



E-pack200 Digital WANET Repeater User Manual

Preface


Thank you for purchasing this product. This manual includes a description of the functions and step-by-step procedures for use.


This manual is applicable to the following product:

E-pack200 Digital WANET Repeater

Icon Conventions

The following icons are available through this manual:

 **CAUTION:** Indicates situations that could cause data loss or equipment damage.

 **NOTE:** Indicates references that can further describe the related topics.

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FCC Regulations

Federal Communication Commission (FCC) requires that all radio communication products should meet the requirements set forth in the above standards before they can be marketed in the U.S, and the manufacturer shall post a RF label on the product to inform users of operational instructions, so as to enhance their occupational health against exposure to RF energy.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then 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 different circuit to that of the receiver's outlet.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

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

Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit not more than 50% of the time and always adhere to the following procedures:

- Antenna gain must not exceed 3.5dBi.
- The antenna must be installed complying with the requirements of manufacturer or supplier, and when power set to High or Mid, it must be at least 60cm away from human body.

Compliance with RF Exposure Standards

Hytera's radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR § 1.1307, 1.1310 and 2.1091
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005; Canada RSS102 Issue 5 March 2015
- Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition

ISED Statement

This device complies with Innovation, Science and Economic Development Canada Compliance license-exempt RSS standard(s). Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

ISED Radiation Exposure Statement:

This device must be restricted to work related operations in an Occupational/Controlled RF exposure Environment.

This equipment should be installed and operated with minimum distance 60cm between the antenna & your body.

ISED exposition aux radiations:

Ce dispositif doit être limité aux opérations liées au travail dans un environnement d'exposition RF professionnel/contrôlé.

Cet équipement doit être installé et utilisé avec un minimum de 60cm de distance entre le antenne et votre corps.


EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive:

- 2014/53/EU

Please note that the above information is applicable to EU countries only.

The maximum antenna gain is 3.5 dBi, which is calculated in the EIRP. The distance from observation point to the antenna is 50 cm.

				
AT	BE	CY	CZ	DK
EE	FI	FR	DE	EL
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	UK
BG	RO	HR		

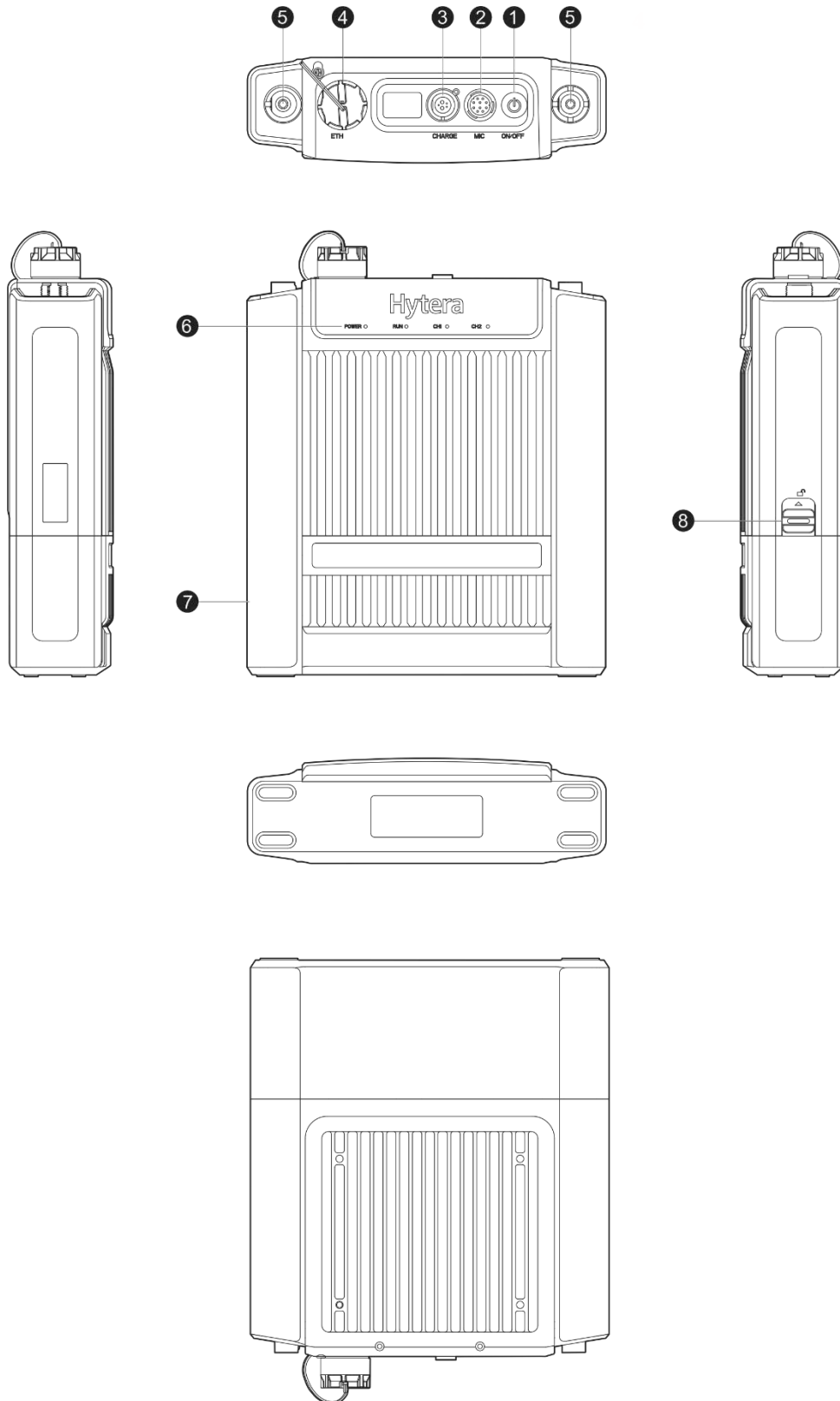
Restrict use warning:

