

Thanks !

Thanks for choosing ABELL series Two-way radio, we believe it is a wise choice to choose us because we have the latest technology, the most stable components, the most advanced production technology. ABELL series Two-way radio will provide you with a reliable performance and high quality you demand.

This manual is for ABELL X1 pro

Accessories:

Power Adapter Li-ion Battery Lanyard
Programming cable Belt Clip

Preparing to use the radio

Direct charging

When charging directly, please make sure to use standard power charger.

Indicator status when charging

When charging, please check the indicator status.

Indicator	Charging status
Flash red	Waiting to charge
Steady red	During charging
Steady green	Charge complete

Installing/Uninstalling the Battery

Press down on the battery after aligning the battery tabs with the aluminum housing slots; to remove the battery, turn the radio off, then pull down on the release valve and remove the battery pack from the radio.

Installing/Uninstalling the Belt Clip

Lock the belt clip on the upper rear side of the radio with two screws until the two screws are tightened; if you want to remove the belt clip, use a screwdriver to remove the two screws on the belt clip.

Installing the External Speaker/Microphone

Plug the external speaker/microphone connector into the SP/MIC connector.

Key operations

NUM	Description	NUM	Description
1	SP/MIC	7	Channel decrease
2	Read/Write Frequency Interface Type C USB Jack	8	Power ON/OFF
3	Antenna	9	PTT
4	Indicator light	10	Volume increase
5	Display	11	Volume decrease
6	Channel increase	12	Lock key(Long press to lock/unlock)

Functions

Read/Write Frequency

When read/write frequency, open the correct software, the communication port must be **no bigger than port 16** in order to read/write frequency correctly, if the port number is bigger than 16, then user needs to manually modify the port number, to ensure that the port control is within port 16.

Reading:

When reading frequency, the indicator light flashes red, and the progress bar of reading in programming software increases.

Successful frequency reading: After successful frequency reading, the radio will restart automatically, and the software prompts “successful frequency reading” .

Frequency reading error: when the frequency reading is wrong, the radio will not restart automatically, and the orange light is flashing, and there will be a “beep” sound, and the software will prompt an error message, according to which you can judge the reason of the frequency reading error.

Writing:

When writing frequency, the indicator light flashes green, and the progress bar of reading in programming software increases.

Successful frequency writing: After successful frequency reading, the radio will restart automatically, and the software prompts “successful frequency writing” .

Frequency writing error: when the frequency writing is wrong, the radio will not restart automatically, and the orange light is flashing, and there will be a “beep” sound, and the software will prompt an error message, according to which you can judge the reason of the frequency writing error.

Power On/Off

Power On: When the device is off, press the power button to turn on the screen and enter the power-on interface.

Power Off: When the device is on, press the power button to turn off the screen and power off the device.


Channel Switching

When you need to communicate on a specific channel, press the Channel + or Channel - button briefly to switch to the designated channel, followed by a channel announcement sound.

Communication Operation

Switch to the desired channel:

Transmit: Press and hold the PTT (Push-to-Talk) button, position your mouth about 2 cm from the MIC, and speak into the MIC.

Receive: When a carrier signal is received, the indicator light  will turn green and remain on, and the speaker will emit sound.

Sound Settings

Press the Volume + button briefly to increase the volume, or press the Volume - button briefly to decrease the volume.

TOT Parameter

When the user configures an effective TOT (Time-Out Timer) in the frequency programming parameters, the radio will stop transmitting immediately and prompt the user to enter the TOT transmission prohibition state if the transmission exceeds the configured TOT time.

Timeout Transmission Prohibition Time:

This setting defines the maximum continuous transmission time allowed for the radio. Once the preset timer expires, the radio will emit a warning sound and stop transmitting.

Range: (0 is to disable this function) 0-360 seconds

Step value: 10 seconds

Default value: 60 (0 means disabled)

Timeout Transmission Prohibition Pre-warning Time:

This setting allows you to specify how long before the TOT timer expires the radio will emit a "warning sound." After the warning sound is heard for the specified time, the TOT timer will expire.

Range: Off (0) / 1-60 seconds

Step value: 1 second

Default value: 0 (0 means disabled)

Timeout Transmission Prohibition Re-press Time:

This setting defines the time from when the transmission prohibition starts (when the TOT timer expires) until transmission is allowed again.

If this time has not yet elapsed, pressing the PTT will result in a transmission prohibition warning sound.

