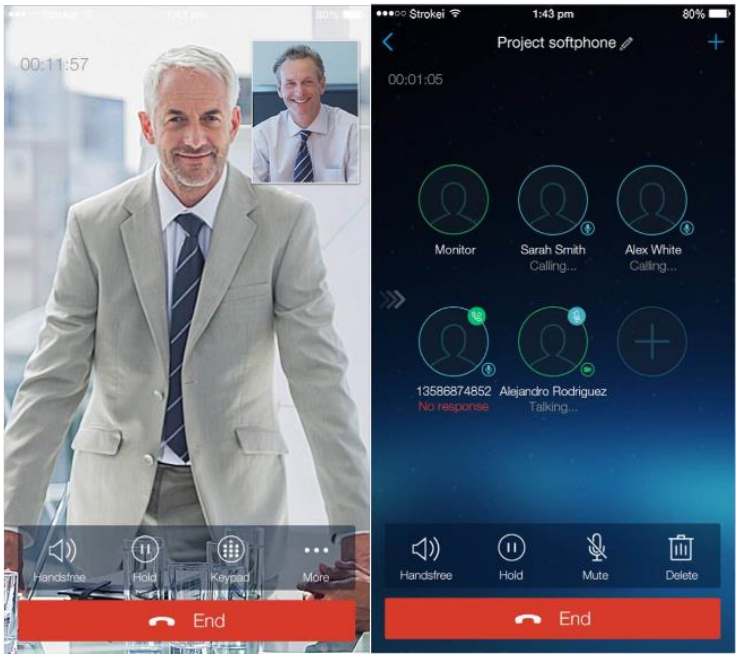
Grandstream Networks, Inc.

Grandstream Wave for Apple iOS™

User Manual



COPYRIGHT

Table of Contents

Table of Tables

Table of Figures

CHANGE LOG

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

GS Wave Version 1.2.9

- Added GDS Early Media support [CONNECTING GS WAVE WITH GDS3710 DOOR SYSTEM]
- Added support for IPv6. [Grandstream Wave Technical Specifications]

GS Wave Version 1.2.5

- Added IPv4 as preferred Internet Protocol. [Network Settings].

GS Wave Version 1.2.4

- Added GDS access control function [CONNECTING GS WAVE WITH GDS3710 DOOR SYSTEM]
- Added support audio codecs G729. [Voice Codec and Capabilities] [Preferred Vocoder].
- Added privacy agreement display [About Version].

GS Wave Version 1.2.3

- Added VoIP providers [VoIP Providers].
- Added support CallKit (IOS 10).

GS Wave Version 1.2.1

- Added audio call function and the related video parameters configurations.
- Add BLF function [BLF].
- Add URI call function.
- Remove “Display Password” option under Account Settings [Account Parameters].

GS Wave Version 1.1.9

- This is the initial version for GS Wave Apple iOS™.

WELCOME

Thank you for using Grandstream Wave. To meet the requirements of our customers, Grandstream Wave emerged on the basis of our existing multimedia VoIP Phones and enable users to move freely and continue to receive calls from any business or residential SIP account. The Grandstream Wave is a free softphone application that allows users to connect to their SIP accounts from anywhere in the world and it supports APPLE iOS™ 7.0 or higher version, and it is compatible with most of iOS™ mobile phones and tablets.

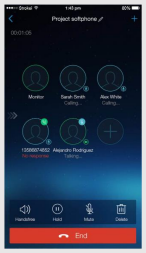
By combining powerful phone functions and integration of Grandstream UCM applications, businesses throughout the world can use Grandstream Wave for all communication and productivity requirements with unprecedented high quality experience.

PRODUCT OVERVIEW

Feature Highlights

The following tables contain the major features of the GS Wave Apple iOS™ version:

Table 1: GS Wave Features at a Glance

Grandstream Wave Apple iOS™ 	• Support Apple iOS™ 7.0 version or higher • Standard SIP-based softphone with exceptional voice quality • Strong security features including SIP over TLS and 128 or 256-bit SRTP • Support 6 SIP accounts, up to 6-way audio conferences • Support CID, voicemail and call encryption • Support synchronize with local Contacts on the phone • Enterprise features including UCM integration, BLF, call transfer/pickup, LDAP • Powerful NAT traversal options including automatic NAT discovery, STUN and UPnP • Automatic call forward based on time and location rules • Automatic provision including XML provision and QR code scan • Fully customizable skins and themes for optional branding needs

Grandstream Wave Technical Specifications

The following table resumes all the technical specifications including the protocols / standards supported, voice codecs, telephony features, languages and upgrade/provisioning settings for the GS Wave:

Table 2: GS Wave Technical Specifications

Lines	6 lines with up to 6 independent SIP accounts
Protocols and Standards	SIP RFC3261, TCP/IP/UDP, RTP/RTCP, HTTP/HTTPS, DNS (A record, SRV, NAPTR), STUN/ICE, SIMPLE, LDAP, TLS, SRTP, IPv4, IPv6
Network	Support 2G/3G/4G and WiFi
Camera	Support forward or rear facing cameras
Graphic Display	800 x 480 resolution or higher
Bluetooth	Support making calls with Bluetooth
Voice Codec and Capabilities	Support G.711μ/a, G.722, G.726-32, G729, iLBC, OPUS, GSM, DTMF (In Audio, RFC2833, SIP INFO）

Telephony Features	Call hold, mute, transfer, forward (unconditional/no-answer/busy/time-based), call park, paging/intercom, DND (Do Not Disturb), busy lamp field (BLF), LDAP contacts, call waiting, call history, flexible dial plan, custom ringtones, server redundancy & fail-over, BLF
UCM Integration	Supports many functions like QR code scan
Mobile Device Integration	Supports background mode, proximity sensor for in-call touch screen and keys lock, auto rotation, GPS location based call forward (pending)
Feature Functions	LDAP, MWI (Message Waiting Indicator), call history and messages
QoS	Layer 3 (ToS, DiffServ, MPLS) QoS
Security	TLS encryption, SRTP encryption (128-bit and 256-bit)
Multi-language	English, Simplified Chinese

Grandstream Wave iOS™ Prerequisites

The Grandstream Wave is compatible with most of Apple iOS™ mobile phones and tablets running operating system version 7.0 or higher and it supports 2G/3G/4G and WiFi. Users could download Grandstream Wave via scan QR code, or from iOS™ App store.

Note: When using the Grandstream Wave for the first time, users have to confirm whether allow the application to read local contacts from the phone. If it allows, users could view local contacts on the corresponding Grandstream Wave screen.

To fully manipulate the Grandstream Wave capacitive touch screen, use fingers to operate following the introductions below on the Grandstream Wave icons, buttons, menu items, onscreen keyboard, etc.

