



Audio Conference Phone

Grandstream Networks, Inc.

GAC2500 Audio Conference Phone for Android™

User Guide



GAC2500 User Guide

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CHANGE LOG

This section documents significant changes from previous versions of GAC2500 user manuals. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

FIRMWARE VERSION 1.0.1.X

- This is the initial version.

WELCOME

Thank you for purchasing Grandstream GAC2500 Audio Conference Phone for Android™. This User Guide describes the basic concept and tasks necessary to use and configure your GAC2500. This document covers the topics of conference environment setups, start conference and the relevant operations like conference reservation. To learn the advanced features and configurations, please visit <http://www.grandstream.com> to download the latest "GAC2500 Administration Guide".

GAC2500 is a next generation enterprise-grade 6-line Android IP conference phone with a 4.3" capacitive touch screen that runs the Android Operating System and therefore offers full access to the hundreds of thousands of Android apps in the Google Play Store, including business productivity apps such as Skype™, Skype for Business™, and Google Hangouts™. The phone features Gigabit ports, 7-way conference, 3x microphones, 1 Micro USB port, integrated Wi-Fi and Bluetooth for network flexibility. The GAC2500 delivers superior HD audio quality, rich and leading edge telephony features, automated provisioning for easy deployment, advanced security protection for privacy, and broad interoperability with most 3rd party SIP devices and leading SIP/NGN/IMS platforms. GAC2500 is a perfect choice for enterprise users looking for a high performance, feature rich conference phone with superb audio quality at competitive price.

 **Caution:**

Changes or modifications to this product not expressly approved by Grandstream, or operation of this product in any way other than as detailed by this User Manual, could void your manufacturer warranty.

 **Warning:**

Please do not use a different power adaptor with the GAC2500 as it may cause damage to the products and void the manufacturer warranty.

This document is subject to change without notice. The latest electronic version of this user manual is available for download here:

<http://www.grandstream.com/support>

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PRODUCT OVERVIEW

FEATURE HIGHLIGHTS

- Runs Android™ 4.4 and offers full access to all Android™ conference apps in the Google Play Store (e.g., Skype®, Skype for Business®, Google Hangouts™, etc.)
- World-class high fidelity sound quality with audio bandwidth of up to 14Khz
- 4.3" capacitive touch screen LCD with support for flexible layout/content customization
- 3x microphones (12 ft. pickup range), 1x speaker (15 ft. coverage range)
- Auto-sensing Gigabit Ethernet port, Wi-Fi, PoE+, Bluetooth, Micro-USB with 3.5mm audio interface
- Supports standalone IP mode or USB slave mode
- Supports daisy chain (up to 2 units via RJ48 CAT5) mode in large conference room for better audio quality
- NAT-T enables the phone being the Plug and Play device
- Automated provisioning using TR-069 or AES encrypted XML configuration file, TLS/SRTP/HTTPS for advanced security and privacy protection

Table 1 GAC2500 Technical Specifications

Specification	Description
Protocols/ Standards	SIP RFC3261, TCP/IP/UDP, RTP/RTCP, HTTP/HTTPS, ARP, ICMP, DNS (A record, SRV, NAPTR), DHCP, PPPoE, SSH, TFTP, NTP, STUN, SIMPLE, LLDP, LDAP, TR-069, 802.1x, TLS, SRTP, IPv6 (pending), OpenVPN (pending)
Voice Codec	Support for G.711μ/a, G.722, G.726, iLBC, Opus, G.722.1, G.722.1c, in-band and out-of-band DTMF (In audio, RFC2833, SIP INFO)
Platform Bridging	Bridge SIP calls with any Android™ VoIP apps such as Skype™, Skype for Business (Lync), Google Hangouts™ and more
Telephony Features	Hold, transfer, forward (unconditional/no-answer/busy/conditional), call park/pickup, 7-way audio conference, auto answer, downloadable XML phone book (up to 2000 entries), LDAP, call waiting, call history (up to 500 entries), flexible dial plan, personalized music ringtones, server redundancy & fail-over
Sample Applications	Skype™, Google Hangouts™, Skype for Business (Lync), Web browser, Facebook™, Twitter™, YouTube, Google calendar, mobile phone data import/export via Bluetooth, etc. API/SDK available for advanced custom application development
Application Deployment	Allows Android 4.4 compliant applications to be deployed in the device with provisioning control
QoS	Layer 2 QoS (802.1Q, 802.1p) and Layer 3 (ToS, DiffServ, MPLS) QoS
Security	User and administrator level passwords, MD5 and MD5-sess based authentication, 256-bit AES encrypted configuration file, TLS, 128/256-bit SRTP/TLS, HTTPS, 802.1x media access control
Multi-Language	English, German, Italian, French, Spanish, Portuguese, Russian, Turkish, Polish,

	Chinese, Korean, Japanese, and more
Upgrade/ Provisioning	Firmware upgrade via TFTP / HTTP / HTTPS or local HTTP upload, mass provisioning using TR-069 or AES encrypted XML configuration file
Network Interface	1x auto-sensing Gigabit Ethernet port, integrated 2.4GHZ auto-band Wi-Fi and 3.0 Bluetooth.
HD Audio	3x microphones (12 ft. pickup range), 1x speaker (220-14,000 Hz, 15 ft. coverage range up to 86dB)
Auxiliary Ports	3.5mm audio interface, Micro-USB interface, RJ48 interface, reset pin
Graphic Display	4.3"(800*480) capacitive touch screen LCD
Power & Green Energy Efficiency	Universal power adapter included: Input: 100-240VAC 50-60Hz; Output: 12VDC, 2A (24W)
Temperature and Humidity	Operating: 32 - 104°F / 0 - 40°C Storage: 14 - 140°F / -10 - 60°C Humidity: 10% to 90% Non-condensing
Compliance	FCC: Part 15 (CFR 47) Class B; UL 60950 (power adapter) CE: EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, EN60950-1, EN62479, RoHS RCM: AS/ACIF S004; AS/NZS CISPR22/24; AS/NZS 60950; AS/NZS 4268

SAFETY COMPLIANCES

The GAC2500 complies with FCC/CE, RCM and various safety standards. The GAC2500 power adapter is compliant with the UL standard. Use the universal power adapter provided with the GAC2500 package only. The manufacturer's warranty does not cover damages to the phone caused by unsupported power adapters.

WARRANTY

If the GAC2500 phone is purchased from a reseller, please contact the company where the device is purchased for replacement, repair or refund. If the phone is purchased directly from Grandstream, please contact Grandstream Support for a RMA (Return Materials Authorization) number before the product is returned. Grandstream reserves the right to remedy warranty policy without prior notification.

INSTALLING GAC2500

EQUIPMENT PACKAGE CONTENT

The GAC2500 package contains the following items:

Table 2 GAC2500 Package List

Name	Number
GAC2500 Main Case	1
12V Universal Power Adapter with power cable	1
5m Ethernet Cable	1
1.5m Micro-USB Cable	1
5m RJ48 CAT5	1
Lens Cleaning Cloth	1
Quick Installation Guide	1
GPL license	1

PRODUCT APPEARANCE

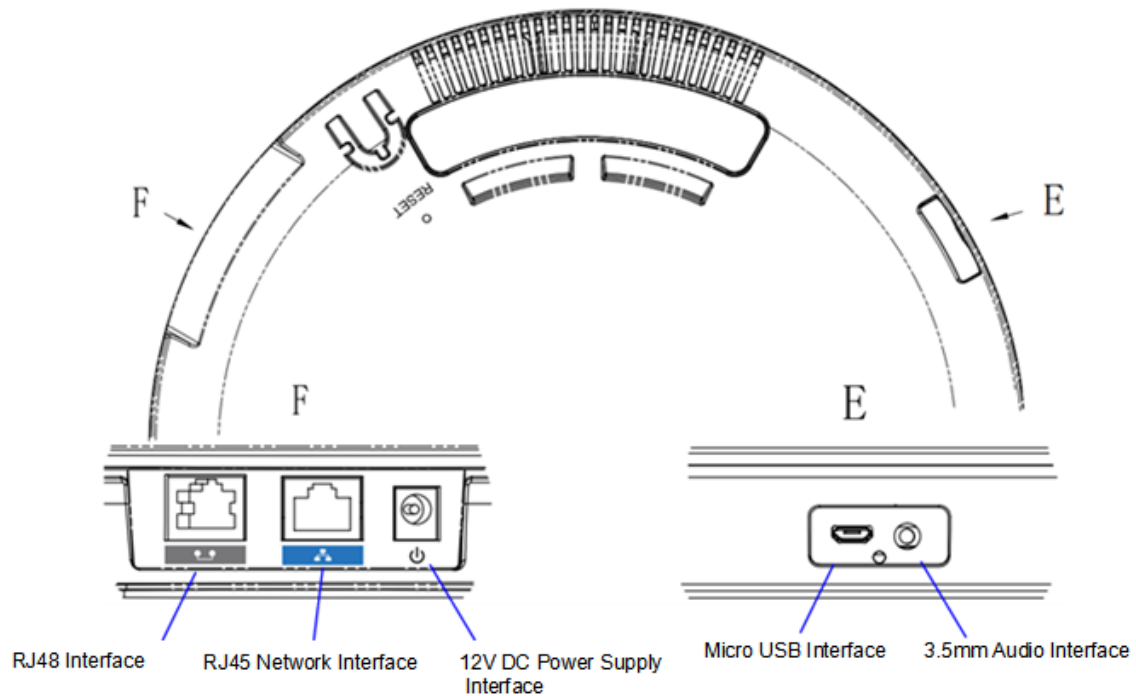


Figure 1 GAC2500 Host Interfaces

Table 3 GAC2500 Interfaces Explanations

NO.	Name	Explanation
-----	------	-------------

①	RJ48 Interface	Daisy chain (up to 2 units via RJ48 CAT5) mode in large conference room for better audio quality
②	RJ45 Network Interface	Connect to LAN port
③	12V DC Power Supply Interface	Connect to Power Adaptor
④	Micro USB Interface	<ul style="list-style-type: none"> • USB storage devices can be connected to the USB Interface via USB cable. For example, connect a USB flash drive to read data.
⑤	3.5mm Audio Interface	Connect to 3.5mm devices like mobile phone or PC for mobile audio pickup and play
⑥	Reset Pin	<ul style="list-style-type: none"> • When the GAC2500 is powered up, use a small pin to press the button one time to reboot. • When powering up GAC2500, long press the button for 4 to 9 seconds to update system. • When powering up GAC2500, long press the button for more than 10 seconds to restore to factory settings.

CONNECTING GAC2500

To deploy a working conferencing system, users could select standalone IP mode, USB slave mode, daisy chain mode or mobile phone mode. Please connect the GAC2500 for each mode according to different procedures.