Contents

1. Product Layout	1
1.1 Main Unit	1
1.2 Power Adapter	2
1.3 Remote Speaker Microphone	3
2. Before Use	4
2.1 Attaching the Battery	4
2.2 Charging the Battery	5
2.3 (Optional) Attaching the SIM and TF Cards	5
2.4 Attaching the Antenna	6
2.5 Attaching the Remote Speaker Microphone	6
2.6 (Optional) Mounting the Main Unit onto the Backpack.....	6
3. Basic Operations	8
3.1 Turning On the E-pack200.....	8
3.2 Turning Off the E-pack200.....	8
3.3 Locking/Unlocking the Keypad of the Remote Speaker Microphone	8
3.4 Switching the Channel	8
3.5 Adjusting the Volume	8
3.6 Checking the Battery Level	9
4. Status Indicators	10
4.1 Icons on OLED Display of the Remote Speaker Microphone	10
4.2 Indicators on the Main Unit	10
5. Call Services	12
5.1 Initiating a Call over the PMR Network	12
5.2 Initiating a Call to a GSM User	12
5.3 Answering a Call.....	12
5.4 Ending a Call	12
6. Advanced Operations	13
6.1 Viewing the Call Logs	13
6.2 Basic Settings.....	13
6.3 Viewing Alarms.....	15
6.4 Viewing Device Information	15
7. Troubleshooting	16
8. Care and Cleaning	17
8.1 Product Care	17
8.2 Product Cleaning	17
9. Optional Accessories	18
10. Abbreviations	19

