



M22

Administrator's Manual

Environment

The phone you have purchased, as well as any used batteries must not be disposed of with household waste. You should return these to your distributor if they are to be replaced or disposed of them in an approved recycling center.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions in this guide, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against radio interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN55022 class B for ITE and EN 50082-1. This meets the essential protection requirements of the European Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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WARNING!



1. Read these installation instructions carefully before connecting the IP phone to its power.
2. To reduce the risk of electric shock, do not remove the cover from the IP phone or attempt to dismantle it. Opening or removing covers may expose you to dangerous voltage levels. Equally, incorrect reassembly could cause electric shock on re-use of the appliance.
3. Do not expose the IP Phone to Fire, direct sunlight or excessive heat.
4. Do not expose the IP Phone to rain or moisture and do not allow it to come into contact with water.
5. Do not install the IP phone in an environment likely to present a THREAT OF IMPACT.
6. You may clean the IP phone using a fine damp cloth. Never use solvents (such as trichloroethylene or acetone), which may damage the phone's plastic surface and LCD screen. Never spray the phone with any cleaning product whatsoever.
7. Take care not to scratch the LCD screen.
8. The IP phone is designed to work in temperatures from 5°C to 40°C.
9. The IP phone must be installed at least 1 meter from radio frequency equipment, such as TVs, radios, hi-fi or video equipment (which radiate electromagnetic fields).
10. Do not connect the LAN/PC port to any network other than an Ethernet network.
11. Do not attempt to upgrade your IP phone in an unstable power environment. This could cause unexpected issues.
12. Do not work on the system or connect or disconnect cables during lightning storms.
13. Children don't recognize the risks of electrical appliances. Therefore use or keep the phone only under supervision of adults or out of the reach from children.
14. No repair can be performed by the end user, if you experience trouble with this equipment, for repair or warranty information, please contact your supplier.

Electrical Powering:

The M22 can be powered with PoE Switch or power adaptor in the package, the power adaptor must be **5V/2A**. Any damage caused to the M22 as a result of using unsupported power adaptors will NOT be covered by the manufacturer's warranty.

COMPANY disclaims all responsibility in the event of use that does not comply with the present instructions.

Product Disposal Warning:

Ultimate disposal of this product, accessories, packing, especially the batteries should be handled carefully for recycle and nature protection in accordance with national laws and regulations.

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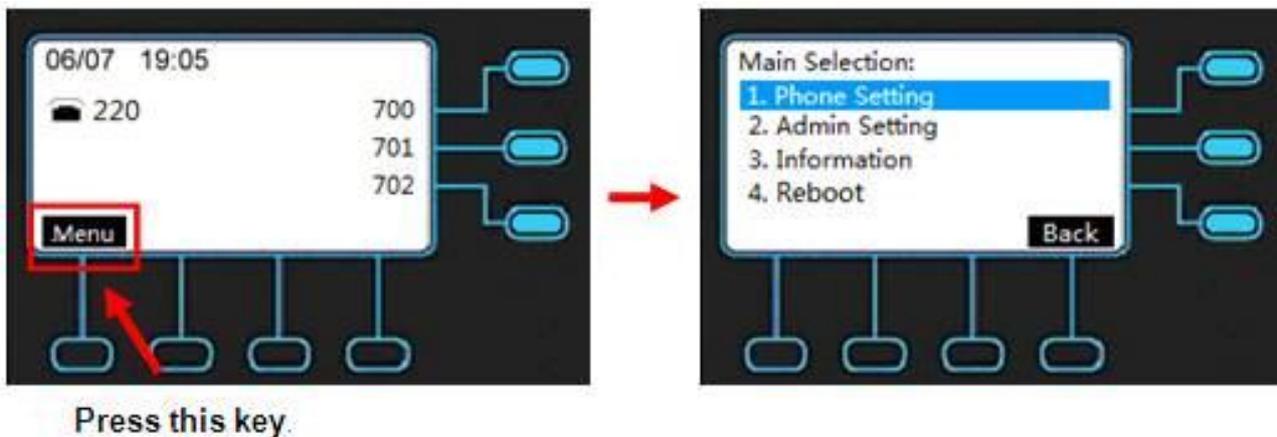
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Getting Started

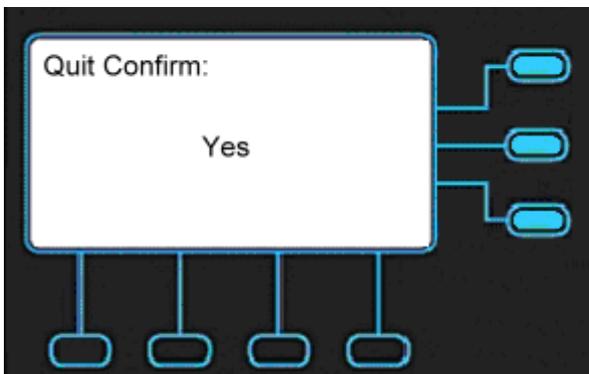
You can customize your IP phone by adjusting the settings including display contrast, ring type, device volume adjustment, call settings, and add, edit or delete contacts in the phonebooks of the M22 using the on-screen menus, buttons and navigation keys.

To configure your IP Phone from the menu, you can press Menu soft-key under the LCD screen.



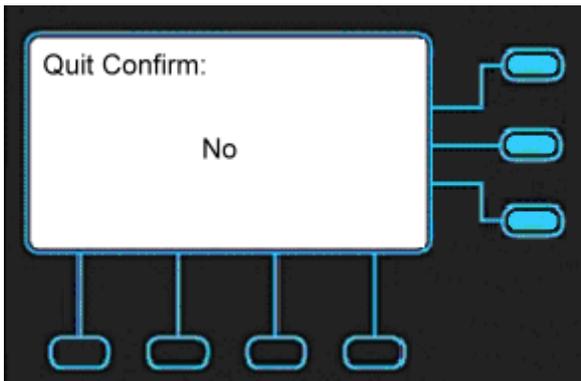
You can navigate through the menu with the navigation keys. The following sections will describe how you can setup your IP Phone through this menu. If you require additional information or assistance with your new phone, contact your system administrator.

Note: changes to the phone settings will only become active after you exit from the menu and confirm the changes. The LCD will show the following screen to let you confirm your changes and exit the menu.



If you press Navigation OK, phone will save the settings.

If you press Navigation Up and Down, phone will change the screen to the following screen:



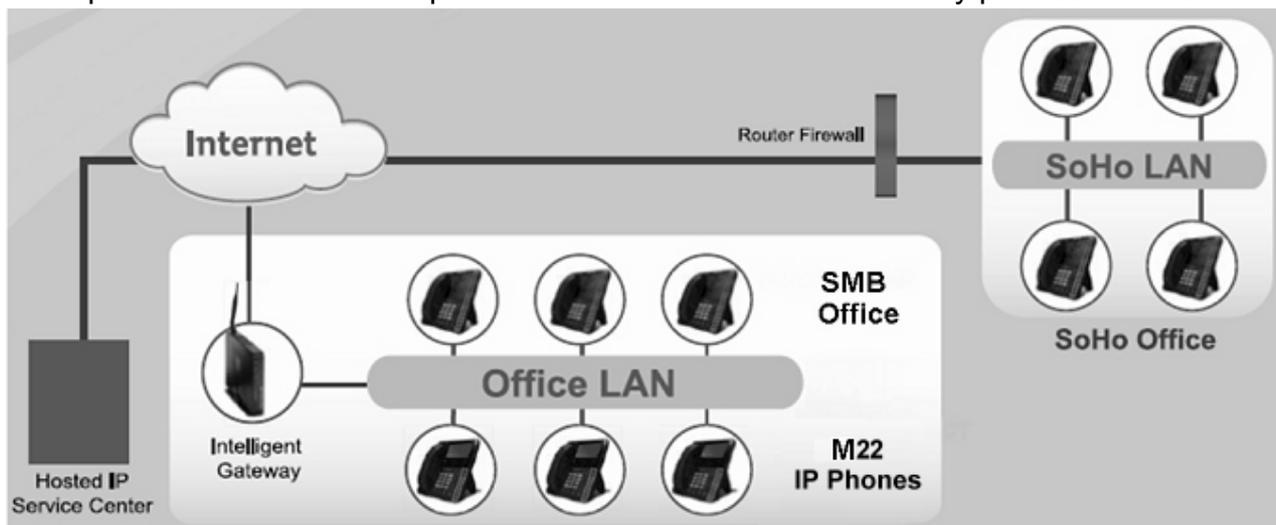
If choose No, phone will not save the settings. You will exit the screen and could continue to configure your phone.

Overview of the M22

The M22 Professional IP phone is an easy-to-use high quality desk phone with many advanced features. Utilizing a next generation capacitive touch sensitivity panel design, the M22 supports up to four simultaneous lines and can be positioned in multiple tilt angles and has a wall mount option, and has a built-in two port 10/100 Ethernet switch with automatic support for power over Ethernet (PoE). The M22 has 8 programmable buttons and can be configured through the simple built in menus displayed on the blue backlit LCD or from the phone's web user interface. The M22 can be automatically provisioned from a local or Internet based on IG servers.

The M22 IP Phone supports many advanced features including 5-way on-phone conferencing, can transfer and receive calls using industry-standard SIP protocols, and can provide built-in music-on-hold (MoH) over IP network. Therefore, the M22 can be deployed and used anywhere there is a suitable local area network (LAN) with Internet access and a local or remotely hosted SIP server. Since it is a stand-alone and "always-on" device, it does not require connection to a computer for it to work.

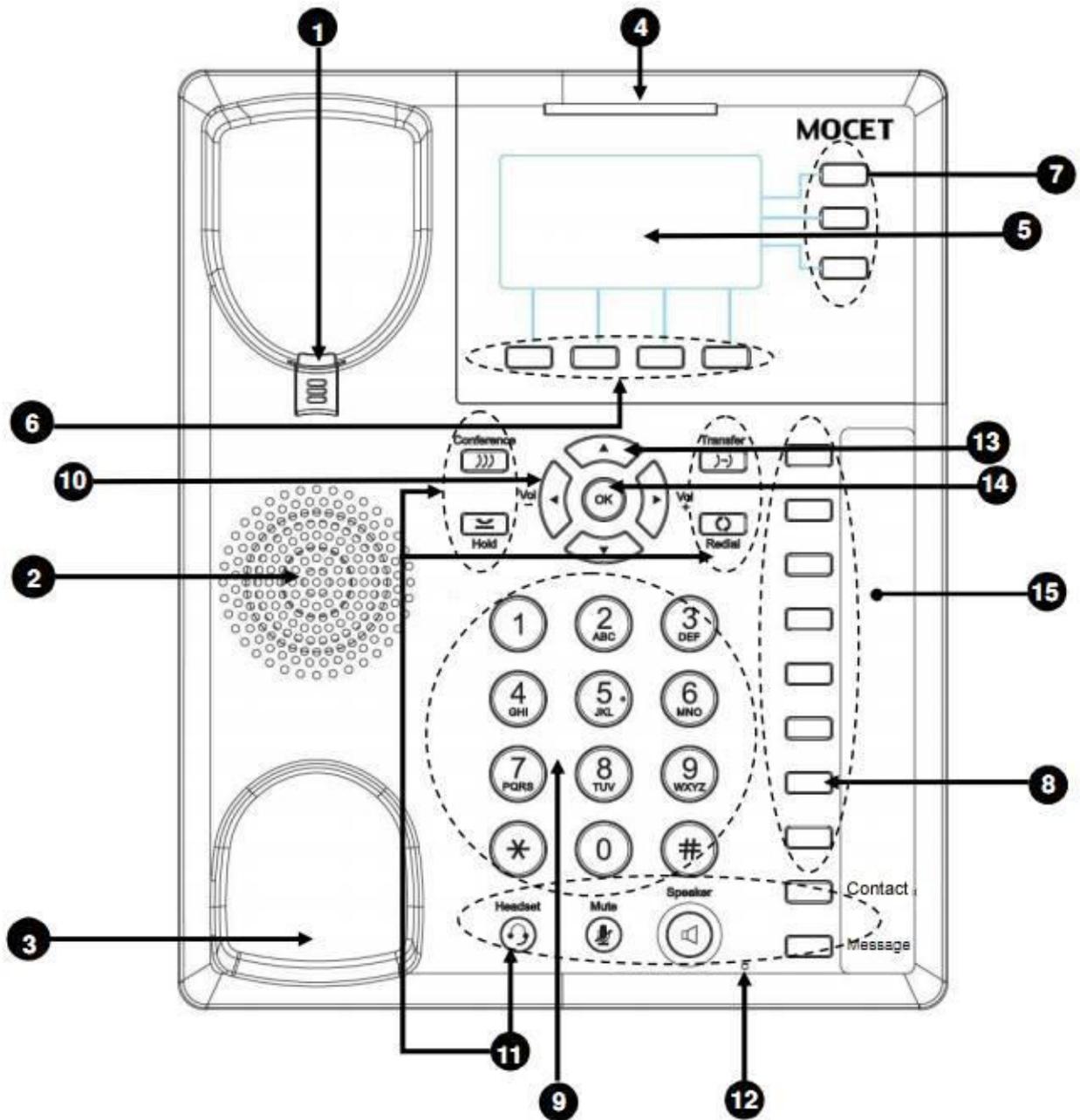
In addition, the M22 has a large LCD display to show all calls in progress at once and supports HD audio through the use of the G.722 wideband codec, has a dedicated external headset port, and an Extended Dial Module port. These functions make the M22 a more powerful and flexible IP phone to meet the demands of a busy professional user.



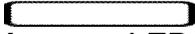
The Front-View of the M22

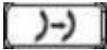
The M22 Standard IP Phone comes with a blue backlit LCD display, capacitive touch keys, including 4 soft keys, 3 line keys, and 5 navigator keys, as well as a traditional keypad, 8

programmable keys and 9 function keys. In the box, a handset, curly handset cord and a power adaptor supplied. It can be installed and placed on the desktop or mounted on the wall. The wall mount accessory is available separately. The figure below illustrates the front view of the M22 IP Phone. With the point numbers, you can find its name and a simple description of specified part in the following table.



