

Radioddity HD-2

User Manual

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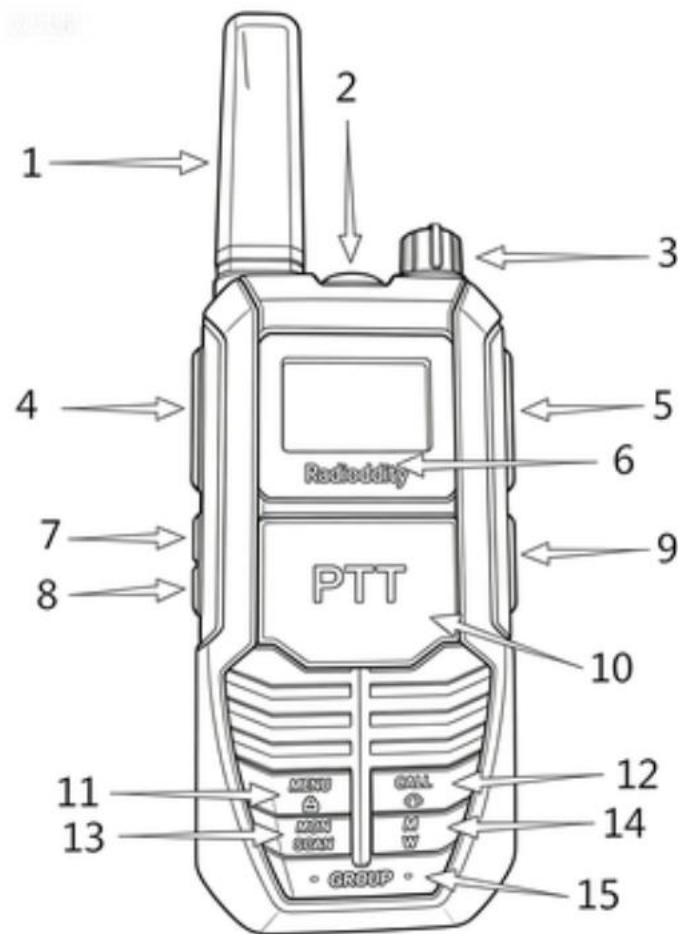
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1. Product Overview



1. **Antenna:** Transmits and receives radio signals.
2. **SOS Alarm Button:** Press and hold to activate the emergency SOS alarm.
3. **Volume / Power Knob:** Rotate to turn the radio on/off and adjust the volume level.
4. **Side PTT (Push-To-Talk) Button:** Press to transmit.
5. **Headset Jack:** Connects an external headset accessory.
6. **LCD Display:** Displays channel, power level, and other status information.
7. **PF1 (▲) Up Button:** Navigates upward through menu options and adjusts settings.

8. **PF2 (▼) Down Button:** Navigates downward through menu options and adjusts settings.

9. **Type-C Charging Port:** Used for charging the radio and reverse charging (power output).

10. **Front PTT (Push-To-Talk) Button:** Press to transmit.

11. **Menu Button:** Short press to access and cycle through menu settings; long press to lock the keypad.

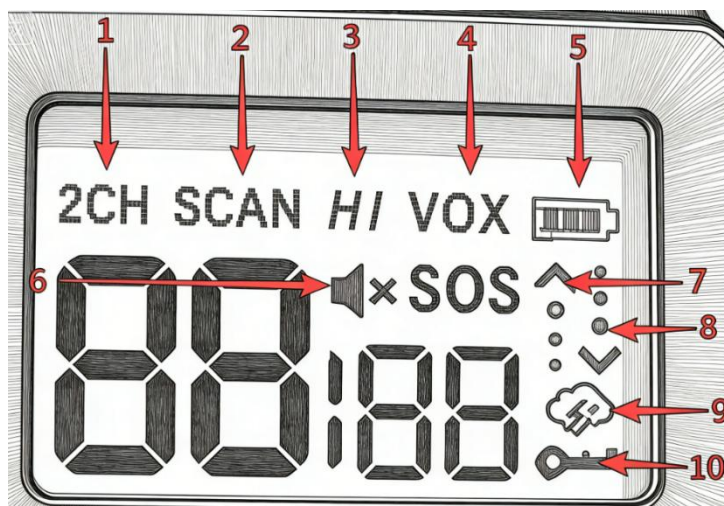
12. **CALL Button:** Short press to send a call tone; long press to activate the weather forecast.

13. **Monitor / Scan Button:** Short press to monitor the channel (listen for activity); long press to start scanning.

Mute / Whisper Button: Short press for one-key mute (all incoming signals silenced); long press to activate whisper mode (transmit at 20% normal volume for covert operation).

15. **Group Call Button:** Press and hold to initiate a group call transmission.