1. Product Layout

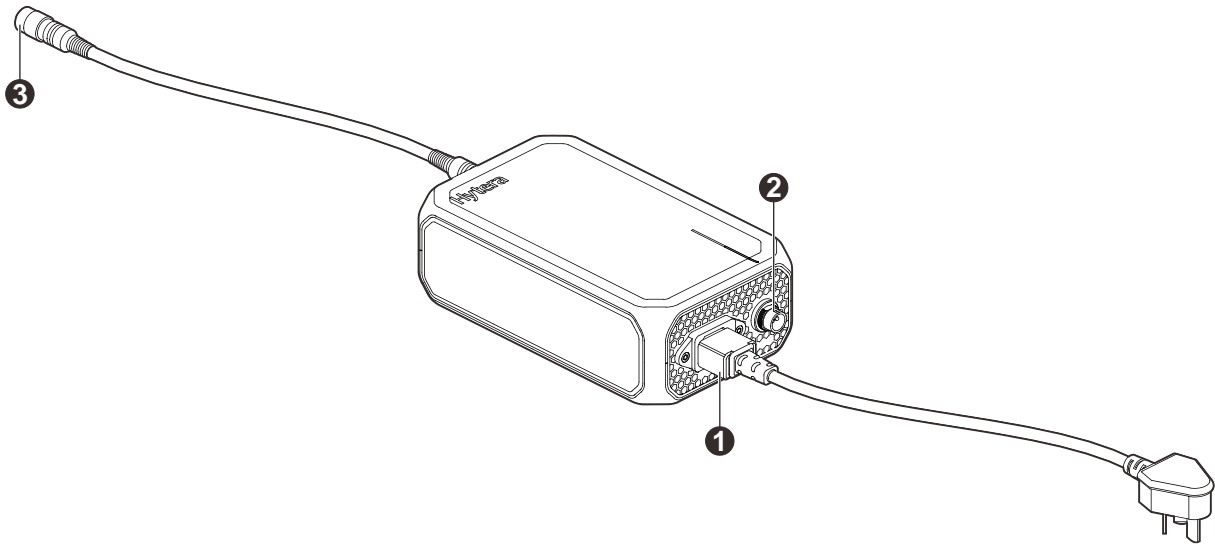
1.1 Main Unit



No.	Part Name	No.	Part Name
1	Power On-Off Key	5	RF Antenna Connector

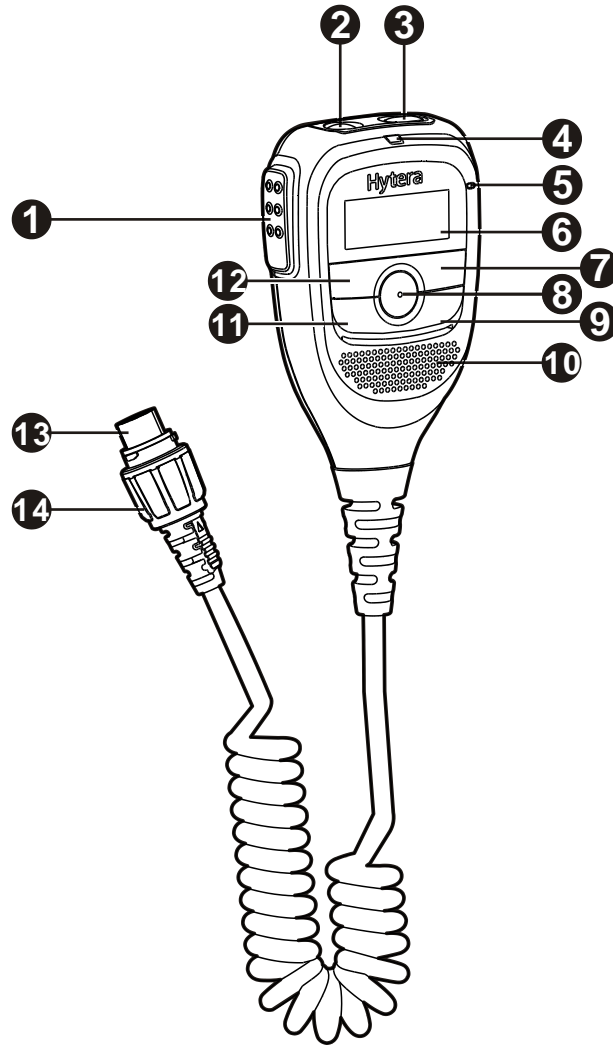
No.	Part Name	No.	Part Name
2	Palm Microphone Connector	6	LED Indicator
3	Power Inlet	7	Battery
4	Ethernet Port	8	Battery Latch

1.2 Power Adapter



No.	Part Name
1	AC Power Inlet
2	DC Power Inlet
3	Output Connector

1.3 Remote Speaker Microphone



No.	Part Name	No.	Part Name
1	PTT Key	8	OK/Menu Key
2	Emergency Key	9	Back/End Key
3	Power On-Off Key	10	Speaker
4	LED Indicator	11	Answer Key
5	Microphone	12	Up Key
6	OLED Display	13	Connector
7	Down Key	14	Connector Knob

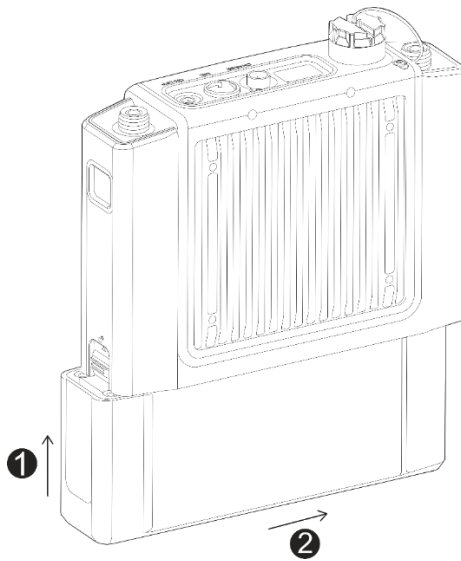
2. Before Use

NOTE

Figures in this manual are only for reference.