Figure 1: Grandstream Wave Finger Gestures on the Touchscreen

- **Tap:** Slightly touch the screen with fingertip once to initiate menu, options or applications.
- **Long Press:** Touch the screen with fingertip for about 2 seconds without lifting finger from the screen to bring up the context menu for more operations.
- **Flick and Slide:** Touch the screen with fingertip and slide over the screen. For example, users could slide up to scroll up the page, slide down to open dropdown menu, slide left to delete an item from the list. If the finger stays on the screen for too long, the item may be selected and sliding will not occur.

USING GRANDSTREAM WAVE

This chapter provides basic operations on the GS wave, including making / receiving calls, call transfer, conference calls, managing contacts and etc…

Dial Screen

Tap on the keypad button  at the bottom of screen to open dial screen, as shown in figure 2.

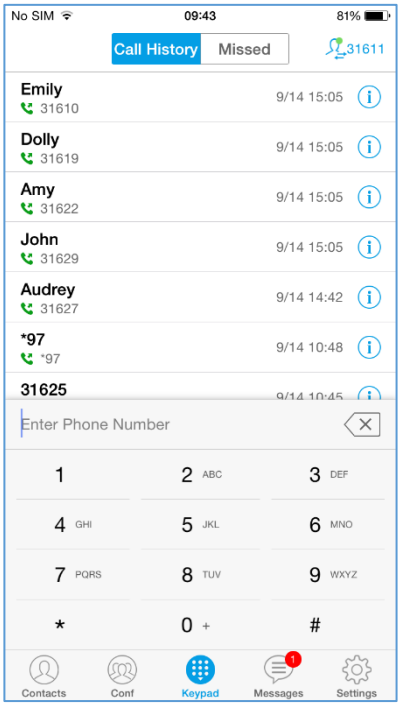


Figure 2: Keypad Screen

Dialing a Number Directly

1. Access the dial screen;
2. Tap  on the upper right corner, select the account as shown in figure 3;

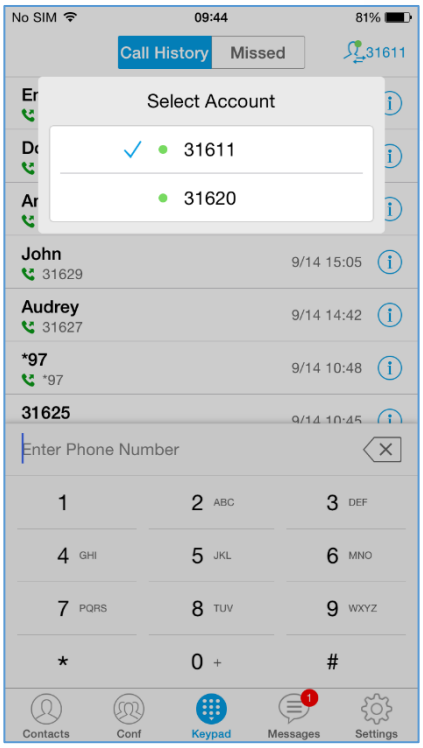


Figure 3: Select Account

3. Enter the phone number on the keypad;
4. Tap on Dial to dial out with SIP account; Tap on • • • More and select "Dial", "Local Call" or "Paging" to dial out via local phone number, or select "Add to Contacts" to add the number as a contact quickly.

⚠ **Note**:

- By default, Grandstream Wave allows users to press # key as SEND key. This behavior can be disabled via set option "Use # as Dial Key" to "No" under Settings->Account Settings.
- If inserting an active SIM card into the phone, users could make calls with the SIM card number but cannot send messages with the local phone number.
- Grandstream Wave allows users to input URL with DTMF keyboard. It is recommended to set option "DialPlan Settings" to "No" under Settings->Account Settings, otherwise, the call may fail when dial up the number that does not match the DialPlan.

Redial

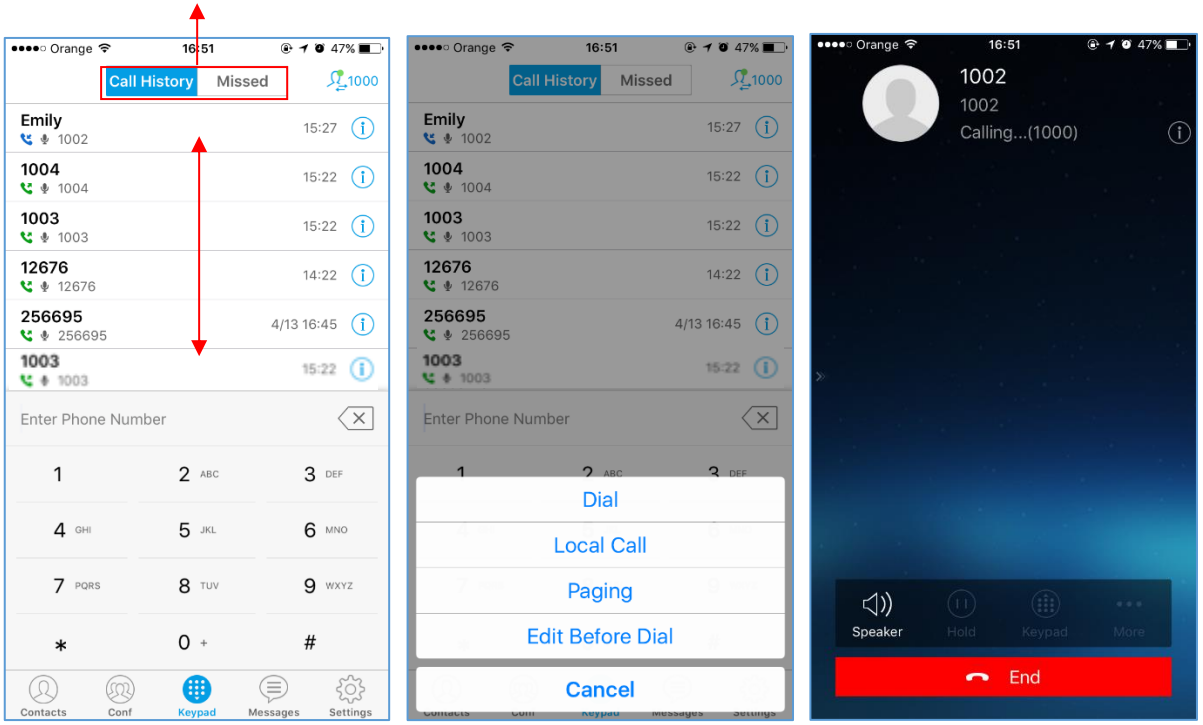
Users can dial out the last dialed number if there is dialed call history.

1. Access the dial screen;
2. Press # key to dial out the last dialed number.

Dialing a Number via Call History

The Grandstream Wave call history is listed on the upper of the dial screen. It displays all call histories (SIP account) and missed calls. Navigate on the call history entries by tapping on button on the bottom of the main screen to slide up/down as shown in figure 4.

Switch between call history or missed call list



Tap on Keypad or roll horizontal in the direction of the arrow to view the call history.

Tap on one call history entry to dial out.

