RP-80 User Guide

Table of Contents

Safety Precautions

- Please read this instruction book carefully before use.
- Intrinsically safe products are prohibited from connecting with other unauthorized devices!
- Use of electric batteries other than our supplies is strictly prohibited.
- During maintenance, do not change any component parts, specification, model or parameters of the intrinsic safety circuit.
- Unauthorized repair or removal of batteries is strictly prohibited!
- Installation and commissioning must be performed by our professional technicians.
- For use in mines or pits, it is strictly forbidden to open, install, repair or charge the cell phone under the shaft.

Working Conditions

- Elevation above sea level: not higher than 2,000m
- Ambient temperature: 0~40°C
- Atmospheric pressure: (80~106) kPa
- Relative humidity: not higher than 90% (25°C)
- Applicable to mines containing methane, coal dust and other explosive mixture

Physical Properties

- Size: 120 mm (L) * 52 mm (W) * 22 mm (H)
- Weight: 139g
- Battery: 3.7V/1200mAh
- Standby time: 100h
- Airtime: 6h

Package Contents

- One cell phone
- One charger
- One USB to AC adaptor

Storage

- Temperature: -10~40°C
- Relative humidity: not higher than 90% (25°C)
- Duration: 12 months

1 Overview

RP-80 WiFi SIP phone is easy to operate and carry. With the proper network coverage (802.11b/g), voice communication and message communication are achieved between cell phones. The phone enjoys a high receiving sensitivity, which guarantees the maximum utilization of wireless network. It is also characterized by low power consumption and long standby time. The phone is operated by a rechargeable Lithium Battery, which can be recharged by the desktop charger supplied.
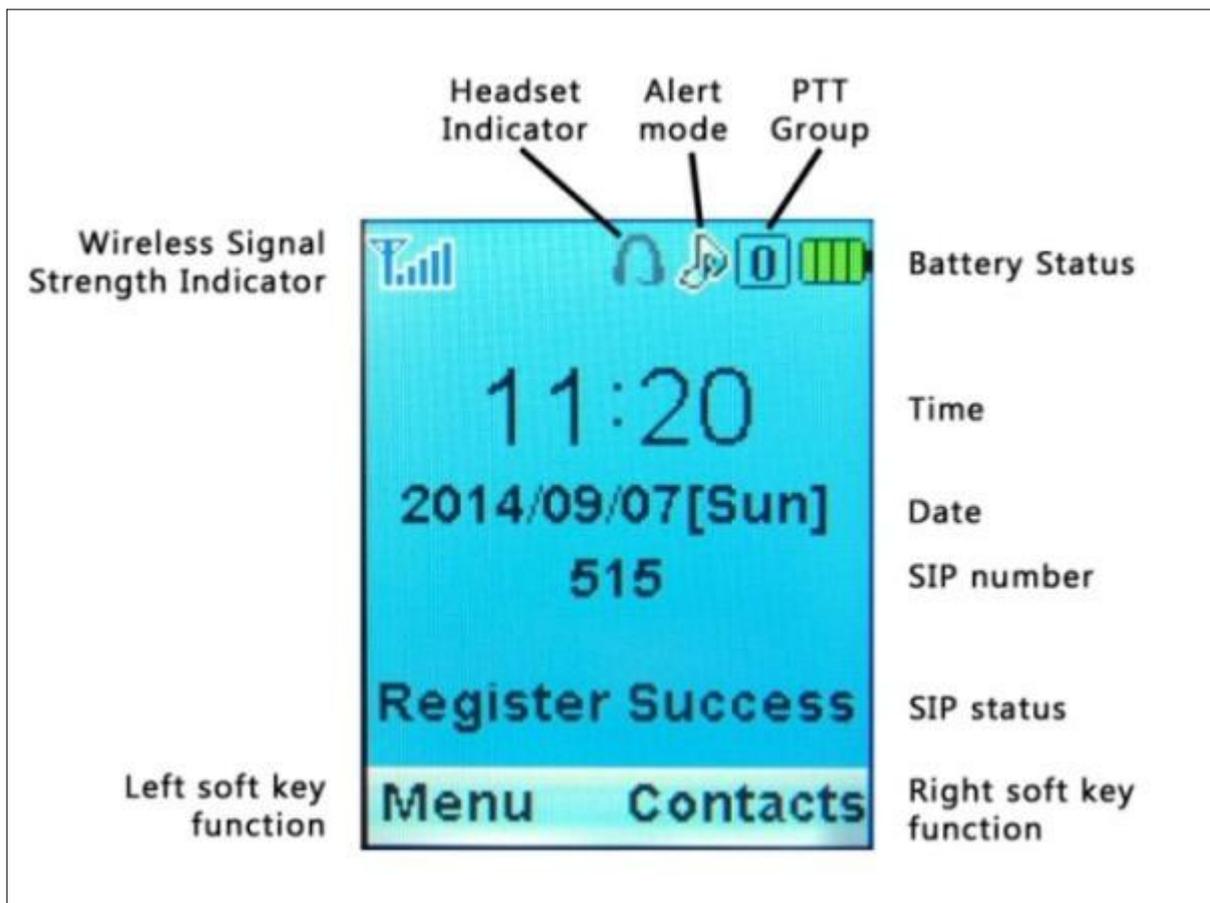
2 Structural Diagram