2. Screen Layout



1. Group Call Enabled (indicated by "2CH")

2. Scan

3. High Power

4. VOX (Voice-Activated Transmission)
5. Battery Level
6. Mute
7. Transmit Indicator (Arrow + Signal Animation)
8. Receive Indicator (Arrow + Signal Animation)
9. NOAA Weather
10. Keypad Lock

3. Basic Functions

3.1 Power Switch

Power On: Rotate the **Power/Volume Control Knob** clockwise to turn on the radio. A click will be heard, followed by a startup tone, and the current channel will be announced.

Power Off: Rotate the **Power/Volume Control Knob** counterclockwise until a click is heard, indicating the radio is powered off.

3.2 Volume Adjustment

Rotate the **Power/Volume Control Knob** clockwise to increase the volume, or counterclockwise to decrease the volume.

3.3 Channel Selection

In standby mode, press the **【MENU】** key once. The channel number will begin flashing. Press **【▲】** or **【▼】** to select a channel.

If voice prompts are enabled, the selected channel number will be announced.

Note: Each press changes the channel by one step in a continuous loop:

Pressing **【▲】** : 1→22→1→22...

pressing **【▼】** : 22→1→22→1...

3.4 Vibration Alert (On/Off)

In standby mode, press the **【MENU】** key eight times to access the vibration setting. The LCD will display "UI". Press the **【▲】** or **【▼】** side key to turn the function ON or OFF.

ON = Vibration alert enabled;

OF = Vibration alert disabled.

3.5 Menu Functions

Menu 1: Channel Switching

Menu 2: CTCSS/DCS Tone Switching

Menu 3: Call Alert Switching
Menu 4: VOX Sensitivity Adjustment
Menu 5: High / Low Power Switching
Menu 6: Scan Switch
Menu 7: Talk End Tone Switch
Menu 8: Vibration Alert Switch
Menu 9: Off-Network Switch

3.6 Transmit Function

Press and hold the PTT button to transmit. The indicator will light up. Speak normally into the microphone. Release the PTT button to return to receive mode.
Keep the microphone about 3–8 cm from your mouth while speaking.

Note: If the receiving radio has vibration alert enabled, it will vibrate for about 5 seconds at the start of the first transmission. During this time, audio will not be received. **Wait approximately 5 seconds before speaking to ensure your message is heard.**

4. Advanced Function

4.1 Voice Prompt On / Off

The radio supports voice prompts that announce the current channel, making operation easier in low-light conditions.

This function can be enabled or disabled via PC programming software.

4.2 Low Battery Warning

The low battery alert will activate when the battery requires charging or replacement.

If voice prompts are enabled, the radio will announce “Please change battery” every 120 seconds. If voice prompts are disabled, three short beeps will sound as a reminder to recharge or replace the battery.

4.3 Time-Out Timer (TOT)

The Time-Out Timer limits continuous transmission time to prevent channel overuse.

The TOT duration can be set via PC programming software from 15 to 600 seconds, in 15-second increments.

When the preset time is reached, transmission will stop automatically and a warning tone will sound. Release the PTT button to stop the alert. Press PTT again to resume transmission. Default TOT is 3 minutes 30 seconds (210 seconds)

4.4 VOX Voice Activation

The VOX function allows the radio to transmit automatically when your voice is detected.

Operation:

In standby mode, press the **【MENU】** key four times until the VOX level flashes. Use the **【▲】** / **【▼】** keys to adjust the level (0–9). Press **【MENU】** again to save.

Level 0: VOX off

Level 9: Highest sensitivity

Notes

The higher the VOX level, the less sound is required to trigger transmission

VOX delay time determines how long the radio remains in transmit mode after you stop speaking. It can be set via PC software to 0.5 / 1 / 1.5 / 2 / 2.5 / 3 seconds.

4.5 High / Low Power Switching

Channels 1–7 and 15–22 support selectable transmit power levels.

Each channel can be configured to High Power or Low Power via the device menu or PC programming software. High Power provides extended communication range, while Low Power is suitable for short-distance communication and helps prolong battery life.

Operation:

In standby mode, press the **【MENU】** key five times until the power level flashes. Use the **【▲】** / **【▼】** keys to switch between High and Low. Press **【MENU】** to save.

4.6 Whisper Mode

Press and hold the **M/N key** to turn Whisper Mode on or off. It is specifically designed for outdoor hunting and covert tracking scenarios.

Note: When Whisper Mode is enabled, the transmit audio volume is reduced to 20% of the normal level.

4.7 One-Click Mute Function

Short press the **M/N key** to turn this function ON or OFF. It is designed for outdoor activities, hunting and covert tracking.