Figure 4: Dial-up via Call History

Note:

Dialing out through call history will use the account which made the last call.

Dialing a Number via Contacts

Access Contacts by tapping on icon on the bottom of the main screen, all contacts and SIP contacts are shown up individually as displayed on the following screenshot.

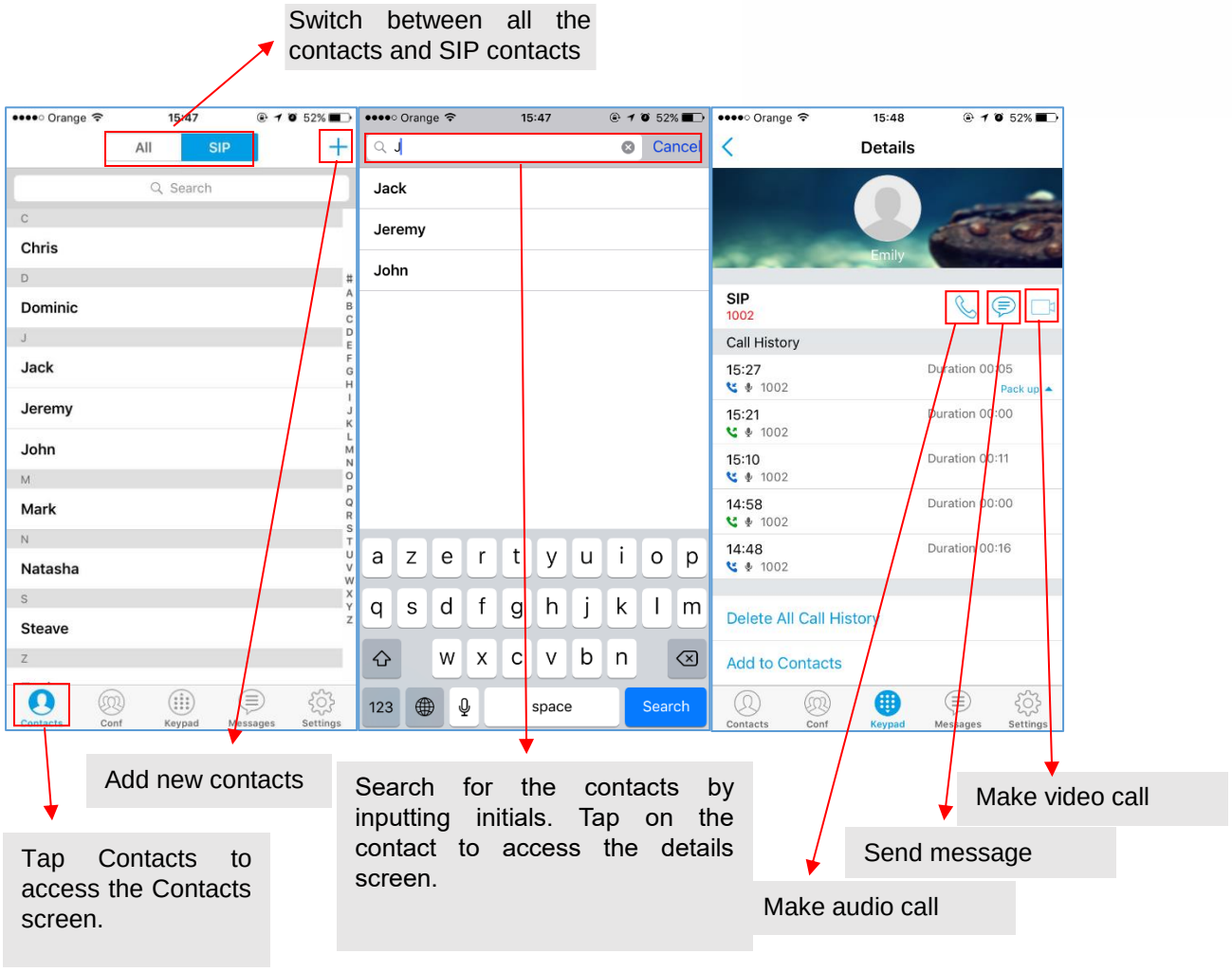
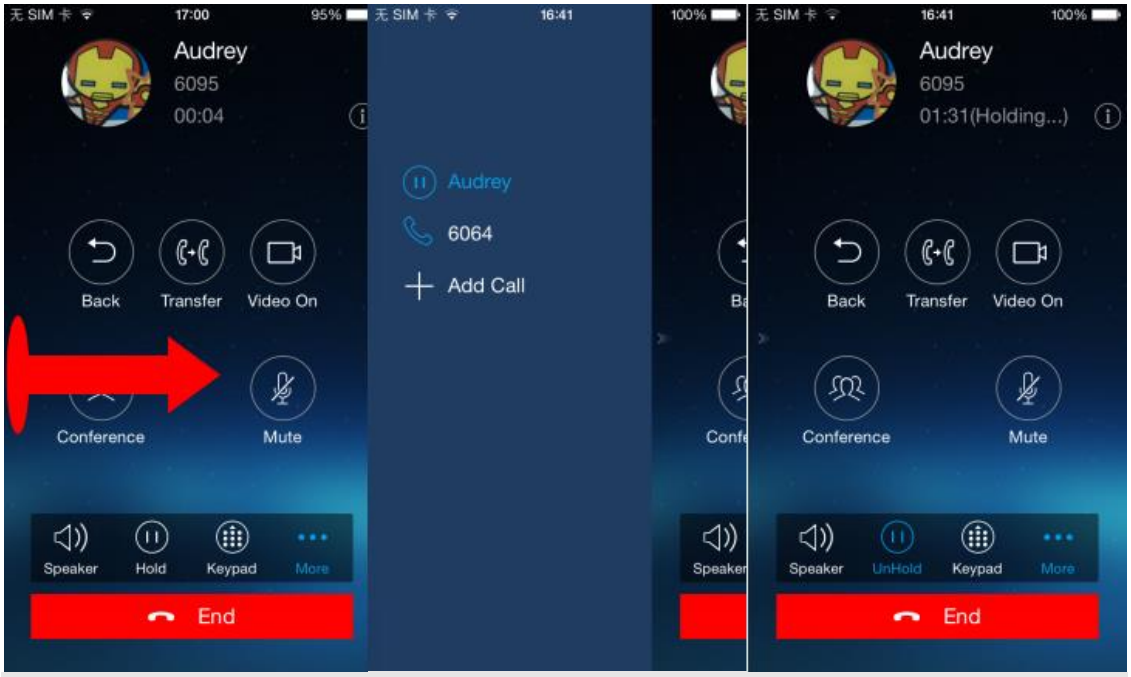


Figure 5: Dial-up via Contacts

Switching Audio Channel during Call

Users could switch lines by sliding the call screen when there are multiple calls, as shown in figure 6 below.