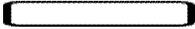
| No | Part Name | Description of function |
|----|-----------|---|
| 1 | Hanger | The hanger can be pulled; it is reversed for wall-mount installation. |
| 2 | Speaker | For ring and hands-free talking. |

| | | |
|----|--|---|
| 3 | <p>Hook switch & Handset bottom cradle</p> | <p>Under the cradle, a hook switch is used for handset hang-on and hang-off detection. The handset bottom cradle is for the placement of handset; placing the handset on the bottom cradle while on a call will end the call.</p> |
| 4 |  <p>Message LED</p> | <p>The message LED. Steady blue means the phone is booting or upgrading.</p> |
| 5 | <p>LCD Display</p> | <p>The LCD screen is used for displaying phone's settings, phone number, call status and so forth.</p> |
| 6 |  <p>Soft keys</p> | <p>Soft keys displayed on the LCD are used for item selection or control. The various soft key functions depend on the current activity on the phone as they are context-sensitive.</p> |
| 7 |  <p>Line keys</p> | <p>Line keys can be used for indicating busy lamp field (BLF) status of other phones, speed dial phone numbers, or for activating features of a service or IP-PBX. A blue LED is associated with each key to indicate its status.</p> |
| 8 |  <p>Programmable keys</p> | <p>Programmable keys can be used for indicating busy lamp field (BLF) status of other phones, speed dial phone numbers, or for activating features of a service or IP-PBX. A green LED and a red LED are associated with each key to indicate its status.</p> |
| 9 |  <p>Numeric keypad</p> | <p>[1], [2], ..., [9], [*], [0], [#]: The numeric keypad for dialing numbers.</p> |
| 10 |  <p>Volume Control Keys</p> | <p>The Volume Control key is used to set the loudness of the ringer, handset, headset and speakerphone functions. While the phone is in idle state, the ringer is adjustable. While in a call, the handset, headset or speaker volume is adjustable. [Note]: The left and right arrow keys can be used for volume adjustment purpose when idle.</p> |
| 11 |  <p>Headset key</p> | <p>This headset key is used to activate or deactivate the external headset. The headset icon will show to indicate active status.</p> |
| |  <p>MUTE key</p> | <p>The MUTE key is used to activate or deactivate the microphones on the M22. The mute icon will show or not to indicate whether the phone is muted or not.</p> |

| | | |
|----|---|---|
| |  <p>Speaker Phone key</p> | <p>The SPKR key is used to activate or deactivate the Hands-free feature. A blue LED is used to indicate whether the speakerphone is active or not.</p> |
| |  <p>Redial key</p> | <p>The Redial key dials the last dialed number automatically.</p> |
| |  <p>Hold key</p> | <p>The Hold key is used to place the active call on hold.</p> |
| |  <p>Transfer key</p> | <p>The Transfer key is used to transfer a call to another IP phone.</p> |
| |  <p>Conference key</p> | <p>The Conference key is used to place multiple calls on the phone into a conference on the phone.</p> |
| |  <p>Message key</p> | <p>The Message key is used to access the Voice Mail System for message retrieval.</p> |
| |  <p>Contact key</p> | <p>The Contact key is used to enter into the Phonebook menu to call, add, edit or delete a contact in a selected phonebook.</p> |
| 12 |  <p>Hands-free MIC</p> | <p>The Hands-free MIC.</p> |
| 13 |  <p>Navigator Control Keys</p> | <p>The Navigation Control Keys are used for navigating the menus on the phone; menu items are displayed on the LCD screen.</p> |
| 14 |  <p>Navigator OK Key</p> | <p>The OK button is used to confirm and save a setting on the phone or to dial a phone number.</p> |
| 15 | <p>Programmable key plate label</p> | <p>The programmable key plate label is plastic. For best results, we recommend using a fine permanent marker (such as Sharpie brand) to write on it. It can be cleaned with industrial alcohol.</p> |

| | | |
|--|--|--|
| | | Note: Custom templates and programming software for phones are available from DESI (see, http://labels.desi.com) |
|--|--|--|

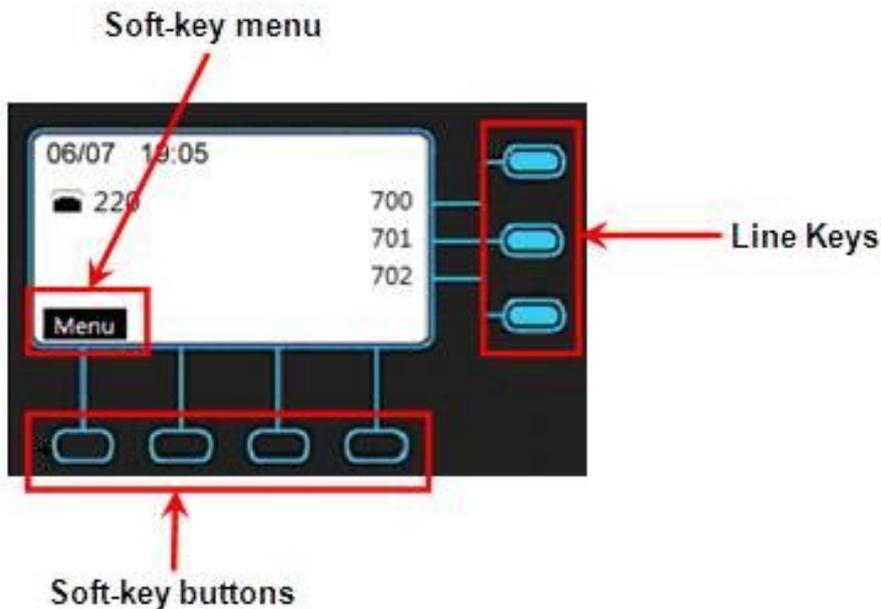
The LED Indication

| <i>LED</i> | <i>Color</i> | <i>Status</i> | <i>Description</i> | |
|--|-------------------------------------|-----------------|---|---|
|  MESSAGE LED | Blue | Off | Idle or no new message. | |
| | | Blinking Slowly | New voice message(s) indication. | |
| | | Steady | Phone is booting or upgrading. | |
|  Programmable LED | Green/Red | Off | Extension: relative phone is idle. Trunk: relative trunk line is idle. Call Park: relative park number is idle. Feature Key: feature is inactive. Do Not Disturb: feature is inactive. Live Record: feature is inactive. Virtual Mailbox: relative virtual number is in idle. | |
| | | Blinking Fast | Trunk: relative trunk line has an incoming call (for local phone). | |
| | | Blinking Slow | Trunk: relative trunk line is held (for local phone). Virtual Mailbox: relative virtual number has new voicemail. | |
| | Green | Steady | Trunk: relative trunk line is busy (for local phone). Do Not Disturb: feature is active. Live Record: feature is active. | |
| | | Red | Blinking Fast | Trunk: relative trunk line has an incoming call (not for local phone). |
| | | | Blinking Slow | Trunk: relative trunk line is held (not for local phone). Call Park: relative park number is in use. |
| | Steady | | Extension: relative phone is busy. Trunk: relative trunk line is busy (not for local phone). | |
| | Programmable Keys LED (besides LCD) | Blue | Off | Extension: relative phone is idle. Trunk: relative trunk line is idle. Call Park: relative park number is idle. Feature Key: feature is inactive. Do Not Disturb: feature is inactive. Live Record: feature is inactive. Virtual Mailbox: relative virtual number is in idle. |
| | | | Blinking Fast | Trunk: relative trunk line has an incoming call. |
| Blinking Slow | | | Trunk: relative trunk line is held. Call Park: relative park number is in use. | |

| | | | |
|------------------|------|--------|--|
| | | | Virtual Mailbox: relative virtual number has new voicemail. |
| | | Steady | Extension: relative phone is busy. Trunk: relative trunk line is busy. Do Not Disturb: feature is active. Live Record: feature is active. |
| Speakerphone LED | Blue | Off | Speakerphone is not in use. |
| | | Steady | On-hook dialing or hands-free mode. |

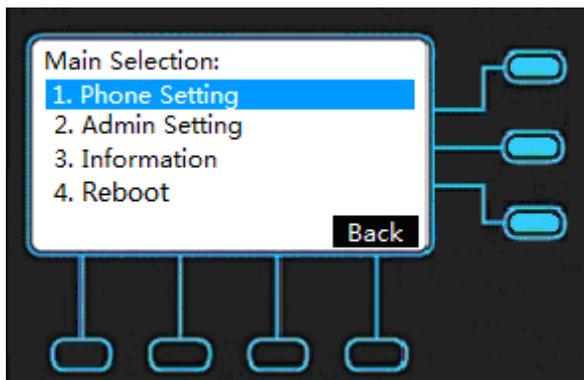
The LCD Indication

The following figure shows a standard format of LCD screen. There are 4 soft keys associated with the operation of LCD display. For different menu or status, the display format will be changed accordingly.



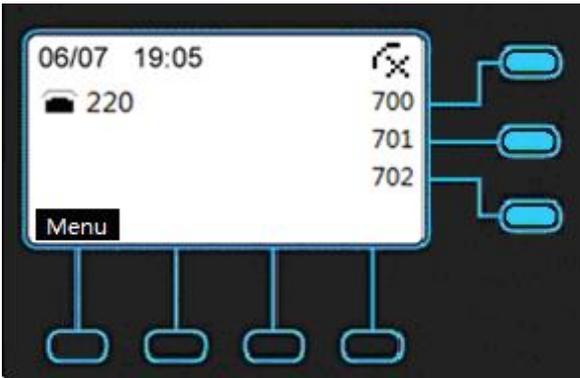
Menu: The M22 supports 4 functions for selection.

- Phone Setting
- Admin Setting
- Information
- Reboot

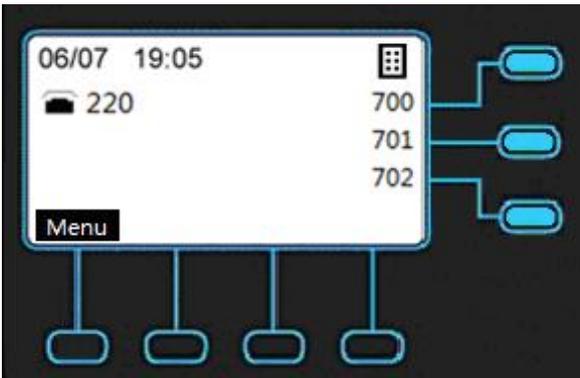


Date and Time: If M22 is registered to the IG7600 successfully, the M22 will sync the correct time to server according to user's time zone setting. If not, it shows the elapsed time since last boot.

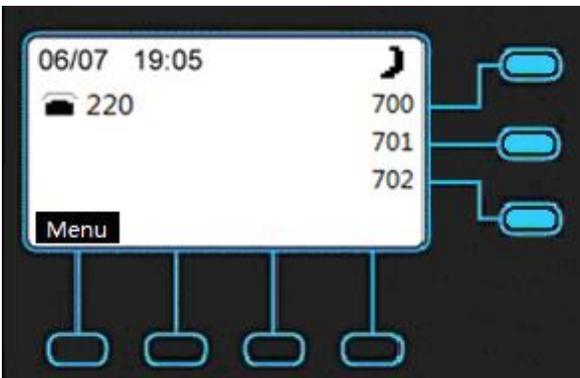
DND Indication: If DND (Do Not Disturb) function is enabled, the phone will show as below on LCD.



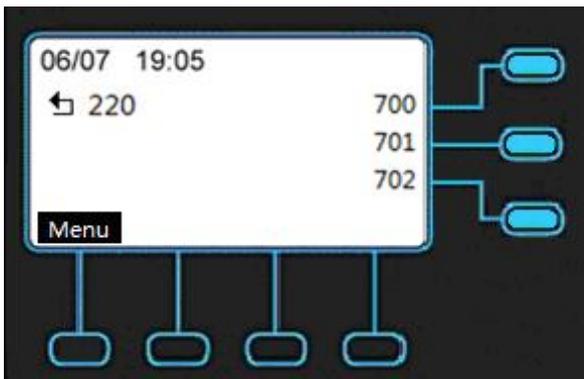
EDM Indication: If EDM device is plug in, the phone will show as below on LCD.



Night Mode Indication: If service mode on IG server is night mode, the phone will show as below on LCD.

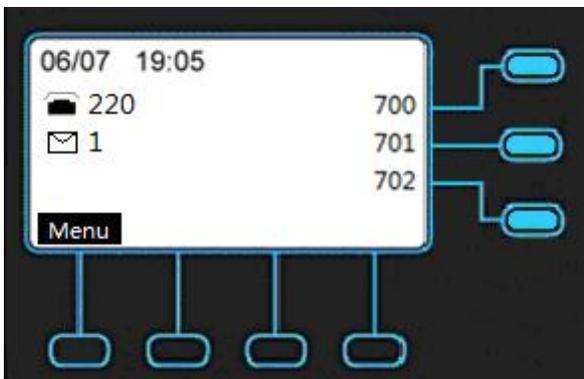


Call Forward Indication: If the phone is in always call forward status, the phone will show as below on LCD.

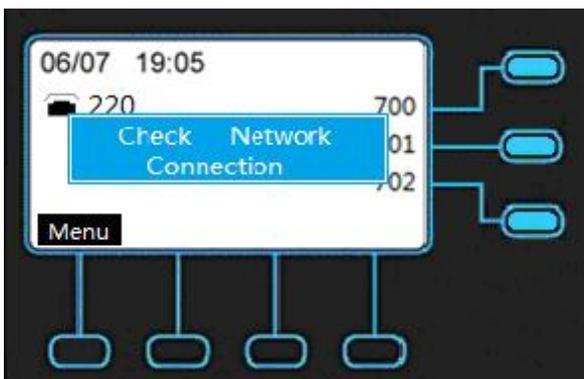


NOTE: Busy/No Answer/DND/Forking call forward will not show the forward icon on LCD.

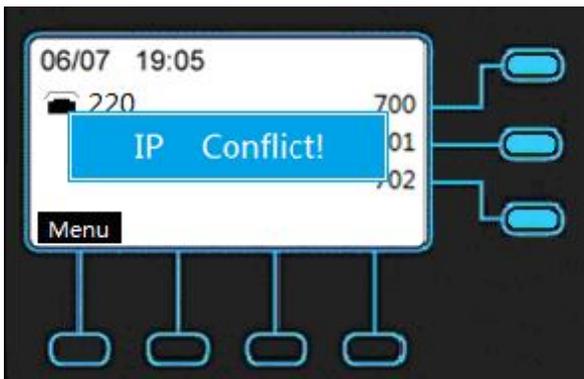
Message Indication: If voice message is notified by IG server the phone will show the number of message for relative line and the MESSAGE LED will blinking slowly.



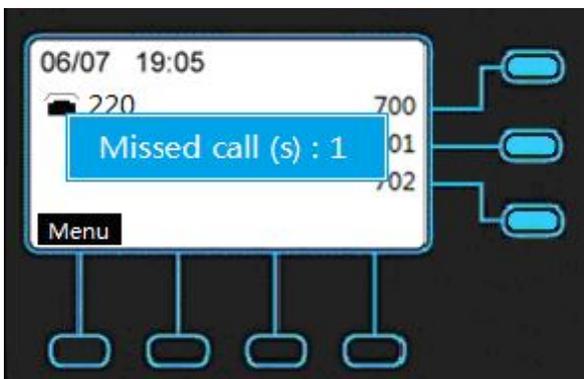
Disconnection Indication: If the cable is unplugged, the phone will show as below on LCD.



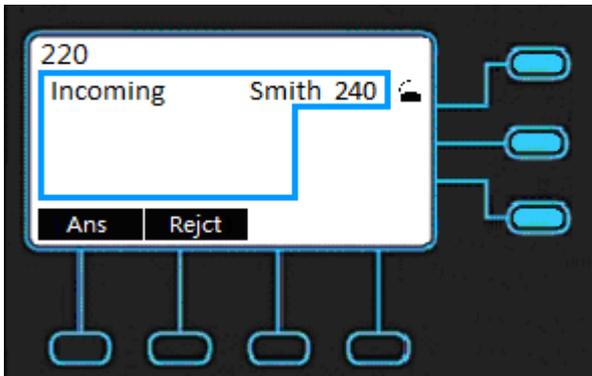
IP Conflict Indication: If the phone is in IP conflict status, the phone will show as below on LCD.



Missed Call Indication: If you have a missed call, the phone will show pop-up window on LCD.

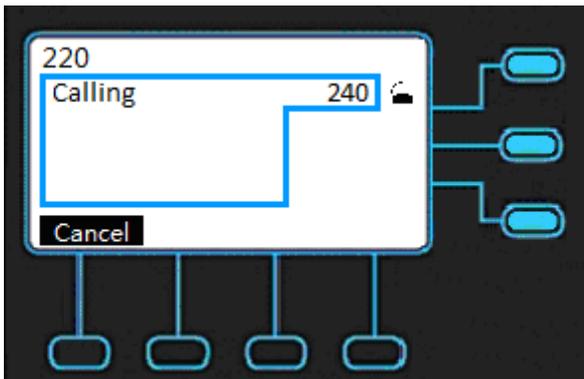


Incoming Call Indication: If the phone ringing, the caller ID of incoming call will show on LCD.

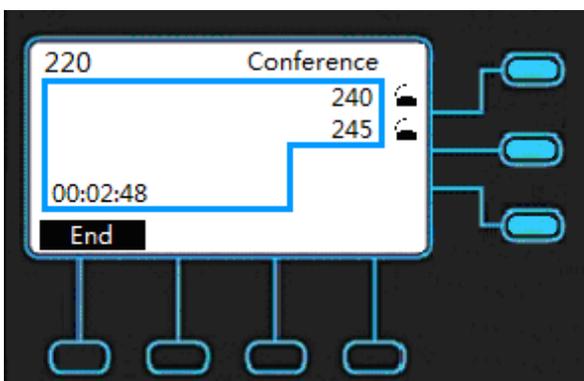


NOTE: If phone is setting as operator, there will be no **Rejct** on LCD.

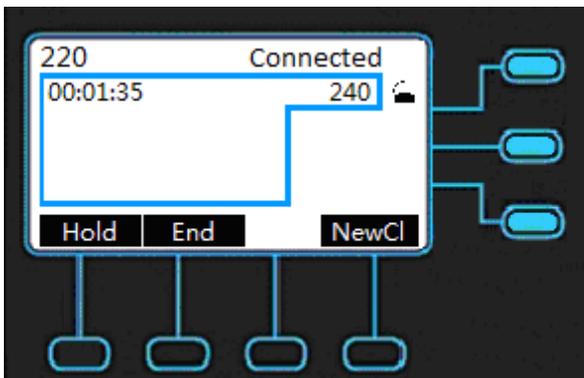
Outgoing Call Indication: If you dial the phone to another user, the phone number will show on LCD.