Note: When Mute Mode is enabled, the radio remains completely silent for all incoming signals.

4.8 Emergency Power Output

The USB-C port supports both **charging and power output**.

Charging Mode: Use the USB-C port to charge the radio.

Power Output Mode: If your mobile phone, flashlight, cigarette lighter, or other electronic devices run out of power in the field, connect a USB cable to the USB-C port of the radio and plug the other end into your device. The radio serves as an emergency power supply for temporary charging, ideal for field, vehicle, and hunting scenarios.

Note: The radio automatically switches between charging and power output modes. No manual setting is required.

4.9 Power Saving

Power Saving Mode activates automatically when the radio receives no signals and remains idle (no keys pressed and no channel switching), effectively reducing power consumption.

The function is disabled automatically when a signal is received or any operation is performed.

4.10 Tail Tone Elimination

This function reduces the squelch tail noise at the end of transmission. It can be enabled or disabled via PC programming software.

4.11 Analog Sub-audio (CTCSS) / Digital Sub-audio (DCS)

The radio supports 50 analog (CTCSS) and 105 digital (DCS) sub-audio codes. These can be configured via the device menu or PC programming software.

Operation:

In standby mode, press the **MENU** key twice until the sub-audio code flashes.
Use the **【▲】** / **【▼】** keys to select a code, then press **【MENU】** to save.

Some channels may have CTCSS/DCS codes preset. These are inaudible sub-tones that help filter out unwanted transmissions from other users on the same channel.

Only signals with a matching CTCSS/DCS code will be received. Likewise, your transmissions will only be heard by radios using the same code.

Note: CTCSS/DCS filtering reduces interference from other users, but it does not provide encryption or secure communication.

Menu 0-159 Sub-audio Comparison Table

NO.	Sub-audio	NO.	Sub-audio	NO.	Sub-audio	NO.	Sub-audio	NO.	Sub-audio	NO.	Sub-audio
0	OFF	30	167.9	60	D053N	90	D244N	120	D432N	150	D723N
1	67.0	31	171.3	61	D054N	91	D245N	121	D445N	151	D731N
2	69.3	32	173.8	62	D065N	92	D246N	122	D446N	152	D732N
3	71.9	33	177.3	63	D071N	93	D251N	123	D452N	153	D734N
4	74.4	34	179.9	64	D072N	94	D252N	124	D454N	154	D743N
5	77.0	35	183.5	65	D073N	95	D255N	125	D455N	155	D754N
6	79.7	36	186.2	66	D074N	96	D261N	126	D462N	156	D243I
7	82.5	37	189.9	67	D114N	97	D263N	127	D464N	157	D332I
8	85.4	38	192.8	68	D115N	98	D265N	128	D465N	158	D731I
9	88.5	39	196.6	69	D116N	99	D266N	129	D466N	159	D743I
10	91.5	40	199.5	70	D122N	100	D271N	130	D503N		
11	94.8	41	203.5	71	D125N	101	D274N	131	D506N		
12	97.4	42	206.5	72	D131N	102	D306N	132	D516N		
13	100.0	43	210.7	73	D132N	103	D311N	133	D523N		
14	103.5	44	218.1	74	D134N	104	D315N	134	D526N		
15	107.2	45	225.7	75	D143N	105	D325N	135	D532N		
16	110.9	46	229.1	76	D145N	106	D331N	136	D546N		
17	114.8	47	233.6	77	D152N	107	D332N	137	D565N		
18	118.8	48	241.8	78	D155N	108	D343N	138	D606N		
19	123.0	49	250.3	79	D156N	109	D346N	139	D612N		
20	127.3	50	254.1	80	D162N	110	D351N	140	D624N		
21	131.8	51	D023N	81	D165N	111	D356N	141	D627N		
22	136.5	52	D025N	82	D172N	112	D364N	142	D631N		
23	141.3	53	D026N	83	D174N	113	D365N	143	D632N		
24	146.2	54	D031N	84	D205N	114	D371N	144	D645N		
25	151.4	55	D032N	85	D212N	115	D411N	145	D654N		
26	156.7	56	D036N	86	D223N	116	D412N	146	D662N		
27	159.8	57	D043N	87	D225N	117	D413N	147	D664N		

28	162.2	58	D047N	88	D226N	118	D423N	148	D703N		
29	165.5	59	D051N	89	D243N	119	D431N	149	D712N		

4.12 NOAA Receptio

NOAA weather channels are available in the United States and Canada. While receiving a NOAA channel, the radio cannot receive two-way radio signals.

Entering NOAA Mode: Press and hold the CALL/NOAA key to activate.

