Wi-Fi VoIP Phone

User's Manual

Version 1.3

Date: 12/2003

Federal Communication Commissions Interface Statement

FCC Caution: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement: To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

Table of Contents

1. Know Your Phone

This chapter describes the meaning of the keypads and how to use them to enter IP address and special characters.   There are keypads both in the front and at the side of the phone.

Power
Switch

Speaker

LCD Display

Volume
Control

Soft Keys

Scroll Keys

Talk

Hang-up

Shift

Earpiece Hole

Keypad

MIC

Front Keypad

⌣ : left soft key – select left Menu option on the display.

⌢ : right soft key – select right Menu option on the display;

  – press once to delete one character in EDIT mode;

  – hold the button to exit the current menu.

'▲''▼': scroll key – scroll up/down the sub-Menu.

↰ : talk – start a phone call.

☎ : hang-up – disconnect a phone call;

  – return to start-up menu without saving any change.

R: shift – change keypad entry mode according to the letter shown on display:

  A: alphabetic mode in capital case;

  a: alphabetic mode in small case;

  1: numeric mode.

  – switch scroll key from up/down to left/right, iteratively. This allows users to browse the strings out of the LCD display boundary.

Side Keypad

● : power switch – hold the button for three seconds, the phone will starts booting and enter start-up Menu. Press once to turn off the phone.

'▲''▼': volume control.

How to Enter IP Address

■   Use '*' to Enter '.' In IP Address
   For example, to enter an IP address: 10.0.0.1, first, use 'R' button to change keypad entry mode to numeric (1). Then press the keypad in the following order: 1 0 * 0 * 0 * 1.

■   How to enter special characters
   First change keypad entry mode to alphabetic mode (A or a), and then, use

'1' or '*' to enter special characters.

Press '*' repeatedly and rapidly for four most commonly used characters: '.', '@', ':' and '*'.

For other characters like '%', '_', '&'…, press '1' repeatedly and rapidly until you find the character you want.

2. Configure Your Phone

2.1. IP Settings

<u>Configure IP Settings</u>

- From start-up Menu, press '◡' to open Main Menu.
- Use '▲''▼' buttons to scroll up/down the Menu to '**Phone Setting**', and then press '◡'.
- Choose sub-Menu '**Networks Setting**' and then press '◡'.
- Choose sub-Menu '**IP Settings**' and then press '◡'. Use '▲''▼' buttons to scroll up/down to select the following items:
  - **DHCP**: use '▲''▼' buttons to enable DHCP if your phone IP address is dynamically assigned by DHCP server. Disable DHCP if your phone has fixed IP address. Press '◡' to submit your change and return to sub-Menu '**DHCP**'. Default:: 'Disable'.
  - **System Name**: your VoIP phone system name. Default: 'phone'.
  - **IP Address**: IP address of the phone. Default: '172.24.131.1'.
  - **Subnet Mask**: subnet mask of the phone. Default: '255.255.0.0'.
  - **Gateway**: gateway IP address of the phone. Default: 172.24.1.1'.
  - **Pri DNS Server**: IP address of the primary Domain Name Service server. Default: '172.24.1.2'.
  - **Sec DNS Server**: IP address of the secondary Domain Name Service server. Default: '172.24.1.8'.
  - **DNS Domain**: DNS Domain name. Default: '172.24.131.1'. Please configure to Wi-Fi phone's IP address if SIP server does not exit or you do not know what the domain name is.
  - **NetBIOS Server**: IP address of the NetBIOS server. Please leave it blank if not used. Default: 'blank'.
  - **IP Statistics**: read only. Use '▲''▼' buttons to browse the following statistics: '**Bytes Received/Sent**', '**Packets Received/Sent**'.
  - **Apply**: submit and save above configurations.

- Press '◡' to enter EDIT mode of the selected item:
  - use keypad to enter proper values;

- press '⌣' to delete character;
- press '⌣' after editing is finished;
- hold '⌣' to exit EDIT mode without any change and return to the selected sub-Menu.