Conference Indication: If the call is in conference status, the caller ID of other users will show on LCD.

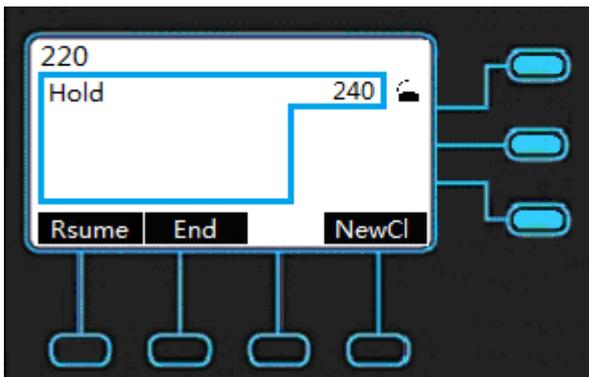


Talk Indication: If the phone is in talk status, the caller ID of other users and the talk time will show on LCD.

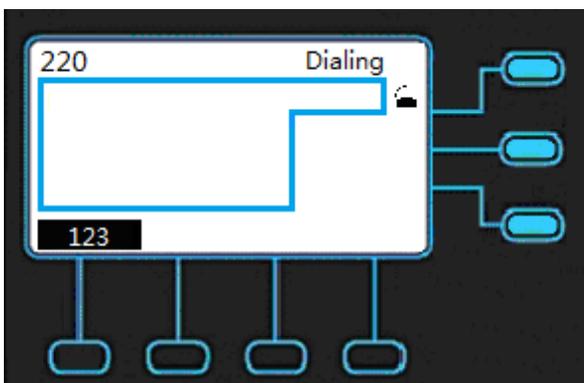


NOTE: If it is paging call, it will auto answer the call, and there will be **Ans End** on LCD before press **Ans**.

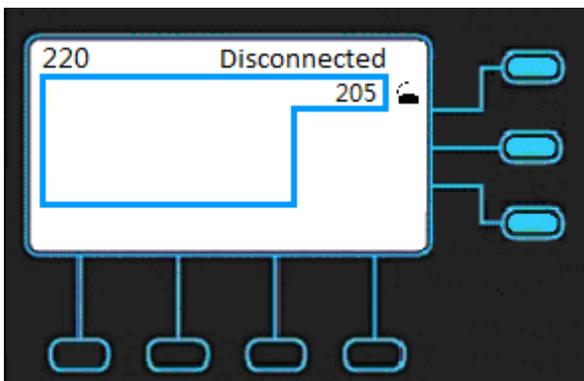
Hold Indication: If the phone is in hold status, the phone will show "Hold" as below on LCD.



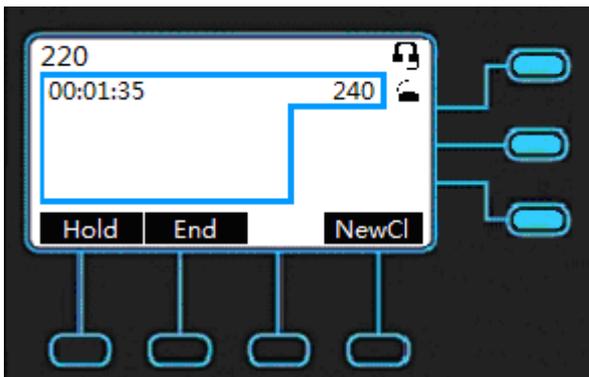
Off Hook Indication: If the phone is in off hook status, the phone will show as below on LCD.



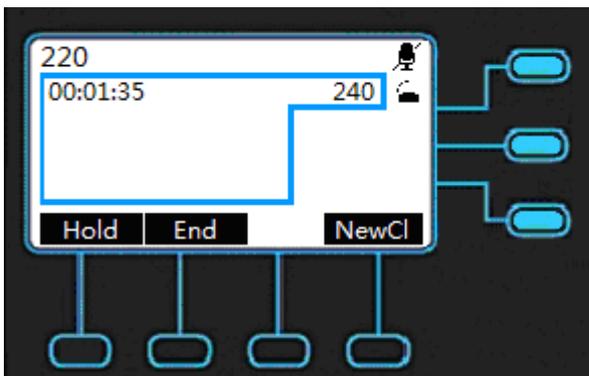
Dial Wrong Number Indication: If the phone dial wrong number, the phone will show as below on LCD.



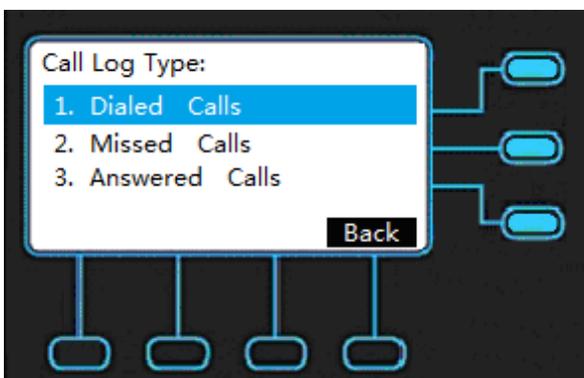
Headset Indication: If the phone is using headset device, the phone will show as below on LCD.



Mute Indication: If the phone is in mute status, the phone will show as below on LCD.



Call Log Indication: If using navigation key and pressing Navigation Up, the Call Log Type will show as below on LCD.



Icons Indication:

| No | Name | Icon | Description of function |
|----|--------------|------|---|
| 1 | DND | | DND feature is enabled. |
| 2 | EDM | | There's EDM device plug in. |
| 3 | Night Mode | | Current service mode is night mode. |
| 4 | Call Forward | | Always call forward feature is enabled. |

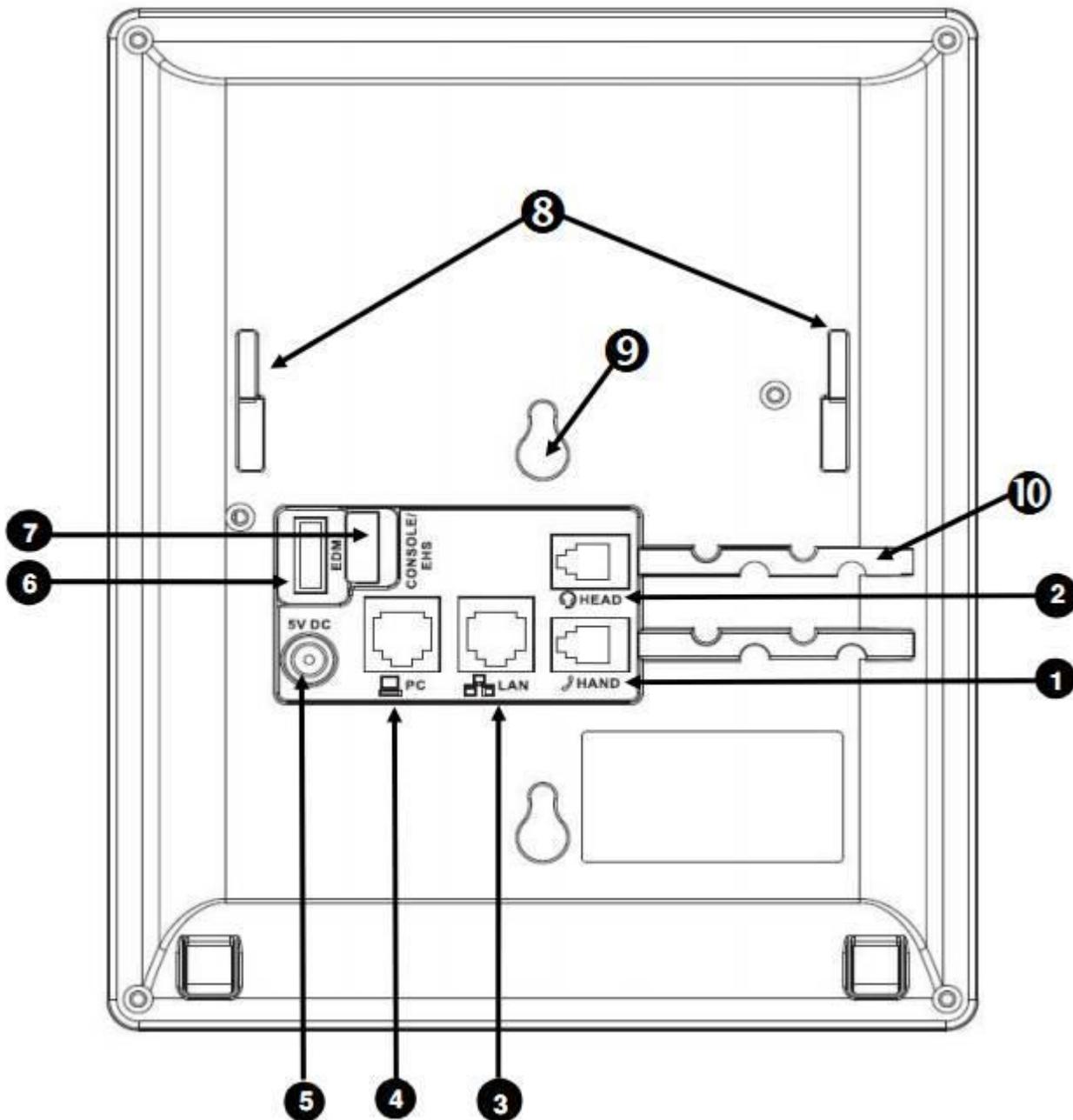
| | | | |
|---|-----------|---|---|
| 5 | Voicemail |  | There's unread voicemail message from server. |
| 6 | Headset |  | Current call is using headset device. |
| 7 | Mute |  | Current call is in mute. |

Line Status Indication:

| No | Line Status Icon | Description of function |
|----|---|--|
| 1 |  | The line is registered to the SIP server or service. |
| 2 |  | The line is not registered to the SIP server or service. |
| 3 |  | The line is registered to the SIP server or service and is in use. |

The Connectors of the M22

Their locations are shown in the figure below:



The back side view and the connectors of the M22 are as follows:

| No | Part Name | Description of function |
|----|-------------------|--|
| 1 | Handset Connector | RJ-9 Jack for connecting handset cord. |

| | | |
|----|-------------------|---|
| 2 | Headset Connector | RJ-9 Jack for connecting headset cord. |
| 3 | LAN Port | RJ-45 Jack 100/10Mbps Ethernet port for connecting to the local area network (LAN). This port can support power over Ethernet (PoE) if the LAN switch provides it. |
| 4 | PC Port | RJ-45 Jack 100/10Mbps Ethernet port for connecting to a computer. |
| 5 | Power Jack | If a power source from adaptor is required, please order the M22 power adapter separately from MOCET. |
| 6 | EDM Port | SATA interface for attaching the Extended Dial (EDM) accessory. Up to two EDM units can be supported on the M22. Please refer to EDM Quick Installation Guide for more information. |
| 7 | Console/EHS Port | 1. Console port for engineering maintainance purpose. or 2. EHS Port (Electrical Hook Switch) connects to IP-EHS for Wireless Headset support. This can be connected to general DHSG I/F(eg. Jabra) or APD-80 I/F of Plantronics. The default is set to EHS. And switching between Console and EHS will be done by software. |
| 8 | Stand Slots | These 2 slots are used for snapping the stand. |
| 9 | Hang Holes | These 2 holes are reserved for wall-mount support |
| 10 | Wire Route Ditch | The wires of Handset and Headset can be routed and run in the ditches. |

General Operations

Introduction

To operate the M22, you need to know some conventions that we will mention in this manual. In the following descriptions, we will introduce some terminologies for your understanding.

Calls

A “Call” in this guide represents how many simultaneous connections can be made to a single phone number. M22 has only one line based on IG server, which can support up to four calls simultaneously. This allows the user to place one caller on hold and talk to the other person in another call on the same Line. Therefore, the M22 phone is said to support multiple call appearances.

Register to IG7600

The M22 supports Plug-n-Play function to register and get configured automatically when it is connected to IG7600's LAN/WAN port (with same subnet as IG7600). It also supports manual configuration if it is a remote phone (need to obtain the account information from system administrator).

Refer to Configuration through Menus or Configuration through Web for detail information of how to configure the phone to register to IG7600.

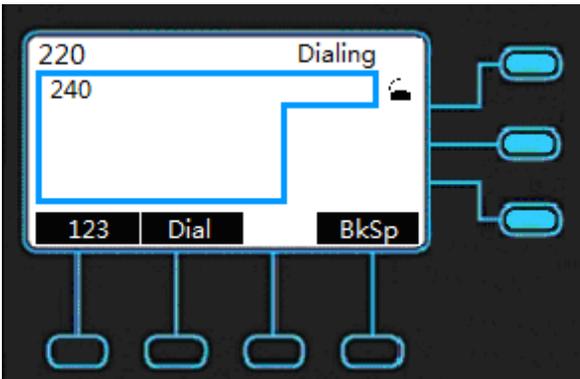
Caller ID & User ID

When you receive a call, the caller's phone number is shown on the screen, if the caller hasn't chosen to hide his number and if the network supports the Caller ID feature. The IP Phone can display both the Caller ID (CLID) and the Caller Name (CNAM) of the caller if it is available. Not all services and servers support CLID and CNAM. For more information about this topic, please contact your service provider or system administrator.

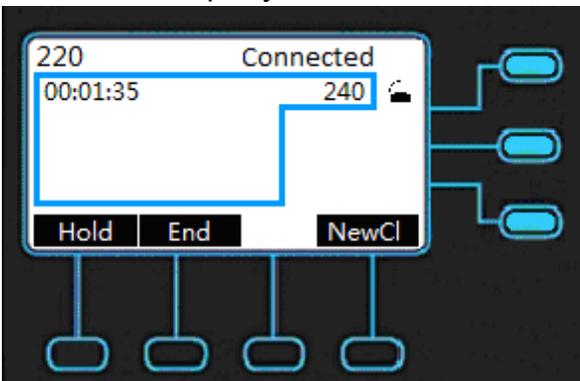
Using Multiple Calls

Each line of service in the M22 can support up to four calls simultaneously. It allows you to place one caller on hold and talk to the other person in another call on the same line.

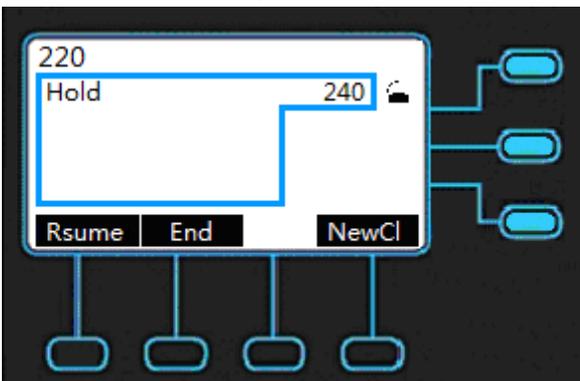
For example, the following screen shows you line 220 has one active call with number 240. When you dial the number 240, the number you dial will show on the LCD.



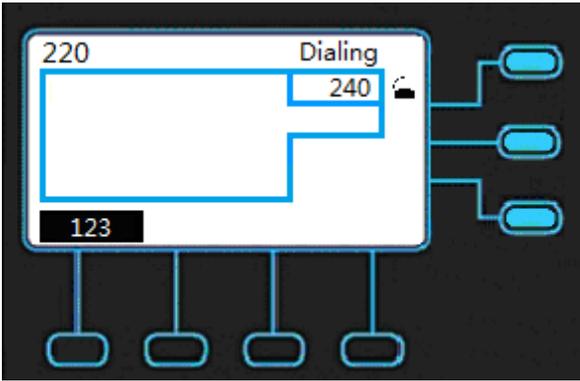
When the call party answers the call, the LCD will show as below.