Emergency key · PTT key · Screen · Enter key · Call key · Navigation keys · Receiver · Headphone jack · Return key · Hang-up key · Number keypad · Microphone · Speaker · Cover screws · Label area · Recharge interface

3 Quick Start Guide

Boot

Press down the **"Power"** key till backlight is on and boot animation will begin. Once start up is complete, the idle screen will be shown.

Idle Screen

If the phone is already configured with a SIP profile, the RP-80 SIP phone will automatically search for a network and register to the SIP server. The registration status and signal intensity will be displayed on the screen. If no authorized network is found, the screen will show an absence of network.

Connecting to Internet

The following steps will search, configure and connect your phone to the WIFI wireless internet:

1. Press the left soft key to enter the main "**Menu**"
2. Press the down navigation key until you get to the function "**Network**" and press the "OK" soft key
3. Enter the default Admin password **080921** and press the "OK" soft key
4. Navigate down the menu and select "**Internet Protocol**" (Details in section 4.4.3)
5. Select "**DHCP**" and proceed to enable it

6. Press the right "Back" soft key to return to the Network menu
7. Navigate down to "**AP Search**" and press the "OK" soft key (Details in section 4.4.5)
8. Find your Access Provider (AP) from the list and press the "Save" soft key
9. You will be prompted to enter the security key if this is a secured network
10. You are now in the "**AP Configuration**" menu where the parameters of your AP needs to be configured (Details in section 4.4.1)
11. Once your configuration is complete, press the "Back" soft key to return to the main menu
12. From the main menu, navigate to "**Off Network**" (Details in section 4.5)
13. Select "**AP Mode**" and press the "OK" soft key, your phone will automatically reboot

Connecting to EPBX Server

The following steps will configure your phone with a SIP extension already configured on the EPBX server:

1. Press the left soft key to enter the main "**Menu**"
2. Press the down navigation key until you get to the function "**Network**" and press the "OK" soft key
3. Enter the default Admin password **080921** and press the "OK" soft key
4. Navigate down to "**Signal Protocol**" and press the "OK" soft key (Details in section 4.4.2)
5. Select "**SIP**" from the menu
6. Select and input the following parameters of the SIP extension that is already configured in the EPBX

- SIP User Name = extension
- SIP Password = secret
- Auth User Name = extension
- SIP Register Server Domain Name = EPBX domain name or IP address
- SIP Register Server Port = SIP port number (5060 is the default)

Reboot

You will need to reboot the phone for Network changes to take effect.