Note: The phone has its default settings. Not every parameter needs to be modified to make you phone operable. Although you may be able to use the phone with the default settings, every service provider is different. Check with your service provider if you are not sure which settings are required.

Check Current IP Settings

- From start-up Menu, press '⌣' to enter Main Menu.
- Use '▲''▼' buttons to scroll up/down the Menu to '**Phone Settings**', then press '⌣'.
- Choose sub-Menu '**Networks Settings**', then press '⌣'.
- Choose sub-Menu '**Show Current**', then press '⌣'. Use '▼' buttons to scroll down and browse the following items: '**MAC Address**', '**DHCP State**', '**IP Address**', '**Subnet Mask**' and '**Gateway IP Address**'.

2.2 WLAN Settings

Follow same steps in IP Settings to enter '**Network Settings**'. Choose sub-Menu '**WLAN Settings**', then press '⌣' to enter '**WLAN Settings**' configurations.

Site Survey

Choose sub-Menu '**Site Survey**' and then press '⌣'. The phone will start checking available Access Point (AP). Once the task is done, all detected APs will be displayed. You may want to repeat a few more times to get the best result. If more than one AP is detected, use '▲''▼' buttons to select the AP and then press '⌣' to associate with. A message '**Joined**' will be displayed if association is successful. Please note this function works only when Roaming is disabled.

Roaming

Choose sub-Menu '**Roaming**', then press '⌣'. Two options are available:

- **Roam**: press ' ⌣ ' to check roaming status. Use '▲''▼' buttons to enable/disable roaming. Press ' ⌣ ' to submit your change and return to sub-Menu '**Roam**'.

- **SSID 1~5** Entry: to enter SSID value to the selected entry (ex. **SSID 1**), press ' ⌣ ' to enter EDIT mode:
  - press ' ⌒ ' to delete character;
  - use keypad to enter the SSID of the AP 1;
  - press ' ⌒ ' to delete character;
  - press ' ⌣ ' after finishing edit.
  - hold ' ⌒ ' to exit EDIT mode without any change and return to sub-Menu '**SSID 1**'

Note: When Roaming is disabled, the phone is always trying to connect the AP with the SSID configured in '**SSID 1**'. When Roaming is enabled, the phone will search the APs with SSIDs configured in '**SSID 1**' to '**SSID 5**'.

When you are done with the configuration, scroll down to '**Apply**' and press ' ⌣ ' to submit your configuration.

Encryption

Choose sub-Menu '**Encryption**', then press ' ⌣ '. Two main categories are shown:

- **Authentication**:
  Press '▼' and then ' ⌣ ' to enter '**Choose AUTH Type**' sub-Menu. Use '▲''▼' buttons to select '**Open**' or '**Shared Key**' as Wi-Fi phone's authentication type. Press ' ⌣ ' to submit your change and return to sub-Menu. The sign '*' right next to '**Open**' or '**Shared Key**' indicates the setting Wi-Fi phone currently used.

- **Encryption**: press '▼' to select the following three items:
  - **Choose Encrypt Type**: press ' ⌣ ' to enter sub-Menu. Three options are available: '**Disable**' (no encryption), '**64 Bit**', and '**128 Bit**'. If '**Disable**' is selected, you can skip next two steps. Press ' ⌣ ' to submit your change and return to sub-Menu.

- **Used Key**: current key used is displayed. Press '◡' and use '▲''▼' buttons to select '**None**' (no key used) or one of the 4 keys (Key 1~4). Press '◡' to submit your change and return to sub-Menu.
- **WEP Key Settings**: press '◡' to enter sub-Menu. Two options are available: '**64 bit'** and '**128 Bit'**. Both options can configure 4 keys. Use '▲''▼' buttons to select the key to edit then press '◡' to enter EDIT mode.
  - use keypad to enter proper values;
  - press '◝' to delete character;
  - press '◡' after editing is finished;
  - hold '◝' to exit EDIT mode without any change and return to the sub-Menu.
  - Press '**Apply'** to save and submit your configuration.