1. Slide right to access call line screen.

2. Tap on the line to select.

3. Tap on the right area, or slide to left and go back to the call screen.

4. Tap on "Unhold" to speak to this line, other lines will be put on hold automatically.

Figure 6: Switch Call Lines

Answering Calls

Single Incoming Call

When the phone is at idle state, and there is an incoming audio call, the phone screen is shown as figure 8 below.

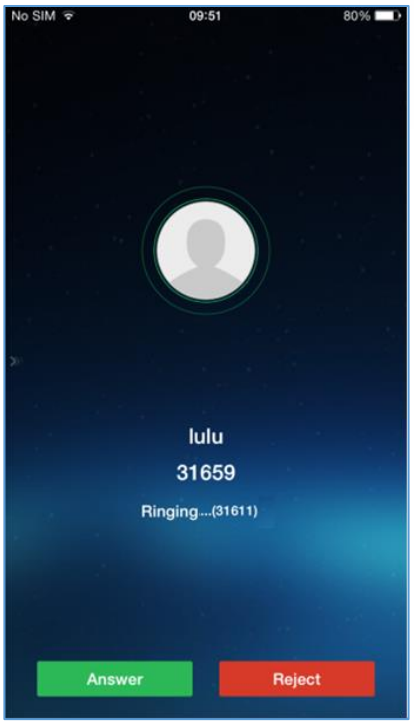


Figure 7: Single Incoming Audio Call

Tap on Answer button to answer the call via speaker, or tap on Reject button to reject the call. When there is an incoming video call, the phone screen is shown in figure 8 below. Tap on Audio Accept or Video Accept button to answer the call, or tap on Reject button to reject the call.

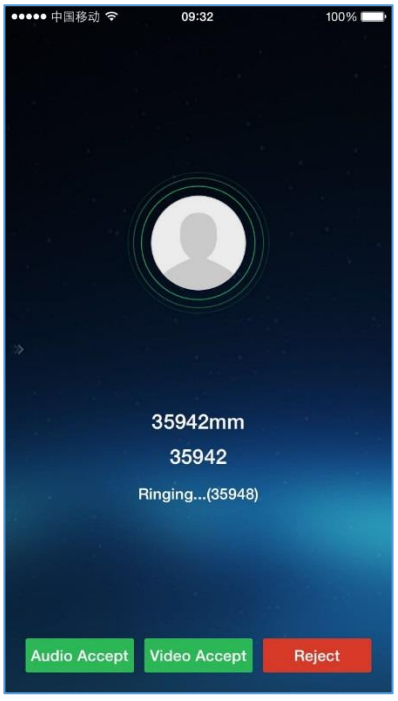


Figure 8 Single Incoming Video Call

Multiple Incoming Calls

When there is another incoming call during an active call at the same time, users will hear call waiting tone, with the screen displaying the caller's name or number for the incoming call. A prompt appears for users to confirm as shown in figure 9.

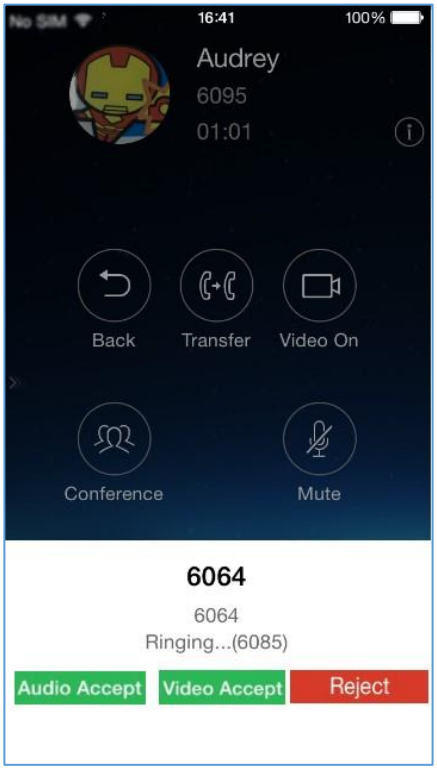


Figure 9: Multiple Incoming Calls

Tap on Audio Accept button to answer the audio call, once the new call is answered, the current active call will be placed on hold.

Tap on Video Accept button to answer the video call, once the new call is answered, the current active call will be placed on hold.

If the new call is rejected by tapping on Reject button, the current active call will not be interrupted.

Active Call

During an active call, users could hold/resume call, mute/unmute, input DTMF, add new call, initiate conference, end a call or switch audio channel, turn on/off video, switch front/rear camera. Tap » on left screen, and slide right to bring up the lines list. Users could switch to other lines or add a new call.