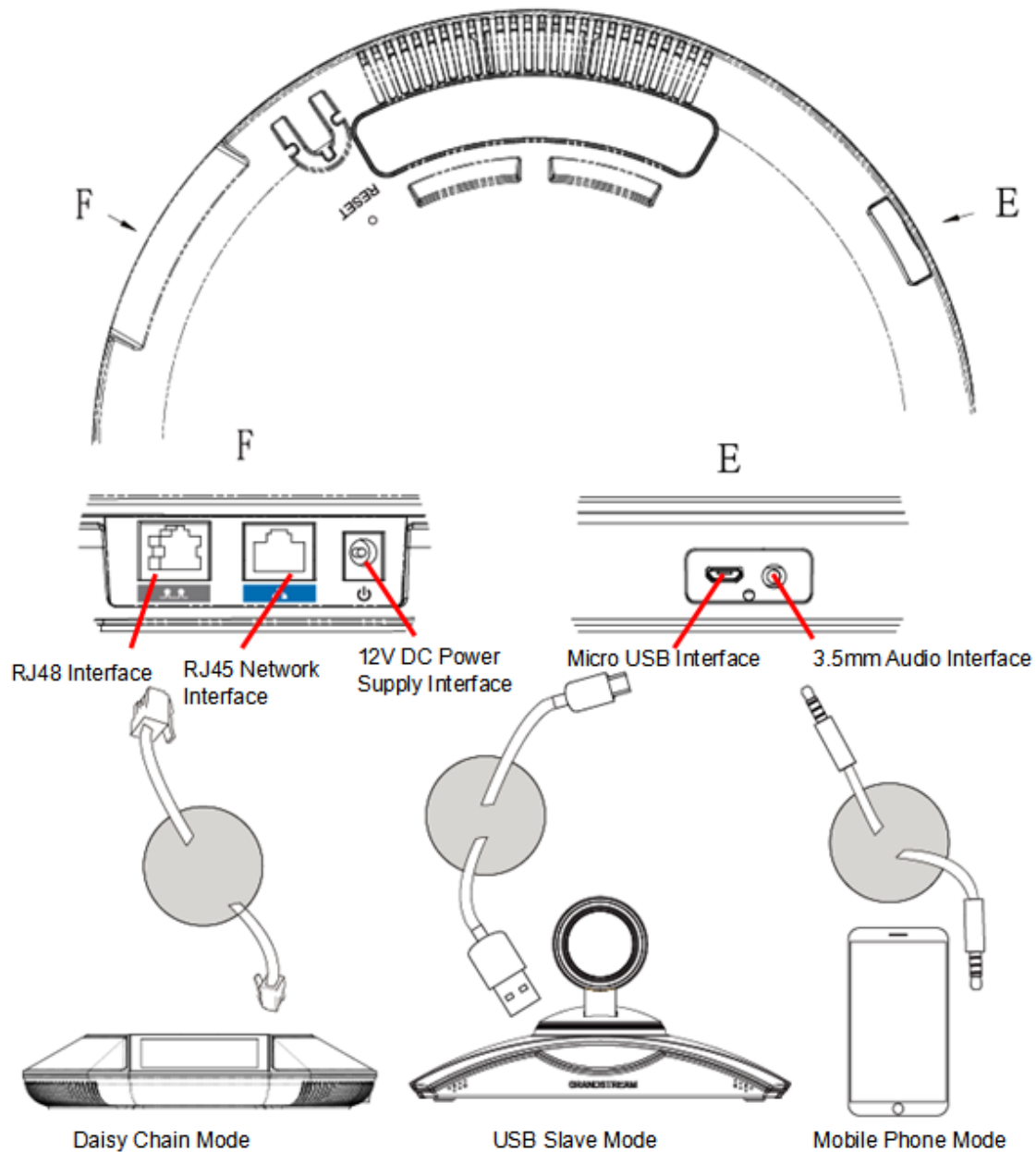


Figure 2 GAC2500 Connection Mode

IP MODE

The GAC2500 is used as an independent phone in IP mode.

1. Connect one end of the Ethernet cable to the LAN port of the device and the other end to the external network port (the port in the office or at home);
2. Plug in the power adapter into the power supply interface. Power up the GAC2500.



Note:

It is recommended to use IP mode in room 7m*10m or smaller.

USB SLAVE MODE

GAC2500 can be used as auxiliary device for GVC3200 or PC for audio pickup and play. The conference feature will be disabled in USB slave mode. Follow the procedures below to connect GAC2500.

1. Connect one end of the USB cable to the Micro USB port of the device and the other end to the USB port of GVC3200 ;
2. Plug in the power adapter into the power supply interface. Power up the GAC2500.

The GAC2500 screen is as shown below in USB slave mode, you can tap on the volume icon on screen to adjust the volume of GVC320/PC. When connecting to GVC3200, tap on "Mute", "Answer" or "Hangup" icons for more operations.



Figure 3 GAC2500 Slave Mode Screen

DAISY CHAIN MODE

Connect two GAC2500 via RJ48 CAT5 for larger space.

1. Connect one end of the Ethernet cable to the LAN port of the first device and the other end to the external network port (the port in the office or at home);
2. Connect one end of the RJ48 CAT5 to the RJ48 port of the first device and the other end to the RJ48 port of the second device;
3. Plug in two power adapters into the power supply interfaces. Power up two devices.
4. The screen is as shown below. Tap on "Yes" on the first device and set it to be the master while the other the slave.

Figure 4 GAC2500 Daisy Chain Mode Screen



Note:

1. It is recommended to use daisy chain mode in room 7m*10m or smaller.
 2. Please keep a distance of 5m among two devices.
 3. Please make sure the network is connected for the master device or it may unable to work properly.
 4. The slave device will synchronize with the master device, while their call screen will be shown synchronously.
-

MOBILE PHONE MODE

GAC2500 could be connected to mobile phone for expanded use. Follow the procedures to connect.

1. Connect one end of the Ethernet cable to the LAN port of the first device and the other end to the external network port (the port in the office or at home);
2. Plug in the power adapter into the power supply interface. Power up the GAC2500.
3. Connect 3.5mm headset interface on the mobile phone to 3.5mm audio interface on GAC2500 via 3.5mm audio aux cable.
4. Hold the screen at the top of the status bar, drag and drop down to open the status bar, tap on line sequence notifications and select the line sequence the same as the one of 3.5mm headset interface on the mobile phone.

Figure 5 GAC2500 Select line Screen

5. Answer incoming call or dial out with mobile phone, the sound will be picked up and played via GAC2500.
-



Note:

1. The GAC2500 package contains no 3.5mm audio aux cable, you can get it at electronic gadgets store.
2. The line sequence of GAC2500 must be the same as the one of your mobile phone, or the microphone may work improperly.
3. You cannot dial mobile phone number via GAC2500 keypad directly.
4. Once enabled mobile phone mode, please hold the 3.5mm headset line before make the second call.
5. Once a conference is established, the 3.5mm aux device will occupy a party as one party of the conference.
6. Please do not unplug the 3.5mm audio aux cable or it may cause call exception.
7. The audio quality may varies according to different types of 3.5mm audio aux cable and mobile

phones.

8. Once the 3.5mm audio aux cable is inserted, some types of mobile phones may be detected by GAC2500 after the call is established.
-

GETTING TO KNOW GAC2500

DESKTOP MENU

When the GAC2500 is on idle screen, tap on the 5 soft keys at the bottom of the screen to operate.

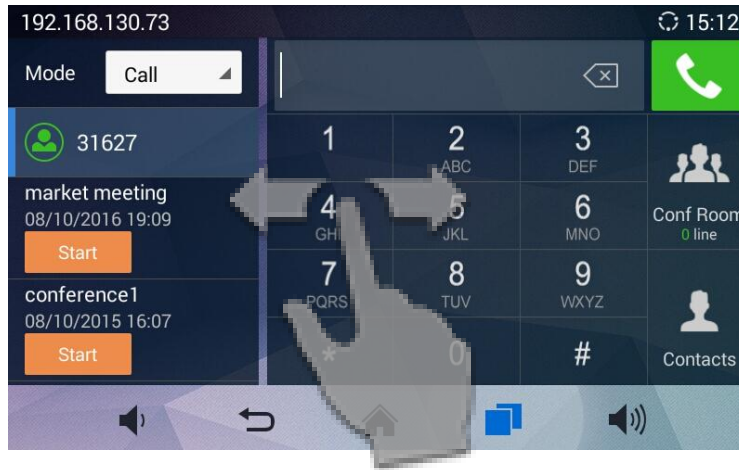


Figure 6 GAC2500 Multi-screens










- Home Screen. GAC2500 Home screen displays 5 soft keys at the bottom of the screen for users to easily make operations. It is by default and cannot be changed. You can dial up or start a conference on this screen.
- Widget. GAC2500 supports tools and apps like weather forecast, Clock, MPK, and etc.
- Status Bar. The GAC2500 status bar is located on the top of the screen to indicate the current status of the device. Please refer to chapter **Status Icons** for more details.
- Soft Key. Including Volume+, Volume-, Back, Home, and Process Manager. These 5 soft keys always display at the bottom of the screen.




































STATUS ICONS

Touch the status bar of GAC2500 and slowly drag it down to display the full status list. Users could view status icons that indicate the current status of the device.

The following table lists the main status icons used on GAC2500.

Table 4 GAC2500 Status Icons Descriptions

Icon	Descriptions	Icon	Descriptions	Icon	Descriptions
	Ethernet is connected		Trying to connect to the Ethernet		Ethernet is disconnected
	Missed call		One line is in active.		Unread voicemail.
	Calls from blacklist.		Call forward is set up		Auto answer is set up

	DND mode is enabled		Wi-Fi is connected.		Volume is turned to silent
	Bluetooth is connected		Sending files via Bluetooth		Downloading files via Bluetooth (Dynamic)
	Bluetooth has been plugged in.		Using Bluetooth headset for calls.		Mute is enabled.
	Downloading		Download failed		Updating Application.
	The alarm is enabled		Alarm with snooze		Calendar event
	3.5mm headset is inserted.		Switch 3.5mm headset lines		Full contacts storage.
	PPPoE is connected		PPPoE connection is failed		Powering the device with PoE.
	Warnings		New SMS		Full messages storage
	VPN is connected		VPN connection is failed		More notifications
	The USB mouse is connected		The USB keyboard is connected		VPN is connected
	RJ48 CAT5 is connected		Set GAC2500 as master device		Set GAC2500 as slave device
	SD Card is inserted		SD Card space or USB drive is full.		

USING THE ONSCREEN KEYBOARD

ENGLISH KEYBOARD


This is the default keyboard on the GAC2500. The GAC2500 English keyboard supports multiple languages input methods. Users could tap on  to switch among different languages. See figure below.



Figure 7 GAC2500 Soft Keyboard - English Input Method

Tap on  to switch CapsLock.

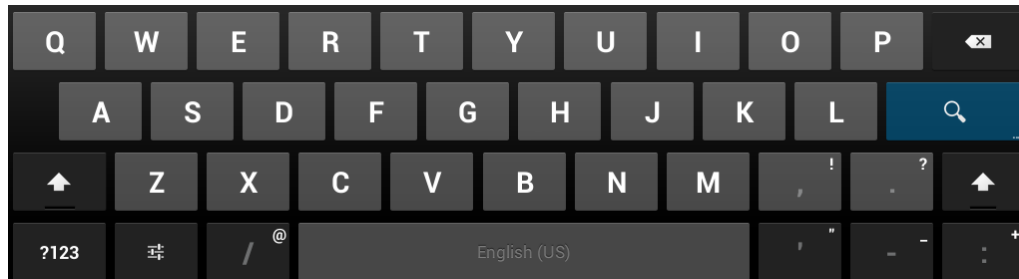



Figure 8 GAC2500 English Keyboard-Uppercase


CHINESE KEYBOARD

GAC2500 supports Google Pinyin Input, go to Settings->Language & Keyboard to configure.