Note: For 64 Bit WEP key, 5 ASCII characters are used. For 128 Bit WEP key, 13 ASCII characters are used.

2.3. SIP Settings

Configure SIP Settings

- From start-up Menu, press button '◡' to open Main Menu.
- Use '▲''▼' buttons to scroll up/down the Menu to '**Call Settings**', then press '◡'.
- Choose sub-Menu '**SIP Settings**', then press '◡'. Use '▲''▼' buttons to select the following items:
  - **User Name**: name of the phone. Should be unique in your network. Default: '**user**'.
  - **Registrar**: two sub-Menu available:
    - **Set Reg IP**: configure IP address of the registrar in your network. Default: '172.24.16.188:5060'.

Only entering IP address is enough, the phone will add the port number '5060' automatically.

◆ **E/D Registrar**: enable/disable the registrar. Use '▲''▼' buttons to select; press '⌣' to submit your selection. Default 'Disable'.

■ **Proxy**: two sub-Menu available:

◆ **Set Proxy IP**: configure IP address of the proxy in your network. Default: '172.24.16.188:5060'. Only entering IP address is enough, the phone will add the port number '5060' automatically.

◆ **Proxy Status**: enable/disable the registrar. Use '▲''▼' buttons to select; press '⌣' to submit your selection. Default 'Disable'.

■ **Gateway**: IP address of the SIP gateway in your network. Default: '10. 170.255.16'.

■ **Register**: three sub-items, Default: 'blank':

◆ **Reg User Name**: user name used to register;

◆ **Realm Name**: realm name used by registrar;

◆ **Password**: password used to register;

◆ **Apply**: save and submit your configuration.

■ **Subscription Time**: time (in second) to re-send phone's registration information. Default: '3600'.

■ **Audio Settings**: audio codec options including: '**G729**', '**G723**', '**PCMU**' (G711u), and '**PCMA**' (G711a).

◆ press '⌣' to view current setting;

◆ use '▲''▼' buttons to select which codec to use;

◆ press '⌣' to submit your change.

This setting gives Wi-Fi phone a preferred audio codec option to use.

- Press '⌣' to enter the selected item; press '⌣' to enter EDIT mode, use keypad to enter proper values:

■ press '⌣' to delete character;

■ press '⌣' after editing is finished;

■ hold '⌣' to exit EDIT mode without any change and return to the selected

sub-Menu.

Note: 1. The phone has its default settings. Not every parameter needs to be modified to make you phone operable. Although you may be able to use the phone with the default settings, every service provider is different. Check with your service provider if you are not sure which settings are required.
2. After boot-up, the phone will send the registration information to registrar and re-send it whenever configuration of '**Registrar**' has been submitted.

SIP Registration

You can manually register and check your registration status.
- Choose sub-Menu '**SIP Registrar Status**' under Menu '**Call Settings**'.
- Select sub-Menu '**Reg. Status**' to view current status. Press '⌣' and the phone will display registration status message: either '**Registered**' or '**Not Registered**'.
- Select sub-Menu '**Reg. To Server**'. Press '⌣' and the phone will send the registration information to registrar. After 8 to 10 seconds the result of '**Fail**' or '**Success**' will be shown on LCD and return to sub-Menu.

3. Make/Answer Phone Call

There are a number of different ways to make phone calls from Wi-Fi phone.

Direct Calls

- From start-up Menu, enter the IP address or phone number you want to call (ex. sip_name @168.95.100.5), and then press ' ❱ '.

- Press ' ⏻ ' to disconnect the call.

