

HAMCUBE CW Pokemon Series V5.03

User Manual



Preface

Thank you for choosing our **HAMCUBE CW Pokemon** trainer. Let's explore the fun of amateur radio together.

HAMCUBE is an ARM-based embedded HAM product designed with an open architecture. By using different expansion boards, it can support various daily HAM functions. Even on its own, it can perform core HAM electronic DIY functions.

The **HAMCUBE CW Pokemon** comes with built-in CW practice firmware and includes all CW learning features, assisting users in Morse code memorization, transcription, and sending. It also includes two fun CW mini-games to make learning enjoyable.

Additionally, HAMCUBE CW Pokemon can function as a CW communication assistant. It supports connections with paddle keys, automatic keys, and computer keyboards, and is compatible with both Iambic A and Iambic B modes. It can even connect to computers or phones via a data cable. The device has 8 preset message groups internally, and when connected to a computer or phone, more preset groups can be stored to assist users in CW communications.

The device also has a built-in communication log feature, allowing logs to be edited, entered, and exported via paddle keys or keyboard. Logs are exported in standard ADI format for easy integration with other logging software.

The professional version of CW Pokemon can perform DSP digital decoding of external CW audio signals and display decoded information on the screen. Enabling Chinese decoding allows mixed Chinese-English sending and decoding.

Package Contents

CW Pokemon Mini (Basic Version)

- Mini unit ×1
- USB charging/data cable ×1
- OTG adapter ×1
- Adhesive device stand ×1
- Device carrying pouch ×1

CW Pokemon Pro (Advanced Decoding Version)

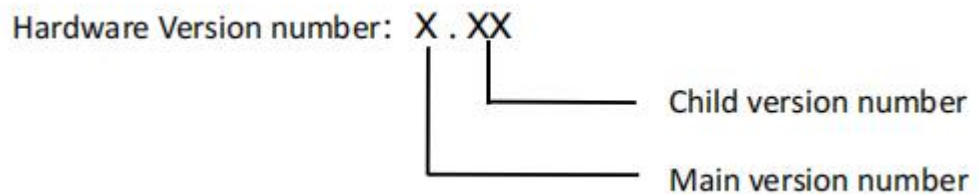
- Pro unit ×1
- USB charging/data cable ×1
- OTG adapter ×1
- Dual 3.5mm audio cable ×1
- Adhesive device stand ×1
- Device carrying pouch ×1

Optional Accessories

- External MIC (for decoding external station audio)
 - PS/2 Keyboard Adapter (connects PS/2 keyboard for sending Morse code)
-

Versioning

Hardware Version: X.XX



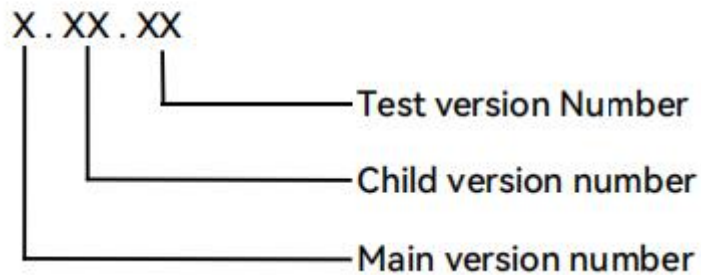
X. Main version: Development generation identifier. Does not change.

XX. Sub version: Hardware revision identifier. Increases with upgrades.

Software Version: X.XX.XX

Higher sub version number = newer hardware.

Software Version number:



X. Main version: Software generation identifier

XX. Sub version: Stable release version

XX. (the third one) Test version: Minor updates, bug fixes, and feature testing

Hardware and software versions can be checked under **Menu → System Settings → System Information**. Firmware downloads are provided in the user manual.

Safety Notes

- This is not a consumer household electronic product. Users must have basic radio knowledge. Do not allow children to use it.
- Protect from water and moisture during outdoor use.
- All ports are surface-mounted. Insert and remove carefully and vertically.
- The device uses a lithium-polymer battery. Improper handling may cause fire or explosion.
- Do not expose to direct sunlight for long periods.
- Monitor the device during charging.
- Do not use in hospitals, airports, or sensitive environments.

- Audio output level may be high. Adjust volume before using headphones.
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1. Panel Overview



Buttons:

- **Power multifunction switch:** Three-way key for power on/off, parameter adjustment, and more.
- **Indicator LED:** Lights during CW sending or decoding to indicate signal status.
- **F1–F4 Function keys:** Function varies per interface; long press switches quick function zones. In menus, F4 mostly acts as exit/back.
- **Reset:** Press with a pin to reset the device for recovery or after firmware updates.