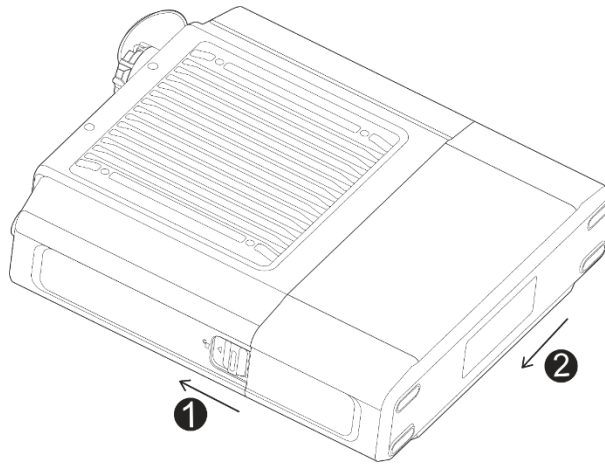
2.1 Attaching the Battery

1. Align the battery with the main unit, and then push the battery upwards firmly.
2. Push the battery to the right until you hear a click.



(Optional) To remove the battery, do as follows:

1. Press the battery latch upwards and hold it.
2. Pull the battery to the left.
3. Pull down the battery.



2.2 Charging the Battery

CAUTION

- Use the approved power adapter to charge the battery.
 - Read the *Safety Information Booklet* before charging.
-

You can charge the battery separately with the power adapter, or charge the E-pack200 with the battery attached after turning off the E-pack200.

1. Connect the output connector of the power adapter to the power inlet of the battery or the main unit.
2. Connect the power adapter to a power socket.
3. Observe the battery level indicator on the battery to check the charging status. Each LED represents 20% of the battery capacity.

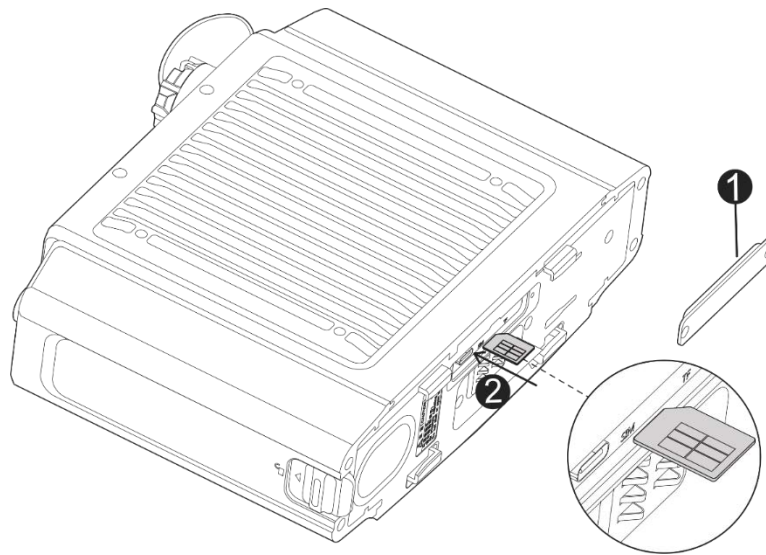
2.3 (Optional) Attaching the SIM and TF Cards

An SIM card is required if you want to repeat voice services via a GSM link or call GSM users. A TF card is required if you want to make an encrypted call.

The SIM and TF cards are installed at the bottom of the main unit.

NOTE

The E-pack200 supports only GSM SIM card.