Call from Phone Book

- Press ' ◡ ' to enter Main Menu. Choose '**Phone Book**' and press ' ◡ '.
- Choose sub-Menu '**Names**' and press ' ◡ '.
- Use '▲''▼' buttons to choose the name you want to call, and then press ' ◡ '. The phone number or IP address of the selected entry will be displayed.

- Press ' ❱ ' to make phone call; press ' ⏻ ' to disconnect the call.

Speed Dial

Press ' ❱ ' first, then press speed dial number (1~9) to start the phone call.

Redial from Call History

- Press '▲' button in start-up Menu. Up to 10 previous called phone numbers or IP Addresses will be displayed.

- Find the entry you'd like to call. Press ' ❱ ' to make phone call; press ' ⏻ ' to disconnect the call.

- For quick redial, press ' ❱ ' once to display the very last call; press ' ❱ 'again to make the call or press ' ◡ ' to return to start-up Menu.

Answer the Phone Call

When the phone rings, press ' ❱ ' and you are ready to talk. Press ' ⏻ ' to disconnect the call.

Hold/Resume the Phone Call

Press '⌣' to hold the conversation during phone call. Press '⌣' again to resume the phone call.

4. Send/Receive Message

You can write/send messages, receive messages, and review message history.

<u>Write Message</u>

- Press '◡' to enter Main Menu. Choose '**Message**' and press '◡'.
- Choose sub-Menu '**Write Message**'; press '◡' to enter message EDIT mode.
- Use keypad to enter message you want to send; press '◡' to go to number EDIT mode.
- There are two methods to enter the numbers:
  You can use keypad to enter the phone number or IP address you want to send; or press '▼' button to search entries in your Phone Book.
- Press '◡' to send the message or hold '◡' to abort and return to sub-Menu '**Write Message**'.

<u>Check Message</u>

- Choose sub-Menu '**Inbox**' and then press '◡'. The last 30 messages you have received are displayed here.
- Use '▲''▼' buttons to choose the message you want to view, and then press '◡'.
- Press '◡' to enter the selected message EDIT mode. There are three options available:
  - ■ **Delete**: press '◡' to delete this message. You will be prompted in the display to make sure you really want to delete this one. Press '◡' to confirm the deletion or '◡' to go back to the message.
  - ■ **Fw**: press '◡' to forward this message. Use keypad to enter the number or IP Address you want to forward to; press '◡' to send or hold '◡' to abort and return to the message.
  - ■ **Resend**: press '◡' to resend this message or '◡' to abort and return to the message.

<u>View Sent Message History</u>

- Choose sub-Menu '**Sent Messages**' and then press '◡'.   The last 10 messages you have sent are displayed here.

- Use '▲''▼' buttons to choose the message you want to view; press '◡' to view the selected message.
- Press '◡' to enter the selected message EDIT mode. There are three options available:
  - ■ **Delete**: press '◡' to delete this message. You will be prompted in the display to make sure you really want to delete this one. Press '◡' to confirm the deletion or '◠' to go back to the message.
  - ■ **Fwd**: press '◡' to forward this message. Use keypad to enter the number or IP Address you want to forward; press '◡' to send or hold '◠' to abort and return to the message.
  - ■ **Resend**: press '◡' to resend this message or '◠' to abort and return to the message.

5. Manage Phone Book

Wi-Fi phone holds a phone book with 150 entries.

Add Entries into Phone Book
- Press ' ⌣ ' to enter Main Menu. Choose '**Phone Book**' and then press ' ⌣ '.
- Choose sub-Menu '**Add**' and then press ' ⌣ '.
- Enter the entry name and press ' ⌣ '.
- Enter the phone number or IP Address associated with the name then press ' ⌣ ' to submit.
- Press ' ⌣ ' to delete character or hold ' ⌣ ' to abort.