Dialup

Press the numbers you want to dial when the phone is in standby. Press the "**Return**" key on the right side to delete wrong numbers. Press the "**Call**" key to make the call.

Receive Call

Phone will ring when there is an incoming call. If the network supports it, the screen will display the caller's name and calling number (depending on whether the relevant information is stored in your phonebook). Press the "**Call**" key to answer the call.

Reject Call

If you do not want to receive the incoming call, press the "**Hang-up**" key to reject it.

End Call

Press "**Hang-up**" key to end the call, or cancel dialing.

Adjust Volume

Adjust the volume via the menu selection (set volume?) , or by pressing the "**Navigation**" keys during conversation.

Power off

Press down the "**Hang-up**" key under standby mode until the phone is turned off.

Other

- Enter the SMS function by pressing the upper navigation key.
- Check received calls by pressing the lower navigation key.
- Enter the function table by pressing the left navigation key.
- Press the answer key to check dialed numbers.
- Press the right soft key to check phonebook.

4 Menu Structure

To access the main menu, press the left soft key to access the "Menu", then use the up and down navigation keys to access the submenus:

1. Messages (SMS)
2. Contacts (Phonebook)
3. Call Log (Call history)
4. Network
5. Off Network
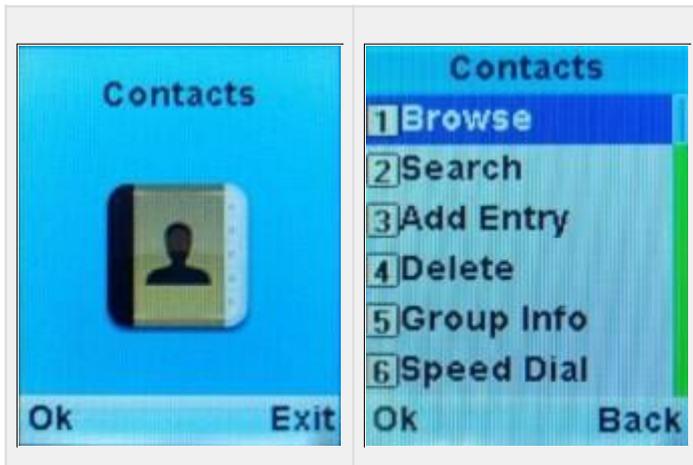6. PTT Setting (Push-To-Talk)
7. System Setting

4.1 Messages

This function allows you to send, receive, forward and edit various written messages. Inbox and outbox can store up to 100 messages. The capacity for draft box is 10 messages. Customer's erver support is required for this service,

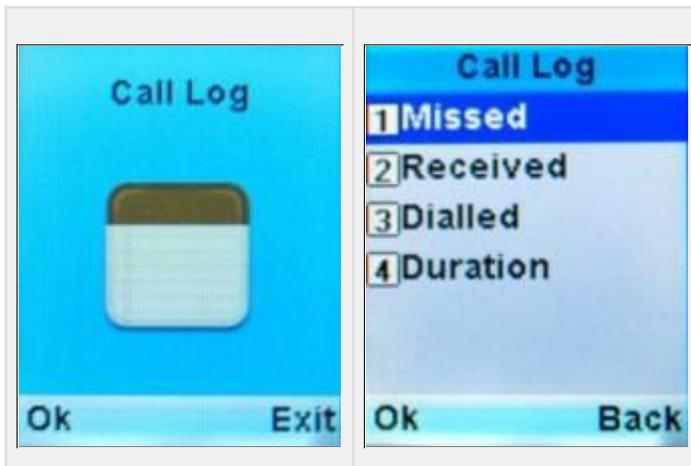| Menu Selection	Description
Compose	To create a new message.
Inbox	Messages read or unread are stored in inbox.
Outbox	Messages successfully sent or failed in sending are stored in outbox.
Draft	To access messages not sent.
Status	To indicate the storage status of every box, i.e. the number of messages that can be stored and the number that has been stored.