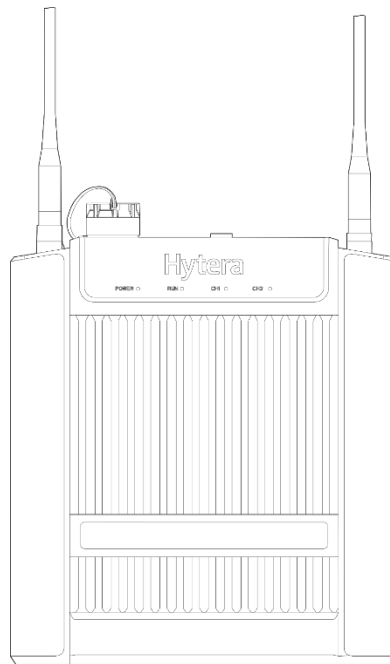


2.4 Attaching the Antenna

NOTE

- Ensure that the antenna is of the correct frequency range. You can use a suction cup as per needs.
- Ensure that the antenna is properly installed before turning on the E-pack200.

Put the antenna on the antenna connector on the main unit, and then rotate the antenna clockwise till hand tight.



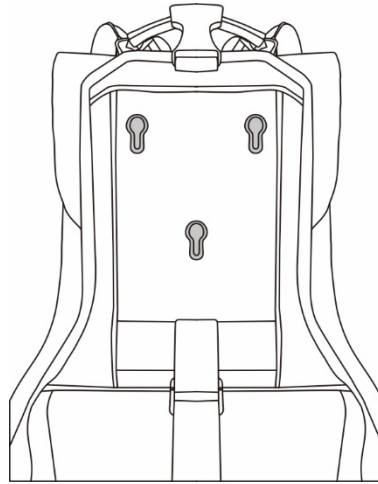
2.5 Attaching the Remote Speaker Microphone

Insert the remote speaker microphone to the palm microphone connector of the main unit.

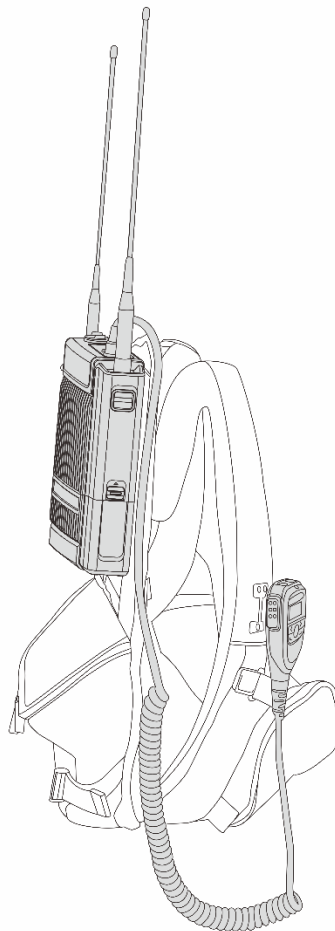
2.6 (Optional) Mounting the Main Unit onto the Backpack

The backpack is optional. To mount the main unit onto the backpack, do as follows:

1. Adhere three spacers to the three corners on a backplate and tighten the pegs to the backplate with three M3 screws.
2. Fix the backplate to the back of the main unit with three M4 screws.
3. Mount the three pegs on the back of the main unit to the three mountings holes on the backpack.



4. Adjust the binding straps of the backpack to tighten the main unit.
5. Attach the remote speaker microphone to the shoulder strap as per needs.



3. Basic Operations

3.1 Turning On the E-pack200

To turn on the E-pack200, do either of the following:


- Press and hold the **Power On-Off** key on the main unit for one second. The POWER indicator glows red and the RUN indicator flashes green.
- Press and hold the **Power On-Off** key on the remote speaker microphone for three seconds until the main interface appears on the OLED display.

3.2 Turning Off the E-pack200

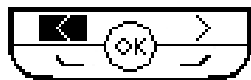
To turn off the E-pack200, do either of the following:

- Press and hold the **Power On-Off** key on the main unit for three seconds.
- Press and hold the **Power On-Off** key on the remote speaker microphone for three seconds until the OLED display is off.

3.3 Locking/Unlocking the Keypad of the Remote Speaker Microphone

If you do not operate the remote speaker microphone for five seconds, its keypad will be automatically locked and  will appear on the OLED display.

To unlock the keypad, press  and then .












3.4 Switching the Channel

On the remote speaker microphone, press  or  to switch the channel.

You can press the **PTT** key to initiate a call on the current channel.


3.5 Adjusting the Volume

1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .
3. Press  or  to select **Volume**, and then press .
4. Press  to decrease the volume or  to increase the volume.

