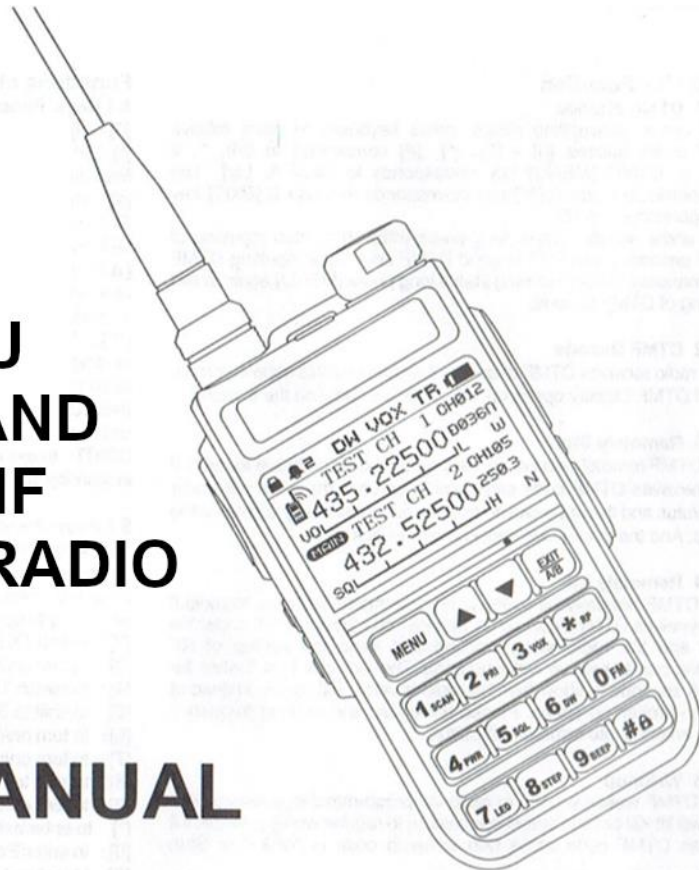


KD1MU UV5118 Plus

**KD1MU
DUAL BAND
UHF/VHF
AMATEUR RADIO**

USER'S MANUAL



WARNINGS

Do not charge the radio or its battery in potentially explosive environments, such as areas with gas, dust, or smoke. Always turn off the radio when near gas stations.

Do not disassemble or modify the radio. Avoid exposing the radio to dusty, wet, or humid conditions.

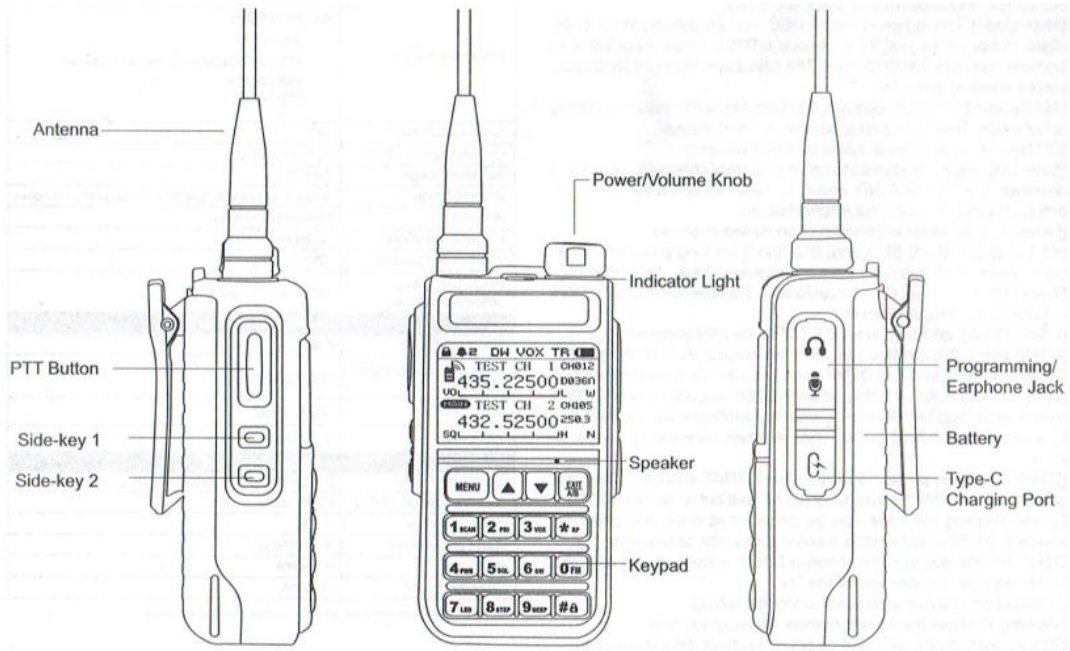
It is crucial for users to fully understand all the radio's functions before use. We recommend familiarizing yourself with local telecommunications regulations prior to operation.