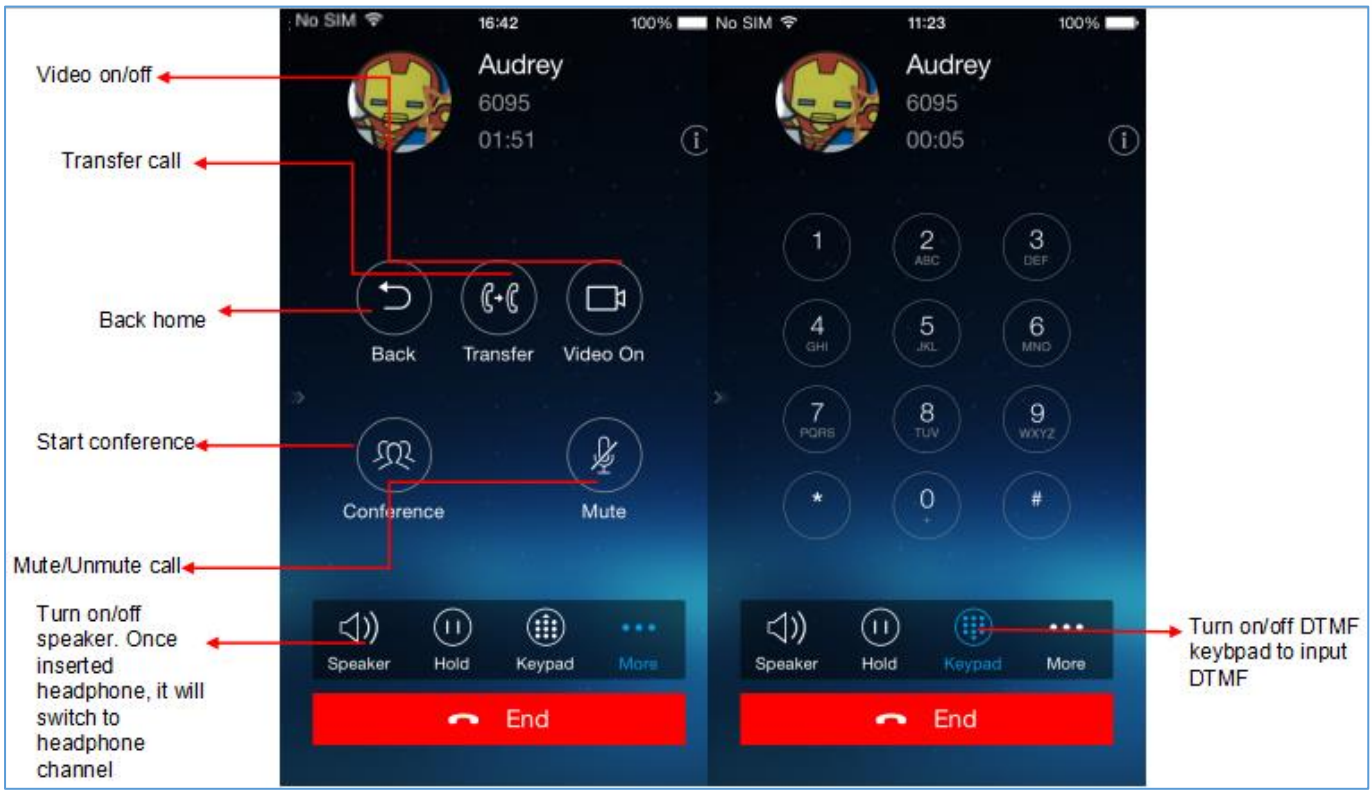


Figure 10: Audio Call Interface

: Slide to right to add new call or switch lines.

- **Speaker**: Switch voice channels to speaker or 3.5mm headset if it is plugged in.
- **Hold/Unhold**: During the call, users could press the HOLD button to hold or resume the call at any time.
- **Keypad**: Tap on the icon to bring up digital soft keypad for inputting DTMF.
- **More**: Access more operations including Back, Transfer, Conference and Mute/Unmute.
- **Back**: Back to the dial screen, the active call interface will be hidden.
- **Transfer**: Switch to the transfer screen. Grandstream Wave supports blind transfer and attended transfer. Please refer to chapter ***Call Transfer*** for more details.
- **Video On**: Tap the icon to send video request to the callee, then access the video call interface after the callee accepted the request.
- **Conference**: Add the active line to conference, and bring up the conference screen.
- **Mute**: Tap on the icon to mute/unmute the call.
- **End**: Tap on the icon to end the call.

The video call interface is shown as below, the call operations are similar as audio call:

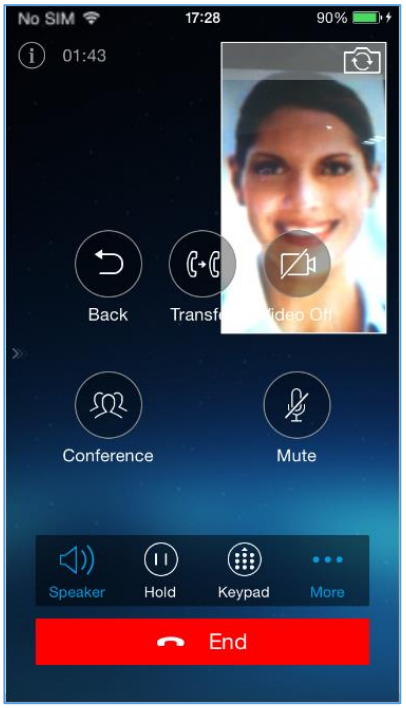


Figure 11 Video Call Interface

Call Hold/Resume

During the active call, press the **HOLD** button to put the call on hold. Users could dial up or answer a new call. The call hold screen is displayed on the following screenshot:

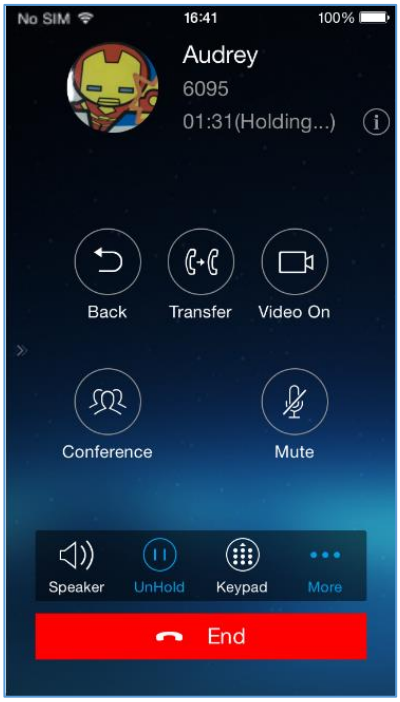


Figure 12: Call Unhold

To resume the call, press the **UNHOLD** button again to resume the call if the current active call is put on hold.

Mute

During an active call, press the mute button  to mute the call to stop local audio from being heard at the far end of the call. Press the button mute  again to unmute the call. The mute screen is displayed on the following figure:

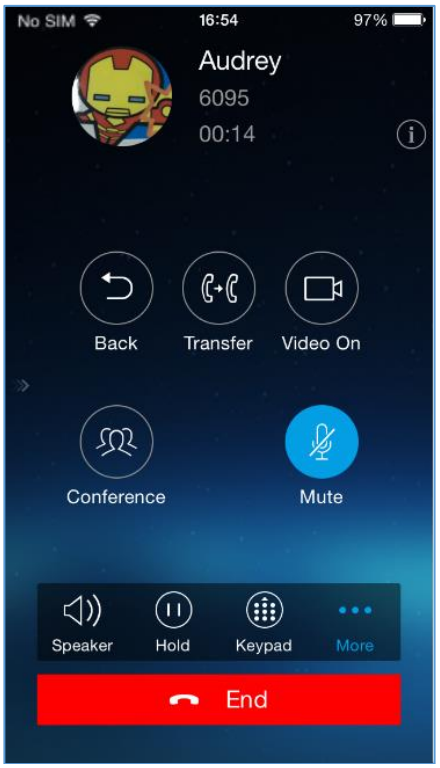


Figure 13: Call Mute

Switching Audio Channel during Call

Grandstream Wave allows users to switch audio channel among handset (if user plugs in headset, the handset status will be turned into headset status), speaker or Bluetooth headset when making calls. Figure 14 shows the call screen when using the Bluetooth, tap on button 

to switch channels.

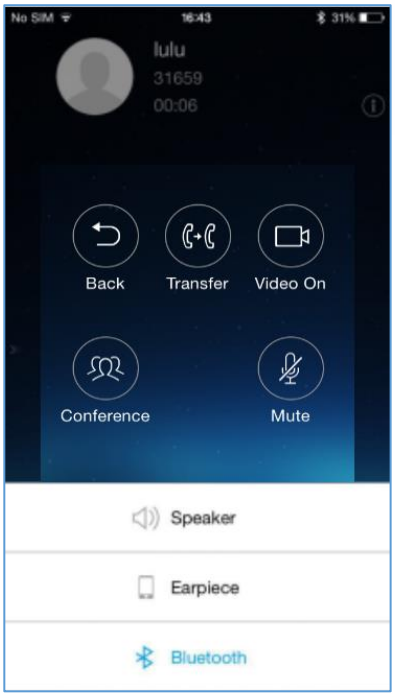


Figure 14: Call via Bluetooth

Missed Calls

When there is a missed call, the phone notify user on the phone's drop-down notification bar and the prompt on Grandstream Wave call history list, as shown in figure 15.