Figure 9 GAC2500 Chinese Keyboard-Google Pinyin Method

NUMBERS AND SYMBOLS

To input number and symbols, tap on  on the default keyboard to switch to numbers/symbols.

Tap on  for more numbers/symbols.

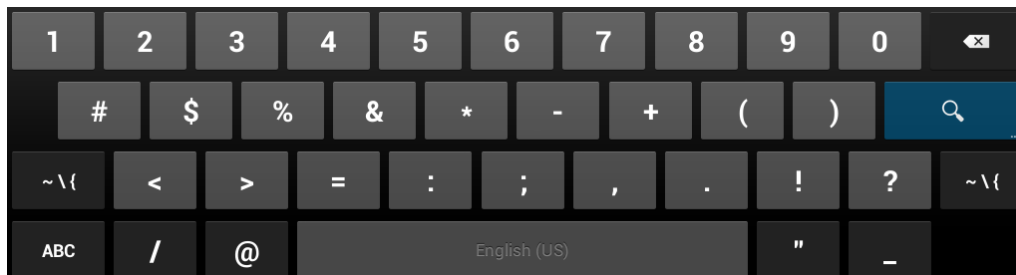


Figure 10 GAC2500 Soft Keyboard-Symbols and Numbers









Figure 11 GAC2500 Soft Keyboard-More Symbols and Numbers

USING THE LED INDICATOR

The GGAC2500 LED indicator is located on the top part of the device. It can be used to notify the users with current status of the device. The priority of the indicator from high to low is shown below.

Table 5 GAC2500 LED Indicator Descriptions

Color	LED Indicator Status	Descriptions
	Fast Flashing	Incoming call (including calls when conferencing and when phone is busy)
	Solid	Calling, Talking, Conferencing, Screensaver status
	Slow Flashing	Call on hold
	Flashing	Unhandled events. Including missed call (s), New voicemail (s), New SIP Message (s).
	Solid	High memory usage, maximum message number, full contacts storage, network disconnection
	Fast Flashing	Upgrading
None	OFF	Normal

ASSISTIVE TOUCH

GAC2500 screen supports multi-touch in full screen, users could operate the GAC2500 with touch or drag gestures.

USING TOUCHSCREEN

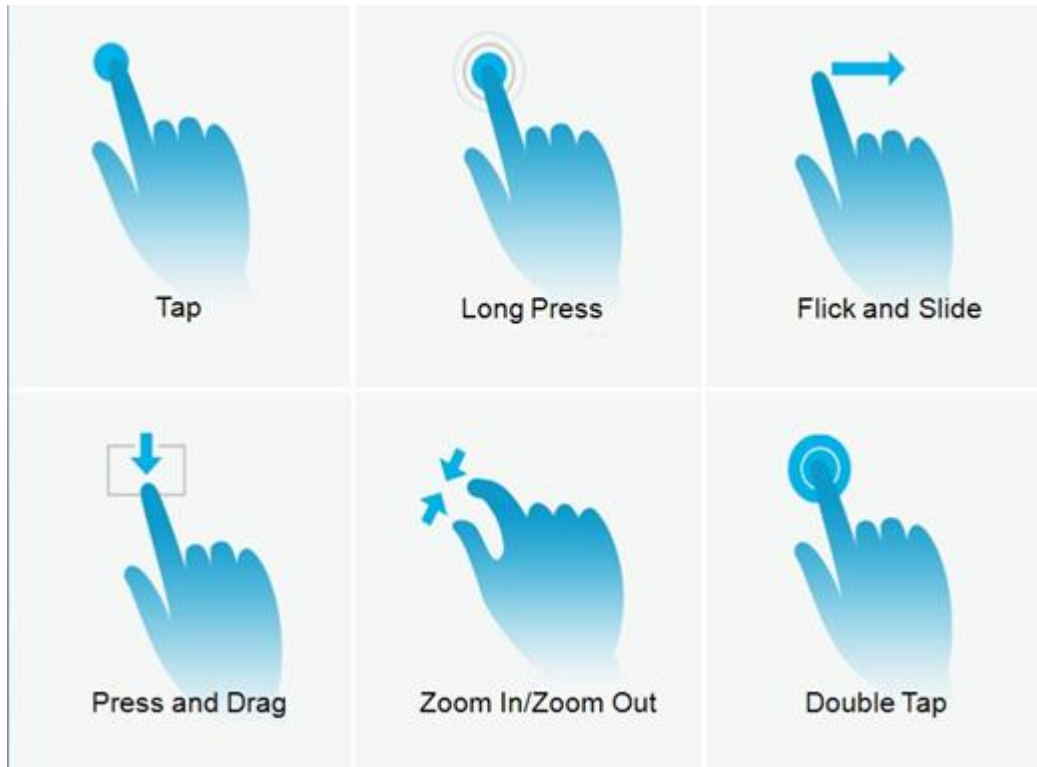




Figure 12 GAC2500 Finger Gestures

Use your fingers to operate the following gestures on the GAC2500 as shown in figure above:

- Tap: Briefly touch surface with fingertip once to initiate the menu, options or applications.
- Long Press: Touch the app for extended period of time for 2 seconds bring up operation options.
- Flick and Slide: Touch surface with one finger and slide over surface down to open the pull-down menu, slide over surface left, right or up to page up or make some operations.
- Press and Drag: Press the item and move it by dragging the finger up and down, left and right.
- Zoom In/Zoom Out: Touch surface with two fingers and bring them closer together to zoom out, Touch surface with two fingers and move them apart to zoom in.
- Double Tap: Rapidly touch surface twice with the fingertip to rearrange the zoomed page to fit the screen when viewing photos or WebPages.

SHORTCUT KEYS

GAC2500 supports shortcuts for some special operation like Screenshots, Factory Reset, Upgrade and Security.

- Screenshot: Long press the Applications icon  on GAC2500 screen, the screenshot file will be saved automatically in the screenshot folder under sdcard. Go to FileManager->Storage->Pictures->Screenshots to view files.
- Factory Reset: When powering up GAC2500, long press the reset button more than 10 seconds to restore to factory settings.
- Upgrade: When powering up GAC2500, long press the button for 4 to 9 seconds to update system.
- Security Mode: When the device displays the second GRANDSTREAM pattern after powered, long press the menu button  until the desktop appears to access the security mode.

MANAGING STATUS BAR

The GAC2500 status bar is located on the top of the screen. Touch the bar and slowly drag it down to display the full status list. Once the status bar is opened, users could view Notifications.

Figure 13 GAC2500 Open Status Bar

The Notifications in the Status Bar is as shown in figure below.

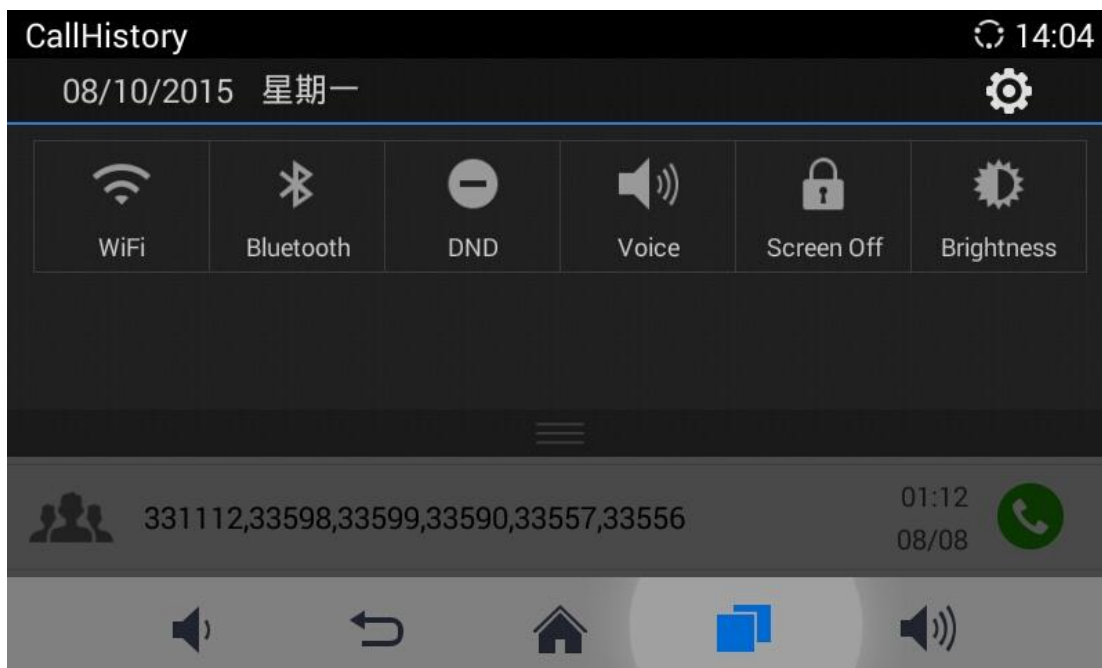



Figure 14 GAC2500 Status Bar-Notification

- Click on the "Clear All" button on the upper right corner to clear all the notification messages.
- Slide a notification message to left or right to delete it.
- Click a notification message to view the details.
- Tap on the corresponding icon on the top of the screen to quick turn on/off the applications.

- Drag the seekbar behind the icon  to adjust LCD brightness.
- Tap on the corresponding icon on the top of the screen to quick access the applications.

DESKTOP MENU

When the GAC2500 is running on idle screen, long press the blank area, then tap on "Edit Desktop" or "Set Wallpaper". See figure below.