Startup: Long press the power key. The blue LED lights, displaying the startup logo (customizable), then enters the working interface with:

- **Status Bar:** battery, speed, key type, and decoder status
- **Function Zone:** shows current function key shortcuts
- **Main Window:** displays free sending or decoding content

Status Bar:

Battery indicator, CW speed (10–50 WPM), key type (Hand/Auto/Bug), audio status, decoder connection, filter (FIL) and digital noise reduction (DNR) levels (Pro version)

Main Window:

Displays sent/decoded characters, 24 English or 12 Chinese per line, up to 8 lines. Red characters indicate the current line. Enable/disable Chinese display in **Options Menu**.

2. Device Connections

Mini Version:



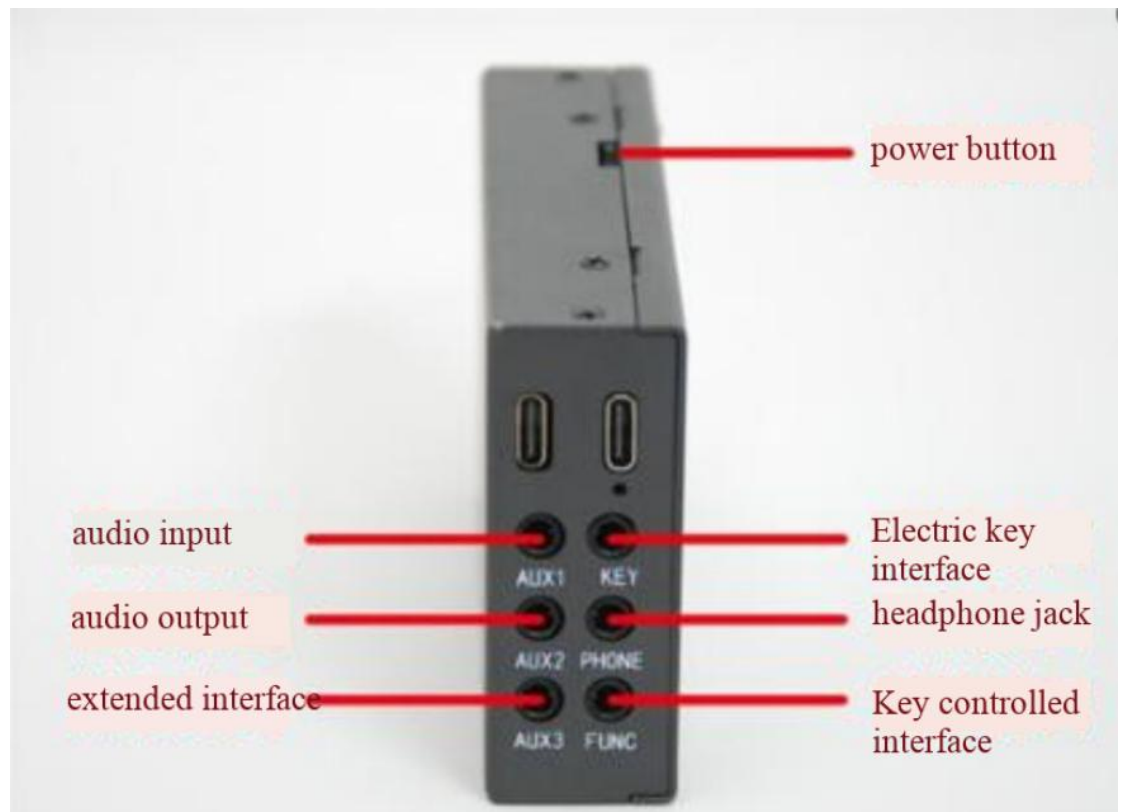
USB port: charge, send data to PC/phone, firmware updates

Key and keyboard ports: connect paddle, auto keys, or PS/2 keyboard (optional)

Headphone port: supports active/passive speakers, stereo plug required, max 5W for passive speakers

Key control/multiplex port: outputs CW control signal, can control shortwave stations

Pro Version:



Adds extra interface row (other ports same as mini)

Audio input: connect external CW audio for decoding

Audio output: same as mini

Expansion interface reserved for future features

Typical Connection:



Connect PC/phone or PS/2 keyboard via adapter to send CW

Stereo cable connects station key to device; station audio via cable or external MIC (Pro only) to device input

Pro version decoding requires station sidetone volume off to prevent interference

3. Basic Operations

Button Usage:

- Click: short press
- Long press: hold >0.5s
- Hold: continuous press

Power Key:

- Long press down: power on
- Single press: confirm, menu select, pause/resume
- Continuous press: power off
- Left/right swipe: adjust CW speed or volume

Firmware Upgrade:

- Power off
- Hold F1+F4, long press power to boot into upgrade prompt
- Connect to PC via USB (Pro: top port), PC detects "HAM MODULE"
- Copy upgrade files per instructions (TXT file Ready.txt → Success.txt)
- Reset storage before next file if needed
- Power off and restart after all files copied

Note: If the upgrade fails and the upgrade interface is displayed directly upon startup, preventing access to the user interface, please shut down the machine, press and hold the F1 and F4 keys while powering on, and re-enter the upgrade interface. In upgrade step (4), try refreshing all upgrade files. The refresh order is F003800.bin --> F0000C0.bin --> F000000.bin --> A000014.bin.