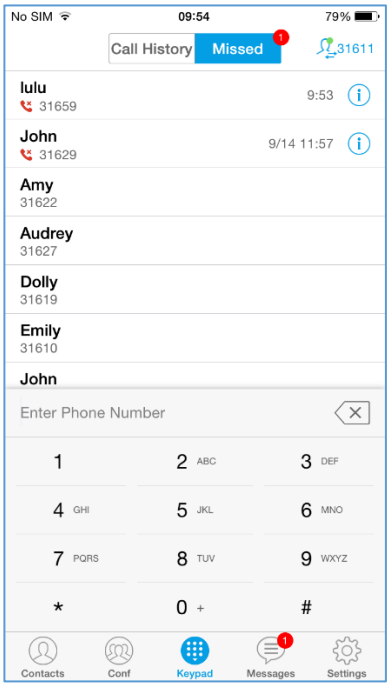


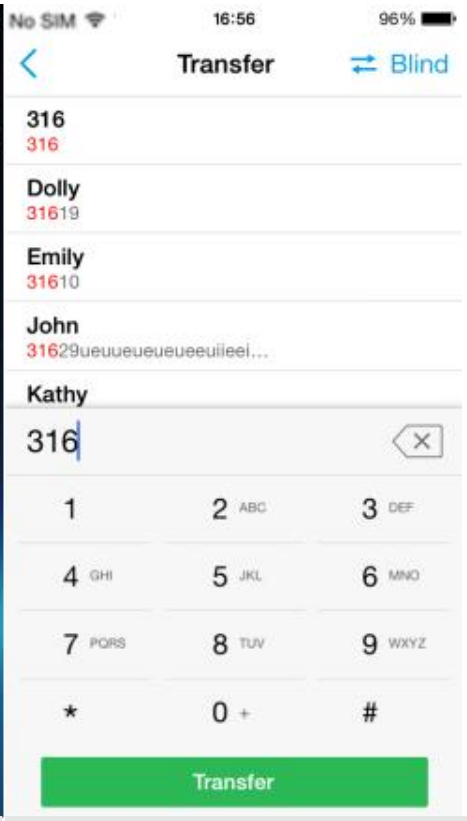
Figure 15: Missed Call Screen

Call Transfer

A call can be transferred to another party during the call. The Grandstream Wave supports blind transfer and attended transfer.

Blind Transfer

1. During the active call, tap on "Transfer" to access the transfer screen.



2. Input the digits and then tap on “Blind" on the upper right corner to transfer the call.

Figure 16: Call Transfer - Blind Transfer

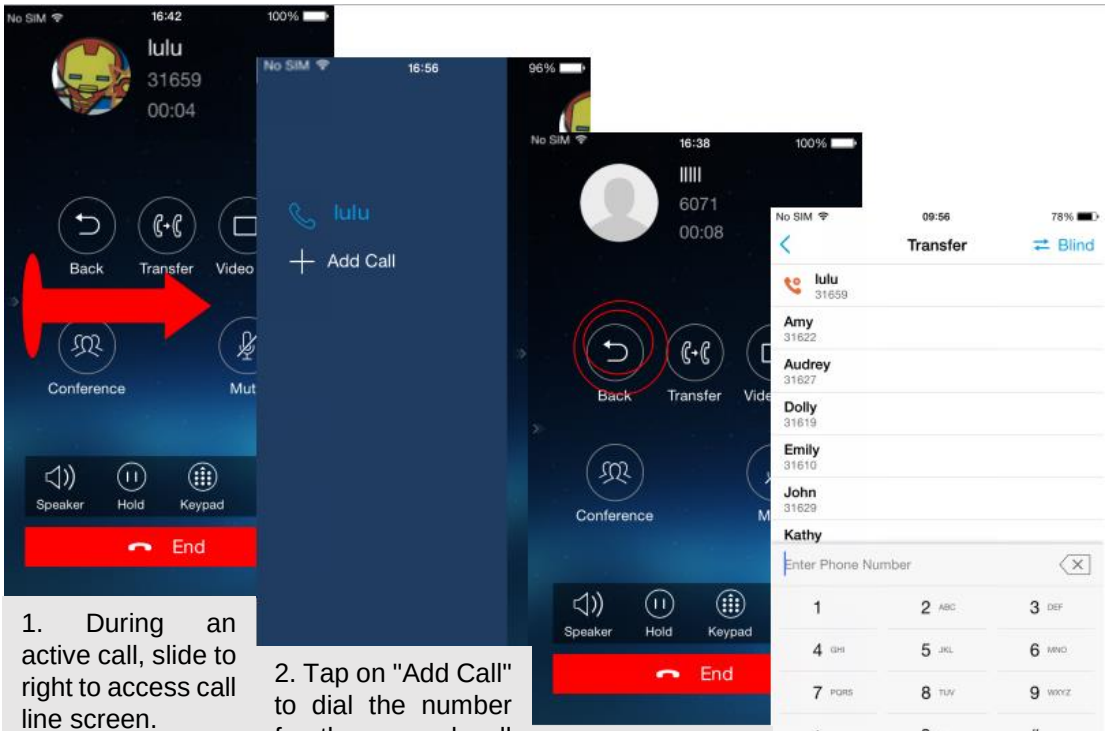
1. During the active call, tap on "Transfer" to access the transfer screen
2. Input the digits and then tap on “Blind" on the upper right corner to transfer the call.

When the ringback tone is played, users will automatically go back to the main screen (dial screen) to complete the transfer after the callee answers the call.

Note: If entered incorrect digits, tap on button to delete the digits one by one, or long press it to clear all digits.

Attended Transfer After Calling

Grandstream Wave supports attended transfer before or after calling, which provides users a fast and easy way to complete attended transfer. Make an active call first and follow the steps below to transfer the call to the third party.



1. During an active call, slide to right to access call line screen.

2. Tap on "Add Call" to dial the number for the second call and make sure the call is established. This will place the previous call on hold.