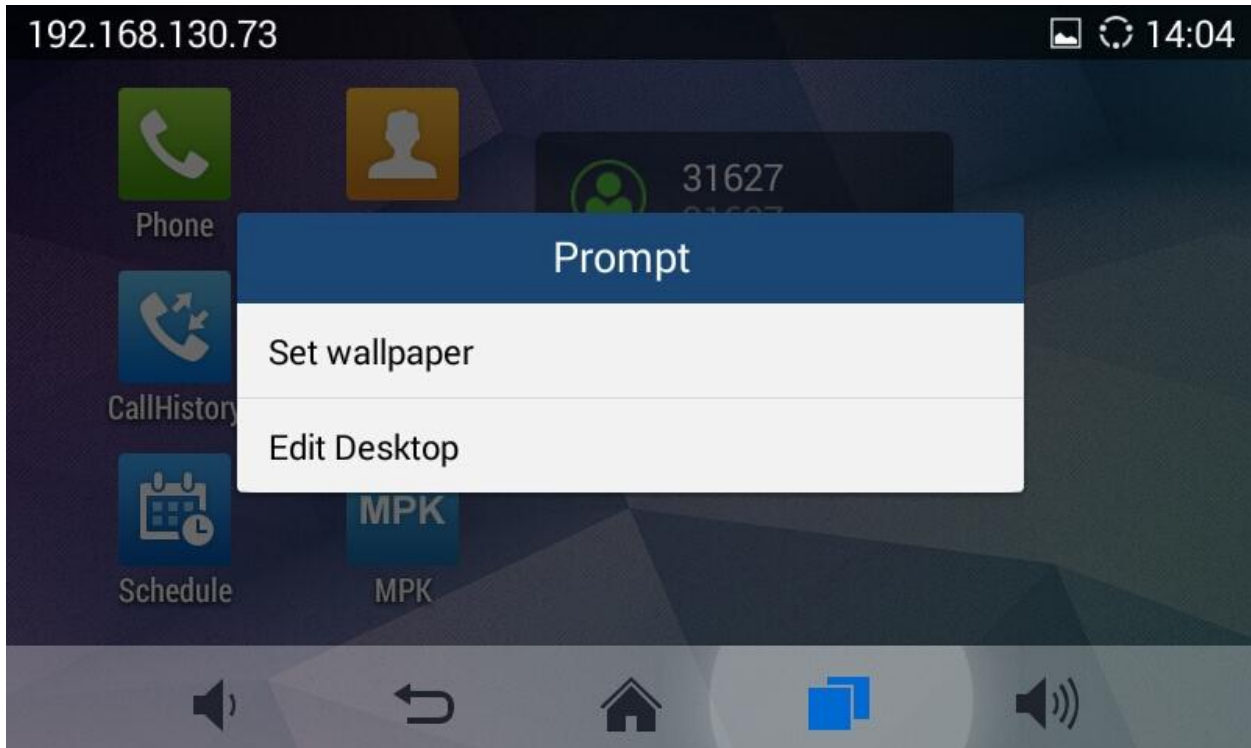


Figure 15 GAC2500 Idle Screen Menu

- Edit Wallpaper: Edit the idle screen wallpaper.
- Edit Desktop: Add, delete and edit desktop or add widgets on the desktop.

EDITING WALLPAPER

You can set wallpapers, live wallpapers or choose photo from gallery. See figure below.

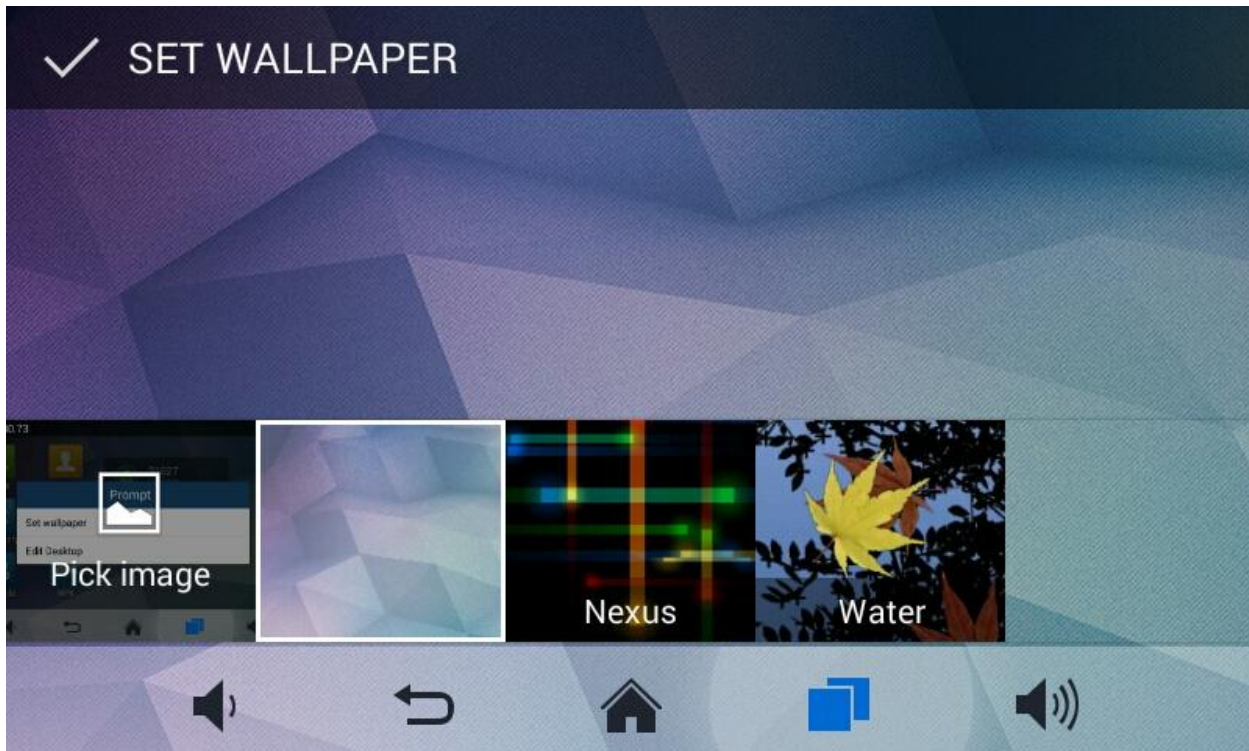




Figure 16 GAC2500 Choose Wallpaper

1. Long press the blank area on home screen then tap on "Set Wallpaper";
2. Slide wallpapers to left or right to view a list of sample wallpapers embedded in the GAC2500, tap on wallpaper to preview, Tap on "Set Wallpaper" to confirm the selection. You can also select photo from gallery or file manager, or set live wallpapers.

EDIT DESKTOP

- Add Desktop: Press finger slightly in free space of the screen and fast slide to the last screen and click  on the middle screen to add a new desktop. Users could add up to 8 desktops.
- Delete Desktop: Click  on the upper right corner of the blank desktop to delete it. The desktop with widgets and shortcuts on it is undeletable.

ADDING AN ITEM TO DESKTOP

Users could add commonly-used items (Weather Forecast, RSS News, etc.) to the desktop. Follow the steps below:

1. When the GAC2500 is running on idle screen, long press the blank area, then tap on "Edit Desktop";
2. Slide left or right to view a list of options as shown in figure 18.
3. Tap and press the shortcut or widget you would like to add and drag it to the desktop you want to put on.



Note:

1. Please ensure that there is enough space in the desktop when adding widget.
2. Users may need to select the specific items before add them to the desktop. i.e., browser, bookmark, star-labeled contact, photos, etc.

MANAGING DESKTOP APPS AND ITEMS

All the GAC2500 apps/items can be accessed /removed. Some apps support size editing. Take Weather Forecast as an example in the following chapter.

OPENING AN APP

Tap on Weather Forecast icon to access screen as shown in figure 19.

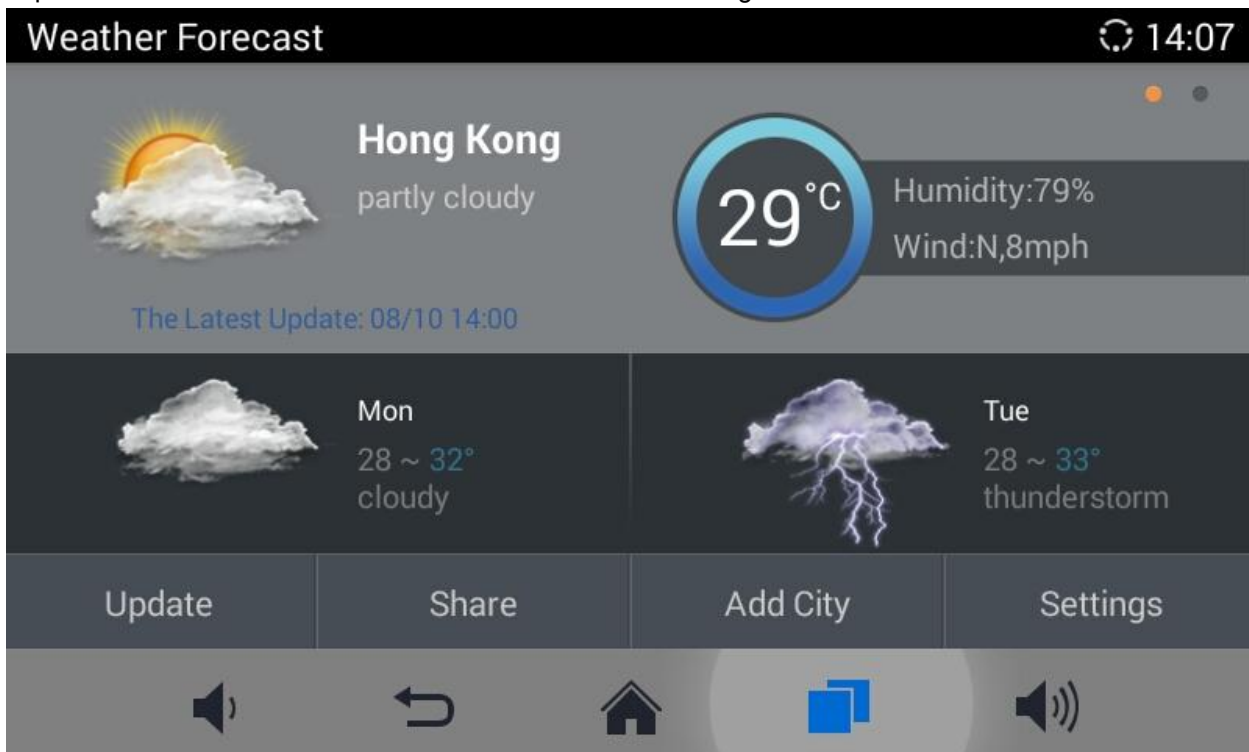


Figure 17 GAC2500 Weather Forecast Screen

Users could edit Weather Forecast after accessing it.


MOVING AN APP

Touch and hold the Weather Forecast icon, when the icon begins to float, drag it to any desktop with free space.



Figure 18 GAC2500 Move Weather Forecast to Desktop

REMOVING AN APP

Touch and hold the Weather Forecast icon when the Recycle Bin  icon displayed on the bottom as shown in figure 21, drag the widget to the Recycle Bin, when the item gets close to the Recycle Bin, it will turn red. Now lift your finger to release.