Firmware Files:

- A000014.bin User Main Program Firmware (must be flashed on the device every time)
- F000000.bin Custom Boot Screen Firmware (does not need to be flashed on every upgrade)
- F0000C0.bin Resource Firmware (follow the version upgrade prompt to confirm whether to flash)
- F003800.bin Font Firmware (does not need to be flashed on every upgrade)

The filenames in the above upgrade packages involve program location; do not arbitrarily change the filenames, otherwise it may lead to serious consequences.

Custom Startup Image:

320×240 resolution, use **Image2Lcd.exe** from Tools folder, export 16-bit color, save as F000000.bin, copy to device

Setting a Custom Boot Screen:

The image file for the boot screen needs to meet the 320x240 resolution requirement. If the image does not meet the requirement, you can use an image editing software to adjust its size. In the **Tools** folder

on <https://gitee.com/admvip/cw-pokemon-infomation> (for overseas users: <https://github.com/admvip/CW-Pokemon-Infomation>), download the

ImageLcd.rar tool package and extract it to your hard drive. This is a portable software. Go to the software folder and double-click to run **Image2Lcd.exe**.

In the main program, select the following settings:

- **Output Data Type:** Binary (*.bin)
- **Scan Mode:** Horizontal scan
- **Output Grayscale:** 16-bit true color
- **Maximum Width and Height:** Set to 320 and 240
- Check **Include Image Header Data** and **MSB First** options.

Click the **16-bit Color** tab and select the options:

- R:5, G:6, B:5
- After setting everything, click the **Open** button to load the image file you have prepared. Check both the left and right windows to ensure there are no issues.
- Then, click **Save** to save the image as a .bin file with the same name as the original image. Rename the file to **F000000.bin**.
- Finally, copy the file into the device in the usual upgrade way. After rebooting, the boot screen will be updated.

F1-F4 Quick Function Keys

As the name suggests, a single press can quickly execute a specific function or open a particular menu. Due to the size limitations of the CW POKEMON series machine panels, the right side of the panel only has four function keys: F1, F2, F3, and F4. In order to provide more shortcut functions, these keys are multiplexed. In different multiplex modes, each shortcut key can execute different functions. You can view the current function prompts in the function prompt area on the right side of the screen.

The quick functions use partitioning, so by long pressing a function key, you can enter four different quick function partitions. Each partition allows you to press F1-F4 to execute 4 different functions. For example, the F1 quick function partition has two different partitions, which can be switched by holding down F1 to cycle through and call up 8 groups of user-defined functions.

Therefore, including the default four quick functions on boot, with the partitioned settings, the machine currently has 24 available quick function keys. The current partition 4 quick functions have not been developed and will be used in future system upgrades.

In the menu settings, the F4 key is mostly used for functions like exit, cancel, or return to the previous menu.

Quick Function Area List

Key	default function	Long press F1	Long press F2	Long press F3	Long press F4
F1	Memory training	AutoCall 1.5	Mute/Restore	Log entry	NULL
F2	Listen training	AutoCall 2.6	Decode board filter selection	Log view	NULL
F3	Send training	AutoCall 3.7	Decode board DNR selection	Log output	NULL
F4	Follow training	AutoCall 4.8	Clear the screen	Clear the screen	NULL

The above functions can be quickly accessed or performed with one key press. The Exercise and Log functions can be terminated or exited by pressing F4 or the ESC key on the keyboard.

By long-pressing F1-F4 keys, you can switch between default and quick functions. Users can set these based on their needs.

After the boot logo screen is displayed, the device enters the working interface. The device primarily has two interfaces: one is the working interface and the other is the menu and function options interface. Pressing the power key will enter the menu settings and function options interface, and pressing F4 will return to the working interface.

In the working interface, users can freely send and receive CW (Morse code) practice messages, as well as use the device for decoding and automatic calling. The device has 8 custom character storage areas and 1 call sign storage area. Each storage area can store up to 60 characters (including spaces) defined by the user, which can be used to quickly send messages in the working interface. Users can also quickly access various preset functions through the function area shortcut keys.

CW Decoding Settings and Adjustments

CW audio decoding is a feature specific to the Pocket Wizard Professional Edition, which can decode CW audio signals from the station via DSP digital processing and display them on the screen. The difficulty of decoding shortwave CW signals lies in the impact of the ionosphere, which causes varying degrees of QSB, leading to large fluctuations in signal strength. Also, shortwave background noise affects the accuracy of CW signal decoding. Therefore, the machine's decoding is not a substitute for manual decoding but serves as an assistant.