4.2 Contacts (Phonebook)

In the phonebook function, you can list all your contacts, save, edit or delete entries. You can also use "groups" to organize the contacts list. The list can store a maximum of 400 entries.

Menu Selection	Description
Browse	To browse all the entries in your phonebook. If there is no entry in your list, a dialog box will show on the screen and you will be returned to the Contacts menu.
Search	To search for a contact in your phonebook. In the search interface, you input the first letters of the name and the display will start listing the entries that match. If there is no entry in your list, a dialog box will show on the screen and you will be returned to the Contacts menu.
Add Entry	To add a new contact to your phonebook. The interface will list all the fields for the contact, use the up and down navigation key to select the field to update.
Delete	To delete a contact from your phonebook. You can choose to delete "One by One" or "All" the contacts in the phonebook.
Group info	Group info will list all the groups in your phonebook. Use the up and down navigation key to select the group to view the list of contacts in that group. Use the up and down navigation key to select the contact and press the "Call" key to initiate a call.

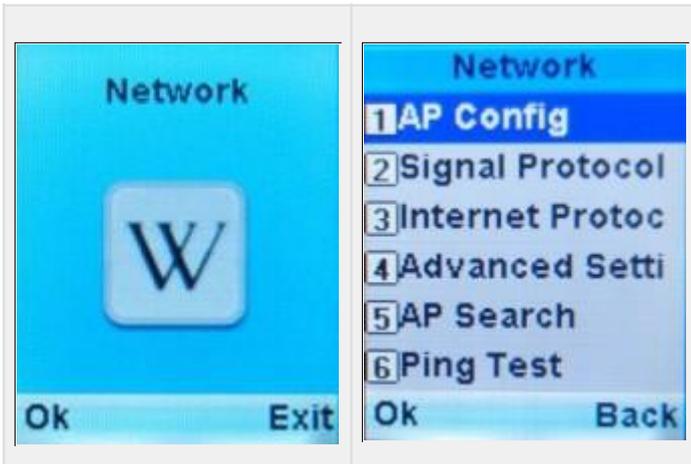|	
Speed Dial	This interface is used to program the speed dial keys. A maximum of 9 phone numbers can be set for speed dial - corresponding to the number keys from 1 to 9. To make a call using speed dial, press and hold the corresponding number key.
Memory	Memory will show the storage status of your phonebook. It will list the maximum number of contacts that can be stored, and the number that has been used.

4.3 Call Log (Call history)

This function allows you to check recent missed calls, received calls, dialed numbers, conversation time and other information. The history log will save a maximum of 20 missed calls, received calls and dialed numbers.
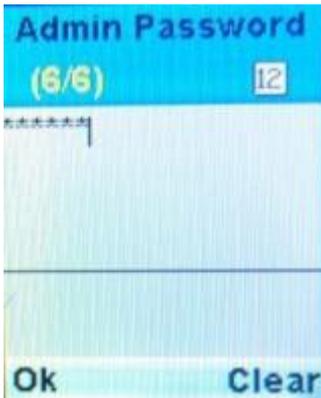
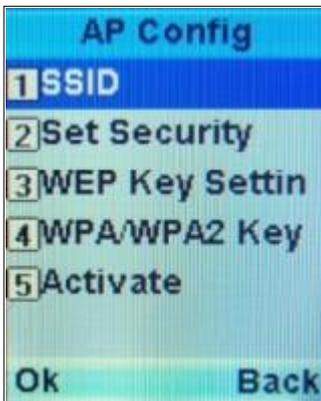| Menu Selection	Description
Missed calls	To display the numbers of calls recently missed.
Received calls	To display the numbers of calls recently received.
Dialed numbers	To display the numbers of calls recently dialed.
Duration	You can check the duration of your last call, received and outgoing

4.4 Network

The network menu is mainly used to set WIFI wireless parameters, IP network parameters and VOIP parameters. Please contact your system administrator to obtain the correct network parameters. You need to enter the admin password to access this menu. The default admin password is **080921**.