PRODUCT CONTENTS

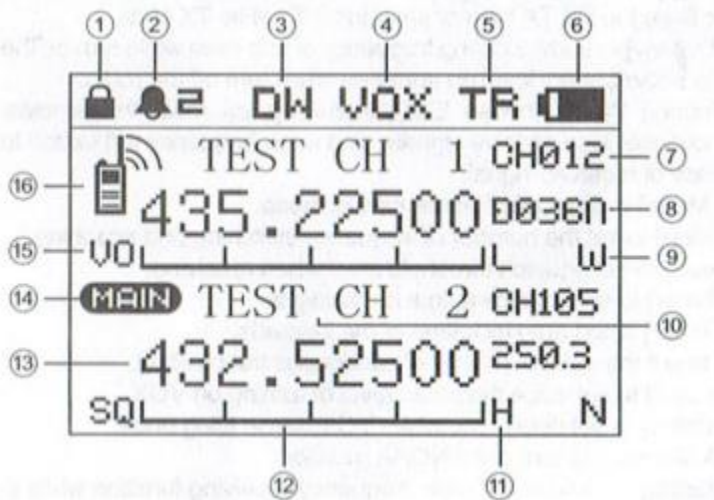
Thank you for choosing our radio. Please unbox the package and verify that the following accessories are included and in good condition. If any items are missing or damaged, please contact your local distributor immediately. The package includes the following accessories:

Item Number	Item Name	Quantity
1	Radio Device	1
2	Antenna	1
3	Li-on Battery	1
4	Charging Base	1
5	Belt Clip	1
6	User's Manual	1
7	Warranty Card	1

3.1 GETTING TO KNOW YOUR RADIO



3.2 LCD ICON DISPLAY



1. **Lock key:** The lock icon appears when the keypads are inoperable. If the icon is red, the radio is in Remotely Stun status.
2. **End of transmission types:** Digits "1" or "2" indicate the signal transmitted at the end of a transmission. "1" or "2" with "ID" means that the local ID is also transmitted when the transmission ends.
3. **Dual Standby:** Indicates the radio can monitor two channels simultaneously.
4. **VOX (Voice-Activated Transmission):** Allows hands-free operation by automatically transmitting when the user speaks.
5. **Talk around/Reverse Frequency:**
 - **TR:** Reverse frequency mode
 - **RR:** talk around mode
6. **Battery Level:** Displays the current battery level of the radio.
7. **Channel Number:** In Frequency Mode, it shows as "VFO." In Channel Mode, it shows as "CHXXX."
8. **CTCSS/DCS:**
 - **MUTE:** Indicates non-standard sub-tones.
 - **NC:** Indicates sub-tone settings.
9. **Encryption Status:** Indicates whether the channel is encrypted.
10. **Channel Bandwidth:**
 - **W:** Wide Band
 - **N:** Narrow Band
11. **Channel Name:** Displays the name of the current channel.
12. **TX Power:**
 - **H:** high power,
 - **L:** low power
13. **Microphone and Signal Strength:** Displays microphone sound strength while transmitting and signal strength while receiving.
14. **Working Mode:** Displays the current mode of operation.