3.6 Checking the Battery Level

To check the battery level, do either of the following:

- Through the icon on the OLED display

The icon on the OLED display of the remote speaker microphone indicates remaining battery level. If the icon  appears, it indicates low battery power. In this case, recharge or replace the battery.



















- Through the **Battery Level Check** key

Tap the **Battery Level Check** key on the battery to know the remaining battery level. Each LED represents 20% of the battery capacity. If all the LED indicators on the battery are off, it means the battery is exhausted or faulty.

4. Status Indicators

4.1 Icons on OLED Display of the Remote Speaker Microphone

The following table describes the connotations of icons on the OLED display of the remote speaker microphone.

Icon	Description
	The remote speaker microphone is working on RF path 1.
	The remote speaker microphone is working on RF path 2.
	The SIM card is not installed.
	There is no GSM signal.
	More bars indicate stronger GSM signal.
	GSM link is being established.
	The E-pack200 is receiving a GSM call.
	The E-pack200 is initiating a GSM call.
	The current TX power is low.
	The current TX power is medium.
	The current TX power is high.
	The GPS service is enabled, but no valid positioning data has been received.
	The GPS service is enabled, and valid positioning data has been received.
	The WLAN is connected.
	The E-pack200 receives an alarm message.
	The E-pack200 is forbidden to transmit under low battery power. Charge or replace the battery.
	More bars indicate more remaining battery power.
	It indicates the current channel number.

4.2 Indicators on the Main Unit







LED Indicator	Status	Description
PWR	Glows red	The E-pack200 is supplied with power normally.
RUN	Flashes green	The E-pack200 is operating normally.
	Flashes orange	The E-pack200 is operating normally and is connected to the SmartOne dispatch.
CH1	Off	CH1 is idle.
	Glows red	The speaker is transmitting on CH1.
	Glows green	The E-pack200 is repeating voice on CH1.
CH2	Off	CH2 is idle.
	Glows red	The speaker is transmitting on CH2.
	Glows green	The E-pack200 is repeating voice on CH2.

5. Call Services

Before making a call, connect the remote speaker microphone to the main unit and ensure that the call number is already configured in the E-pack200 Standalone Network Management System and written into the main unit.





















5.1 Initiating a Call over the PMR Network

To make a call to a private contact, group contact, or an all call contact, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Contacts**, and then press .
3. Press  or  to select a contact.
4. Press the **PTT** key.

5.2 Initiating a Call to a GSM User

To make a call to a GSM user, do either of the following:

- Through manual dialing
 - a. On the remote speaker microphone, press .
 - b. Press  or  to select **Recent Calls**, and then press .
 - c. Press  or  to select **Manual Dial**, and then press  to enter the call number.
 - d. Press  or  to select the number, and then press .
 - e. Press  to confirm the call number.
 - f. Press  to initiate the call.
- Through the contact list
 - a. On the remote speaker microphone, press .
 - b. Press  or  to select **Telephone Book**, and then press .
 - c. Press  or  to select the call number.
 - d. Press  to confirm the call number.
 - e. Press  to initiate the call.

5.3 Answering a Call

You can answer the call without any operation.










5.4 Ending a Call

Press  and then  to end the call.

6. Advanced Operations

6.1 Viewing the Call Logs










To view the call logs, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Recent Calls**, and then press .
3. Press  or  to select **Incoming Call** or **Outgoing Call**, and then press .
4. Press  or  to view the call logs.

6.2 Basic Settings







6.2.1 Selecting a Power Level

The E-pack200 can operate in low, medium, or high power mode. You are advised to select high TX power when the signal is weak. To select a power level, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .
3. Press  or  to select **Power**, and then press .
4. Press  or  to select **Low**, **Medium**, or **High**.

6.2.2 Selecting a Zone

A zone is a group of channels within the same operational area. To select a zone, do either of the following:





- Through the **Settings** menu
 - a. On the remote speaker microphone, press .
 - b. Press  or  to select **Settings**, and then press .
 - c. Press  or  to select **Zone Select**.
- Through the key






On the remote speaker microphone, press  twice continuously to switch a zone.

6.2.3 Setting a Squelch Level

The squelch level defines the signal strength required for the received signals. It can be set to low, medium, and high.








To set a squelch level, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .

3. Press  or  to select **Squelch**, and then press .
4. Press  or  to select **Low**, **Medium**, or **High**.

6.2.4 Viewing the Location Information

To query the geographic information of the E-pack200, do as follows:










1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .
3. Press  or  to select **Location**, and then press .