> ⚠ **You must re-boot your phone for the new settings to take effect.**

4.4.1 AP Config

Parameters	Description

SSID	This option is to set the AP's SSID. Input the network name (32 alphanumeric characters maximum), and press the soft key on the left.
Set Security	This option is to set the safety parameters of the WIFI wireless network. You can choose from Open System, WEP key, WPA-TKIP, WPA-AES. WPA-Auto or WPA2. If WEP key is chosen, you will need to set the WEP Key. If WPA encryption is chosen, you shall set the WPA/WPA2 Key.
WEP Key setting	If the safety mode of AP config file is WEP key, use this option to set WEP key. Please follow the operations below to set: Choose 64-bit or 128-bit based on the WEP key of WIFI wireless network, and then press the soft key on the left. • For 64-bit, make sure the WEP key is comprised of 5 ASCII characters or 10 hexadecimal characters. • For 128-bit, make sure the WEP key is comprised of 13 ASCII characters or 26 hexadecimal characters. • Note: Settings of WEP key may be different, depending on the settings of the WIFI wireless network. • If the WIFI wireless network only supports one fixed hexadecimal-character key, you shall input the same WEP key as the phone's. • If the WIFI wireless network supports both ASCII and hexadecimal WEP keys, you may input either ASCII or hexadecimal key.
WPA/WPA2 Key Setting	If the safety mode of WIFI wireless network is WPA/WPA2 PSK, use this option to set WEP key. Input the **WPA-PSK** value, and press the soft key on the left to confirm.
Activate	Not used

4.4.2 Signal Protocol

This option is used to set VOIP and other protocols.

SIP

This option is used to set the SIP parameters. After entering the data for each field, press the left soft key to save the information.

Parameters	Description
SIP User Name	Enter the SIP user name (1-32 alphanumeric characters) - this will appear on the idle screen display of your phone
SIP Password	Enter the SIP password (0-32 alphanumeric characters)
Auth User Name	Enter the Authorization user name. In most cases, the authorization user name is the same as the SIP user name.
SIP Register Server Domain Name	Enter the domain name or IP address of the SIP server
SIP Register Server Port	Enter the SIP port number. The default is 5060.
Use Outbound Proxy	Use this option to enable or disable the SIP outbound proxy. Please contact your server administrator for detailed setting. It is disabled by default.
SIP Outbound Server Domain Name	This setting is necessary only when Outbound proxy is enabled. Enter the domain name or IP address of the SIP Outbound server.
SIP Outbound Server Port	This setting is necessary only when Outbound proxy is enabled. Enter the Outbound port number.
SIP Register Duration	This setting is necessary only when Outbound proxy is enabled. Enter the SIP registration duration.

RTP

Parameters	Description
Codec Setting	Use this option to select the voice coding: g.711a, g.711mu or g.729.
DTMF Mode	Use this option to select the Dual Tone Multi-Frequency mode: RFC2833 or Inband.

Emergency Call

This feature is not in use.

Firmware update

This feature is not in use.

Parameter download

This feature is not in use.
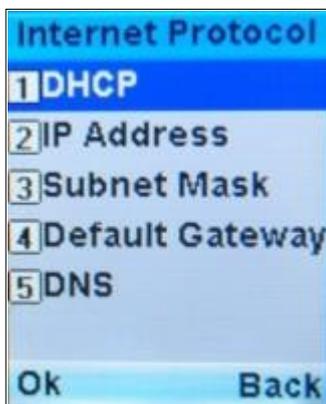
SNTP

To set parameters related to Internet time.