15. **Main Working Area:** Indicates the primary area of operation on display.

16. **FM/AM VO-MIC:** Voice prompt for FM/AM mode with squelch settings.

17. **TX/RX Icon:**

- **Blue:** The radio is receiving.
- **Red:** The radio is transmitting.

FUNCTION AND OPERATION

4.1 Transmitting Signal

Press the [PTT] key to start transmitting on the main standby channel. The signal icon (16) will appear in red, and the indicator light will turn red to indicate transmission.

4.2 Receiving Signal

When the device receives a signal on the same frequency as the current working channel and the CTCSS matches, the indicator light will turn green, and the signal icon (16) will appear in blue.

4.3 Switching Working Modes

Short press the [#] button to switch between VFO Frequency Mode and Channel Mode. In VFO Frequency Mode, the icon (7) will display "VFO." In Channel Mode, the icon (7) will display "CHXXX."

4.4 Frequency Changing and Repeater Frequency Setting

In VFO Mode, you can manually enter frequencies using the keypad by inputting six digits. After entering the digits, the radio will be set to both the receiving and transmitting frequencies. For repeater operation, set the TX frequency according to the repeater's documentation.

Steps:

1. In VFO Mode, long press the [*] button; the icon will turn red, indicating that the input function is active.
2. Input six digits to set the TX frequency automatically.
3. Short press [EXIT] or long press [*] to confirm and exit TX frequency setting.

4. Short press [▲] or [▼] to switch between preset working frequencies. Long press [▲] or [▼] to enable fast switching.

4.5 Channel Switching

In Channel Mode, input the channel number via the keypad to switch to the desired channel. Short press [▲] or [▼] to navigate through the channels one by one. Long press [▲] or [▼] to enable fast switching.

4.6 Air Band Receiving

When the working frequency is set within the range of 108-136 MHz, the icon (15) will display "AM," indicating that the device is in air band receiving mode. Transmission is not allowed in this mode.

4.7 Frequency Detecting and Decoding (One-click Decoding)

The side key is set to Frequency Detect. Press the side key while in standby status to start frequency detection and decoding. Note that this function cannot detect CTCSS of radios with anti-decoding features.

Steps:

1. Press the [#] button to switch between VHF and UHF bands.
2. Short press [#] to shift the decoding mode to remote CTCSS/DCS scanning mode. The working frequency will be limited to the current working frequency.
3. If a signal is received, the radio will decode the CTCSS/DCS of that frequency. If no signal is received within 3 seconds, scanning will restart.
4. If the decoded result is a standard CTCSS/DCS, it will be displayed as such. If it is non-standard, it will show "23b," "24b," or a series of numbers.
5. To check the decoding result, access the Mute Code menu.
6. Press [MENU] to save the frequency and CTCSS/DCS to VFO channels and switch to VFO Frequency Mode.
7. Press [EXIT] to restart decoding and CTCSS/DCS scanning.
8. Press the [PTT] key to exit decoding mode.

4.8 FM function

Long press [0] to enter FM radio mode. To search for stations, long press [▲] or [▼] to scan for signals, or input frequencies manually using the keypad. Short press [▲] or [▼] to stop scanning. To receive signals while in FM radio mode, set "FM Standby" to ON.

4.9 NOAA Weather Channels

The side key is set to access NOAA weather channels. Press the side key to switch to NOAA weather report channels while in standby mode. Use [▲] or [▼] to switch between NOAA channels. If no operation is performed for 2 seconds, the device will automatically scan for NOAA channels. Please note that the NOAA function is only available in countries and

areas where it is supported. The following are the 11 NOAA working frequencies:

1	162.55000M	2	162.40000M	3	162.47500M
4	162.42500M	5	162.45000M	6	162.50000M
7	162.52500M	8	161.65000M	9	161.77500M
10	161.75000M	11	162.00000M		

4.10 Inputting Method

You can use the input method to change characters in both the Personal ID and Channel Name fields.