The key points for improving decoding accuracy when using the Pocket Wizard Professional Edition for CW audio decoding are:

1. The audio signal level from the shortwave station should be just right to ensure the machine is most sensitive to CW audio signals, which will significantly improve decoding accuracy and reduce error rates.
- 2 . Adjust the receiver's frequency so that the CW audio signal frequency is close to 600Hz, which will greatly improve the signal recognition rate of the expansion board.

Specific steps:

1. Adjusting the CW Decoding Signal Volume

- Connect the audio from the shortwave station via a 3.5mm audio cable to the decoding board's input or use the external MIC option.

- Turn on the station and adjust the volume knob or RF gain knob on the station, or adjust the gain potentiometer of the external MIC (clockwise for higher volume, counterclockwise for lower volume).
- Adjust the volume so that the CW decoding indicator on the Pocket Wizard's panel just turns off when no CW signal is present (increasing the volume slightly will make it blink). This ensures the audio level is set to the highest decoding sensitivity.

2. Adjusting the CW Decoding Signal Frequency

After adjusting the audio input level, tune the station's frequency until the CW signal appears, then fine-tune it so that the Pocket Wizard's decoding indicator is at its brightest. This indicates the accurate decoding frequency.

3. Common CW Decoding Settings

Filter Bandwidth: Medium

Digital Noise Reduction: None

Decoding Tolerance: 9

Decoding Lock: Off

If the signal interference is high, set the filter to narrow bandwidth or enable digital noise reduction to improve the ability to decode CW signals from noise.

When not using CW decoding, disable the function in the option menu to save battery power.

4. Morse Code Practice

Practice Modes:

In the menu, select the Morse code practice option. There are 8 corresponding practice functions:

- Memory practice: display characters/CW for memorization
- Transcription practice: CW listening
- Koch transcription: 40 lessons, increasing character groups
- Sending practice: send messages per prompts
- Follow-along: machine evaluates user sending accuracy
- CW Game: Tetris-style, remove characters via key
- Transcription Game: card selection via key
- Chinese sending: send Chinese Morse, results displayed in red

Memory Practice:

F1: show CW table

F2/F3: sequence of character/audio display

F4: exit

Before starting memory practice, you can set random message mode and delay time for showing correct information. After entering the memory practice function, the shortcut keys are:

F1: Display the character-Morse code reference table (switch between left and right using the power key)

F2: First display the character, then after a delay, show the corresponding Morse code symbol and audio.

F3: First display the Morse code symbol and audio, then after a delay, display the corresponding character.

F4: Exit practice and return to the previous menu.

The machine randomly sends CW characters. The user should answer with the corresponding information and compare it to the standard information to reinforce memory.

Transcription Practice:

Set intervals, group count, mode, and custom characters

Modes: letters, numbers, mixed, callsigns, custom, short phrases

F1: repeat; F2: char first → CW; F3: CW first → char; F4: exit

Gradually increase speed as accuracy improves

Before beginning, set the interval between characters and words, the number of practice sets, and the random character mode. There are different practice modes such as pure letters, pure numbers, mixed mode, call sign mode, custom character mode, and communication phrases mode.

The shortcut keys are:

F1: Repeat this practice session.

F2: Display the character, then send the corresponding Morse code audio.

F3: Send the Morse code audio, then display the corresponding character.

F4: Exit practice and return to the previous menu.

The user transcribes the Morse code messages, and after completing the transcription, they compare it with the displayed message.

Koch Method:

Progressive learning from 2 letters, add one letter per lesson after 90% accuracy

Lessons 1–40, gradually reduce interval from large to standard (1 step)

The Koch method involves starting from the target speed and practicing directly for a quick response, without "translation." The practice progresses from two characters to more, increasing complexity until the learner masters all characters.

The shortcut keys are:

F1: Repeat this practice session.

F2: Display the character, then send the corresponding Morse code audio.

F3: Send the Morse code audio, then display the corresponding character.

F4: Exit practice and return to the previous menu.

Sending Practice:

In sending practice, the machine generates messages for the learner to transmit. The shortcut keys are:

F2: Flip the message up.

F3: Flip the message down.

F4: Exit practice and return to the previous menu.

Follow-along Practice:

Following practice is designed for training keying techniques. The learner sends the Morse code as displayed, and the machine compares the technique with the standard. The shortcut keys are:

F4: Exit practice and return to the previous menu.

Adjustable speed via power key, F4 exit

Transcription Game

Random character selected and CW played

4 cards displayed, choose correct via F1–F4 (or keyboard 1–4/F1–F4)

Correct: success sound, next round

Incorrect: error sound, retry

Press power or ESC/Enter → GAME OVER → error stats → exit

Sending Game:

Before the game, set the game mode, speed, and view the leaderboard. The game starts with a 3-second countdown, and characters fall randomly. The learner must key in the corresponding Morse code to eliminate characters. The game ends when characters pile up to the top. The shortcut key to exit is F4.