Parameters	Description
NTP Mode	Use this option to enable of disable NTP
NTP Server	Enter the IP address of the NTP Server
Update Now	Select this option to execute the update

Tracker

To enable and configure mobile assisted positioning parameters. When this feature is enabled, the phone saves the currently connected AP's MAC address and signal strength as well as its own MAC address, this information is sent to the tracker server to use.

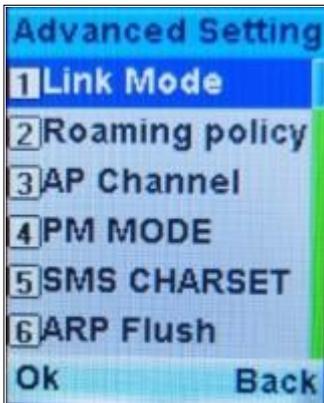| Parameters	Description
Tracker Mode	Use this option to enable or disable Tracker function
Tracker Server	Enter the IP address of Tracker Server
Tracker Server Port	Enter the port number of Tracker Server
Time Period	Enter the frequency of transmission

4.4.3 Internet protocol

This option is to set the IP network parameters.

> ⚠️ **You need to set the IP address, subnet mask, default gateway and DNS server parameters only when DHCP is disabled.**

Parameters	Description
DHCP	If DHCP is enabled, DHCP server will assign an IP address to the phone. Use this option to enable or disable DHCP.
IP Address	Enter the IP address of your phone.
Subnet Mask	Enter the subnet mask.
Default Gateway	Enter the IP address of the default gateway.
DNS - Primary DNS Server IP Address	Enter the IP address of the primary DNS server
DNS - Secondary DNS Server IP Address	Enter the IP address of the secondary DNS server

4.4.4 Advanced Settings

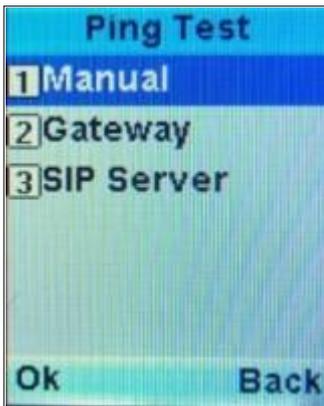| Menu Selection	Description
Link mode	Users may set the connection mode to be automatic connection, or via 802.11b or 802.11g protocol.

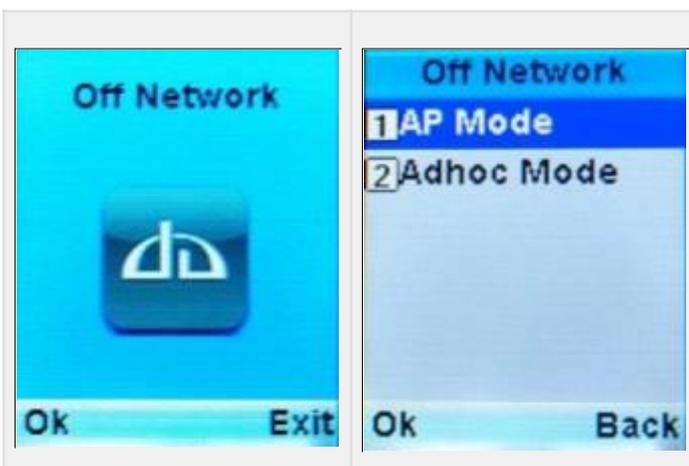| Roaming policy	Set the AP channel search mode. There are 3 options: • Tactics1: Scan one channel at a time for a strong AP signal • Tactics2: Scan all channels at once and find the channel with the strongest signal • Tactics3: Not used
AP Channel	This option is used to set the channel of wireless network. The default channels are: 1, 6 and 11.
PM Mode	Select PM mode: PS-POLL or PS-PMBIT
SMS CHARSET	Select SMS character set: UTF8 or GB2312
ARP Flush	Enable or disable ARP Flush
Password Protect	Enable or disable password protect. The default setting is enabled.
Password Set	This is to set the Admin password.
Restore Factory Config	The option is used to restore the phone to factory settings.
Roam Parameter	Configure roaming parameters: Switch Threshold and Scan Interval

4.4.5 AP Search

This function will search for available networks, list the AP information, and save the selected AP configuration. The "Save" operation redirects to the AP Config menu and autofills the parameters with information from the selected AP (see section 4.4.1).