4.10.1 Delete Character

- In the Personal ID field, the display will automatically add blank characters to make up 16 bytes (2 bytes per Chinese character, or 1 byte per digit, English letter, or symbol).
- In the Channel Name field, the display will automatically add blank characters to make up 10 bytes.
- To delete characters, move the cursor to the desired position using the [▲] or [▼] keys, then press the [*] key to delete the character before the cursor.

4.10.2 Inputting Digits, Symbols, and English Letters

In the Personal ID or Channel Name fields, you can directly input numbers using the numeric keys; To input English letters, press the [#] button and then use the corresponding numeric keys to enter the desired letter.

Steps:

1. Press the [#] key to start character input.
2. Press the [1] key to open the ASCII code table (which includes digits, symbols, and English letters). The initial character in the table is a blank space.
3. Use the [▲] or [▼] key to navigate through the table and find the desired character.
4. Press the digit key associated with the character to complete the input.

[1 Characters]	[2 ABC]	[3 DEF]
[4 GHI]	[5 JKL]	[6 MNO]
[7 PQRS]	[8 TUV]	[9 WXYZ]

4.11 DTMF Function

4.11.1 DTMF Encoding

During transmission, press the keypad to send corresponding DTMF codes. The keys [0] - [9], [*], and [#] correspond to the DTMF codes for 0-9, *, and # respectively.

The following keys correspond to DTMF function codes:

- [MENU]: Code A
- [▲]: Code B
- [▼]: Code C
- [EXIT]: Code D

In standby mode, long press [MENU] to begin inputting a DTMF code. After manually entering the code, press [PTT] to send it. To exit DTMF input mode, long press [MENU] again.

4.11.2 DTMF Decoding

When the radio receives a DTMF signal, it will automatically decode the code. If the DTMF Display feature is enabled, the decoded code will be shown on the screen.

4.11.3 Remotely Stun

You can set a remote kill code using the programmable software. If the radio receives a DTMF code that matches the kill code, it will enter Kill status. In this mode, the radio will cease all operations except for maintaining RF reception capability to receive a wake-up code. The indicator light will flash every 5 seconds to indicate Kill status, rather than a malfunction. Make sure to remember the working frequency before the radio enters Kill status.

4.11.4 Remotely Kill

You can set a remote kill code using the programmable software. If the radio receives a DTMF code that matches the kill code, it will enter Kill status. In this mode, the radio will cease all operations except for maintaining RF reception capability to receive a wake-up code. The indicator light will flash every 5 seconds to indicate Kill status, rather than a malfunction. Make sure to remember the working frequency before the radio enters Kill status.

4.11.5 Wake-up

Set a wake-up code for the radio using programmable software. If the radio receives the correct DTMF wake-up code while in Kill or Stun status, it will return to regular operating mode. Always ensure that a wake-up code is set; otherwise, the radio will remain in Kill or Stun status and cannot be restored.

Functions of shortcuts

5.1 Short Press Key Functions

[0] - [9]:

- Input digits.

[*]:

- Switch sub-tone modes in the CTCSS/DCS list.
- Switch from decoding to remote scanning in detecting mode.

[#]:

- Shift working mode from VFO Frequency Mode to Channel Mode
- Input characters while in character input mode
- Switch between UHF and VHF in detecting mode.

[▲]:

- Shift to the next higher frequency or channel number.
- Switch to upward scanning direction in scanning mode.
- Stop scanning in FM radio scanning mode.

[▼]:

- Shift to the next lower frequency or channel number.
- Switch to downward scanning direction in scanning mode.
- Stop scanning in FM radio scanning mode.

[MENU]:

- Enter the menu and confirm selections.
- Save detecting results and switch to VFO Frequency Mode in detecting mode.

[EXIT]:

- Exit or cancel a setting.
- Switch the main frequency band in standby mode.
- Restart detection in detecting mode.

5.2 Long Press Key Functions

[1]:

- Long press to turn the scanning function on/off.
- In Channel Mode, activate scan to search for signals one by one.
- In Frequency Mode, activate scan to change working frequency according to the upward step size and scanning direction.