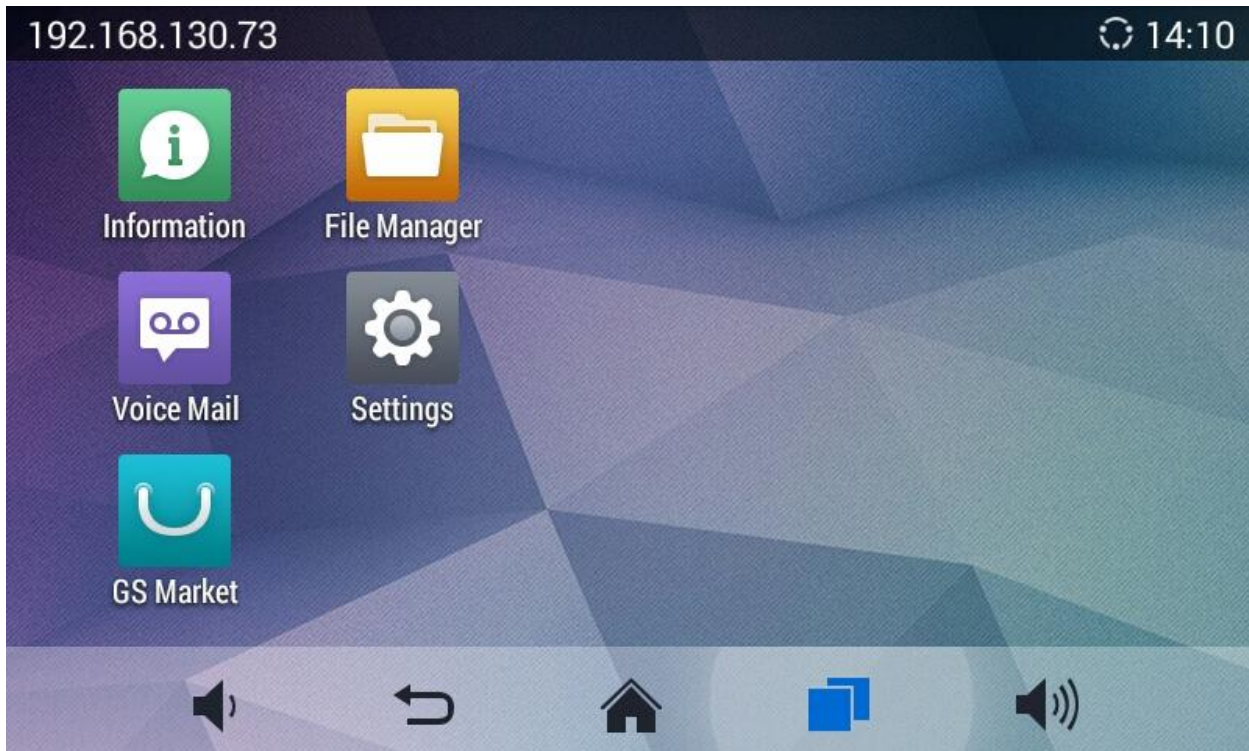


Figure 19 GAC2500 Remove Weather Forecast from Desktop



Note:

The Applications cannot be deleted.

MANAFERING APPLICATIONS

Tap on the Applications icon



on screen to view the running applications installed on the GAC2500 as shown below.

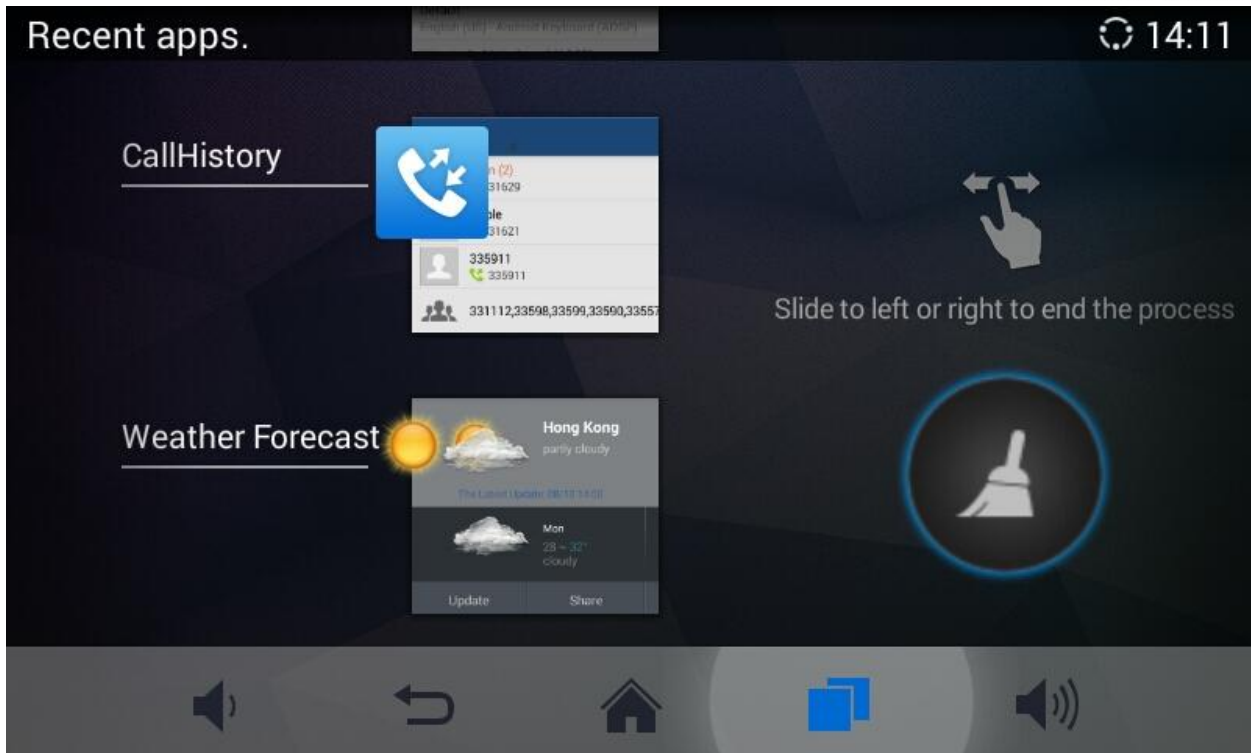




Figure 20 GAC2500 Managing Applications

Slide up/down to view the applications, select one application and slide left/right to turn it off , or tap on it to access the corresponding interface.

Tap on  to remove all running applications.

HOME SCREEN

GAC2500 has only one default home screen, Tap on the icon  on the middle bottom of the screen to go back to home screen anytime.

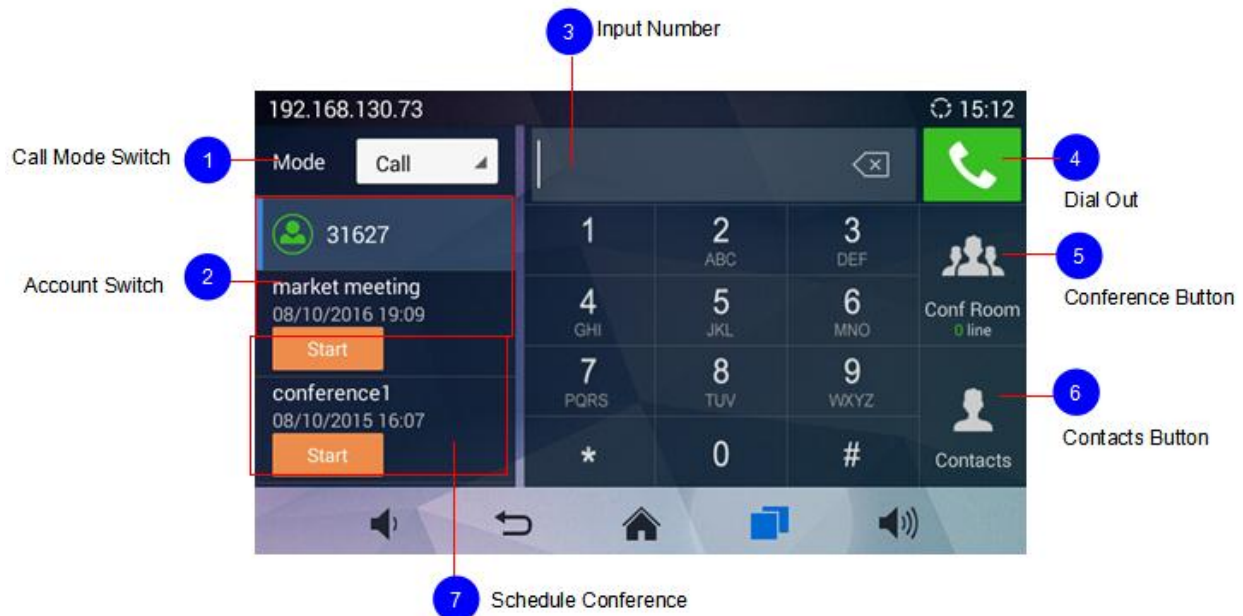


Figure 21 GAC2500 Home Screen

- Mode. Set the call mode.
- Account. Display all registered accounts. Tap to select account.
- Textbox. Tap on digits below to input phone number, or tap on the textbox to bring out the soft keyboard. You'll see all the matching numbers on the left when you inputting digits, tap on the number to add it to textbox directly, you can add up to 6 numbers.
- Dial-up. Tap to dial out.
- Conference. Display the conference line. Tap to access conference interface.
- Contacts. Tap to access Contacts interface to add more contacts to the textbox.
- Conference Schedule. Display the latest 2 scheduled conferences. Tap on "Start" to start conference at once.

You can slide left or right to view applications and widgets on other desktops, or dial out or start conference on home screen.

CONNECTING TO NETWORK AND DEVICES

The GAC2500 supports a variety of network connections (Ethernet, Wi-Fi) and device connections, you can configure on GAC2500 or log in the GAC2500 web UI to configure. For more information about using web UI, please refer to the GAC2500 Administration Guide in www.grandstream.com.

NETWORK

Network connection has a variety of ways, one is wired connection via the cables, and the other way is to connect via Wi-Fi.

ETHERNET

If the user would like to use Ethernet connection for network access, please plug the Ethernet cable to the LAN port on the back of the GAC2500. Ethernet connection is turned on as DHCP by default.

To configure Ethernet settings on GAC2500:

1. Plug the Ethernet cable into the LAN port on the back of the GAC2500.
2. Go to LCD menu->Settings->Network->Ethernet->IPv4 Settings.
3. Tap on "Address Type" to select DHCP, Static IP or PPPoE as the address type.
 - For DHCP, save the setting and the GAC2500 should be able to get IP address from the DHCP server in the network.
 - For static IP, enter IP Address, Subnet Mask, Default Gateway, DNS Server and Alternative DNS server for the GAC2500 to correctly connect to the network.
 - For PPPoE, enter PPPoE account ID and password so the GAC2500 can get IP address from the PPPoE server.

WI-FI

Wi-Fi is supported and built-in on the GAC2500. On the LCD display, go to Settings->Network-> Wi-Fi to turn on and configure Wi-Fi.