6.2.5 Viewing Information of a Neighbor E-pack200












Ensure that the **Neighbor Query** feature is enabled for the current E-pack200 in the E-pack200 Standalone Network Management System.

To query the device ID and RSSI of a neighbor E-pack200, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .
3. Press  or  to select **Neighbor**, and then press .
4. Press  or  to view the information of a neighbor E-pack200.

6.2.6 Turning On or Off the WLAN





After the E-pack200 is connected to the WLAN network, you can access the Internet or share media files with other devices. To turn on or off the WLAN, do as follows:







1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .
3. Press  or  to select **WLAN**, and then press .
4. Press  or  to turn on or off the WLAN.

6.2.7 Setting the System Language

The system supports Chinese and English.







To set the system language, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Settings**, and then press .

3. Press  or  to select **Language**, and then press .
4. Press  or  to select **Chinese** or **English**, and then press .







6.3 Viewing Alarms

To view alarms of the current E-pack200, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Alarms**, and then press .
3. Press  or  to view the alarms details.

6.4 Viewing Device Information

To view the device information, do as follows:

1. On the remote speaker microphone, press .
2. Press  or  to select **Device**, and then press .
3. Press  or  to view the following information about the device.

Item		Description
Device ID		The unique ID of the E-pack200.
Radio ID		The call number of the E-pack200. Other users can reach the E-pack200 by calling this number.
Local IP		The IP address of the E-pack200. Used to program the E-pack200 or connect to the control center.
Mobile Info	GSM Number	The GSM number of the E-pack200. A GSM user can reach the E-pack200 by calling this number.
	IMEI	International Mobile Equipment Identity of the E-pack200.
Version		The software version of the E-pack200 and remote speaker microphone.

7. Troubleshooting

Phenomena	Possible Cause	Solution
The device cannot be turned on.	The battery may be attached improperly.	Remove and reattach the battery.
	The battery power may be low.	Check the battery status. If the battery is exhausted, recharge it or connect the device to the external power supply.
E-pack200 devices fail to communicate with each other.	The TX and RX frequencies of the E-pack200 device may be inconsistent with those of other E-pack200 devices.	Change the frequency settings.
	The E-pack200 device may be subject to strong interference.	Stay away from the interference source, or change the channel or frequency settings.
	Other E-pack200 devices may be out of the signal coverage of the current E-pack200.	Ensure that other devices are within its signal coverage.
	The antenna may be improperly connected.	Reconnect the antenna.
Call distance is short and voice is unclear.	The cable may be damaged, which may cause leakage of signal energy.	Check the cable and replace it if necessary.
	The cable connector to the antenna interface may be loose or detached.	Tighten the connector, or replace the connector if necessary.
	The TX power may be too low.	Set the TX power level to "High".
	The cable may be damaged internally.	Replace the cable.
	The E-pack200 device may be subject to strong interference.	Stay away from the interference source, or change the channel or frequency settings.

If the above solutions cannot fix your problems, or you may have some other queries, please contact us or your local dealer for more technical support.

8. Care and Cleaning

To guarantee optimal performance as well as a long service life of the device, follow the tips below.

8.1 Product Care

- Do not pierce or scrape the device.
- Keep the device away from substances that can corrode its circuitry.

8.2 Product Cleaning

 **CAUTION**

Turn off the device and disconnect the power cable before cleaning.

- Clean up the dust and fine particles on the device surface with a clean and dry lint-free cloth or a brush regularly.
- Use a non-woven cloth with neutral cleanser to clean the device after long-time use. Do not use chemical preparations such as stain removers, alcohol, sprays, or oil preparations, so as to avoid potential damage to the surface
- Make sure that the device is completely dry before use.

9. Optional Accessories

Contact your local dealer for the optional accessories used with the device.

CAUTION

Use the accessories approved by the Company only. Otherwise, the Company shall not be liable for any loss or damages arising out of the use of unauthorized accessories.

10. Abbreviations

Abbreviation	Full Name
GSM	Global System for Mobile Communications
ID	Identity document
IMEI	International Mobile Equipment Identity
MIC	Microphone
OLED	Organic Light-Emitting Diode
PTT	Push-to-talk
SIM	Subscriber Identity Module
WLAN	Wireless Local Area Networks



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