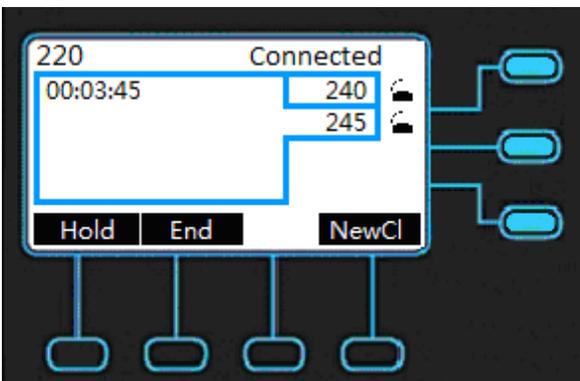
Press the Hold key to keep this call.



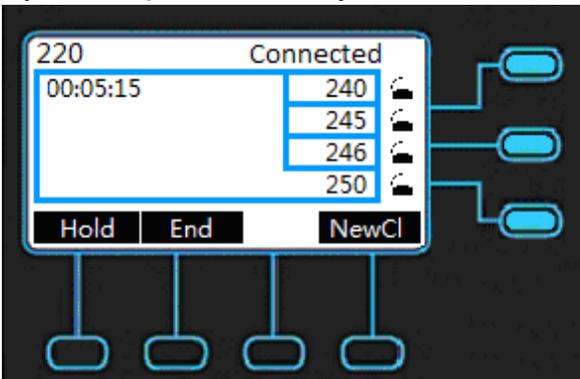
You can make a new call on the same line by pressing NewCl.



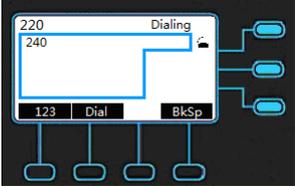
After the called party answers the call, the following screen shows you line has two calls, the call to number 240 is on hold, and the call to number 245 is active.

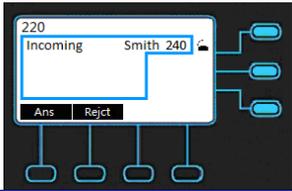
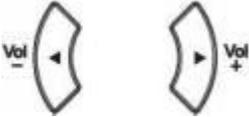


By the steps as above, you can use one line to make 4 calls simultaneously.

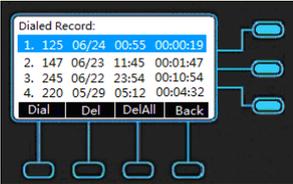
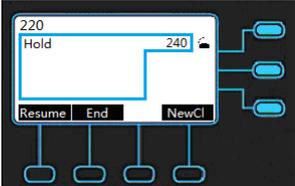
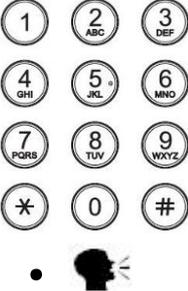
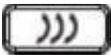


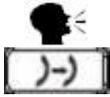
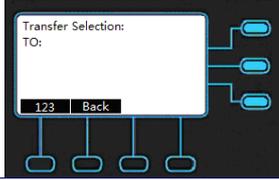
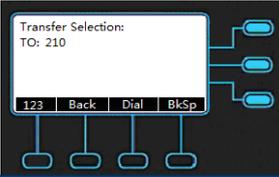
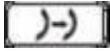
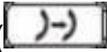
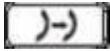
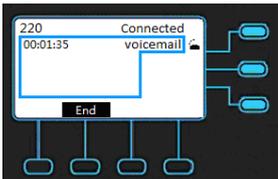
Basic Call Features

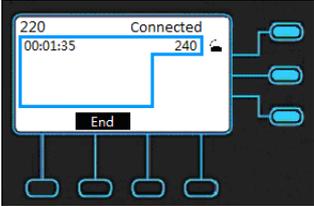
| Operation | Description | |
|-------------------------------|--|--|
| <p>Making a Call</p> |  | <ol style="list-style-type: none"> Pick-up the handset. You will hear dial tone played. |
| |   | <ol style="list-style-type: none"> Use the keypad to dial the phone number. Press OK key or “Dial” soft-key to dial out immediately, or wait for a while (Dial Timeout setting) for auto-ending the dial. <ul style="list-style-type: none"> The LCD window displays the number you enter. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: You could use the “BkSp” soft-key to delete the last digit.</p> </div> |
| |  | <p>Start talking to called party.</p> |
| |  | <p>On-hook the handset when your conversation is over.</p> |
| | <p>There are two mode to establish a call for this IP phone, handset mode and hands-free mode. In this manual, only handset mode is used for example. In the following features, you can replace  to hands-free mode by pressing  key. When the conversation is over, press  key again to release call. For headset mode, please prepare a headset first.</p> | |
| <p>Ending a call</p> |  or  or End | <ul style="list-style-type: none"> If there is only one call, just place the handset back into the cradle, press speakerphone or press “End” soft-key to end the call. If there is another call, press the “End” soft-key to end the call. |
| <p>Holding a call</p> |  or Hold | <p>Press the “Hold” soft-key or Hold key on the phone to place an active call on hold.</p> |
| <p>Resuming a call</p> |  or Rsume | <p>Press the “Rsume” soft-key or Hold key on the phone again to place an active call on hold.</p> |

| | | |
|--|--|--|
| Receiving a Call |  | |
| |  | <ol style="list-style-type: none"> 1. Pick-up the handset while hearing phone's ringing. |
| |  | Start talking to caller party. |
| Mute the Microphone |  | On-hook the handset when your conversation is over. |
| |  | <ol style="list-style-type: none"> 1. While being engaged in a conversation (handset, headset, or hands-free mode), you could mute the microphone by pressing the MUTE key. |
| |  | <ol style="list-style-type: none"> 2. The mute icon will show on LCD. At this moment, the user may speak freely, the outside party will not hear anything. |
| Adjust the Voice Volume During a Conversation |  | <ol style="list-style-type: none"> 1. During a conversation, if the voice volume is too low or too high, you may adjust it. |
| |  | <ol style="list-style-type: none"> 2. Press the volume control key to adjust the volume |

Advanced Call Operations

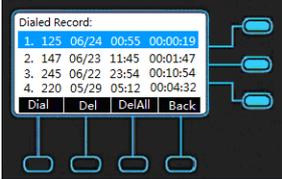
| Operation | Description | |
|------------------------------|---|--|
| Redialing a Number |  | <ol style="list-style-type: none"> 1. Press Redial hot key. |
| |  | <ol style="list-style-type: none"> 2. Phone will enter "Dial Record" list. |
| |  | <ol style="list-style-type: none"> 3. Select the number you want to redial. |
| |  | <ol style="list-style-type: none"> 4. Press "Dial" soft key on LCD to dial out. |
| 3-Way Conference Call |  | <ol style="list-style-type: none"> 1. Call the first party and Hold the call. <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Note: The M22 can support a 5-party conference call.</p> </div> |
| |  | <ol style="list-style-type: none"> 2. Press "NewCl" soft key |
| |  | <ol style="list-style-type: none"> 3. Dial the number and call another party. |
| |  | <ol style="list-style-type: none"> 4. Press the Conference hot key to set up the 3-party conference. <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Note: If you want to set up a 4-party or a 5-party conference call, repeat Step2 to dial third or fourth call, and then do Step3 and Step 4.</p> </div> |

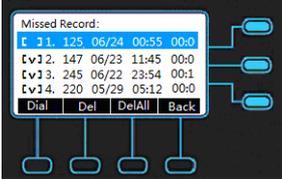
| | | |
|---|--|--|
| Call Transfer (Blind Transfer) |  | 1. During an active call, press the Transfer hot key. |
| |  | 2. The active call is placed on hold, and an entry screen is displayed for the number you want to transfer to. |
| |  | 3. Press “Dial” soft-key to complete the transfer. If you want to cancel transfer operation, just press the “Back” soft-key. |
| Call Transfer (Attended Transfer) |  | 1. During an active call, press “NewCl” soft-key to call another party. |
| |  | 2. Wait for the other party to answer the call. |
| |  | 3. Press the Transfer hot key. |
| | Note: sometimes, you may place more than 2 calls on your phone, when you press Transfer () hot key, phone will show a call list to let you select a call to finish the transfer operation. | |
| Call Transfer (Semi-Attended Transfer) |  | 1. During an active call, press “NewCl” soft-key to call another party |
| |  | 2. When you hear the ring-back tone, press the Transfer hot key. |
| Voice Mail |  | 1. Press the Message key. |
| |  | 2. Input the voicemail password. Follow the interactive voice response (IVR) instructions to retrieve and listen, forward or delete your messages. |

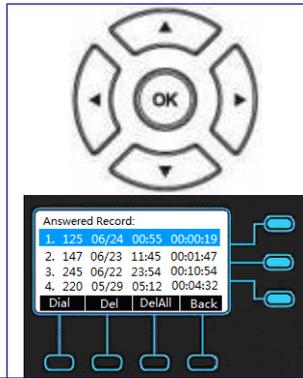
| | | |
|------------------------|---|--|
| <p>ODP Call</p> |  | <ol style="list-style-type: none"> 1. When talk with ODP call, it could not do these actions below: hold, transfer, conference, call forward, and make new call. |
| |  | <ol style="list-style-type: none"> 2. Using the keypad to input password as the format of “##” or “#PASSWORD#”, user can open the door through ODP. (Note: password could not set on feature keys.) |

Call Log

Record the dialed calls, the missed calls and the received calls.

| Operation | Description | |
|--------------|---|--|
| Dialed Calls |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  <p>→ Call Log</p> | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Call Log</i> item and press OK key. |
| |  <p>→ Dialed Calls</p> | <ol style="list-style-type: none"> 4. Use the navigation key to select the <i>Dialed Calls</i> item and press OK key. |
| |   | <ol style="list-style-type: none"> 5. Use the navigation key to review the dialed calls. You may choose to redial the number (using the “Dial” soft-key). Press the “Del” soft-key to delete the selected record. Press the “Cancel” soft-key to exit the menu. |
| Missed Calls |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |

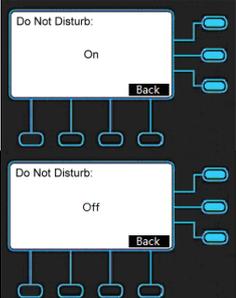
| | | |
|--|---|---|
|  <p>→ Call Log</p> | <p>3. Use the navigation key to select the <i>Call Log</i> item and press OK key.</p> | |
|  <p>→ Missed Calls</p> | <p>4. Use the navigation key to select the <i>Missed Calls</i> item and press OK key.</p> | |
|   | <p>5. Use the navigation key to review the missed calls. You may choose to redial the number (using the “Dial” soft-key). Press the “Del” soft-key to delete the selected record. Press the “Cancel” soft-key to exit the menu.</p> | |
| <p>Answered Calls</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Phone Setting</p> | <p>2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key.</p> |
| |  <p>→ Call Log</p> | <p>3. Use the navigation key to select the <i>Call Log</i> item and press OK key.</p> |
| |  <p>→ Answered Calls</p> | <p>4. Use the navigation key to select the <i>Answered Calls</i> item and press OK key.</p> |

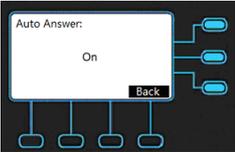
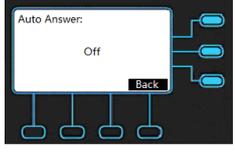


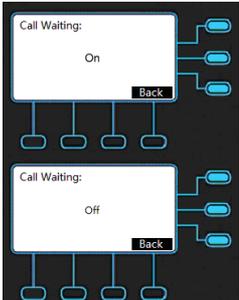
5. Use the navigation key to review the answered calls. You may choose to redial the number (using the “Dial” soft-key). Press the “Del” soft-key to delete the selected record. Press the “Cancel” soft-key to exit the menu.

Call Setting

The specific ring type assigned to the M22 when the M22 rings.

| Operation | Description | |
|--------------------|---|--|
| |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  <p>→ Call Setting</p> | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Call Setting</i> item and press OK key. |
| |  <p>→ DND Setting</p> | <ol style="list-style-type: none"> 4. Use the navigation key to select the <i>DND Setting</i> item and press OK key. |
| DND Setting |  <p>→ DND</p> | <ol style="list-style-type: none"> 5. Go to previous menu, choose <i>DND</i> item and press OK key. |
| |   | <ol style="list-style-type: none"> 6. Use the navigation key to choose to turn On or Off the DND feature and press OK key to validate. Press the Back key to exit the menu. |

| | | |
|--------------------|---|--|
| Auto Answer |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  → Phone Setting | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  → Call Setting | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Call Setting</i> item and press OK key. |
| |  → Auto Answer | <ol style="list-style-type: none"> 4. Use the navigation key to select the <i>Auto Setting</i> item and press OK key. |
| |    | <ol style="list-style-type: none"> 5. Use the navigation key to choose to turn On or Off and press OK key to validate. Press the Back key to exit the menu. |

| | | |
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| Call Waiting |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  → Phone Setting | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  → Call Setting | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Call Setting</i> item and press OK key. |
| |  → Call Waiting | <ol style="list-style-type: none"> 4. Use the navigation key to select the <i>Call Waiting</i> item and press OK key. |
| |   | <ol style="list-style-type: none"> 5. Use the navigation key to choose to turn On or Off and press OK key to validate. Press the Back key to exit the menu. |

| | | |
|---------------------|---|---|
| Call Forward |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  → Phone Setting | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  → Call Setting | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Call Setting</i> item and press OK key. |
| |  → Call Forward | <ol style="list-style-type: none"> 4. Use the navigation key to select the <i>Call Forward</i> item and press the OK key to validate the selection. Select the next item according to the type of call forward (<i>Always Forward, Busy Forward, No Answer Forward, DND Forward</i> or <i>Forking Forward</i>) you would like to activate. |
| |  → Status | <ol style="list-style-type: none"> 5. Choose the <i>Status</i> item to turn On/Off the call forwarding feature. Select On or Off then press the OK key to validate. |
| |  → FWD Number | <ol style="list-style-type: none"> 6. Select the <i>FWD Number</i> item to input the phone number you wish to forward the calls to. |
| |  → No Answer Forward | <ol style="list-style-type: none"> 7. For <i>No Answer Forward</i> item, there is one additional item "Timeout" for user to set. If the phone doesn't answer the call after this time, the call will be forwarded to the destination. (Default value is 15 seconds) |
| |  → Forking Forward | <ol style="list-style-type: none"> 8. For <i>Forking Forward</i> item, there is one additional item "2nd FWD Number" for user to set. If the 1st destination is busy, the call will be forwarded to the 2nd destination. |

| | | |
|---|---|--|
| | <p>Note: It is possible to activate different kinds of call forward at the same time. Ex: <i>No Answer forward + Busy Forward</i>, etc.</p> | |
| <p>Call Blocking (Add, Edit, or Delete a Number)</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Phone Setting</p> | <p>2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key.</p> |
| |  <p>→ Call Setting</p> | <p>3. Use the navigation key to select the <i>Call Setting</i> item and press OK key.</p> |
| |  <p>→ Call Blocking</p> | <p>4. Use the navigation key to select the <i>Call Blocking</i> item to enter the Call Blocking List menu. The LCD screen prompts you to enter a number between 0 and 9.</p> |
| |  | <p>5. Use the navigation key to browse all the blocked Caller ID and press OK key to validate.</p> |
| |  | <ul style="list-style-type: none"> • If you want to add a new number, find an empty position, then using keypad to enter a number. Press OK key to validate and press Back to exit the Call Blocking menu. • If you want to edit an existing number, find the number you would like to edit. Use the “BkSp” soft-key to clear the number and use keypad to enter a new number. Press OK key to validate. |
| <p>SIP Server</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator’s password to get into <i>Admin</i> menu.</p> |

| | |
|----------------------------|--|
| → Admin Setting | |
|----------------------------|--|