Find Entries in Phone Book
- Choose sub-Menu '**Names**' and then press ' ⌣ '
- Use '▲''▼' buttons to search the entry name. Press ' ➷ ' to make phone call or ' ⌣ ' to view the phone number or IP Address associated with the selected entry.
- Press ' ⌣ ' to enter '**Option**'. Use '▲''▼' buttons to select one of the three functions:
    - ■ **Edit**: Press ' ⌣ ' to edit the selected entry. Using keypad to edit the name of the entry; press ' ⌣ ' to edit the phone number or IP address; press ' ⌣ ' to submit your change or hold ' ⌣ ' to abort.
    - ■ **Delete**: press ' ⌣ ' to delete this entry. You will be prompted in the display to make sure you really want to delete this one. Press ' ⌣ ' to confirm the deletion or ' ⌣ ' to go back to the number or IP Address.
    - ■ **Speed Dial**: Press ' ⌣ ' to add this entry into speed dial list. The display shows '**Add to #1**'. Press ' ⌣ ' to add to list number 1 or use '▲''▼' to select the list number to add. If the number has been used, you will be prompted '**Cover Old No**'. Press ' ⌣ ' to confirm or ' ⌣ ' to abort.

Edit Entries in Phone Book

- Choose sub-Menu '**Edit**' and then press ' ⌣ '.
- Use '▲' '▼' buttons to search the entry you want to edit. Press ' ⌣ ' to enter EDIT mode of the selected entry.
- Use keypad to edit the name of the entry; press ' ⌣ ' to edit the phone number or IP address; press ' ⌣ ' to submit your change.
- Press ' ⌒ ' to delete character or hold ' ⌒ ' to abort.

Delete Entries in Phone Book
- Choose sub-Menu '**Delete**' and then press ' ⌣ '.
- Use '▲' '▼' buttons to search the entry you want to delete.
- Press ' ⌣ ' to delete this entry. You will be prompted in the display to make sure you really want to delete this one. Press ' ⌣ ' to confirm the deletion or ' ⌒ ' to go back to Phone Book.

6. Check Call History

Missed Calls

- Press ' ⌣ ' to enter Main Menu. Choose '**Calls**' and press ' ⌣ '.
- Choose sub-Menu '**Missed Calls**' and then press ' ⌣ '. The last 10 calls you have missed are displayed here.
- Use '▲''▼' buttons to browse caller's phone number or IP Address you have missed.
- Press ' ⌣ ' to enter EDIT mode. Use '▲''▼' buttons to select one of the two functions:
  - ■ **Call**: return call to caller. Press ' ⌣ ' to make phone call or ' ⌢ ' to abort.
  - ■ **Delete**: delete the selected entry. Press ' ⌣ ' to delete this entry. You will be prompted in the display to make sure you really want to delete this one. Press ' ⌣ ' to confirm the deletion or ' ⌢ ' to go back to '**Missed Calls'**.

Dialed Calls

- Choose sub-Menu '**Dialed Calls**' and then press ' ⌣ '. The last 10 calls you have dialed are displayed here.
- Use '▲''▼' buttons to browse the phone number or IP Address you have called.
- Press ' ⌣ ' to enter EDIT mode. Use '▲''▼' buttons to select one of the two functions:
  - ■ **Call**: call again. Press ' ⌣ ' to make phone call or ' ⌢ ' to abort.
  - ■ **Delete**: delete the selected entry. Press ' ⌣ ' to delete this entry. You will be prompted in the display to make sure you really want to delete this one. Press ' ⌣ ' to confirm the deletion or ' ⌢ ' to go back to '**Dialed Call**'.

Received Calls

- Choose sub-Menu '**Received Calls**' and then press ' ⌣ '. The last 10 calls you have received are displayed here.
- Use '▲''▼' buttons to browse the phone number or IP Address you have received.

- Press '⌣' to enter EDIT mode. Use '▲''▼' buttons to select one of the two functions:

  ■ **Call**: return call. Press '⌣' to make phone call or '⌢' to abort.