Listening Game:

A random character is sent, and the user must select the correct character from four cards displayed. The learner can use the F1-F4 keys (or the keyboard) to select the answer. The game ends when the user selects the wrong answer or presses the power button or ESC key.

Chinese Sending Practice:

In Chinese sending practice, four-digit numbers correspond to one Chinese character, which is displayed in red. If an error occurs, the user can send "?" as a correction.

The shortcut keys are:

F1: Clear the display.

F4: Exit practice and return to the previous menu.

Send 4 digits → 1 Chinese character (red)

'?' for correction, clears current or previous set

F1: clear display, F4: exit

5. Auto Call Shortcut Setup

You can set 8 groups of custom character storage, each of which can store up to 60 characters, punctuation, and spaces. The shortcut keys are:

F1: Clear the storage content.

F2: Move the cursor forward one character.

F3: Move the cursor backward one character.

F4: Exit settings and return to the previous menu.

You can adjust the characters using the power key, the keying device, or a connected computer keyboard.

6. System Settings

- **Screen Backlight:** Set brightness from 1%-100%.
- **Volume Settings:** 0-63, 0 for mute and 63 for max volume.
- **Decoding Lock:** Set to "unlock" for adaptive decoding speed or "lock" for a fixed decoding speed.
- **Decoding Tolerance:** 0-9, where 9 is the least strict and 0 is the strictest.
- **Auto Power Off:** Set between 5-1440 minutes.
- **Language Interface:** Set to either Chinese or English.
- **Restore Factory Settings:** Resets to the default settings.

- **Date and Time Settings:** Set system date and time.
 - **System Info:** Check device version and ID.
-

7. Key Settings

- **Key Type Settings:**

You can set the type of key connected to the device:

Hand Key

Auto Key

KeyB (Computer Keyboard)

Bug (Simulated Key)

The system's default setting is Auto Key.

- **Iambic Mode Settings:**

Set the keying mode for the auto key, and choose between Iambic A and Iambic B modes. The default system setting is Iambic B.

- **Dot-Dash Swap Settings:**

If the auto key's dots and dashes are reversed or if the hand key does not respond correctly, you can enable the dot-dash swap. The default mode is normal.

- **Morse Code Tone Settings:**

Set the tone of the Morse code. The range is from 300Hz to 1500Hz.

- **Long/Short Code Settings:**

You can select between long code or short code. Long code supports characters, numbers, and symbols, while short code only supports numbers and some symbols.

8. Options

Decoder board: Pro only

Chinese decoding: Pro only

Auto call units: F1–F8, repeat interval adjustable (3–3600s)

- **Decoding Board On/Off:**

This option allows you to turn on or off the decoding board for the Pocket Wizard Professional Edition. If the decoding board is not being used, turning it off will save battery power. This setting is not available for the Pocket Wizard Mini Edition.

- **Chinese Decoding On:**

When Chinese decoding is enabled, the device can send and decode both Chinese and English Morse code (Professional Edition feature). The default setting is off, which only supports English Morse code.

- **Auto Repetition Call Storage Unit Settings:**

You can set 8 auto repetition call storage units (F1-F8). After pressing the auto call button, the selected unit will repeat the message at the set time interval, continuing until a key is pressed, a keyboard key is pressed, or the menu is accessed.

- **Auto Repetition Call Time Interval Settings:**

Set the time interval for automatic repetition calls, in seconds. The range is as follows:

- ✧ Minimum Interval: 3 seconds
- ✧ Maximum Interval: 3600 seconds (1 hour)
- The adjustment steps for the time interval are:
- ✧ Under 1 minute: 1-second increments
- ✧ 1-5 minutes: 5-second increments
- ✧ 5-60 minutes: 60-second increments

9. Communication Logs

The Communication Log option includes four submenus:

Log Entry: call, freq, signal report, date/time, mode, note (32 chars max)

Log View: navigate via power keys, F2/F3, Tab, arrows

Log Export: ADI format via USB

Log Initialization: clears storage, requires confirmation

- **Log Entry:**

You can enter a log for communication using the key or keyboard, including call signs, frequency, signal reports, date and time, communication mode, and brief remarks.

- ✓ Frequency should be entered in MHz, with up to 6 decimal places, e.g., 7.023000, 14.270.
- ✓ Time format: hhmmss (hours, minutes, and seconds; seconds are optional).
- ✓ Date format: yyyyymmdd (year, month, day).
- ✓ Remarks can have a maximum of 32 characters.

In the log entry interface, you can use the power key or keyboard to switch between input fields, and the F2/F3 keys or backspace to edit the text. Pressing F1 clears the entire field, while pressing the power button or enter key saves the current log information. Pressing F4 or ESC exits without saving.

- **Log Viewing:**

View the logged communications. Use the power key, F2/F3 keys, or the Tab and arrow keys to scroll through the logs. Press F4 or ESC to exit the log viewing screen.

