance, making your ComJoT CJ-1 even more versatile and user-friendly. Explore the range of accessories available for purchase and find everything you need to get the most out of your ComJoT CJ-1:



1. **Extra Battery:** Never worry about running out of power during crucial moments. Our extra battery ensures that your radio is always ready when you need it, providing extended usage time for those long days in the field or during emergencies.
2. **Speaker Mic:** Enhance the functionality of your CJ-1 with a speaker mic, allowing for clear and hands-free communication. Ideal for professionals who need to stay connected while keeping their hands free for other

tasks.

3. Earpiece Headset: For discreet and private communication, the earpiece headset is perfect. It ensures you can hear and be heard clearly, even in noisy environments, making it an excellent choice for security personnel and event coordinators.
4. Leather Case: Protect your ComJoT CJ-1 with our durable leather case. This stylish and rugged case safeguards your device against scratches, drops, and everyday wear and tear, ensuring it stays in top condition.
5. Drop-in Charger: Keep your radio charged and ready to go with the convenient drop-in charger. This accessory makes charging quick and effortless, so you can focus on your activities without worrying about battery life.



## WARRANTY INFORMATION

The ComJoT CJ-1 warranty policy adheres to the rules and regulations of local authorities and may vary from country to country.

Please ask your local supplier for a detailed explanation of the warranty policy. However, typically, we offer a one-year warranty service for the radio from the date of invoice and a 90-day warranty for the battery and accessories. To the fullest extent permitted by law, warranty service may only be performed by the supplier or authorized service centers.

We may conduct diagnostic tests on customers' products to identify the causes of failure or defects. Before returning any unit for service, customers should back up data and remove any confidential or personal information from the product. The supplier is not responsible for damage or loss of any program, data, or removable storage media. Before contacting a service agent, please ensure the following information is at hand: model, serial number, IMEI number if available, customer's full address and contact information, purchase order number, and a copy of the original receipt.

### **This warranty does not cover the following cases:**

1. If the product serial number, IMEI number, or warranty seal is illegible or has been removed, erased, defaced,

altered, or tampered with.

2. If any accessory or external part of the product is missing.
3. If any damage occurred on the outer surface of the product, including but not limited to cracks, dents, scratches on the exterior cases, screens, camera lenses, buttons, and other attachments.
4. General maintenance, password reset assistance, cleaning, application update/installation, product demonstration, or any other service other than repair or replacement.
5. Deterioration of the product caused by normal wear and tear, including but not limited to rust or stains.
6. Any other circumstance that is contradictory to or not in compliance with business ethics.

The supplier will determine whether a product is “Out of Warranty” according to the standards listed below. Repair of Out of Warranty products shall be separately quoted by the service center, and the respective service shall be provided upon a service fee payment.

Violation of the warranty terms, invalidation of the warranty, expired warranty, or other reasons are not guaranteed. During the warranty period, a violation is defined as: customer-induced damage, such as self-repairs, exposure to water damage caused by misuse, alteration, failure to comply with the product manual, etc.

## Support

Many of the ComJoT users are very passionate about the ComJoT products. For this reason our

**“ComJoT Products”**

Facebook group is very active.

Phone Support is available at:

[877-277-2477](tel:877-277-2477)

Email us at:

[support@comjot.com](mailto:support@comjot.com)

## Documents / Resources



[ComJoT CJ-1 Open Source Android Amateur Radio](#) [pdf] User Guide

CJ-1 Open Source Android Amateur Radio, CJ-1, Open Source Android Amateur Radio, Source Android Amateur Radio, Android Amateur Radio, Amateur Radio, Radio

## References

- [ComJoT LLC | Communications Solutions Partner | New Orleans, LA - ComJoT LLC](#)
- [Home](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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