[2]: Switch TX Priority to Busy or Edit mode.

[3]: Turn the VOX function on/off.

[4]: Switch TX power levels.

[5]: Adjust the SQ Level (Squelch Level).

[6]: Turn the dual-standby function on/off.

[7]: Turn the backlight on/off.

[8]: Adjust the frequency step size.

[9]: Turn the key beep on/off.

[*]: Enter/exit TX/RX input mode.

[0]: Enter/exit FM radio mode.

[#]: Lock/unlock the keypad.

[▲]:

- Fast increase frequency or channel numbers.
- Start upward searching in FM mode.

[▼]:

- Fast decrease frequency or channel numbers.
- Start downward searching in FM mode.

[MENU]: Turn DTMF encoding input on/off.

[EXIT]: Turn dual-band display on/off.

5.3 Side-key functions

The side keys can be customized for both long-press and short-press actions using the options in the "K1 Long," "K1 Short," "K2 Long," and "K2 Short" lists, as described below:

1. **Off:** Disables the key press function.
2. **Monit (Monitor):** Monitors the signal on the working frequency, ignoring the TX/RX sub-tone settings, and forces the squelch to open.
3. **Freq Detect (Frequency Detection):** Detects frequencies and CTCSS/DCS codes of nearby radios.
4. **Repeat Mode:**
 - Switches between Talk Around and Reverse Frequency modes.
 - In Talk Around mode, the receiving frequency is the primary status.
 - In Reverse Frequency mode, the TX and RX frequencies are swapped.

to switch from talk around to reverse frequency. Receiving frequencies is the main status while under talk around mode. The frequencies of TX and RX are reversed while under reverse frequency.

5. **Preset CH (Preset Channel):** Shifts to the corresponding preset channel while in Channel Mode.
6. **Local Alarm:** Activates a local alarm sound to alert those nearby.
7. **Remote Alarm:** Activates an alarm sound and transmits the alarm on the main working frequency.
8. **NOAA CH(NOAA Channel):** Enters NOAA weather report mode.
9. **Send Tone:** Transmits a preset audio tone on the current frequency.
10. **Roger Beep:** Switches between sending an end-of-transmission tone (roger beep) and transmitting the local ID when the transmission ends.
11. **Freq Inverse (Frequency Inversion):** Reverses the TX and RX frequencies.
12. **Weather CH (Weather Channel):** Enters NOAA weather report mode.

Instruction of MENU

[Startup Logo]: Enable or disable the startup image display.

[Voltage]: Enable or disable the battery level indicator.

[Ringtone]: Turn the startup tone on or off.

[Prompt Text]: Turn the welcome message on or off.

[Voice Prompt]: Enable or disable voice prompts for menu navigation and channel changes.

[Key Beep]: Enable or disable the keypad beep sound.

[Roger Beep]: Set the TX end tone or choose to send the local ID when transmission ends.

[Dual Display]: Show the sub-area frequency on the display when the radio is on; show the battery level in the sub-area when the radio is off.

[TX Priority]:

- **Edit:** Transmit on the main frequency.
- **Busy:** If receiving a signal, the main frequency will switch to the frequency of the received signal.

[Save Mode]: Turn the power-saving mode on or off.

[Freq Step]: Set the frequency step size for tuning and scanning.

[SQ Level]: Set the squelch threshold level for receiving signals.

[LED Timer]: Set the backlight shutdown time.

[Lock Timer]: Set the auto-lock time for the keypad.

[TOT]: Set the maximum continuous transmission time (Time-Out Timer).

[VOX Level]: Set the voice threshold level to activate VOX (Voice-Activated Transmission).

[VOX Delay]: Set the delay time for VOX after transmission ends.

[NOAA Monitor]: Enable or disable the NOAA monitoring function.

[FM Standby]: Enable or disable main frequency reception while in FM mode.

[Dual Display]: Enable or disable the dual-band display.

[Tail Tone]: Enable or disable the tail tone when transmission ends.

[Scan DIR]: Set the scanning direction to upward or downward.