- **Log Output:**

Output the stored communication logs in adi format via the USB port. Connect to a computer, use software to receive and save the logs as an adi file, which can later be processed by other log management software. Ensure the data cable is connected and the receiving software is running before initiating the log output.

- **Log Initialization:**

Log initialization clears the log storage and re-formats it. After pressing the confirmation key, a confirmation prompt will appear. The user must press the confirmation key again to start the initialization. If you don't want to initialize the logs, press F4 to exit. The device will begin the log formatting process, which takes about 10 seconds. Once the process is complete, a success message ("OK") will be displayed. Use this option before starting communication or if you need to clear all logs. If it's your first time using the log feature, be sure to initialize the logs first.

10. Online Help

F1–F3: basic operations, menu functions, tips

Power key left/right: scroll

F4: exit

11. PS/2 Keyboard Connection



A PS/2 interface PC keyboard can be connected to the host keying interface through a keyboard adapter accessory. In the **Menu → Key Parameters Settings**, set the keying type to [KeyB] keyboard mode, and you can use the keyboard to control the host and perform sending operations.

Keyboard Key Function List:

a-z 0-9: Regular character functions.

Caps Lock: Toggle between lowercase and uppercase letters.

F1-F8: Built-in 8 groups of auto calls in the main controller.

Shift + F1-F4: Simulate the F1-F4 single-click actions of the main controller.

Ctrl + F1-F4: Simulate the long-press actions of F1-F4 of the main controller.

PgUp: Increase the code speed, simulates the right shift of the power key.

PgDn: Decrease the code speed, simulates the left shift of the power key.

Up Arrow: Increase the code speed, simulates the right shift of the power key, switch between menu bars in the settings.

Down Arrow: Decrease the code speed, simulates the left shift of the power key, switch between menu bars in the settings.

Enter: Simulate a single press of the power key, enter or confirm the function.

ESC: F4 to exit the function, or terminate sending, or stop automatic calling.

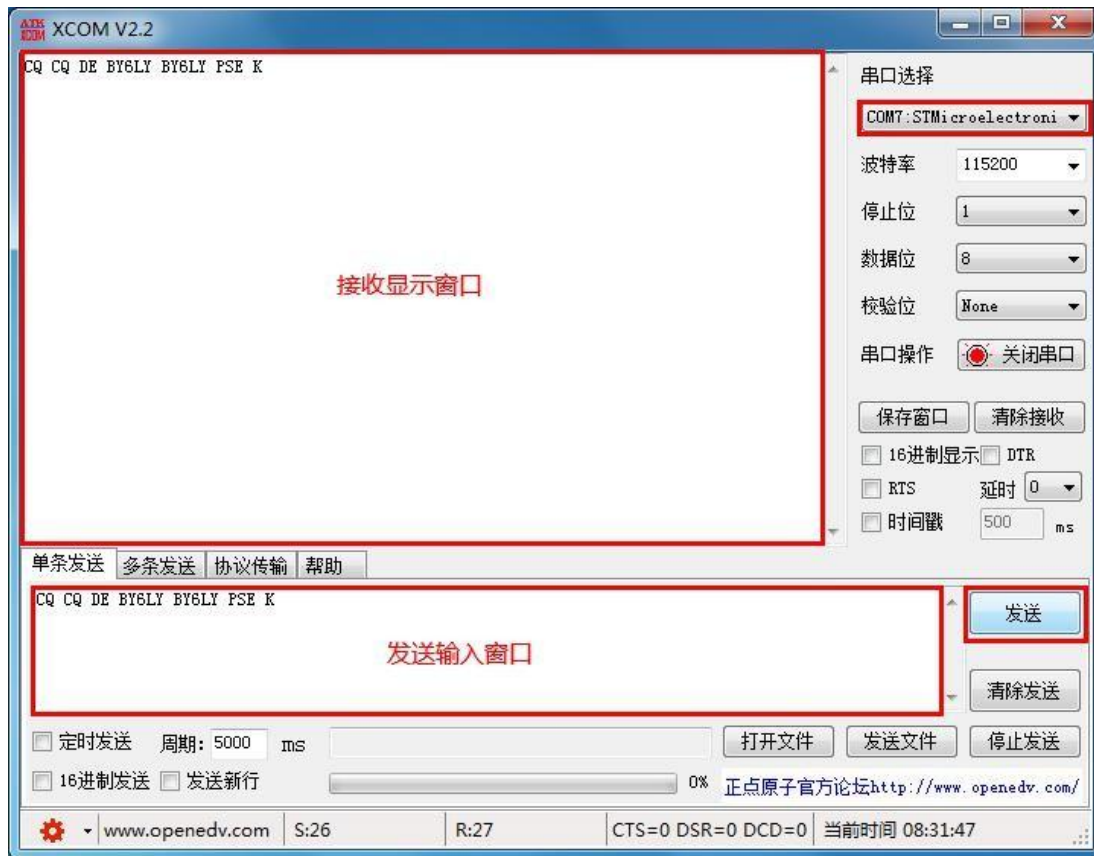
Backspace: In the shortcut key editing window, move the cursor backward.