4.4.6 Ping test

Use the Ping function to test connectivity of your network.
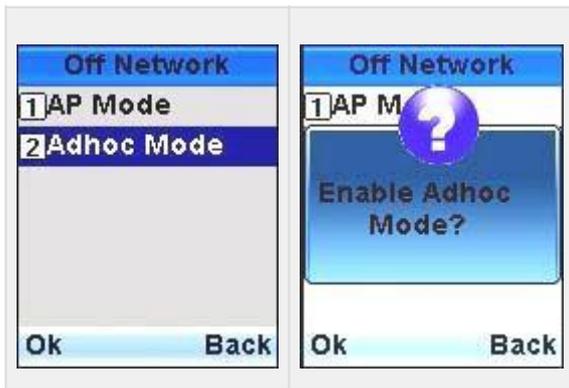
4.5 Off Network

Set the communication mode, choose between AP and Ad-hoc communication modes. The phone will reboot automatically each time you switch between the two modes.

4.5.1 AP Mode

> ⚠ If your phone needs to register to a SIP server (e.g. EPBX server), you must set this option to **AP Mode**. Now your phone can communicate with all devices connected to the server.

If you have network connectivity, then you want to set your communication to AP mode. In AP mode, the phone will connect to the saved AP profile (section 4.4.1).

4.5.2 Adhoc Mode

The idle screen in Adhoc mode will display the SIP number generated automatically by the phone. The example below shows the number "708".

Next you have to perform the following steps to update the SIP user name to this number:

1. Enter the menu Network -> Signal Protocol -> SIP
2. Select SIP User Name and change the value to the SIP number displayed on the idle screen (e.g. 708)
3. Save the changes
4. Reboot the phone

⚠️
1. The communication range in Adhoc mode is 200m to 300m.
2. The data handling capacity in Adhoc mode is much lower than AP mode, to maintain voice quality, limit the number of phones within the Adhoc network to 8.
3. The phone has to restart its receiver and transmitter modules frequently, thus increasing power consumption. In Adhoc mode, the phone can be in service for approximately 12 hours when fully charged.

4.6 PTT setting

Enable, categorize or set operational mode of Push-To-Talk (PTT).

Parameters	Description
PTT	Enable or disable the PTT function
PTT Group	Configure the PTT group number. Up to 4 groups are supported: 0 to 3.
PTT Authority	Select the user type: Normal User or Super User **Normal User**: Can receive and initiate calls to users in the same group **Super User**: Can receive calls from users in the same group, can initiate calls to users in all groups
PTT Protocol	Select the protocol: Multicast, Broadcast or Unicast. **Multicast**: Transmit intercom via the Multicast protocol (239.0.0.1) **Broadcast**: Transmit broadcast via the Broadcast protocol (255.255.255.255) **Unicast**: Transmit to Intercom Server (PTT Server Domain field is required)
PTT Server Domain	Enter the Intercom Server domain name or IP address. This is required when using Unicast protocol.

4.6.1 PTT Usage

The phone must first be connected to WIFI, then the PTT function is ready for use. The PTT key is located on the side of the phone.

To initiate transmission, press and hold the PTT key until you hear a beep sound, transmission will continue as long as you hold the PTT key.

To end the transmission, release the PTT key and you will hear 2 short beeps. Now your phone is in receiving status.

⚠ All phones using the PTT function must be in the same logical network without any router isolation.

The PTT function uses broadcast technology, in WIFI networks, the time delay of broadcast packet is closely associated with AP's DTIM value. To achieve good intercom quality, it is recommended to set DTIM value to 1. Below is an example of the router configuration where the DTIM value is set.