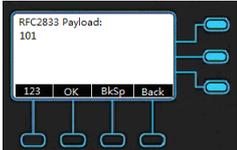
| | | |
|----------------------------|--|--|
| |  <p>→ Voice Setting</p> | <p>3. Select the <i>Voice Setting</i> item and press OK key.</p> |
| |  <p>→ SIP Server</p> | <p>4. Select the <i>SIP Server</i> item and press OK key.</p> |
| |  <p>→ SIP Proxy, Outbound Proxy, Registrar Server, Registrar Outbound, Registrar Time, Server Port and Registrar Port, Codec Setting, Packet Time</p> | <p>5. There are <i>SIP Proxy, Outbound Proxy, Registrar Server, Registrar Outbound, Registrar Time, Server Port and Registrar Port, Codec Setting and Packet Time</i> items for user to configure.</p> |
| <p>Phone Number</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Admin Setting</p> | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu.</p> |
| |  <p>→ Voice Setting</p> | <p>3. Select the <i>Voice Setting</i> item and press OK key.</p> |

| | |
|---|--|
|  <p>→ Phone Number</p> | <p>4. Select the <i>Phone Number</i> item and press OK key.</p> |
|  | <p>5. Use the keypad to edit Phone Number. Press OK key to validate the input.</p> <div data-bbox="742 645 1423 725" style="border: 1px solid black; padding: 5px;"><p>Note: You could use the “BkSp” soft-key to delete the last character.</p></div> |

| | | |
|----------------|--|---|
| Display Name |  | 1. Press the Menu key on LCD. |
| |  → Admin Setting | 2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu. |
| |  → Voice Setting | 3. Select the <i>Voice Setting</i> item and press OK key. |
| |  → Display Name | 4. Select the <i>Display Name</i> item and press OK key. |
| |  | 5. Use the keypad to set display name. Press OK key to validate the input. <div style="border: 1px solid black; padding: 5px; width: fit-content;">Note: You could use the "BkSp" soft-key to delete the last character.</div> |
| Authentication |  | 1. Press the Menu key on LCD. |
| |  → Admin Setting | 2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu. |

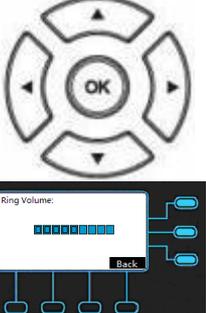
| | |
|--|---|
|  <p>→ Voice Setting</p> | <p>3. Select the <i>Voice Setting</i> item and press OK key.</p> |
|  <p>→ Authentication</p> | <p>4. Select the <i>Authentication</i> item and press OK key.</p> |
|  <p>→ Authorized ID, Password</p> | <p>5. There are <i>Authorized ID</i> and <i>Password</i> items for user to configure.</p> |

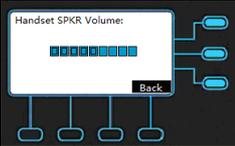
| | | |
|-----------------|--|---|
| DTMF Type |  | 1. Press the Menu key on LCD. |
| |  → Admin Setting | 2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu. |
| |  → Voice Setting | 3. Select the <i>Voice Setting</i> item and press OK key. |
| |  → DTMF | 4. Select the <i>DTMF</i> item and press OK key. |
| |  → DTMF Type | 5. Select the <i>DTMF Type</i> item and press OK key. |
| |  | 6. Use the navigation key to choose the DTMF you would like to set. There are 4 DTMF types for selection. Press the Back key to exit the menu. |
| RFC2833 Payload |  | 1. Press the Menu key on LCD. |
| |  → Admin Setting | 2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu. |

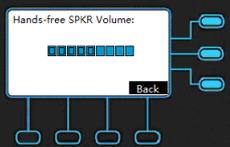
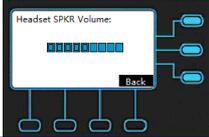
| | |
|--|---|
|  <p>→ Voice Setting</p> | <p>3. Select the <i>Voice Setting</i> item and press OK key.</p> |
|  <p>→ DTMF</p> | <p>4. Select the <i>DTMF</i> item and press OK key.</p> |
|  <p>→ RFC2833 Payload</p> | <p>5. Select the <i>RFC2833 payload</i> item and press OK key.</p> |
|   | <p>6. Use the keypad to set RFC2833 Payload. Press OK key to validate the input. The default RFC2833 payload is 101.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: You could use the “BkSp” soft-key to delete the last character.</p> </div> |

Volume Setting

Select the volume level of ring, handset speaker, hands-free speaker and headset speaker.

| Operation | Description | |
|-------------|---|---|
| Ring Volume |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item. Press OK key to validate the selection. |
| |  <p>→ Volume Setting</p> | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Volume Setting</i> item. Press OK key to validate the selection. |
| |  <p>→ Ring Volume</p> | <ol style="list-style-type: none"> 4. Select the <i>Ring Volume</i> item and validate with the OK key. |
| |  | <ol style="list-style-type: none"> 5. Use the navigation key to tune the voice. Press the Navigation Left key to make voice lower. Press the Navigation Right key to make voice louder. Press the OK key to exit the menu. |

| | | |
|--------------------|--|---|
| Handset Speaker |  | 1. Press the Menu key on LCD. |
| |  → Phone Setting | 2. Use the navigation key to select the <i>Phone Setting</i> item. Press OK key to validate the selection. |
| |  → Volume Setting | 3. Use the navigation key to select the <i>Volume Setting</i> item. Press OK key to validate the selection. |
| |  → Handset Speaker | 4. Select the <i>Handset Speaker</i> item and validate with the OK key. |
| |   | 5. Use the navigation key to tune the voice. Press the Navigation Left key to make voice lower. Press the Navigation Right key to make voice louder. Press the OK key to exit the menu. |
| Hands-free Speaker |  | 1. Press the Menu key on LCD. |
| |  → Phone Setting | 2. Use the navigation key to select the <i>Phone Setting</i> item. Press OK key to validate the selection. |
| |  → Volume Setting | 3. Use the navigation key to select the <i>Volume Setting</i> item. Press OK key to validate the selection. |

| | | |
|-------------------------------|---|--|
| |  <p>→ Hands-free Speaker</p> | <p>4. Select the <i>Hands-free Speaker</i> item and validate with the OK key.</p> |
| |   | <p>5. Use the navigation key to tune the voice. Press the Navigation Left key to make voice lower. Press the Navigation Right key to make voice louder. Press the OK key to exit the menu.</p> |
| <p>Headset Speaker</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Phone Setting</p> | <p>2. Use the navigation key to select the <i>Phone Setting</i> item. Press OK key to validate the selection.</p> |
| |  <p>→ Volume Setting</p> | <p>3. Use the navigation key to select the <i>Volume Setting</i> item. Press OK key to validate the selection.</p> |
| |  <p>→ Headset Speaker</p> | <p>4. Select the <i>Headset Speaker</i> item and validate with the OK key.</p> |
| |   | <p>5. Use the navigation key to tune the voice. Press the Navigation Left key to make voice lower. Press the Navigation Right key to make voice louder. Press the OK key to exit the menu.</p> |

Information

You may view all related information about the M22 through the LCD menu. This may give you, for example, the current network settings of the M22.

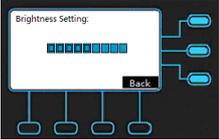
| <i>Operation</i> | <i>Description</i> | |
|---------------------------------------|--|--|
| View Information about the M22 |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Information</i> item and press OK key. |
| |  | <ol style="list-style-type: none"> 3. Use the navigation key to choose the information you would like to review. Press the OK key to exit the menu. |

The following information can be reviewed from the LCD screen of your M22:

- Model Name
- Application Version
- Firmware Version
- Hardware Version
- MAC Address
- SN
- EDM Version
- Network Type
- IP Address
- Subnet Mask
- Default Gateway
- DNS Server

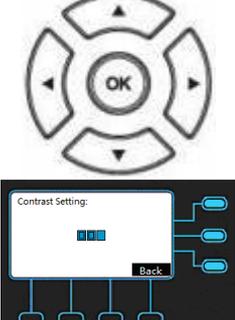
Backlight

To configure the brightness of the LCD to a comfortable level.

| Operation | Description | |
|-----------|---|--|
| Backlight |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  <p>→ Backlight</p> | <ol style="list-style-type: none"> 3. Select the <i>Backlight</i> item and validate with the OK key. |
| |   | <ol style="list-style-type: none"> 4. Use the navigation key to tune the display brightness. Press the Navigation Up key to increase the display brightness. Press the Navigation Down key to decrease the display brightness. Press OK key to validate the selection or press the Back key to exit the menu. |

Contrast

To configure the contrast of the LCD to a comfortable level.

| Operation | Description | |
|-----------|---|--|
| Contrast |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  | <ol style="list-style-type: none"> 3. Select the <i>Contract</i> item and validate with the OK key. |
| |  | <ol style="list-style-type: none"> 4. Use the navigation key to tune the LCD contrast. Press the Navigation Up key to increase the display contrast. Press the Navigation Down key to decrease the display contrast. Press OK key to validate the selection or press the Back key to exit the menu. |

Phonebook

The phonebook feature let's you store a list of phone numbers. (For M22, it could be stored up to 100 entries).

| Operation | Description | |
|---------------------|--|---|
| Add Contacts |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  <p>→ Phonebook</p> | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Phonebook</i> item and press OK key. |
| |  <p>→ Private</p> | <ol style="list-style-type: none"> 4. Select the <i>Private</i> item and validate with the OK key. |
| |  <p>→ Add</p> | <ol style="list-style-type: none"> 5. Press the <i>Add</i> button. |
| |  | <ol style="list-style-type: none"> 6. Enter the "Username", "Phone Number", "Group", and "Ring Type" items and input by using the keypad. Press OK key to validate the input. Press the Back key to exit the menu. |
| |  | <ol style="list-style-type: none"> 7. When finished making changes, press the "Save" soft-key to save the changes. Press "Back" soft-key to exit the phonebook menu |

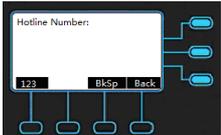
| | | |
|------------------------|--|---|
| Edit Contacts |  | 1. Press the Menu key on LCD. |
| |  → Phone Setting | 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  → Phonebook | 3. Use the navigation key to select the <i>Phonebook</i> item and press OK key. |
| |  → Private | 4. Select the <i>Private</i> item and validate with the OK key. |
| |  → Edit | 5. Using navigation key to browse all phonebook data. When browsing certain phonebook entry's items, press "Edit" soft-key to add or edit. There are 4 items for user to add or edit, "Username", "Phone Number", "Group", and "Ring Type". |
| |  | 6. When finished making changes, press the "Save" soft-key to save the changes. Press "Back" soft-key to exit the phonebook menu. |
| Delete a Number |  | 1. Press the Menu key on LCD. |
| |  → Phone Setting | 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  → Phonebook | 3. Use the navigation key to select the <i>Phonebook</i> item and press OK key. |

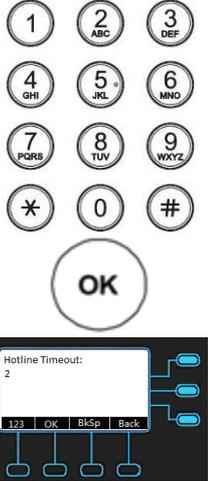
| | |
|--|--|
|  <p>→ Private</p> | <p>4. Select the <i>Private</i> item and validate with the OK key.</p> |
|  <p>→ Del</p> | <p>5. Using navigation key to browse all phonebook data. When browsing certain phonebook entry, press “Del” soft-key to delete it. Press “Back” soft-key to exit the phonebook menu.</p> |

Hotline Setting

Set the hotline number which can be dialed immediately.

| <i>Operation</i> | <i>Description</i> |
|------------------|--------------------|
|------------------|--------------------|

| | | |
|-------------------------------|---|--|
| <p>Hotline Number</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Phone Setting</p> | <p>2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key.</p> |
| |  <p>→ Call Setting</p> | <p>3. Use the navigation key to select the <i>Call Setting</i> item and press OK key.</p> |
| |  <p>→ Hotline Setting</p> | <p>4. Use the navigation key to select the <i>Hotline Setting</i> item and press OK key.</p> |
| |   | <p>5. Enter the <i>Hotline Number</i> and input by using the keypad. Press OK key to validate the input. Press the Back key to exit the menu.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: You could use the “BkSp” soft-key to delete the last character.</p> </div> |
| <p>Hotline Timeout</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Phone Setting</p> | <p>6. Use the navigation key to select the <i>Phone Setting</i> item and press OK key.</p> |

| | |
|--|---|
|  <p>→ Call Setting</p> | <p>2. Use the navigation key to select the <i>Call Setting</i> item and press OK key.</p> |
|  <p>→ Hotline Setting</p> | <p>7. Use the navigation key to select the <i>Hotline Setting</i> item and press OK key.</p> |
|  | <p>3. Enter the <i>Hotline Time</i> and input by using the keypad. Press OK key to validate the input. You should enter a number from 0 to 9. Press the Back key to exit the menu. The default timeout is 2.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Note: You could use the “BkSp” soft-key to delete the last character.</p> </div> |

Speed Dialing

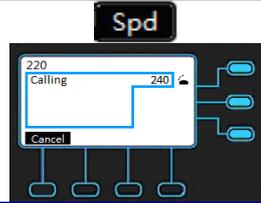
The Speed Dialing feature let you store a list of 10 phone numbers that you can access easily using a Speed Dialing number from 0 to 9.

| Operation | Description | |
|---|--|--|
| Speed Dialing (Clr or Edit a Number) |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  <p>→ Phone Setting</p> | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Phone Setting</i> item and press OK key. |
| |  <p>→ Speed Dialing</p> | <ol style="list-style-type: none"> 3. Use the navigation key to select the <i>Speed Dialing</i> item and press OK key. The LCD screen prompts you to enter a number between 0 and 9. |
| |  | <ol style="list-style-type: none"> 4. Use the navigation key to browse all the Speed Dialing numbers and press OK key to validate. |
| |  | <ul style="list-style-type: none"> • If you want to add a new number, find an empty position and press “Edit” soft-key, then using keypad to enter a number. Press OK key to validate and press Back to exit the Speed Dialing menu • If you want to edit an existing number, find the number you would like to edit and press “Edit” soft-key. Use the “BkSp” soft-key to clear the number and use keypad to enter a new number. Press OK key to validate |

**Dial a Speed
Dialing Number**



1. Dial the first digit between 0 and 9, then the LCD will show "Spd" soft-key option. (If dial second digit, the "Spd" soft-key will disappeared)



2. Press "Spd" soft-key, then M22 will dial out the stored number. (If the stored number is empty, then it will show "SPD is Empty!" on LCD)

Admin Setting

You will need to enter administrator's password to set the administrator's account, network, QoS, dial timeout, language and reset to default.

The default network settings are the following:

Default IP address: 192.168.1.10
Default Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1
Default DNS: 8.8.8.8

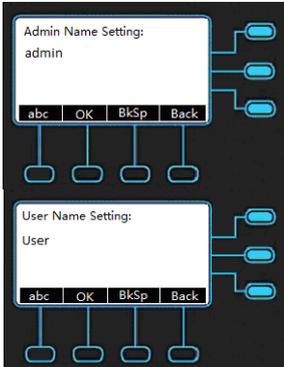
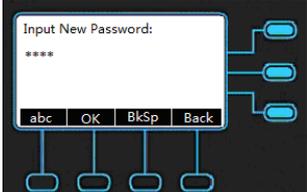
Default Administrator's Username of Web: admin
Default Administrator's Password of Web: 1234

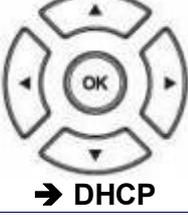
There are 5 functions for setting:

- Account Setting
- Networking Setting
- Voice Setting
- Dial Timeout
- Reset to Default

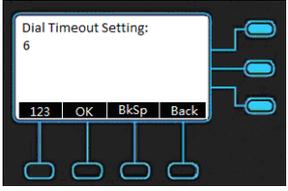
If you need to change these default settings, please refer to the following instructions.