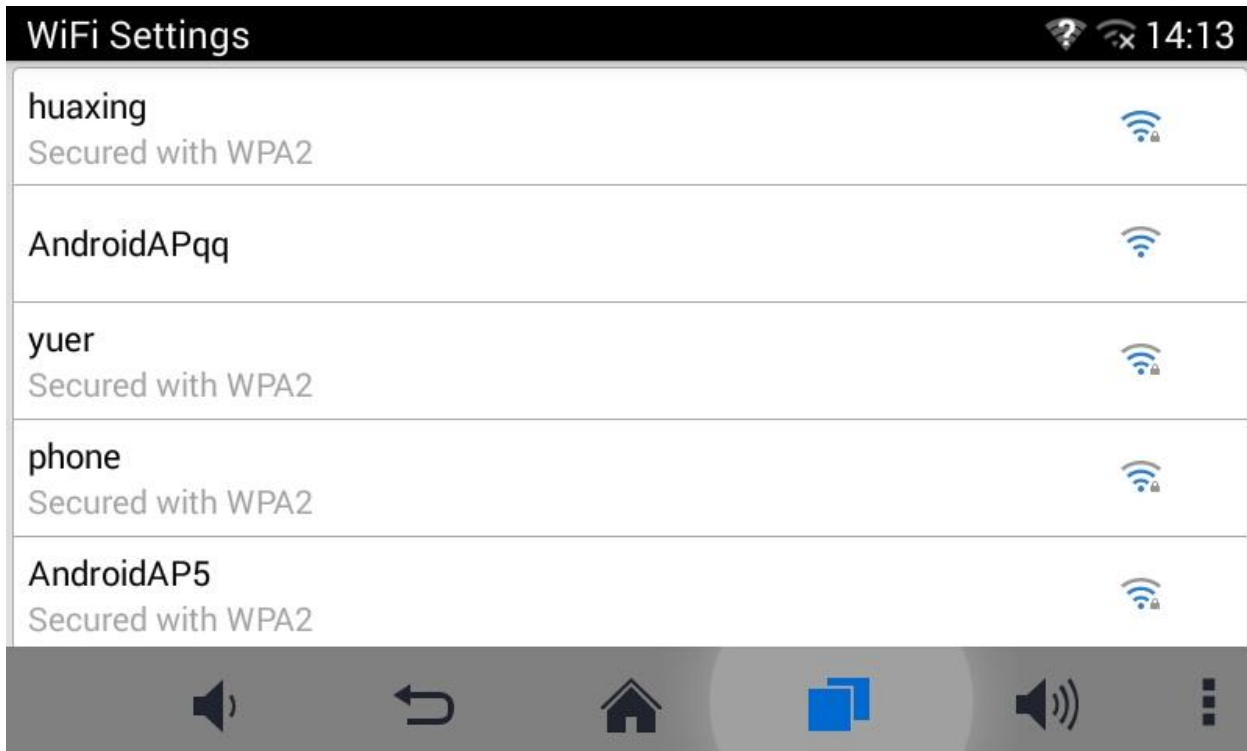


Figure 22 GAC2500 Add Wi-Fi Screen

TURNING WI-FI ON OR OFF

Once Wi-Fi is turned on, GAC2500 will automatically start the scanning within the range. A list of Wi-Fi networks will be displayed as scanning result. Tap on the SSID and enter the correct password information to connect to the selected Wi-Fi network.

Follow the steps below for static IP usage in Wi-Fi environment:


1. Tap on one Wi-Fi network in the scanned Wi-Fi list to bring up the dialog that shows signal strength, security, password and option "Show advanced options".
2. Select "Show advanced options". The dialog will show additional option "IP settings".
3. In "IP settings", select Static IP, enter IP Address, Subnet Mask, and Default Gateway for the GAC2500 to correctly connect to the network.

BLUETOOTH

Users could use the Bluetooth to send or receive files to cellphone, or use Bluetooth speaker and etc.


TURNING BLUETOOTH ON OR OFF

There are two ways to enable Bluetooth:

- On the LCD display device, go to Settings->Network->Bluetooth.
- Click  to enable the Bluetooth in the drop-down status bar.

PAIRING GAC2500 WITH A BLUETOOTH DEVICE

Before connecting GAC2500 with other Bluetooth device, users must pair them first. They will stay paired afterwards unless they are manually unpaired. To pair Bluetooth device:

1. On the LCD display device, go to Settings->Network->Bluetooth.
2. Press  button on the remote control and select "Search for devices".
3. The GAC2500 scans and displays the IDs of all available Bluetooth devices in range. Once the Bluetooth device shows up in the result, tap on it to start pairing.
4. Confirm the passkey in the prompted message (if any). Or if passcode is required, please refer to the device's documentation or other procedures to obtain the passcode.

CONNECTING TO A BLUETOOTH DEVICE

After successfully paired, the device will be connected to the GAC2500 immediately. Users will see this

device listed under "Paired Devices". Tap on  next to the connected device. Users will see options "Rename", "Unpair" and etc.

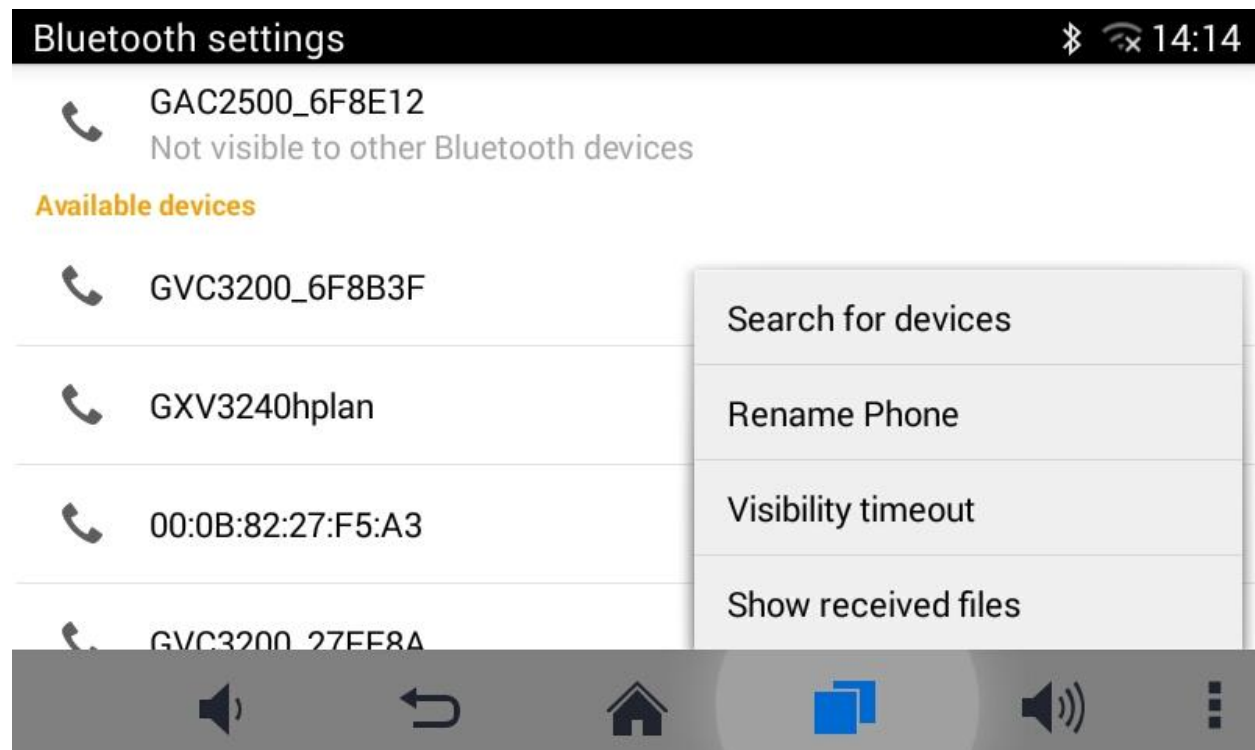


Figure 23 GAC2500 Bluetooth - Paired Device

If the connection is lost between the Bluetooth device and GAC2500, go to LCD menu->Settings->Network->Bluetooth and click on the device name under "Paired devices" again to reconnect.

SENDING FILES VIA BLUETOOTH

Users could transfer files, share contacts information with other Bluetooth portable devices after pairing and connection. A prompt for file transferring will be displayed on GAC2500 LCD display device when the GAC2500 receives the file transferring request. Accept the request to receive file and the file will be stored under SD Card/Bluetooth directory.

VPN SETTINGS

Users can add VPN using different protocols. Follow the steps below to set up VPN.

1. Access GAC2500 home screen, go to Applications ->Settings ->Network->VPN;
2. Tap on "Add VPN file" to access configuration page as shown below;

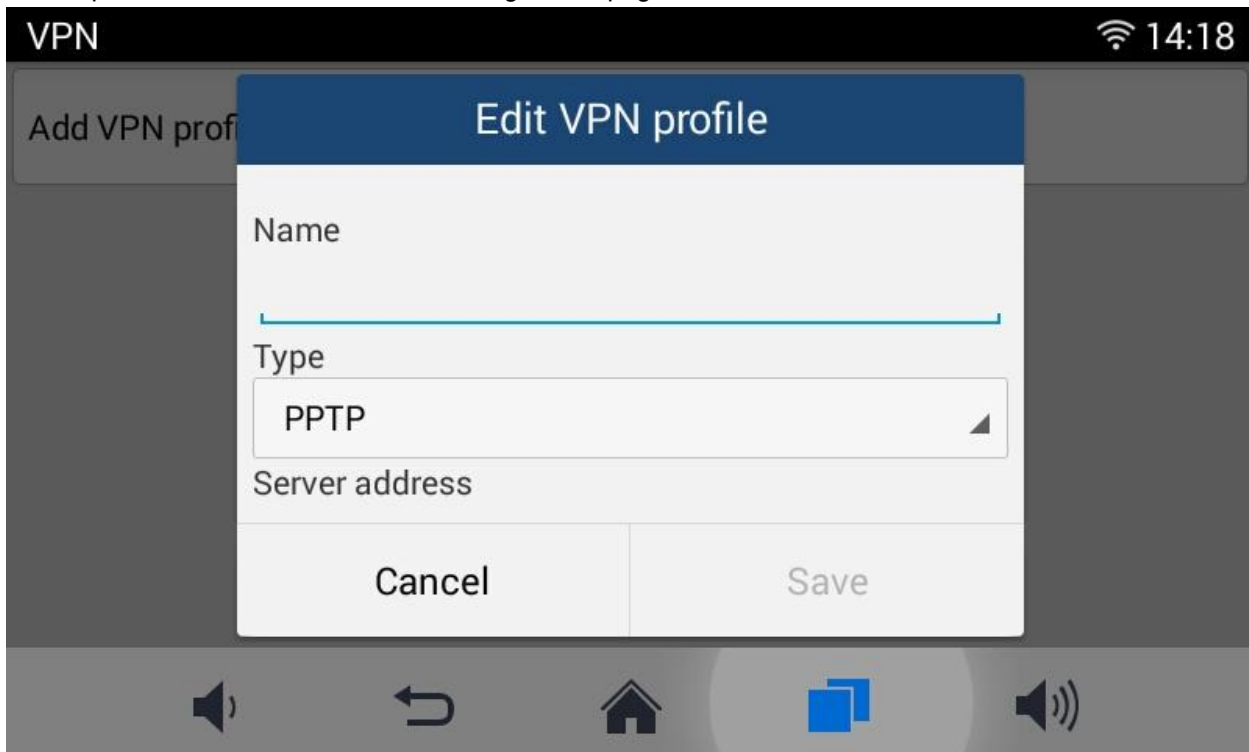


Figure 24 GAC2500 Add VPN Files Screen

3. Fill in parameters and save, go back to VPN page, you will find the new VPN file you just added;
4. Tap on the VPN file to open the validation page as shown below;

Figure 25 GAC2500 VPN Validation Screen

5. Fill in correct username and password to connect to VPN.



If the GAC2500 is connected to VPN successfully, icon  will be shown in the top status bar; if the connection is failed, a prompt box will pop up to remind users whether to connect again. If icon  displays in the top status bar, please check whether your VPN configuration is correct.

Table 6 GAC2500 VPN File Parameters

Parameters	Descriptions
Name	Fill in your company address or the server you are connecting to.
Type	Set to PPTP, L2TP/IPSec PSK, L2TP/IPSec RSA, IPSec Xauth PSK, IPSeXauth RSA or IPSec Hybrid RSA.
Server Address	Fill in the server URL or IP address.
PPP Encryption (MPPE)	Define whether to use PPP encryption.
Show Advanced Options	Check to display more options below.
DNS Search Domains	Define search domain.
DNS Server	Input DNS server address.
Forwarding Routes	Input Forwarding Routes. For example, 10.0.0.0/8.