Setting a NOAA Channel:

1. In NOAA mode, press the **【MENU】** key once. The channel number will flash.
2. Use the **【▲】** / **【▼】** keys to select the appropriate NOAA channel for your area.
3. Press and hold the CALL/NOAA key to exit.

NOAA Weather Alert

When the weather alert function is enabled, the radio will monitor the selected NOAA channel while in standby. If an alert is broadcast, the radio will sound an alert and automatically switch to NOAA reception to provide real-time weather updates.

When NOAA mode is active, the NOAA icon will be displayed.

Enable / Disable NOAA Weather Alert:

1. In NOAA mode, press the **【MENU】** key twice until ON or OFF flashes.
2. Use the **【▲】** / **【▼】** keys to select ON or OFF for the NOAA alert.
3. Press the **【MENU】** key to confirm and exit.

NOAA Frequency 11CH

Channel Number	Frequency (MHz)
1	162.550
2	162.400
3	162.475
4	162.425
5	162.450
6	162.500
7	162.525
8	161.650
9	162.775

10	162.750
11	162.000

4.13 CALL TONE

The Call Tone function sends an audible alert to other radios on the same channel to get attention. When the **【CALL】** button is pressed, all radios on the same channel will ring for about 5 seconds.

Settings:

1. Press the **【MENU】** button three times until the display flashes.
2. Use the **【▲】** / **【▼】** keys to select:
00: Call Tone off
01 – 10: Choose from 10 different ringtone melodies.
3. Press the **【MENU】** button again to save your selection.

4.14 Scan

Enable Scan: In standby mode, press the **【MENU】** key six times until the SCAN option flashes. Use the **【▲】** / **【▼】** keys to select ON or OFF.

Start Scanning:

Press and hold the MON/SCAN key. The radio will scan channels 1–22 automatically.

If a signal is detected, scanning will pause on that channel for communication.

If no signal is received for 5 seconds, scanning will resume.

Press and hold the MON/SCAN key again to stop scanning.

4.15 Transmission End Tone

This function can be enabled via PC programming software.

When enabled, a short tone will sound after each transmission to indicate it has ended.

4.16 SOS

Press and hold the SOS button on the top of the radio to activate the emergency alarm. All radios on the same channel will sound the alarm.

The alarm can be stopped by turning off the transmitting radio or pressing the PTT button on that radio.

4.17 External Headset Specification

The radio uses a standard Kenwood K-type (K-port) headset connector.

4.18 One-key Group Call

Press and hold the GROUP button, then speak. All HD-2 radios within range will receive the group call.

4.19 Vibration Alert Function

This radio is equipped with a vibration alert feature. When receiving the first incoming transmission, the unit will vibrate for approximately 4 seconds. Communication can only resume after the vibration stops.

If there is no transmit or receive activity for 10 seconds after a communication ends, the vibration alert will activate again for the next incoming signal.

Vibration alert is disabled by factory default. You may turn this function ON or OFF by accessing the **menu** 8 times in sequence.

5. Technical Specifications

General	
Frequency Range	FRS
Number of Channels	22
Channel Spacing	12.5KHz
Operating Voltage	3.7V
Battery Capacity	2500mAh (Li-Ion)
Operating Temperature	-30°C+60°C
Antenna Impedance	50Ω
Radio Dimensions	180*65*35mm(with antenna)

Transmitter	
Output Power	High: 2.0W Low: 0.5W
Frequency Stability	±2.5ppm
Neighborhood Power	60dBm@12.5KHz
Modulation Method	FM (12.5KHz@11K0F3E)
Electric Current (e.g. electrostatic)	≤1500mA
Receiver	
Receiver Sensitivity	0.25uV/-119dBm (20dB SINAD)
Audio Power	≥300mW
Audio Distortion	≤3%
Receiving Current	≤410mA

6 . Annex 1 Default Frequencies (22 FRS Channels)

Channel Number	Frequency (MHz)	Power (output)
1	462.5625	2W
2	462.5875	2W
3	462.6125	2W
4	462.6375	2W
5	462.6625	2W
6	462.6875	2W
7	462.7125	2W
8	467.5625	0.5W
9	467.5875	0.5W
10	467.6125	0.5W
11	467.6375	0.5W
12	467.6625	0.5W
13	467.6875	0.5W
14	467.7125	0.5W
15	462.5500	2W
16	462.5750	2W

17	462.6000	2W
18	462.6250	2W
19	462.6500	2W
20	462.6750	2W
21	462.7000	2W
22	462.7250	2W

FCC compliance statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received interference that may cause undesired operation.

The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment. Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC RF Exposure and Separation Distance

This radio complies with IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for Occupational Use Only. An appropriate warning label is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5 cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original accessories (belt clip), a minimum distance of 0 cm. Do not use this device when antenna shows obvious damages.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW

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