Shift + ESC: Power off the main controller.

(For more keyboard functions, please refer to the relevant chapters in the user manual of the host device.)

12. PC & Mobile Connection

PC:



Connecting to a Computer

Open the computer-side software in the **Tools** folder of the firmware upgrade package. This is a portable software that does not require installation. Once opened, you will see the interface as shown in the image above.

After powering on the CW Pocket Wizard host and displaying the working interface, connect the host to the computer using a data cable. The computer will recognize a serial port named **STMicroelectronics**. Select this serial port in the serial port selection bar, and then open the serial port in the operation area below. Leave the other parameters at their default values. In the middle of the interface, there is a receiving display window that shows the messages sent and received. The smaller window below is for entering messages to be sent. Click the **Send** button on the right to control the CW Pocket Wizard host to send the corresponding Morse code.

By selecting multiple sending options, you can preset the messages that need to be sent. Click the send button next to each message to send it with one click. Each page can preset 10 messages, and you can add more preset message pages by clicking the "Add Page" button. Each new preset page can set 10 new messages.



Mobile:

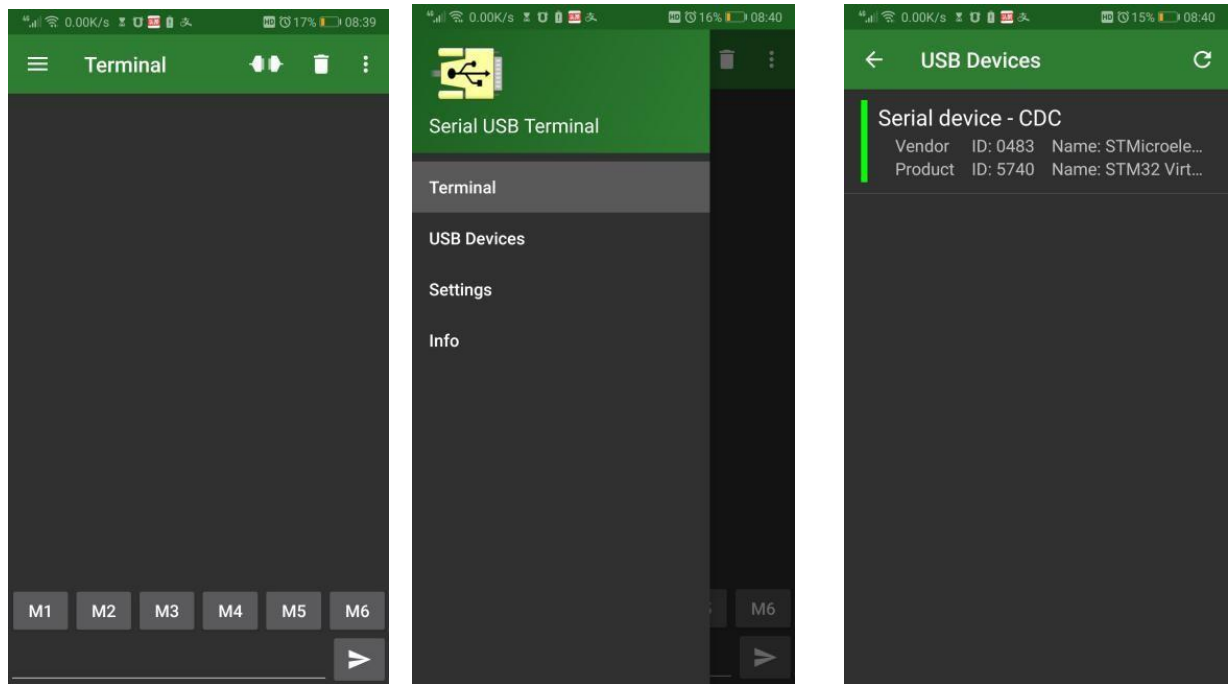
You can also connect your mobile phone to the CW Pocket Wizard using a data cable and control the sending of Morse code via mobile software, which is more convenient for outdoor communication.

To do this, you will need:

- An Android phone.

- The mobile app found in the **Tools** folder of the firmware upgrade package.

- A TYPE-C OTG adapter (included in the CW Pocket Wizard accessory pack) and a TYPE-C data cable.