4.7 System Setting

Various settings for the phone is configured from this menu.

4.7.1 Phone Setup

Menu Selection	Description
Date/Time	Use this option to set the current time and date, you can also select the time and date formats.
Language	Set phone language to be Simplified Chinese or English.
Auto Lock Key	When this function is enabled, the phone will lock its keypad automatically. To unlock the keypad, press and hold the # key.
Backlight	Set the time period during which backlight is on.
Key Led	Enable or disable key light.
HeadSet Setting	Enable or disable headphone.
Version	Check software version, resource version and product information.

4.7.2 Volume setting

To set the volume of phone calls, incoming calls, incoming messages and alarm clock.
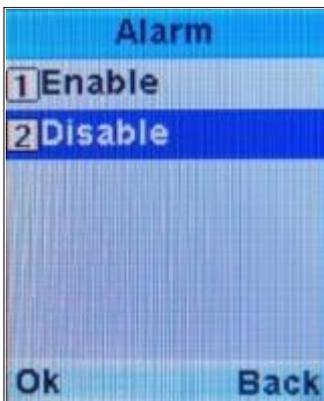
4.7.3 Ring Tone

To set the ringtone of incoming calls, SMS alert and alarm.
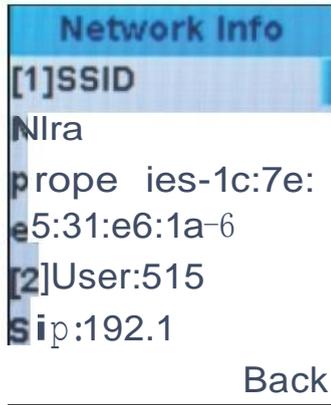
4.7.4 Alert Mode

To set the ringing type of incoming calls and messages.

4.7.5 Alarm

To set the alarm functions.

4.7.6 Network Info

Network Info

[1]SSID

Nlra

prope ies-1c:7e:

e5:31:e6:1a−6

[2]User:515

sip:192.1

Back

To display network name, IP address, subnet mask, gateway IP address, DNS address, MAC address, etc.

5 Maintenance

- New batteries are possibly not fully charged. Please fully charge them before use.
- Do not charge batteries when the ambient temperature is higher than 45°C or lower than -10°C.
- LCD reacts relatively slow under low temperature. This is a normal phenomenon, and will not affect the performance of your phone.
- Rough handling or falling may cause fracture of screen.
- To charge batteries, please put the charging seat in a clean, dry and flat surface. Ensure good contact between charging seat and cell phone.
- For use in mines or pits, charging must be done aboveground. All charging must be performed indoors.

6 FAQ

Question: Why can't the phone be re-booted?

Please check the battery. For example, connect the phone to charger and check whether the charging is normal. Then re-boot.

Question: Why can't I make phone calls?

- Make sure the SIP server is correctly configured and registered.
- Make sure the wireless network is correctly configured and accessable
- Check the numbers dialed

Question: Why is there no network signal?

- Check the availability of a usable AP
- Check the setting of AP, such as SSID, WEP key, etc.
- Check whether correct working channels are set (default channels are 1, 6 and 11)

Question: Why is the phone unable to roam?

The roaming function of RP-80 is limited to APs with the same SSID. If you roam to an AP coverage area with a different SSID, you have to reset the user name and password of SSID.

Question: How to improve the roaming effect of the RP-80 phone?

The RP-80 supports automatic roaming. To optimize and improve the roaming effect, consider the following measures in your planning:

- Set the phone to work in two non-adjacent channels (such as 1,6 or 1,11,etc.)
- Set the phone to use static IP address

Question: How to improve voice quality?

- Control the number of PTT groups within 2 under the same network, otherwise it may cause network congestion and lower voice quality
- Set the AP wireless parameter DTIM to be 1