VLAN SETTINGS

Access GAC2500 home screen, go to Applications->Settings->Network->VLAN to configure VLAN settings on the GAC2500.

Table 7 GAC2500 VLAN Configuration Parameters

Parameters	Descriptions
Layer 2 QoS 802.1q/VLAN Tag	Assigns the VLAN Tag of the Layer 2 QoS packets for LAN port. The default value is 0. Note: Please do not change the setting before understanding the VLAN's settings or consulting the network administrator. Otherwise, the device might not be able to get the correct IP address.
Layer 2 QoS 802.1p Priority	Assigns the priority value of the Layer 2 QoS packets. The default value is 0.

LLDP SETTINGS

Access GAC2500 home screen, go to Applications ->Settings ->Network->LLDP to configure LLDP settings on the GAC2500.

Table 8 GAC2500 LLDP Configuration Parameters

Parameters	Descriptions
LLDP	Enable or disable LLDP. The default setting is disabled.

Layer 3 QoS for SIP	This field defines the layer 3 QoS parameter for SIP packets. It is the value used for IP Precedence, Diff-Serv or MPLS. The Default value is 48.
Layer 3 QoS for Audio	This field defines the layer 3 QoS parameter for audio packets. It is the value used for IP Precedence, Diff-Serv or MPLS. The Default value is 48.
Layer 3 QoS for Video	This field defines the layer 3 QoS parameter for video packets. It is the value used for IP Precedence, Diff-Serv or MPLS. The Default value is 48;

802.1X MODE

Access GAC2500 home screen, go to Applications ->Settings ->Network->802.1X Mode. By default 802.1X is disabled. Selecting 802.1X mode to "EAP-MD5", "EAP-TLS5" or "EAP-PEAP" to turn on 802.1X. Once enabled, the user will be required to enter the identity and Password to be authenticated in the network.

Table 9 GAC2500 802.1X Mode Parameters

Parameters	Descriptions
802.1x Mode	Allows the user to enable/disable 802.1X and configure 802.1X mode. The default setting is disabled.
Identity	Enter the Identity information for the 802.1X mode.
MD5 Password	Enter the MD5 Password for the 802.1X mode.
CA Certificate	Upload the CA certificate for the 802.1X mode.
Client Certificate	Upload the CA certificate for the 802.1X mode.
Private Key	Upload the private key for the 802.1X mode.

MAKING PHONE CALLS

ACCOUNT



Users could make single line calls on GAC2500, you can switch lines, or hold, mute and transfer your call, etc. GAC2500 home screen is the dial screen or you can tap on  on desktop to access dial screen. The following figure shows the account is successfully registered (account icon is highlighted in green).



Figure 26 GAC2500 Registered Account Status

MAKING A CALL

DIRECT DIALING

1. Enter the call screen;
2. Enter the necessary digits on the keypad;
3. Tap on  to dial out.




Note:

1. GAC2500 allows users to configure the "#" key as the "Send" key. If users need to cancel this setting, please log in the built-in Web page to set the parameter "use # as the dial key" to "No".
 2. Enter digits in the dial-up box. If the digits or the letters for the digit matches contacts and call history, a dropdown list of numbers will be displayed. For example, entering 5 (JKL), 6 (MNO), 4 (GHI) and 6 (MNO) will display 5646 or john if contact "john" exists. Users can then select it to dial out.
-



REDIAL

Redial is to dial the last dialed-out number. It is only available when the call log exists.



1. Enter the call Interface;
2. Press the button  or tap on "#" to dial the last dialed-out number automatically.

DIALING A NUMBER VIA CONTACT

Follow the steps below to dial a number via Contacts.

1. On the LCD display device, access Contacts by tapping on  on home screen.
2. Navigate and select in the Contacts entries using the remote control navigation keys.
3. Tap on the dial key  to dial out.

DIALING A NUMBER VIA CALL HISTORY

1. On the LCD display device, access Applications on home screen and access call history by selecting  icon.
2. The LCD will display all call history types. Navigate in the call history list by selecting the call history category. Select the call history entry you would like to dial out.
3. Press  to dial out.

DIRECT IP CALL

Direct IP Call allows GAC2500 and another VoIP device to talk to each other in an ad-hoc fashion without a SIP proxy. VoIP calls can be made between these two if:

- Both GAC2500 and VoIP phone have public IP addresses
Or
- Both GAC2500 and VoIP phone are on the same LAN / VPN using private or public IP addresses
Or
- NAT is disabled or GAC2500 NAT is disabled.

Both devices can be connected through a router using public or private IP addresses (with necessary port forwarding or DMZ).

To make a direct IP call, please follow the steps below:


1. Access the dial screen on GAC2500.
2. Set the mode to "IP Call".
3. Input the target IP address. For example, if the target IP address is 192.168.124.123 and the port is 5062, input the following:
192*168*124*123#5062

The * key represents the dot (.) and the # key represents the colon (:).

4. Press  to dial out.

PAGING/INTERCOM

Before placing paging/intercom, please make sure the callee has paging/intercom enabled so it can automatically answer the paging/intercom call. To make paging/intercom call:

1. Access the dial screen on GAC2500.
2. Set the mode to "Paging".
3. Enter the number to dial.
4. Press  to dial out.

ANSWERING A CALL

When the device is in idle and there is an incoming call, the device will show the call screen as below.

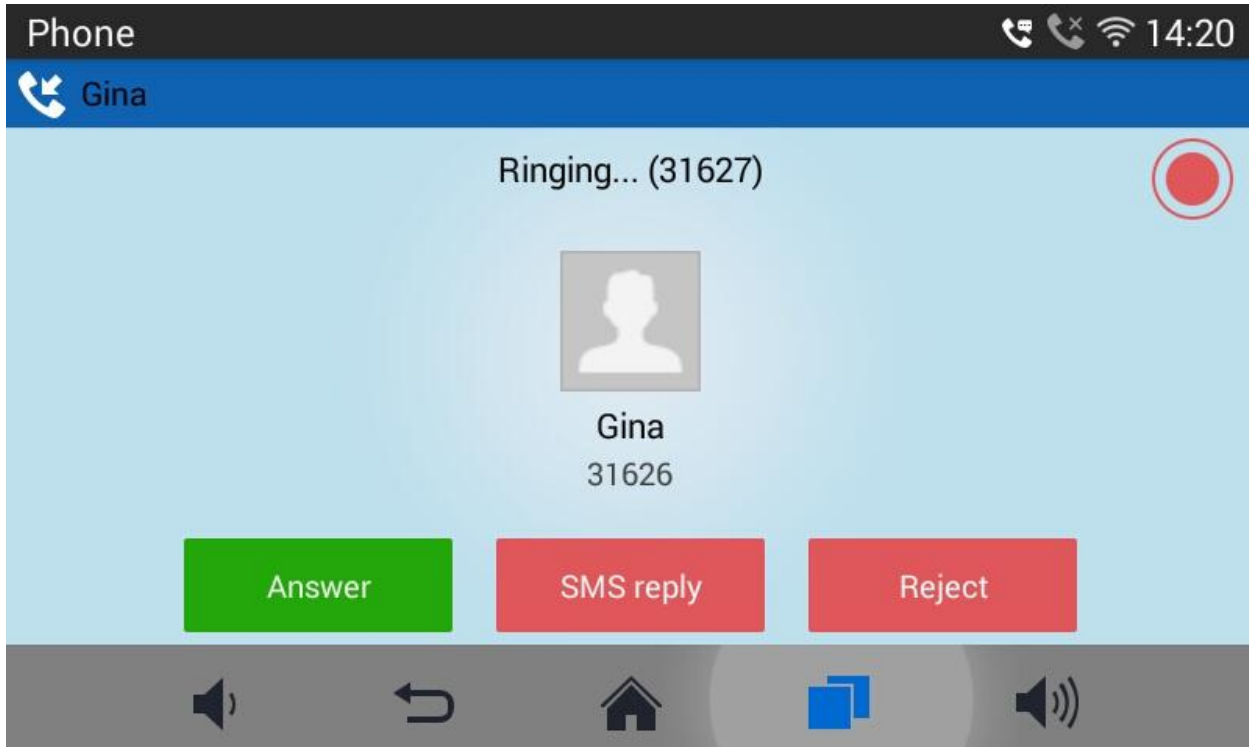


Figure 27 GAC2500 Single Incoming Call Screen

Select "Answer" to answer the call, or refuse the call by pressing the button "End" to reject the call.

When there is an incoming call during an active call, users will hear a call waiting tone with the LCD displaying the caller name and ID for the incoming call.

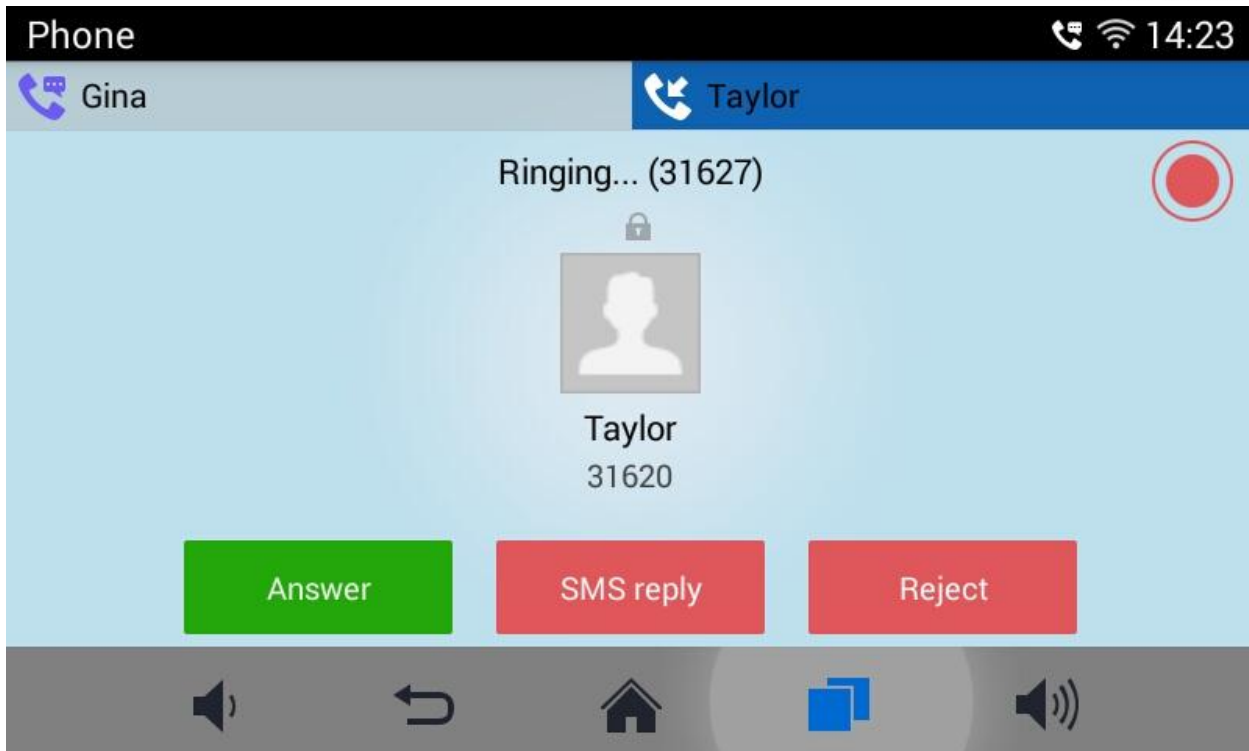


Figure 28 GAC2500 New Incoming Call Screen

Users could select "Answer" to answer with audio only, , or refuse the call by pressing the button "End" to reject the call.