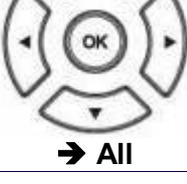
| <i>Operation</i> | <i>Description</i> | |
|----------------------------------|--|--|
| Admin/User Name, Password |  | 1. Press the Menu key on LCD. |
| |  → Admin Setting | 2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu. |
| |  → Account Setting | 3. Use the navigation key to select the <i>Account setting</i> item. Press OK key to validate the selection. The LCD displays the Account Setting menu. |
| |  → Admin/User | 4. Select the <i>Admin/User</i> item and press OK key. |

| | |
|---|---|
|  <p>→ Name</p> | <p>5. Use the navigation key to choose <i>Name type</i> and press OK key to validate.</p> |
|   | <p>6. Use the keypad to enter name and press OK key to validate the input. Press the Back to exit the menu. The default Admin/User name is admin/user.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note: You could use the “BkSp” soft-key to delete the last character.</p> </div> |
|  <p>→ Password</p> | <p>7. Go to previous menu, choose <i>Password</i> item and press OK key.</p> |
|   | <p>8. Use the keypad to enter new password. Press OK key to validate the input. The default password is 1234.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note: You could use the “BkSp” soft-key to delete the last character.</p> </div> |

| | | |
|--|---|--|
| <p>Dynamic IP Address (DHCP)</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu.</p> |
| |  | <p>3. Use the navigation key to select the <i>Network Setting</i> item. Press OK key to validate the selection. The LCD displays the Network Type menu.</p> |
| |  | <p>4. Select the <i>Network Type</i> item and press OK key.</p> |
| |  | <p>5. Use the navigation key to choose <i>DHCP</i> type and press OK key to validate.</p> |
| <p>You must reboot the phone to validate the network parameter changing.</p> | | |
| <p>Static IP Address</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu.</p> |
| |  | <p>3. Use the navigation key to select the <i>Network Setting</i> item. Press OK key to validate the selection. The LCD displays the Network Type menu.</p> |

| | | |
|--|--|---|
| |  <p>→ Network Type</p> | <p>4. Select the <i>Network Type</i> item and press OK key.</p> |
| |  <p>→ Static IP</p> | <p>5. Use the navigation key to choose <i>Static IP</i> type and press OK key to validate.</p> |
| |  <p>→ IP Address, Subnet Mask, Default Gateway, DNS</p> | <p>6. There are <i>IP Address</i>, <i>Subnet Mask</i>, <i>Default Gateway</i>, and <i>DNS</i> items for user to configure, press OK key to enter particular entry.</p> |
| |  | <p>7. Use the keypad to enter the IP address, subnet mask, default gateway, or DNS of your IP phone. Use the * key for representing a dot . . Press OK key to validate the entered value. Press the Back key to exit the menu.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Note: You could use the “BkSp” soft-key to delete the last character.</p> </div> |
| <p>You must reboot the phone to validate the network parameter changing.</p> | | |
| <p>Dial Timeout</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Admin Setting</p> | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu.</p> |
| |  <p>→ Dial Timeout</p> | <p>3. Use the navigation key to select the <i>Dial Timeout</i> item. Press OK key to validate the selection.</p> |

| | | |
|--------------------|--|--|
| |   | <p>4. Use the keypad to enter the <i>Dial Timeout</i> and press OK key to validate the input. The You should enter a number from 0 to 9. Press the Back key to exit the menu. The default dial timeout setting is 6.</p> |
| <p>Ping</p> |  | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Admin Setting</p> | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu.</p> |
| |  <p>→ Network Setting</p> | <p>3. Use the navigation key to select the <i>Network Setting</i> item. Press OK key to validate the selection.</p> |
| |  <p>→ Ping</p> | <p>4. Select the <i>Ping</i> item and press OK key.</p> |
| |  | <p>5. Use the keypad to input network address and press OK key, then LCD will show the ping result several seconds later.</p> |

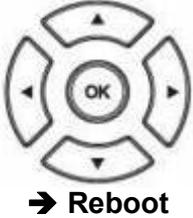
| | | |
|--------------------------------|--|--|
| <p>Reset to Default</p> |  <p>Menu</p> | <p>1. Press the Menu key on LCD.</p> |
| |  <p>→ Admin Setting</p> | <p>2. Use the navigation key to select the <i>Admin Setting</i> item. Press OK key to validate the selection. Type the administrator's password to get into <i>Admin</i> menu.</p> |
| |  <p>→ Reset to Default</p> | <p>3. Use the navigation key to select the <i>Reset to Default</i> item. Press OK key to validate the selection.</p> |
| |  <p>→ Configuration</p> | <p>4. Select the <i>Configuration</i> item and press OK key.</p> |
| |  | <p>5. Use the navigation key to choose "Yes" to reset configuration or choose "No" to exit the menu, and press OK key to validate.</p> |
| |  <p>→ Phonebook/Call Log</p> | <p>6. Go to previous menu, choose <i>Phonebook</i> item and press OK key.</p> |
| |  | <p>7. Use the navigation key to choose "Yes" to reset phonebook or choose "No" to exit the menu, and press OK key to validate.</p> |
| |  <p>→ All</p> | <p>8. Go to previous menu, choose <i>All</i> item and press OK key.</p> |



9. Use the navigation key to choose “Yes” to reset all or choose “No” to exit the menu, and press OK key to validate.

Reboot

Sometimes you will need to reboot your phone to apply new settings.

| <i>Operation</i> | <i>Description</i> | |
|------------------|---|--|
| Reboot |  | <ol style="list-style-type: none"> 1. Press the Menu key on LCD. |
| |  | <ol style="list-style-type: none"> 2. Use the navigation key to select the <i>Reboot</i> item. Press OK key to validate the selection. And Phone will show a "Reboot" message and the phone will restart. |

Note: the M22 takes about 2 minutes to startup after rebooting; there will be a series of diagnostic lights on the phone during the process. If your phone does not become operational within 2 minutes, contact your administrator or Service Provider support line.

Web Configuration

Login page

The default network settings are the following:

Default IP address: 192.168.1.10
Default Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1
Default DNS: 8.8.8.8

Default Administrator's Username of Web: admin
Default Administrator's Password of Web: 1234

Default User's Username of Web: user
Default User's Password of Web: 1111

There are two modes to access the IP phone's webpage: Administrator and User mode. Here lists several differences between two modes:

1. There is no Network page for user mode.
2. There is no SW Upgrade page for user mode.
3. There is no SIP page for user mode.
4. In System page of user mode, user's password and time settings are kept for user to set.

Accessing the phone through web browser, just simply enter the "**http://phone-ip**" in the location field of the browser. If you are not sure about the IP address of the phone, you can examine the current IP address through phone's menu. (Press Menu key, select item "3. Information", use navigation key to check the IP address)



Press ENTER key to validate, the above dialog box will pop up and prompt you to provide the username and password in order to prevent unauthorized user accessing the phone. Please input the username and password then press OK button to enter phone's webpage.

Configuration Pages

Information Page

The following is the default page you will see when you login to the phone's webpage.



| | | |
|----------------------------|--|-----------------------------------|
| Network Information | Network Type: Static IP | Current IP: 172.16.12.12 |
| | Subnet Mask: 255.255.224.0 | Default Gateway: 172.16.0.2 |
| | Primary DNS: 8.8.8.8 | Secondary DNS: 8.8.4.4 |
| Product Information | Product Name: X-3020 | Application Version: F_5_4_V0.2.2 |
| | Firmware Version: F_5_3_V1.0.50_2013-05-02 | Hardware Version: X-3020_PR |
| | SN: 11111111 | |
| | MAC Address: 00:19:15:D9:BD:60 | |
| Phone Status | Phone Number: 201 | Registration State: Registered |
| | SIP Proxy Server: 172.16.11.11 | |

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In this page, it shows Network/Product information and Phone status.

- For Phone status:
- “Registration State” will be marked “Registered” with green text.
- “Unregistered” will be marked with red text.

Network Page

Information

Network

Phone

SW Upgrade

SIP

System

EDM

Phonebook

| | | | | | |
|----------------|---------------------|--------------|----------------|---------------|----------------|
| Network | Network Type: | Static IP | Time Server: | pool.ntp.org | |
| | IP Address: | 192.168.1.10 | Subnet Mask: | 255.255.255.0 | |
| | Default Gateway: | 192.168.1.1 | Secondary DNS: | 8.8.4.4 | |
| | Primary DNS: | 8.8.8.8 | Third DNS: | 4.2.2.1 | |
| | Third DNS: | 4.2.2.1 | | | |
| | QoS Settings | | | | |
| | DSCP for RTP: | Best Effort | | | |
| | DSCP for SIP: | Best Effort | | | |
| | VLAN Items | | | | |
| | VLAN Mode: | None | VLAN ID: | 2 | VLAN Priority: |

Save Settings

Cancel

Network:

| Field Name | Function |
|-----------------|---|
| Network Type | Select the network type. There are two types: DHCP, Static IP. |
| Time Server | SNTP (Simple Network Time Protocol) server. Phone will sync correct time from the server according to phone's time zone setting (In "System" page). |
| IP Address | Set IP address when network type is Static IP. |
| Subnet Mask | Set subnet mask when network type is Static IP. |
| Default Gateway | Set gateway address when network type is Static IP. |
| Primary DNS | Set first DNS server when network type is Static IP. |
| Secondary DNS | Set second DNS server when network type is Static IP. |
| Third DNS | Set third DNS server when network type is Static IP. |

It is necessary to reboot the phone after you change the above network related items. Press "Save Settings" button first, then it will pop up "Need to Reboot" tips, and choose "Confirm" button to restart the phone.

QoS Settings:

| | |
|--------------|---|
| DSCP for RTP | Select Differentiated Services Code Point (DSCP) for RTP. |
| DSCP for SIP | Select Differentiated Services Code Point (DSCP) for SIP. |

VLAN Items:

| | |
|-----------|----------------------------|
| VLAN Mode | Set the VLAN routing mode. |
| VLAN ID | Set VLAN ID. |

| | |
|----------------------|------------------------|
| VLAN Priority | Set the VLAN priority. |
|----------------------|------------------------|

Buttons:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Cancel | Discard all changes in this page. |

Phone Page

- Information
- Network
- Phone
- SW Upgrade
- SIP
- System
- EDM
- Phonebook

| | |
|------------------------------|--|
| Volume Control | Handset Mic.: <input type="text" value="6"/> <small>▼</small> Handset Speaker: <input type="text" value="6"/> <small>▼</small> Handsfree Mic.: <input type="text" value="6"/> <small>▼</small> Handsfree Speaker: <input type="text" value="6"/> <small>▼</small> Headset Mic.: <input type="text" value="6"/> <small>▼</small> Headset Speaker: <input type="text" value="6"/> <small>▼</small> Ring Volume: <input type="text" value="6"/> <small>▼</small> |
| Tone/Ring Selection | Tone Type: <input type="text" value="United States"/> <small>▼</small> Ring Type: <input type="text" value="0"/> <small>▼</small> |
| Voice Parameters | Enable VAD+CNG: <input type="checkbox"/> Enable Silence Suppression: <input type="text" value="None"/> <small>▼</small> Enable Echo Cancellor: <input checked="" type="checkbox"/> |
| Phone Features | Enable DND: <input type="checkbox"/> Enable Music on Hold: <input type="checkbox"/> Enable Auto Answer: <input type="checkbox"/> Enable Call Waiting: <input type="checkbox"/> Enable Hold Reminder: <input type="checkbox"/> Hotline Number: <input type="text"/> Enable CLIP: <input checked="" type="checkbox"/> Language Type: <input type="text" value="English"/> <small>▼</small> DND Type: <input type="text" value="Both"/> <small>▼</small> Dial Timeout (Sec.): <input type="text" value="6"/> Enable Call Waiting Tone: <input type="checkbox"/> Hold Reminder Time (Sec.): <input type="text" value="10"/> (10~60) Hotline Timeout (Sec.): <input type="text" value="2"/> |
| Phone Display Setting | Phone Number Display Style: <input type="text" value="Name"/> <small>▼</small> |

Volume Control:

| <i>Field Name</i> | <i>Function</i> |
|--------------------------|---|
| Handset Mic | Select the volume level of handset microphone. |
| Handset Speaker | Select the volume level of handset speaker. |
| Handsfree Mic | Select the volume level of hands-free microphone. |
| Handsfree Speaker | Select the volume level of hands-free speaker. |
| Headset Mic | Set the volume level of headset microphone. |
| Headset Speaker | Set the volume level of headset speaker. |
| Ring Volume | Select the volume level of ring. |

Tone/Ring Selection:

| | |
|------------------|--|
| Tone Type | Select the tone type for country. There are 13 tone types for selection. |
| Ring Type | Select the ring type. There are 13 ring types for selection. |

Voice Parameters:

| | |
|-----------------------|---|
| Enable VAD+CNG | Turn on VAD (Voice Activity Detection) and CNG (Comfortable Noise Generation) function. |
| Enable Silence | Turn on the Silence Suppression function. |

| | |
|-----------------------------------|---|
| Suppression | |
| Enable Echo Cancellor | Turn on the Echo Cancellation function. |
| Phone Features: | |
| Enable DND | Turn on "Do Not Disturb" function. When it is enabled, all incoming call will get busy tone when they make call to this phone number. |
| DND Type | Select DND action range. |
| Enable Music on Hold | Plays hold music on phone when held by remote. |
| Enable Auto Answer | Turn on Auto Answer function. When it is enabled, phone will pick up the call automatically. |
| Dial Timeout (Sec.) | Set the timeout (0~30 sec) to automatically end dialing. |
| Enable Call Waiting | When Call Waiting function is enabled and user is in talk state, phone can allow other incoming calls. It plays Call Waiting Tone (if Call Waiting tone is enabled) to indicate user. If it's disabled, when user is in talk state, other incoming caller will get busy tone. |
| Enable Call Waiting Tone | Turn on the Call Waiting Tone function. At talk state, a beep tone will indicate user every 10 seconds when another call is ringing in. |
| Enable Hold Reminder | Turn on the Hold Reminder function. |
| Hold Reminder Time (Sec.) | When a call is held, phone will remind user with a beep tone every this time period. |
| Hotline Number | This string is only for "Hotline Number" type. |
| Hotline Timeout (Sec.) | Set hotline time (1~60 sec) for Hotline Number. |
| Enable CLIP | Turn on the CLIP function. |
| Language Type | Select language type for local display. |
| Phone Display Setting: | |
| Phone Number Display Style | Set the display style for calling name and number. |

| | | | |
|---|---|---|---|
| Call Forwarding Settings | Always Call Forwarding: <input type="checkbox"/> | Type: Both <input type="button" value="v"/> | |
| | Always Forward Destination: <input type="text"/> | | |
| | Busy Call Forwarding: <input type="checkbox"/> | Type: Both <input type="button" value="v"/> | |
| | Busy Forward Destination: <input type="text"/> | | |
| | No Answer Call Forwarding: <input type="checkbox"/> | Type: Both <input type="button" value="v"/> | |
| | No Answer Forward Destination: <input type="text"/> | No Answer Time (Sec.): <input type="text" value="15"/> (1~60) | |
| | DND Call Forwarding: <input type="checkbox"/> | Type: Both <input type="button" value="v"/> | |
| | DND Forward Destination: <input type="text"/> | | |
| | Forking Call Forwarding: <input type="checkbox"/> | Type: Both <input type="button" value="v"/> | |
| Forking Forward Destination: <input type="text"/> | Forking Secondary Forward Destination: <input type="text"/> | | |
| Caller Blocking Settings | Block Anonymous Call: <input type="checkbox"/> | | |
| | Caller Blocking Entry 0: <input type="text"/> | Caller Blocking Entry 1: <input type="text"/> | |
| | Caller Blocking Entry 2: <input type="text"/> | Caller Blocking Entry 3: <input type="text"/> | |
| | Caller Blocking Entry 4: <input type="text"/> | Caller Blocking Entry 5: <input type="text"/> | |
| | Caller Blocking Entry 6: <input type="text"/> | Caller Blocking Entry 7: <input type="text"/> | |
| | Caller Blocking Entry 8: <input type="text"/> | Caller Blocking Entry 9: <input type="text"/> | |
| | Speed Dialing Settings | Speed Dialing Entry 0: <input type="text"/> | Speed Dialing Entry 1: <input type="text"/> |
| | | Speed Dialing Entry 2: <input type="text"/> | Speed Dialing Entry 3: <input type="text"/> |
| | | Speed Dialing Entry 4: <input type="text"/> | Speed Dialing Entry 5: <input type="text"/> |
| Speed Dialing Entry 6: <input type="text"/> | | Speed Dialing Entry 7: <input type="text"/> | |
| Speed Dialing Entry 8: <input type="text"/> | | Speed Dialing Entry 9: <input type="text"/> | |