Range: Off (0) / 1-60 seconds

Step value: 1 second

Default value: 0 (0 means disabled)

Timeout Transmission Prohibition Reset Time:

Before the TOT time expires, if a transmission occurs within the TOT reset time, the timer will continue counting. Otherwise, the timeout counter will reset to 0.

Range: Off (0) / 1-60 seconds

Step value: 1 second

Default value: 0 seconds (0 means disabled)

Safety Information

Safety and Convenient Operation Specifications

This document provides information and operating guidelines for the safe and convenient use of ABELL portable two-way radios. For information on using radios in hazardous environments, please refer to the manufacturer's approved operation manual or instruction card. Radios with this functionality will include such an instruction card. To ensure you remain within the safety exposure limits for radio frequency electromagnetic energy as allowed by the standards and guidelines above, please follow the operational procedures below.

Portable Radio Operation and Electromagnetic Field Exposure

When the portable radio is transmitting, keep the radio in a vertical position and maintain a distance of 2.5-5 cm (1-2 inches) between the microphone and your mouth. When transmitting, also ensure the radio's antenna is at least 2.5 cm (1 inch) away from your head or body. If you wear the portable radio on your body, ensure that the transmitting antenna is at least 2.5 cm (1 inch) away from your body.

Electromagnetic Interference / Electromagnetic Compatibility

Note: Without proper electromagnetic compatibility protection and internal structural design for electromagnetic compatibility, nearly all electronic devices will be affected by electromagnetic interference (EMI).

To avoid problems caused by electromagnetic interference or electromagnetic compatibility, please pay attention to any areas with signs indicating "Please turn off the radio," and comply with these requests, such as in hospitals and other healthcare facilities where some equipment is highly sensitive to radio frequency energy.

If the flight crew asks you to turn off your radio while on an airplane, please comply. When using a radio on a plane, always follow the airline's rules and crew instructions.

Operational Warnings

Vehicles with Airbags

Do not place the portable radio above or within the area that could be impacted when the airbag deploys. In the event of a rapid airbag deployment, the radio could be propelled with significant force and cause injury to the occupants of the vehicle.

Potential Explosive Atmosphere

If you are in an environment or situation with a potential explosive atmosphere, turn off the radio, unless your radio is a special model with specific certifications (e.g., Atex, FM or Cenelec certified). In a potential explosive atmosphere, electrical sparks can lead to explosions or fires, causing injury or even death.

Batteries

Do not replace or charge the battery in a potential explosive atmosphere, as installing or removing the battery could cause electrical sparks, leading to an explosion.

Batteries in Blasting Zones and Areas with Detonators

When near a blasting zone or an area containing detonators, turn off your radio beforehand to avoid potential explosions. Always comply with regulations in "blasting zones" or any other areas marked with "Please turn off the radio."

Note: The potential explosive atmosphere mentioned above includes fuel areas such as: the lower decks of ships; fuel or chemical transport vehicles or storage areas; areas with chemicals or dust in the air; and any other areas where you are usually reminded to turn off your vehicle engine. These environments typically have clear warning signs, but they may not always be present, so please be cautious.

Operational Tips

Damaged Antenna

Do not use a damaged antenna. If a damaged antenna touches your skin, it could cause a minor burn.

Batteries

If metal conductors such as jewelry, keys, or chains come into contact with the exposed battery terminals, the battery may short-circuit and cause damage or personal injury, such as burns. Handle fully charged batteries with care, especially when placing them in pockets, wallets, or containers with other metal objects.

Two way radio General Maintenance

- Using chemicals like stains, alcohol, sprays, or petroleum-based products can damage the surface and casing of the radio.
- Handle the radio with care and avoid carrying it by the antenna.
- When not using accessories, cover the device with a dust cap (if available).
- Clean the radio's exterior with a cloth dampened with water or neutral soap, but be careful not to let water get into the device's interior.
- Using non-approved accessories may cause damage to the radio and void its warranty.

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 received, including interference that may cause undesired operation.

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.

This radio is designed for and classified as "Occupational/Controlled Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards; NOT intended for use in an General population/uncontrolled environment.

DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.

DO NOT transmit for more than 50% of total radio use time, more than 50% of the time can cause RF exposure compliance requirements to be exceeded.

This transmitter may operate with the antenna(s) documented in this filing in Push-to-Talk and body-worn configurations. RF exposure compliance is limited to the specific belt-clip and accessory configurations as documented in this filing and the separation distance between user and the device or its antenna shall be at least 2.5 cm.