CALL MANAGEMENT

During an active call, you can make other operations like hold/hold, mute/unmute, call recording, add a new call, start conference, or end the call.

- **Call Lines.** Display the current line status: active, hold, incoming, outgoing.
- **Conference.** Tap to add all active lines to conference members.
- **Hold/Unhold.** Tap to hold/hold the call.
- **Mute/Unmute.** Tap to mute/unmute the call.
- **Keyboard.** Tap to bring up the soft keyboard to input DTMF.
- **More.** Bring up more options including like Transfer, Recording, etc.
- **End.** End the current line.

CALL HOLD AND CALL RESUME

CALL HOLD

During the active call, press HOLD button to put the current call on hold. Users could then make or answer a new call. It shows as follows:

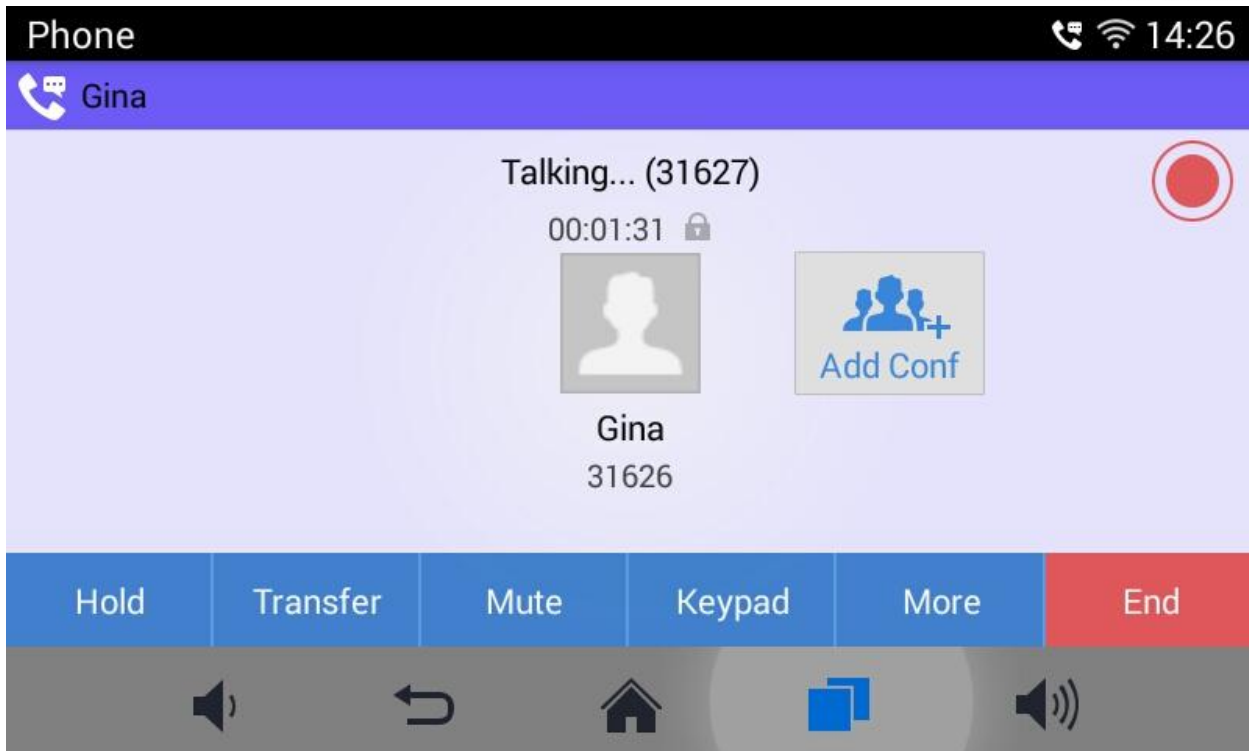


Figure 29 GAC2500 Single Incoming Call Screen

RESUME TO CALL

If the active call is on hold, users could press the "Unhold" button to resume call or tap on the "End" button to hang up the call.

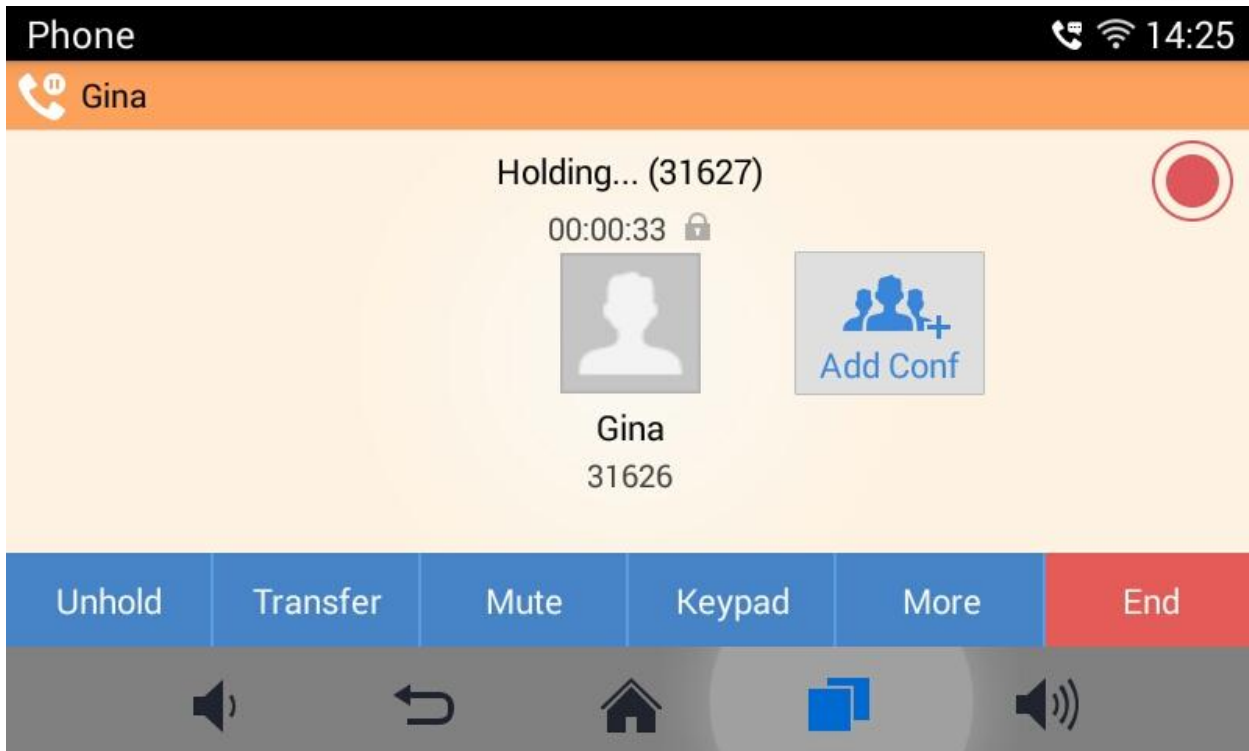


Figure 30 GAC2500 Call On Hold Screen

CALL RECORD

Users could save the call conversations to the GAC2500 by recording during an active call. You can listen to the recordings from Recorder, please refer to the chapter **Recorder** for details.

1. During an active call, tap on the Record icon in the upper right corner to start recording as shown in the figure 37 below:

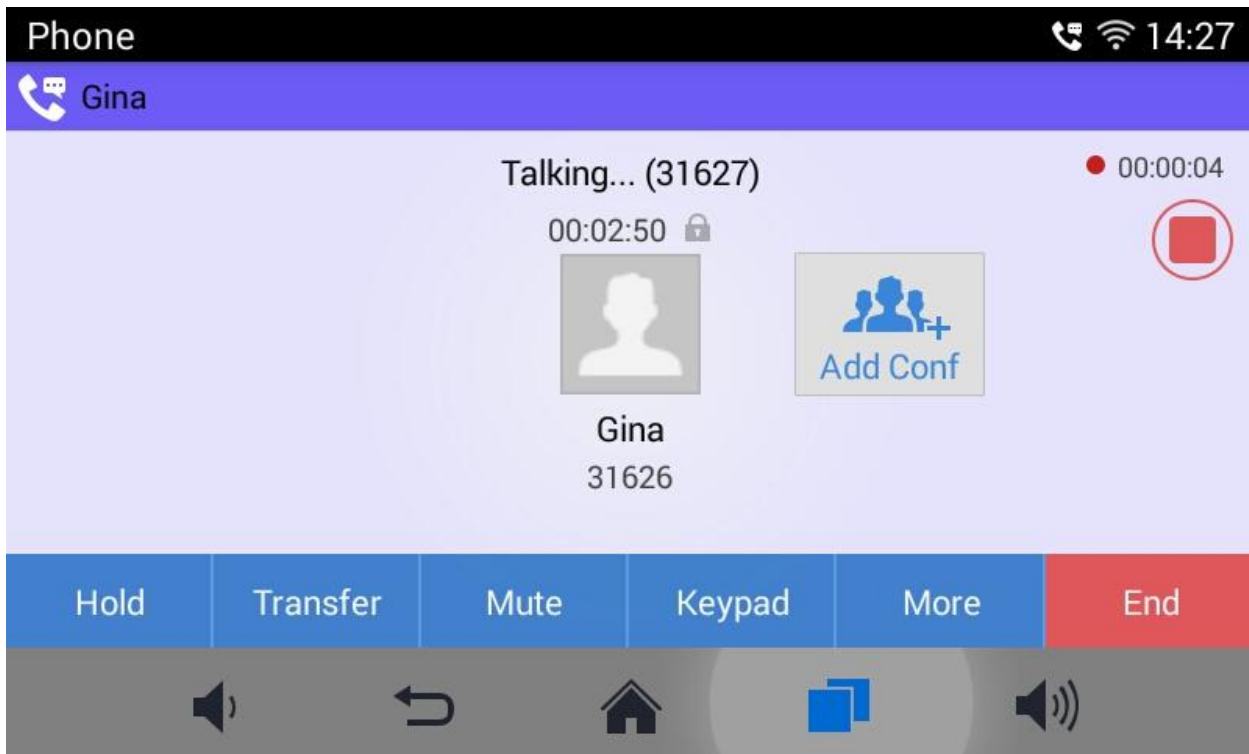


Figure 31 GAC2500 More-Start Recording

2. Tap on the icon again to stop recording.

CALL TRANSFER

Call transfer is to transfer one call to another call. Call transfer including blind transfer and attended transfer according to different situations. For example, if user A wants to transfer the call with user B to user C, blind transfer or attended transfer is optional.

BLIND TRANSFER

1. User A and user B are in an active call.
2. User A tap on Transfer button to bring up the transfer screen.