  ■ **Delete**: delete the selected entry. Press '⌣' to delete this entry. You will be prompted in the display to make sure you really want to delete this one. Press '⌣' to confirm the deletion or '⌢' to go back to the received call.

7. Firmware Management

<u>**Show Current Firmware Version**</u>

- Press '◡' to enter Main Menu. Choose '**Phone Settings**' and press '◡'.
- Choose sub-Menu '**Software**' and then press '◡'.
- Choose sub-Menu '**Firmware Version**' and then press '◡'.
- Use '▲''▼' buttons to browse the phone's current firmware version and release date. Two sets of firmware will be shown: '**BSP'** and '**MAC'**.

<u>**Upgrade Firmware**</u>

- Press '◡' to enter Main Menu. Choose '**Phone Settings**' and press '◡'.
- Choose sub-Menu '**Software**' and then press '◡'.
- Choose sub-Menu '**Upgrade**' and then press '◡'.
- Use '▲''▼' buttons to browse the following items:
  - ■ **Ftp Server**: IP Address of FTP server where firmware is stored. Default '172.24.254.1'.
  - ■ **Ftp User**: user name used to login to FTP server. Default 'target'.
  - ■ **Ftp Password**: password used to login to FTP server. Default 'tv'.
  - ■ **Image File**: image file name you want to upgrade from FTP server. Default 'wifiphone'.
- Press '◡' to enter EDIT mode; press '◡' to submit your configuration or '◟' to abort.
- Choose sub-Menu '**Apply**' and then press '◡' to save the configuration.
- Choose sub-Menu '**Upgrade**' and then press '◡' to start upgrade.
- A message '**Please Reboot**' will be displayed to indicate the completion of upgrade.
- Turn off and reboot the phone to let new firmware take effect.

> Note: 1. Normally it takes 2 to 3 minutes for the phone to download the new firmware and write into the flash. Please do not interrupt the process otherwise the phone will crash.
> 2. During the upgrading process, the phone might crash due to low battery. Please make sure the battery is fully charged before you perform firmware upgrade.

8. Utilities

Ping

You can check your network connectivity by using 'Ping' function via the phone.
- Press ' ⌣ ' to enter Main Menu. Choose '**Phone Settings**' and press ' ⌣ '.
- Choose sub-Menu '**Utilities**' and then press ' ⌣ '.
- Choose sub-Menu '**Network**' and then press ' ⌣ '.
- Choose sub-Menu '**Ping**' and then press ' ⌣ '.
- Enter the IP Address or Domain Name which you want to check the connectivity (for example, your FTP server IP Address), and then press ' ⌣ '.
- The result will be displayed in a few seconds, either '**Host Is Alive**' if the link is up and running; or '**Host Unreachable**' if part of the link is down.

Key Lock

You can lock your phone's keypad to prevent accidental dialing.
- Press ' ⌣ ' to enter Main Menu. Choose '**Phone Settings**' and press ' ⌣ '.
- Choose sub-Menu '**General Settings**', then press ' ⌣ '.
- Choose sub-Menu '**Key Lock**', then press ' ⌣ '.
- Use '▲''▼' buttons to select '**Enable**' or '**Disable**' this feature and press ' ⌣ ' to submit your configuration.

Once enabled, press 'R', then '*' to lock/unlock the keypad.

> Note: The phone will lock it's keypad automatically after 3 minutes without any activities if 'Key Lock' is enabled.

Keypad Tone

You can enable/disable your keypad tone.
- Press ' ⌣ ' to enter Main Menu. Choose '**Phone Settings**' and press ' ⌣ '.
- Choose sub-Menu '**General Settings**', then press ' ⌣ '.
- Choose sub-Menu '**Keypad Tone**', then press ' ⌣ '.
- Use '▲''▼' buttons to select '**Enable**' or '**Disable**' this feature and press ' ⌣ ' to submit your configuration.

9. Release Note

Power save is not available in current version. (BSP Version: Dec 3 2003)