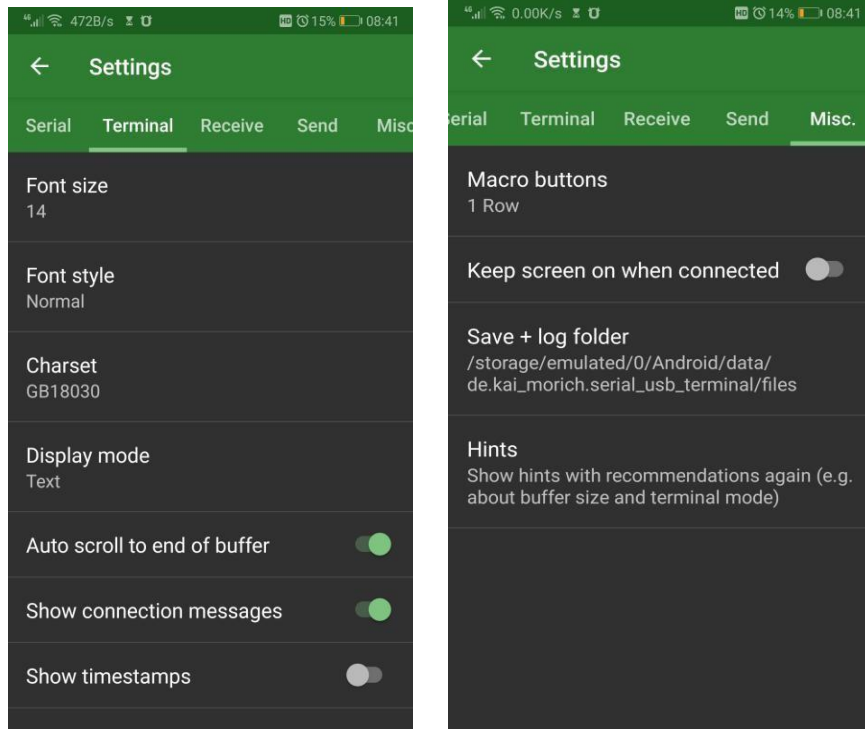


Currently, the mobile software is only available for the Android version. After installing the software and opening it, the interface is shown as in **Figure 1**.

 icon is the **connect button**;  icon

represents the **preset information buttons**. Pressing a button will send the preset information, and long-pressing it allows setting the preset information for that button. At the bottom of the screen is an **input field** for sending messages, and the button on the right is the **send button**.

Click the **menu icon**  at the top left (as shown in **Figure 2**) to access the software settings page. The **USB Devices** option allows you to search and select connected devices. Once connected to the CW Pocket Wizard, the phone will detect a **Serial device - CDC**, which is the device driver name for the CW Pocket Wizard, as shown in **Figure 3**.



After clicking the **Settings** option (as shown in **Figure 4**), you can perform some necessary software configurations. Tap the **Terminal** tab; we must set the character encoding **Charset** to **GB18030** to correctly display characters. **Font size** can be adjusted, and other settings can remain as defaults.

Click the **Misc** option (as shown in **Figure 5**), **Macro buttons** where you can set the number of macro buttons for preset information. Each row can have 6 macro buttons, with a maximum of 5 rows. The default setting is 1 row of macro buttons, and this parameter can be adjusted according to your preferences.

13. Device Maintenance

Cannot power on: Wait 3 seconds, then press and hold the power button for more than 1 second. Release the button when the blue light comes on.

Cannot power off: If holding the power button doesn't turn off the device, use a paperclip to press the reset button inside the small hole at the lower left corner, then try turning the device on again.

Continuous beeping when inserting the key: Check the keying type setting for the device.

Continuous beeping when inserting a hand key: Try adjusting the dot-dash swap setting in the keying setup.

Automatic keying sounds reversed: Set the dot-dash swap option in the keying settings to adjust the direction of the sound.

Cannot send letters but numbers are recognized: Check if the long/short code setting is set to short code.

Cannot recognize Chinese Morse code: Check if the Chinese decoding option is enabled (it is disabled by default).

Cannot connect to phone or computer: Wait until the device has started up properly before connecting it to the phone or computer via the data cable.

No sound: Check if the volume is set to minimum or if the mute icon is displayed in the status bar.

Cannot correctly display the transmitted Morse code: Check if the decoding speed is locked or if the decoding tolerance is set too small.

Decoding works but transmitting does not display: Check if the station's transmitting side tone is off. The side tone and practice unit's audio can mix, preventing proper display of the transmission information on the screen.

14. Specifications and Optional Accessories

Device Specifications:

Display type: 2.8-inch 16-bit true-color FTF

Button count: 4 function buttons, 1 three-way multifunction power button, 1 reset button

Power interface: TYPE-C

Supply voltage: 5V

Function interface: 3.5mm stereo jack

Battery type: 3.7V lithium polymer battery

Battery capacity: 2500mAh

Dimensions:

Mini version: 88mm x 58mm x 17mm

Professional version: 88mm x 58mm x 22mm

Weight:

Mini version: 163g

Professional version: 193g

Optional Accessories:

External MIC accessory

PS/2 keyboard interface adapter

3D printed beginner automatic key

15. Firmware Package Download

The firmware package includes device firmware upgrades, upgrade instructions, the main device manual, optional accessory manuals, client software, and application software.

Firmware Package Download Links:

<https://github.com/admvip/CW-Pokemon-Infomation>