Call Forwarding Settings:

| | |
|--------------------------------------|---|
| Always Call Forwarding | Turn on the always call forwarding function, the right side is selecting forward action range. |
| Always Forward Destination | Set where the call will be forwarded to. |
| Busy Call Forwarding | Turn on the busy call forwarding function, the right side is selecting forward action range. |
| Busy Forward Destination | Set where the call will be forwarded to. |
| No Answer Call Forwarding | Turn on the no answer call forwarding function, the right side is selecting forward action range. |
| No Answer Forward Destination | Set where the call will be forwarded to. |
| No Answer Timeout (Sec.) | Set the timeout for no answer call forwarding. |
| DND Call Forwarding | Turn on the DND call forwarding function, the right side is selecting forward action range. |
| DND Forward Destination | Set where the call will be forwarded to. |
| Forking Call Forwarding | Turn on the forking call forwarding function, the right side is selecting forward action range. |
| Forking Forward Destination | Set where the call will be forwarded to. |

| | |
|--|---|
| Destination | |
| Forking Secondary Forward Destination | Set where the call will be forwarded to when first destination is busy. |

Caller Blocking Settings:

| | |
|------------------------------------|--|
| Enable Block Anonymous Call | Turn on to block the incoming call without Display Name. |
| Caller Blocking Entry 0~9 | There are 10 blocking entries for user to set. When the caller ID of the incoming call matches a certain blocking entry, the call will be blocked. The remote party will hear busy tone. |

Speed Dialing Settings:

| | |
|--------------------------------|---|
| Speed Dialing Entry 0~9 | There are 10 speed dialing entries for user to set. |
|--------------------------------|---|

Feature Key Settings

Feature Key 1:

Feature Key 2:

Feature Key 3:

Feature Key Number 1:

Feature Key Number 2:

Feature Key Number 3:

Programmable Key Settings

Programmable key 1:

Programmable key 2:

Programmable key 3:

Programmable key 4:

Programmable key 5:

Programmable key 6:

Programmable key 7:

Programmable key 8:

Function Number 1:

Function Number 2:

Function Number 3:

Function Number 4:

Function Number 5:

Function Number 6:

Function Number 7:

Function Number 8:

Feature Key Settings:

| | |
|------------------------|--|
| Feature Key 1~3 | There are 9 types could be chosen, None, Extension, Trunk, Call Park, Feature Key, Do Not Disturb, Live Record, Virtual Mailbox and Others. Phone will do the relative function when user pressing related feature key button. |
|------------------------|--|

Programmable Key Settings:

| | |
|-----------------------------|---|
| Programmable Key 1~8 | There are 9 types could be chosen, None, Extension, Trunk, Call Park, Feature Key, Do Not Disturb, Live Record, Virtual Mailbox and Others. Phone will do the relative function when user pressing related programmable key button. |
|-----------------------------|---|

Buttons:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Cancel | Discard all changes in this page. |

SW Upgrade Page

- Information
- Network
- Phone
- SW Upgrade
- SIP
- System
- EDM
- Phonebook

HTTP Upgrade

| | | |
|-------------------------|---|---|
| Software File: | <input type="button" value="选择文件"/> 未选择文件 | <input type="button" value="Update"/> |
| Configuration File: | <input type="button" value="选择文件"/> 未选择文件 | <input type="button" value="Update"/> <input type="button" value="Backup"/> |
| Private Phonebook File: | <input type="button" value="选择文件"/> 未选择文件 | <input type="button" value="Update"/> <input type="button" value="Backup"/> |
| Linux Kernel: | <input type="button" value="选择文件"/> 未选择文件 | <input type="button" value="Update"/> |
| Application Pack: | <input type="button" value="选择文件"/> 未选择文件 | <input type="button" value="Update"/> |

TFTP/FTP/HTTP/HTTPS Upgrade

| | | |
|---------------------|---|--|
| Server Type: | <input type="text" value="TFTP"/> | |
| Server IP Address: | <input type="text" value="192.168.1.100"/> | Files Directory: <input type="text"/> |
| Server User Name: | <input type="text" value="root"/> | User Password: <input type="password" value="****"/> |
| Software File: | <input type="text"/> | <input type="button" value="Update"/> |
| Configuration File: | <input type="text" value="PhoneConfigure.xml"/> | <input type="button" value="Update"/> |

Phonebook Updates

| | | |
|-------------------------|--|---------------------------------------|
| Private Phonebook File: | <input type="text" value="addressbook_private.c"/> | <input type="button" value="Update"/> |
| Public Phonebook File: | <input type="text" value="addressbook_public.cs"/> | <input type="button" value="Update"/> |

HTTP Upgrade:

| Field Name | Function |
|-------------------------------|---|
| Software File | Select software firmware and press Update button to upgrade software. |
| Configuration File | Select the desired configuration file and press Update button to restore the settings. Press Backup button to save the configuration file on your PC. |
| Private Phonebook File | Select desired private phonebook file and press Update button to update. Press Backup button to save the phonebook file on your PC. |
| Linux Kernel | Select Linux kernel and press Update Button to upgrade kernel. |
| Application Pack | Select application and press Update button to upgrade application. |

The software upgrade process needs 2 minutes to finish, please do not turn off the power at this time. After updating successfully, the phone will reboot automatically.

TFTP/FTP/HTTP/HTTPs Upgrade:

| | |
|--------------------------|--|
| Server Type | Select the Server Type (TFTP, FTP, HTTP or HTTPs). |
| Server IP Address | IP address of TFTP, FTP, HTTP or HTTPs Server. |
| Files Directory | Files directory where the software, configuration file, or phonebook file located. |

| | |
|---------------------------|--|
| Server User Name | Username of the account on the server. |
| User Password | Password of the account on the server. |
| Software File | Software file name on the server. |
| Configuration File | Configuration file name on the server. |

Phonebook Updates:

| | |
|-------------------------------|---|
| Private Phonebook File | <ul style="list-style-type: none"> The user can add, edit, delete or dial an entry directly from the web page. The user can also upload his contacts from a file using a web browser. The Private Phonebook can have up to 100 contacts. |
| Public Phonebook File | A user or administrator can upload a file using a web browser. |

You can also use TFTP, FTP, HTTP or HTTPs server to update the software, configuration file, or phonebook file. First, fill the correct file name which you desire to update. Second, press "Save Settings" button to save. Finally, press relative "Update" button, the update process will start.

Buttons:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Cancel | Discard all changes in this page. |

SIP Page

- Information
- Network
- Phone
- SW Upgrade
- SIP
- System
- EDM
- Phonebook

| | | |
|-------------------------------|--|--|
| SIP Proxy Server | SIP Proxy Server: <input style="width: 150px;" type="text" value="172.16.11.11"/> | Port: <input style="width: 80px;" type="text" value="5070"/> |
| | Outbound Proxy Server: <input style="width: 150px;" type="text" value="172.16.11.11"/> | Port: <input style="width: 80px;" type="text" value="5070"/> |
| | Backup Proxy Server: <input style="width: 150px;" type="text"/> | Port: <input style="width: 80px;" type="text" value="5070"/> |
| SIP Registrar Server | Registrar Server: <input style="width: 150px;" type="text" value="172.16.11.11"/> | Port: <input style="width: 80px;" type="text" value="5070"/> |
| | Registrar Outbound Server: <input style="width: 150px;" type="text" value="172.16.11.11"/> | Port: <input style="width: 80px;" type="text" value="5070"/> |
| | Backup Registrar Server: <input style="width: 150px;" type="text"/> | Port: <input style="width: 80px;" type="text" value="5070"/> |
| | Registrar Expire Time (Sec.): <input style="width: 80px;" type="text" value="180"/> | Registrar Retry After Time (Sec.): <input style="width: 80px;" type="text" value="300"/> |
| Subscriber Information | Phone Number: <input style="width: 100px;" type="text" value="201"/> | Display Name: <input style="width: 100px;" type="text"/> |
| | Authorized ID: <input style="width: 100px;" type="text" value="201"/> | Authorized Password: <input style="width: 100px;" type="password" value="*****"/> |
| | Locating SIP Server: <input type="checkbox"/> | Enum Suffix: <input style="width: 100px;" type="text"/> |
| | End Dial on #: <input type="checkbox"/> | |
| | DTMF Type: <input style="width: 80px;" type="text" value="RFC2833"/> | RFC2833 Payload: <input style="width: 80px;" type="text" value="101"/> (96-127) |
| SIP Settings | Session Expires(Sec.): <input style="width: 80px;" type="text" value="300"/> | Min-SE(Sec.): <input style="width: 80px;" type="text" value="60"/> |
| | SIP 100rel Support: <input checked="" type="checkbox"/> | |

SIP Proxy Server:

| | |
|------------------------------|--------------------------------|
| SIP Proxy Server | Set SIP proxy server. |
| Outbound Proxy Server | Set SIP outbound proxy server. |
| Backup Proxy Server | Set SIP backup proxy server. |
| Server Port | Set SIP proxy service port. |

SIP Registrar Server:

| | |
|--|-------------------------------------|
| Registrar Server | Set SIP registrar server. |
| Registrar Outbound Server | Set SIP registrar outbound server. |
| Backup Registrar Server | Set SIP registrar backup server. |
| Registrar Server Port | Set SIP registrar port. |
| Registrar Expire Time (Sec.) | Set SIP registrar expire time. |
| Registrar Retry After Time (Sec.) | Set SIP registrar retry after time. |

Subscriber Information:

| | |
|---------------------|---------------------------------|
| Phone Number | Set SIP registrar phone number. |
|---------------------|---------------------------------|

| | |
|----------------------------|---|
| Display Name | Set SIP registrar display name. |
| Authorized ID | Set SIP registrar authorized ID. |
| Authorized Password | Set SIP registrar authorized password. |
| Locating SIP Server | Enable locating SIP server. |
| Enum Suffix | Set Enum Suffix. |
| End Dial on # | Enable end dial on #. |
| DTMF Type | Select DTMF type (None, Tone, RFC2833, SIP-INFO). |
| RFC2833 Payload | Set RFC2833 payload length (96 ~ 127). |

SIP Settings:

| | |
|-------------------------------|---|
| Session Expires (Sec.) | Set expire time for session. |
| MIN SE (Sec.) | Set minimum session expiration time. It will notify server the minimum expiration time that you accepted in negotiation state. It is conveyed in the Min-SE header in the initial INVITE request. |
| SIP 100rel Support | Turn on SIP 100rel Support. |

| | | |
|----------------------------|--|---|
| Optional SIP Header | Optional Header1: <input type="text"/> | Optional Header2: <input type="text"/> |
| RTP Parameters | RTP Port Base: <input type="text" value="10000"/> | Statistic Port: <input type="text" value="10000"/> |
| | Enable Statistic: <input type="checkbox"/> | Statistic Server: <input type="text"/> |
| Codec Settings | First Codec: <input type="text" value="G.729"/> | Packet Time: <input type="text" value="20(ms)"/> |
| | Second Codec: <input type="text" value="G.711 a-law"/> | G.726-32 Payload: <input type="text" value="114"/> (96-127) |
| | Third Codec: <input type="text" value="G.711 u-law"/> | |
| | Fourth Codec: <input type="text" value="iLBC"/> | |
| | Fifth Codec: <input type="text" value="G.726-32"/> | |
| | Sixth Codec: <input type="text" value="G.723.1"/> | |
| | Seventh Codec: <input type="text" value="G.722"/> | |
| NAT Settings | SIP NAT Type: <input type="text" value="None"/> | RTP NAT Type: <input type="text" value="None"/> |
| | SIP Keep Alive: <input type="checkbox"/> | SIP Keep Alive Time(Sec.): <input type="text" value="20"/> |
| | STUN Server: <input type="text"/> | STUN Server Port: <input type="text" value="0"/> |

Optional SIP Header:

| | |
|-----------------------------|---------------------------------|
| Optional SIP Header1 | Set first optional SIP header. |
| Optional SIP Header2 | Set second optional SIP header. |

RTP Parameters:

| | |
|----------------------|---|
| RTP Port Base | Set port base for RTP (Real-time Transport Protocol). |
|----------------------|---|

| | |
|-------------------------|------------------------------|
| Enable Statistic | Enable statistic RTP server. |
| Statistic Server | Set statistic server. |
| Statistic Port | Set statistic port. |

Codec Settings:

| | |
|---|---|
| G.711 u-law G.711 a-law G.722 G.723.1 G.726-32 G.729 iLBC None | Select the codec priority for RTP communications. |
| Packet Time | Select the relative packet time. |
| G.726-32 Payload | Fill the number of G.726-32 payload. |

NAT Settings:

| | |
|-----------------------------------|-----------------------------|
| SIP NAT Type | Select SIP NAT type. |
| RTP NAT Type | Select RTP NAT type. |
| SIP Keep Alive | Turn on SIP keep alive. |
| SIP Keep Alive Time (Sec.) | Set SIP keep alive time. |
| STUN Server | Set STUN server IP address. |
| STUN Server Port | Set STUN server port. |

| Prefix Entry Settings | |
|-------------------------|----------------------|
| Prefix Entry 0 Type: | Disabled ▾ |
| Prefix Entry 0 Pattern: | <input type="text"/> |
| Prefix Entry 0 Replace: | <input type="text"/> |
| Prefix Entry 1 Type: | Disabled ▾ |
| Prefix Entry 1 Pattern: | <input type="text"/> |
| Prefix Entry 1 Replace: | <input type="text"/> |
| Prefix Entry 2 Type: | Disabled ▾ |
| Prefix Entry 2 Pattern: | <input type="text"/> |
| Prefix Entry 2 Replace: | <input type="text"/> |
| Prefix Entry 3 Type: | Disabled ▾ |
| Prefix Entry 3 Pattern: | <input type="text"/> |
| Prefix Entry 3 Replace: | <input type="text"/> |
| Prefix Entry 4 Type: | Disabled ▾ |
| Prefix Entry 4 Pattern: | <input type="text"/> |
| Prefix Entry 4 Replace: | <input type="text"/> |
| Prefix Entry 5 Type: | Disabled ▾ |
| Prefix Entry 5 Pattern: | <input type="text"/> |
| Prefix Entry 5 Replace: | <input type="text"/> |
| Prefix Entry 6 Type: | Disabled ▾ |
| Prefix Entry 6 Pattern: | <input type="text"/> |
| Prefix Entry 6 Replace: | <input type="text"/> |
| Prefix Entry 7 Type: | Disabled ▾ |
| Prefix Entry 7 Pattern: | <input type="text"/> |
| Prefix Entry 7 Replace: | <input type="text"/> |
| Prefix Entry 8 Type: | Disabled ▾ |
| Prefix Entry 8 Pattern: | <input type="text"/> |
| Prefix Entry 8 Replace: | <input type="text"/> |
| Prefix Entry 9 Type: | Disabled ▾ |
| Prefix Entry 9 Pattern: | <input type="text"/> |
| Prefix Entry 9 Replace: | <input type="text"/> |
| Dial Plan | <input type="text"/> |

Save Settings

Cancel

Prefix Entry Settings:

| | |
|---|--|
| Prefix Entry Type, Pattern, or Replace | If the “Prefix Entry Type” is “Replace” mode, the “Prefix Entry Pattern” will be replaced by the “Prefix Entry Replace”. For example, the “Prefix Entry Pattern” is 220 and the “Prefix Entry Replace” is 210. When you dial 220 with keyboard, the phone will dial 210. |
|---|--|

Dial Plan:

| | |
|------------------|---|
| Dial Plan | Outgoing call which fit for the dial plan rule will be called out immediately, without waiting the dial timeout. It is convenient for users to make call quickly. There are several kinds of settings for dial plan: 1. “x” means any single digit from 0~9. 2. “[digit-digit]” means a valid range for a certain number position. 3. [digits] means “acceptable numbers for a certain number position. 4. “ ” is used for separate different dial plan items. For example, set dial plan as “60xx 30[6-9] 10[45]”, if user dial 6000~6099, 306, 307, 308, 309, 104, and 105, IP phone will dial out it immediately. Otherwise, dial out the number after dial timeout. |
|------------------|---|

Buttons:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Cancel | Discard all changes in this page. |

System Page

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Admin Settings

Administrator Name: Administrator Password:

User Name: User Password:

System Log to: Log Level:

System Log Address: System Log Port:

Time Settings

Display Date and Time:

Auto DST: Daylight Saving Time:

Starts on: Month Day Time

Ends on: Month Day Time

Time Format:

Time Zone:

Download Logs

System Log: SIP Log:

Reboot Phone

Reboot Phone:

Reset to Default

Reset Configuration: Reset Phonebook/Call Log:

Reset All:

Admin Settings:

| <i>Field Name</i> | <i>Function</i> |
|-------------------------------|--|
| Administrator Name | The administrator username to login phone's webpage. |
| Administrator Password | The administrator password to login phone's webpage. |
| User Name | The user username to login phone's webpage. |
| User Password | The user password to login phone's webpage. |
| System Log to | Select destination of system log redirect to. |
| Log Level | Select log level. |
| System Log Address | Set IP address for system log server. |
| System Log Port | Set port for system log server. |

The user's name is not allowed to be the same as administrator's name. The administrator's and user's name should be set at least 1 character, not allowed to be null. The administrator's and user's password should be set at least 4 characters. When changing password in phone's config menu, less than 4 characters will be discarded, not saved.