[Personal ID]: Set the personal ID.

[Repeater Mode]: Set to Talk Around or Reverse Frequency mode.

[CTCSS/DCS]: Set the sub-tones for TX/RX frequency. Use the [*] key to switch sub-tone modes, and [▲] or [▼] to change sub-tones.

[RX CTCSS/DCS]: Set the RX CTCSS/DCS for the main frequency.

[TX CTCSS/DCS]: Set the TX CTCSS/DCS for the main frequency.

[TX Power]: Set the transmission power to High or Low.

[Band Width]: Set the channel bandwidth to Narrow or Wide.

[Busy Lock]: Prevent transmission when receiving a signal.

- **Carrier Wave Matches:** Transmission is forbidden if any signal is received, regardless of CTCSS/DCS match.
- **CTCSS/DCS Matches:** Transmission is only forbidden if the received signal's sub-tone matches the main frequency's sub-tone.

[Scrambler]: Set the voice scrambler number on the main frequency. If set to 0, the scrambler is off.

[DCS Encrypt]: When there is a digital sub-tone on the main frequency, enabling this function will re-encrypt the digital sub-tone. This function only supports digital sub-tones.

[Mute Code]: This is a non-standard DCS code that can be defined with 23 or 24 digits. Press [▲] or [▼] to choose the CTCSS mode and input digits to create a non-standard DCS code. The saved non-standard DCS code can be viewed in this menu.

[AM Receive]: Switch the receiving mode from AM to FM. The default setting is AM mode. Enable this option to receive air band signals.

[CH Name]: Set the channel name for the main frequency.

[Save CH]: Copy and save the current channel information to a designated channel. The status "CH-XXX N/Y" will be displayed. "N" means the channel is empty, and "Y" means the channel is not empty.

[Delete CH]: Delete the information of designated channels.

[K1 Long], [K1 Short], [K2 Long], [K2 Short]: Modify the long-press and short-press functions of the side keys. Refer to section 5.3 for side-key function options.

[DTMF Delay]: Set a delay time to send the DTMF code after transmission begins.

[DTMF Interval]: Set the time interval between two consecutive DTMF codes.

[DTMF Mode]: Set the fixed DTMF encode mode.

- **TX Start:** Send the fixed DTMF code when transmission begins.
- **TX End:** Send the fixed DTMF code when transmission ends.
- **TX Start and End:** Send the fixed DTMF code both when transmission begins and ends.

[DTMF Select]: Preset 16 groups of fixed DTMF codes. Select one group to be sent out during transmission.

[DTMF Display]: Enable to display decoded DTMF codes and show the sender's DTMF code while receiving. Regular talking may trigger DTMF encoding due to sensitivity. Disable this option if DTMF encoding is not needed.

[Initialize]: Reset all data to the last saved settings.

[Version]: Check the version number and the last upgrade time.

[Instruction]: Scan the QR code with your phone to view the user manual.

SPECIFICATION

General	
Frequency Range	RX : 64-108MHz (FM Band) 108-136MHz(Aviation frequency Band) 136-520MHz TX : 136-520MHz
Channel Capacity	999
Channel Space (W/N)	25kHz/12.5kHz
Working Voltage	7.4V DC
Working Mode	Same frequency simple/different frequency simplex
Antenna	Removable Antenna
Frequency Stability	±2.5ppm
Working Temperature	- 20 ~ + 60°C
Dimension(without antenna & belt clip)	108 * 59 * 38 about 189g
Transmitting Part	
Modulation Mode	F3E
Max frequency deviation (W/N)	≤5KHz/≤2.5KHz
SNR (W/N)	-45dB/-40dB
TX Current	≤1500mA
Receiving Part	
Sensitivity (W/N)	0.22μV/0.25μV 12dB SINAD
Inter-Modulation (W/N)	65dB/ 60dB
Audio distortion	< 5%
Audio output power	≤1W (16 Ω)
RX current	≤350mA
Standby current	≤70mA

Note: The above parameters are subject to change without prior notice!