Time Settings: (Not used with IG server)

| | |
|-----------------------------|---|
| Display Day and Time | Turn on to display day and time on LCD. |
|-----------------------------|---|

| | |
|-----------------------------|---|
| Auto DST | Turn on the auto DST (Daylight Saving Time) function. |
| Daylight Saving Time | Three time shifts could be set, -1, 0, and +1. |
| Starts on | Start time for DST. |
| Ends on | End time for DST. |
| Time Format | USA 24_HOUR, USA 12_HOUR, European 24_HOUR, and European 12_HOUR. |
| Time Zone | Set time zone. |

Download Logs:

| | |
|-------------------|-------------------------------|
| System Log | Press to download system log. |
| SIP Log | Press to download SIP log. |

Reboot Phone:

| | |
|---------------|--------------------|
| Reboot | Restart the phone. |
|---------------|--------------------|

Reset to Default:

| | |
|---------------------------------|--|
| Reset Configuration | Reset Configuration to factory default. |
| Reset Phonebook/Call Log | Clear all Phonebook and Call Log data. |
| Reset All | Reset all data to default including Configuration, Call Records, and Phonebook data. |

Buttons:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Cancel | Discard all changes in this page. |

EDM

- Information
- Network
- Phone
- SW Upgrade
- SIP
- System
- EDM
- Phonebook

| EDM Key | | | |
|-------------|-------|---|--|
| EDM Key 1: | Trunk | ▼ | Function Number 1: 700 |
| EDM Key 2: | Trunk | ▼ | Function Number 2: 701 |
| EDM Key 3: | Trunk | ▼ | Function Number 3: 702 |
| EDM Key 4: | Trunk | ▼ | Function Number 4: 703 |
| EDM Key 5: | None | ▼ | Function Number 5: <input type="text"/> |
| EDM Key 6: | None | ▼ | Function Number 6: <input type="text"/> |
| EDM Key 7: | None | ▼ | Function Number 7: <input type="text"/> |
| EDM Key 8: | None | ▼ | Function Number 8: <input type="text"/> |
| EDM Key 9: | None | ▼ | Function Number 9: <input type="text"/> |
| EDM Key 10: | None | ▼ | Function Number 10: <input type="text"/> |
| EDM Key 11: | None | ▼ | Function Number 11: <input type="text"/> |
| EDM Key 12: | None | ▼ | Function Number 12: <input type="text"/> |
| EDM Key 13: | None | ▼ | Function Number 13: <input type="text"/> |
| EDM Key 14: | None | ▼ | Function Number 14: <input type="text"/> |
| EDM Key 15: | None | ▼ | Function Number 15: <input type="text"/> |
| EDM Key 16: | None | ▼ | Function Number 16: <input type="text"/> |
| EDM Key 17: | None | ▼ | Function Number 17: <input type="text"/> |
| EDM Key 18: | None | ▼ | Function Number 18: <input type="text"/> |
| EDM Key 19: | None | ▼ | Function Number 19: <input type="text"/> |
| EDM Key 20: | None | ▼ | Function Number 20: <input type="text"/> |
| EDM Key 21: | None | ▼ | Function Number 21: <input type="text"/> |
| EDM Key 22: | None | ▼ | Function Number 22: <input type="text"/> |
| EDM Key 23: | None | ▼ | Function Number 23: <input type="text"/> |
| EDM Key 24: | None | ▼ | Function Number 24: <input type="text"/> |

Save Settings
Cancel

EDM Key:

| <i>Field Name</i> | <i>Function</i> |
|---------------------|--|
| EDM Key 1~24 | There are 9 types could be chosen, None, Extension, Trunk, Call Park, Feature Key, Do Not Disturb, Live Record, Virtual Mailbox and Others. Phone will do the relative function when user pressing related EDM key button. |

Buttons:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Cancel | Discard all changes in this page. |

Phonebook

Information
Network
Phone
SW Upgrade
SIP
System
EDM
Phonebook

Phonebook Entry(1-1)

No.: 1

Username: Phone Number:

Group: Ring Type:

New Phonebook Entry

Username:

Group: Phone Number:

Ring Type:

Save Settings
Prev. Page
Next Page

This page lets you configure phonebook data of your phone. You may:

- Edit up to 200 entries. Each page will just show 20 entries.
- Dial a phone number directly from this webpage.

Phonebook Entry:

| <i>Field Name</i> | <i>Function</i> |
|---------------------|--|
| Dial | Dial the phone number which your want to dial. |
| Delete | Delete current contact entry. |
| Username | Name of your contact. |
| Phone Number | Phone number or SIP URI of your contact. |
| Group | Select group type for each entry. |
| Ring Type | Select particular ring type for each entry. |

New Phonebook Entry:

| | |
|---------------------|--|
| Username | Set name of new contact. |
| Phone Number | Set number of SIP URI of new contact. |
| Group | Select group type for new contact. |
| Ring Type | Select particular ring type for new contact. |
| Add | Save the new contact. |

Button:

| | |
|----------------------|---|
| Save Settings | Save changes in this page to the phone. |
| Prev Page | Go to the previous page. |
| Next Page | Go to the next page. |

To call your contact, simply click on the corresponding number and it will show the following dialog box (for example, if you click entry 001 to call out, the result will be the following):



Then press the "Dial" button in order to start dialing. Phone will dial out corresponding number automatically.

Features & Specifications

With highly integrated chip and sophisticated design, this IP2032 offers a variety of features. And it can provide high performance, reliable and quality voice communication for the users. The hardware specifications are list as follows for your reference.

Main Unit

- Dimension: 180 * 195 * 105 mm.
- Plastic material: ABS type.
- Support 2 angles. (one with stand and one without stand)
- Can be mounted onto the wall with the stand.
- Support detachable handset and curled cord.

LAN and PC Ports

- Integrated 2 ports Ethernet switch.
- IEEE 802.3 10BaseT / 802.3u 100BaseTx compliant.
- Auto-negotiation with link speed and full/half duplex mode.
- Auto MDI/MDIX for both downlink and uplink auto-swapping.
- Support QoS IEEE 802.1p voice priority function.

Power Supply

- Input: 5VDC/2A power adapter.
- Support PoE (Power over Ethernet), IEEE 802.3af Device - Class 2 (7W).

Voice Handling

- Supports multiple Audio Codecs: G.711 a-law/ μ -law, G722, G.723.1, G726-32, G.729, iLBC.
- Supports VAD (Voice Activity Detection) and CNG (Comfort Noise Generation).
- Volume adjustable for Handset, Headset, Hands-free and Hands-free Ring output.
- Support G.165 16ms line Echo Cancellation.
- Adaptive Jitter Buffering function supported.
- Hands-free talking supported.
- Support multiple calls appearance.

Note: * These features are optional. Please contact your supplier to purchase option.

Tone Function:

- DTMF tone generation and detection.
- Side tone and good voice quality supported.
- Out-bound DTMF relay (RFC2833/SIP-INFO) support.

-Local tone support (Dial, Ring, Ring back, Busy and related tones).

Troubleshooting

| <i>Symptom</i> | <i>Check & Remedy</i> |
|--|---|
| No operation | <ul style="list-style-type: none"> ● Check if the power adapter is properly connected. ● Check if the Ethernet cable is properly connected. ● If applicable, check if the PoE (Power over Ethernet) switch behind the IP phone is set to the right position. |
| No dial tone | <ul style="list-style-type: none"> ● Check if the handset cord is properly connected. ● Check if the power adapter is properly connected. |
| Check network connection shown on LCD | <ul style="list-style-type: none"> ● Check if the Ethernet cable is properly connected. |
| Cannot make call | <ul style="list-style-type: none"> ● Check the status of your SIP registration or contact your supplier or ITSP for more information or assistance. |
| IP phone cannot receive any phone call | <ul style="list-style-type: none"> ● Check if the Ethernet cable is properly connected ● Check the status of your SIP registration or contact your supplier or ITSP for more information or assistance. |
| Cannot connect to the configuration website of the IP phone | <ul style="list-style-type: none"> ● Check if the Ethernet cable is properly connected. ● Check the IP address of the IP phone. ● Check if your firewall/NAT settings are correct. |

Glossary

Acronyms

| | |
|-------|--|
| CODEC | Coder and Decoder of Voice |
| CNG | Comfort Noise Generation |
| DHCP | Dynamic Host Configuration Protocol |
| DNS | Domain Name Server |
| DTMF | Dual Tone Multiple Frequency |
| HTTP | Hypertext Transfer Protocol |
| IP | Internet Protocol |
| ISP | Internet Service Provider |
| ITSP | IP Telephony Service Provider |
| LAN | Local Area Network |
| MWI | Message Waiting Indication |
| PoE | Power over Ethernet (IEEE802.3af standard) |
| PPPoE | Point-to-point protocol over Ethernet |
| QoS | Quality of Service |
| NAT | Network Address Translation |
| RTP | Real Time Protocol |
| SIP | Session Initiation Protocol |
| SNTP | Simple Network Address Translation |
| TFTP | Trivial File Transfer Protocol |

Terminology

| | |
|---------------------|--|
| 10/100BASE-T | It's a LAN transmission line specification stipulated by IEEE. Transmission speed is 10 or 100 Mbps and the modulation technique is base-band modulation. The cable uses unshielded twisted pair, similar to a telephone wire. 10BaseT is an IEEE standard (802.3) for operating 10 Mbps Ethernet networks (LANs) with twisted pair cabling and a wiring hub. |
| Auto answer | In telephone call control: The capability of a machine to answer a ringing telephone without human intervention. |
| CODEC | The CODEC (CODER/DECODER) is a standard through which voice information can be encoded into data or decoded back to voice information. Both a Coder and Decoder are necessary on both sides of the telephone call since telephone calls occur simultaneously in both directions. Bandwidth is an extremely important factor in QOS (Quality of Service). MOS (Mean Opinion Score) is an attempt to make a quantifiable benchmark of voice quality. Below are examples of the CODEC, bit rate and mean opinion score: G.711 (toll quality) 64K MOS=4.1, G.726 16K (32K) MOS=3.8, G.729AB (cell phone quality) 8K MOS=3.7. |
| DHCP | Dynamic Host Configuration Protocol (DHCP): A utility that enables a server to dynamically assign IP addresses from a predefined list and limit their time of use so that they can be reassigned. Without DHCP, an IT Manager would have to manually enter in all the IP addresses of all the computers on the network. When DHCP is used, whenever a computer logs onto the network, it automatically gets an IP address assigned to it. |
| Diff-Serv | Differentiated Services: The Diff-Serv model divides traffic into a small number of classes to provide quality of service (QoS). One of QoS in internet. |
| DNS | Domain Name Service (DNS): A server/program that translates URLs to IP addresses by accessing a database maintained on a collection of Internet servers. The program works behind the scenes to facilitate surfing the Web with alpha versus numeric addresses. A DNS server converts a name like mywebsite.com to a series of numbers like 107.22.55.26. Every website has its own specific IP address on the Internet. Typically one or more DNS servers is located in an IP network. |
| DTMF | Dual Tone Multi-Frequency (DTMF): The type of audio signals generated when you press the buttons on a touch-tone telephone. Can be used in inbound (after voice channel connected) and outbound (before voice channel connected) application. |
| Ethernet | International standard networking technology for wired implementations. Basic 10BaseT networks offer a bandwidth of about 10 Mbps. Fast Ethernet (100 Mbps) and Gigabit Ethernet (1000 Mbps) are becoming popular. |
| G.711 | 64 kbps PCM half-duplex codec (high quality, high bandwidth, minimum processor load) |
| IP | Internet Protocol (IP) is located at 3rd layer of ISO network model. A set of rules used to send and receive messages at the Internet address level. IP protocol is widely used in Internet and LAN networks. The purpose is to deliver data between computing equipment over the network. The protocol is generally effective but does not guarantee complete and accurate data communications. |

| | |
|-----------------------------|--|
| IP address | A 32-bit number that identifies each sender or receiver of information that is sent across the Internet. An IP address has two parts: an identifier of a particular network on the Internet and an identifier of the particular device (which can be a server or a workstation) within that network. A number used to identify the location of a host device. It is expressed in numeric dot notation (e.g. 202.203.27.31). |
| MAC address | Media Access Control address (MAC address): It is a unique identifier assigned to most network adapters or network interface cards by the manufacturer for identification, and used in the Media Access Control protocol sub-layer. It may also be known as an Ethernet Hardware Address or physical address. In TCP/IP networks, the MAC address of a subnet interface can be queried with the IP address using the Address Resolution Protocol (ARP) for Internet Protocol. On broadcast networks, such as Ethernet, the MAC address uniquely identifies each node and allows frames to be marked for specific hosts. It thus forms the basis of most of the Link layer (OSI Layer 2) networking upon which upper layer protocols rely to produce complex, functioning networks. |
| NAT | Network Address Translation (NAT): A network capability that enables a houseful of computers to dynamically share a single incoming IP address from a dial-up, cable or xDSL connection. NAT takes the single incoming IP address and creates new IP address for each client computer on the network. |
| Proxy server | Used in larger companies and organizations to improve network operations and security, a proxy server is able to prevent direct communication between two or more networks. The proxy server forwards allowable data requests to remote servers and/or responds to data requests directly from stored remote server data. |
| PSTN | Public Switched Telephone Network (PSTN): The worldwide voice telephone network. |
| RJ-45 | Standard connectors used in Ethernet networks. Even though they look very similar to standard RJ-11 telephone connectors, RJ-45 connectors can have up to eight wires, whereas telephone connectors have only four. |
| RTP/RTCP | Real-Time Protocol/Real-Time Control Protocol (RTP/RTCP): IETF specifications for audio and video signal management. Allows applications to synchronize and spool audio and video information. RTP is specifically concerned with the dependable transmission of latency-sensitive traffic across the network and is involved in using time stamping to determine network jitter tolerance and makes sure that voice packets are arriving in order. |
| SIP | Session Initiation Protocol (SIP): A protocol that provides telephony services similar to H.323, but is less complex and uses fewer resources. SIP is a signaling protocol for Internet conferencing, telephony, presence, events notification and instant messaging. SIP is a text-based protocol, similar to HTTP and SMTP, for initiating interactive communication sessions between users. |
| Subnetwork or Subnet | Found in larger networks, these smaller networks are used to simplify addressing between numerous computers. Subnets connect to the central network through a router, hub or gateway. Each individual wireless LAN will probably use the same subnet for all the local computers it talks to. |
| TCP/IP | Internet Standard Protocol: The underlying technology behind the Internet and communications between computers in a network. The first part, TCP, is the transport part, which matches the size of the messages on either end and guarantees that the correct message has been received. The IP part is the user's computer address on a network. Every computer in a TCP/IP network has its own IP address that is either dynamically assigned at startup or permanently assigned. |

| | |
|-------------|---|
| | All TCP/IP messages contain the address of the destination network as well as the address of the destination station. This enables TCP/IP messages to be transmitted to multiple networks (subnets) within an organization or worldwide. |
| VAD | Voice Activity Detection (VAD) helps save bandwidth during calls. Examples: When making a VoIP call and you not speaking and you listening, that silence is still taking up bandwidth during the call. When silence is detected by VAD software over a predetermined length of time, it sends silent packets that inform other VAD enabled systems to stop holding the bandwidth for these empty packets. |
| VoIP | Voice Over Internet Protocol: VoIP is based on the principal of transmitting digitized voice packets over networks. Basically, VoIP consists of converting voice signals into streams of digital packets and sending those packets of data through an IP-constructed network environment. VoIP can work in both LAN (local area network) and WAN (wide area network) environments for internetwork or internetwork communication between VoIP channel users. Routers and switches and other special compression protocols direct the packetized voice data to their destination IP address. VoIP can be less expensive than voice transmission using standard analog packets over POTS (Plain Old Telephone Service). It allows telephone calls, faxes, or overhead paging to be transported over an existing IP data network topology. |