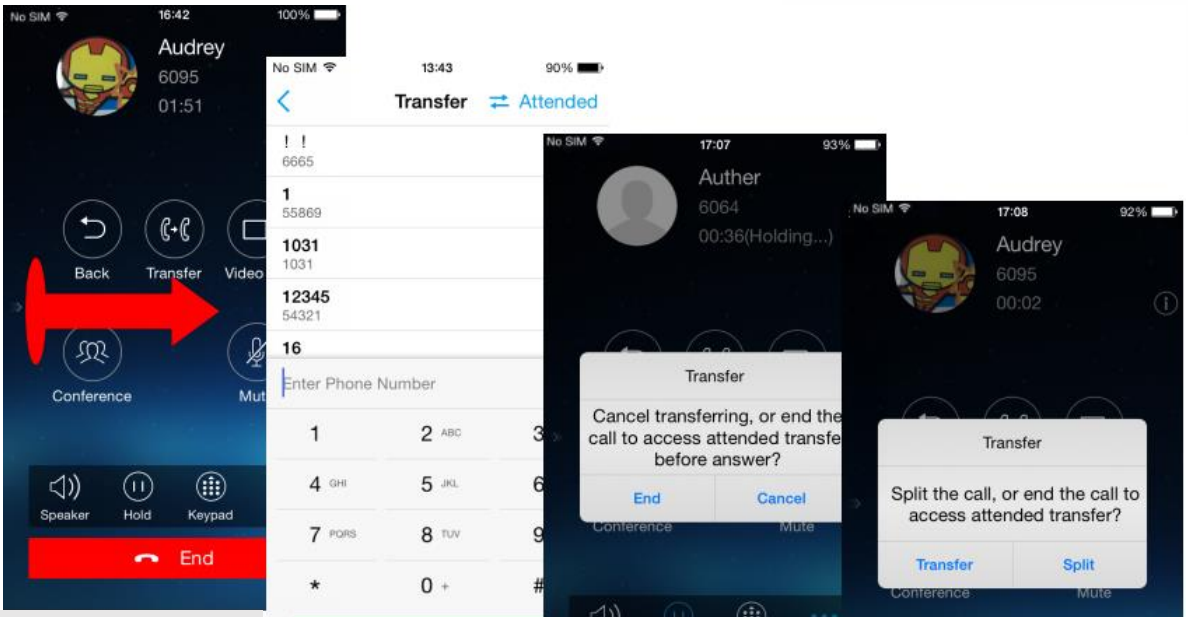
3. During the new active call, tap on "More" and select "Transfer" in the available options to access the transfer screen as shown in figure on the right.

4. Input the digits and then tap on “Blind" on the upper right corner, tap on the line on hold to transfer the call.

Figure 17: Attended Transfer after Calling - Transferring

Attended Transfer Before Calling

Besides the transferring mentioned above, users also could consult the third party first before transferring the call. Make an active call first and follow the steps below to transfer the call:



1. During an active call, tap on "More" and select "Transfer" in the available options to access the transfer screen.

2. Input phone number and then switch the transfer mode to "Attended" on the upper right corner to access the Transfer/Split screen.

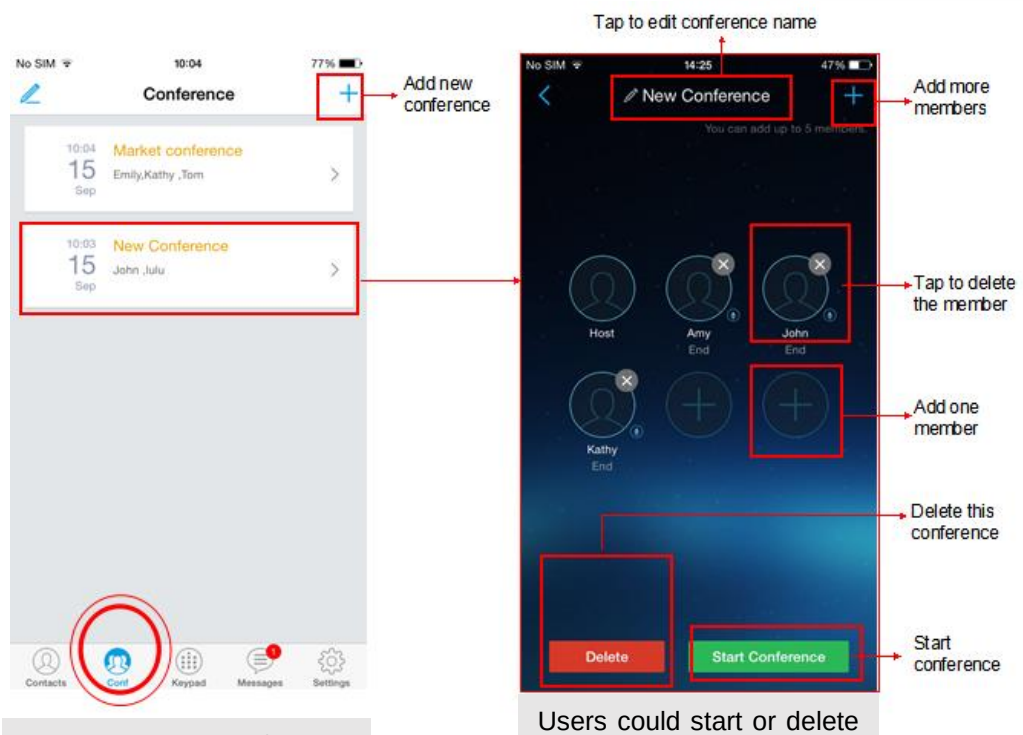
3. If the third party has not answered the call, the caller could tap on "Cancel" to end transfer.

4. If the new call is established, tap on "Transfer" to transfer the call. If tap on "Split", it will place the previous call on hold.

Figure 18: Attended Transfer before Calling - Split

6-Way Conference

Grandstream Wave supports up to 6-way conferencing. The conference screen is displayed on the screenshot below:

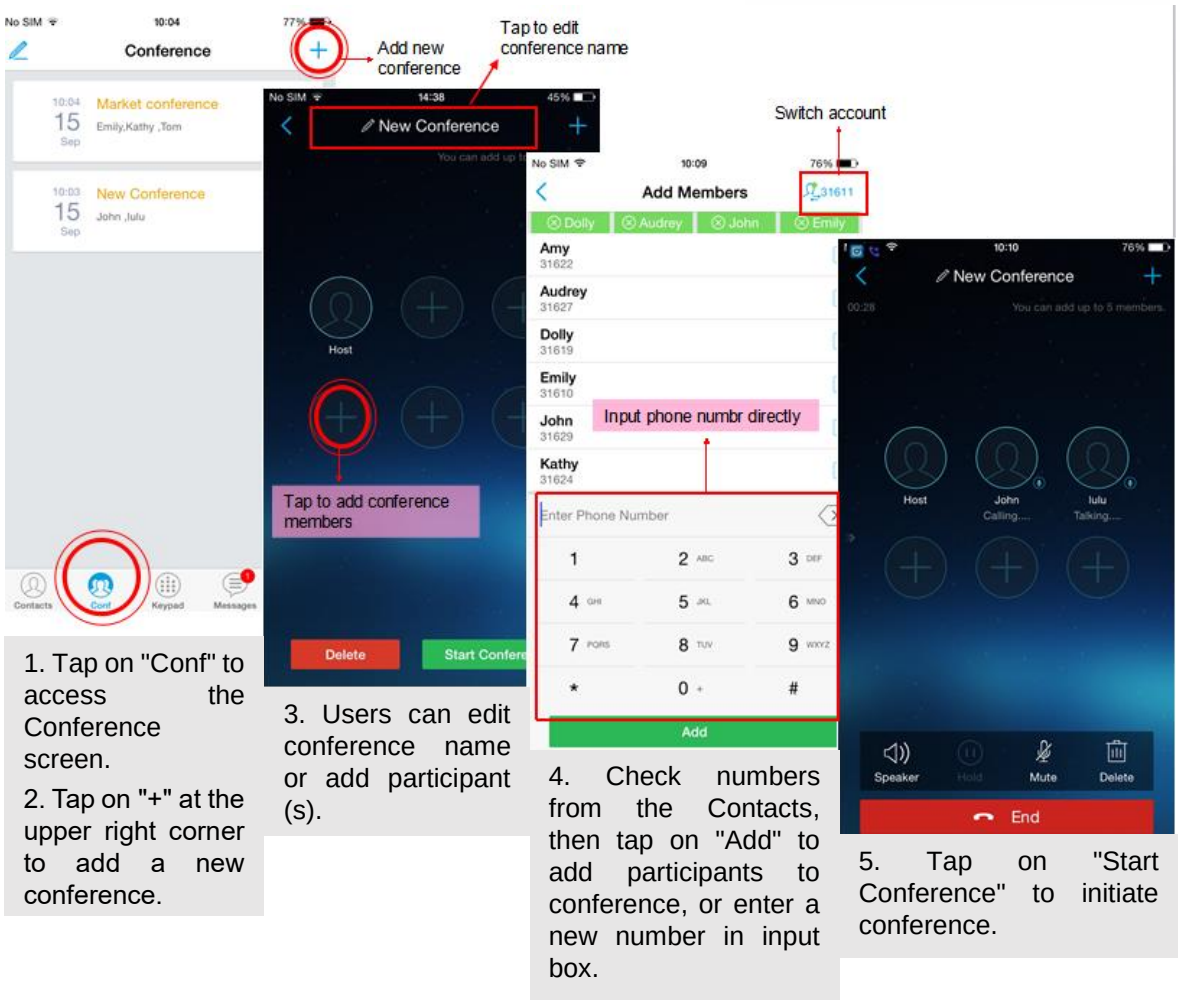


Tap on one conference entry to access details screen.

Users could start or delete the conference, or edit conference members after accessing the conference screen.

Figure 19: Grandstream Wave Conference Screen

Add New Conference



1. Tap on "Conf" to access the Conference screen.
2. Tap on "+" at the upper right corner to add a new conference.

3. Users can edit conference name or add participant (s).

4. Check numbers from the Contacts, then tap on "Add" to add participants to conference, or enter a new number in input box.

5. Tap on "Start Conference" to initiate conference.

Figure 20: Grandstream Wave Conference - Add New Call to the Conference

Adding a participant to conference via 2 ways:

- Enter phone number in the input box. If this is an existing contact in the Grandstream Wave, it will be shown up. Then, users could add it to the conference.
- If the conference has started and there already exists an existing line, check the line and tap on "Add" to add the line to conference directly.

Initiating Conference

During an active call, tap on "More" and select "Conference" to access conference room. Users could add new participants if there exits an active call.

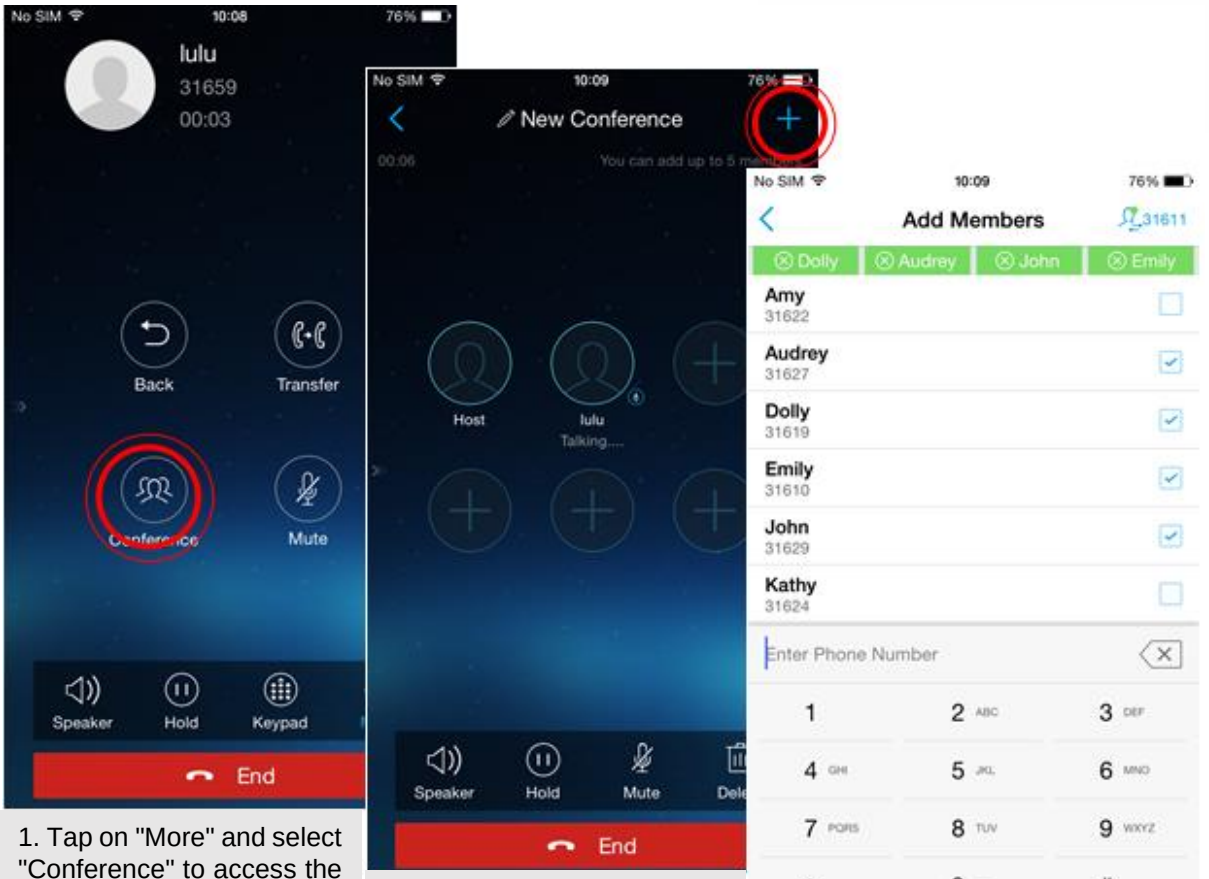


Figure 21: Grandstream Wave Conference - Initiating Conference

While all participants have been in the conference, users could tap on the buttons below to make the corresponding operations.

- **Speaker**: Enable the speaker for the conference.
- **Hold**: Hold the conference.
- **Mute**: Mute the host and each conference participant individually.
- **Delete**: Delete each conference participant.

When the conference participant is disconnected, or the call with the participant is over, tap on the top right corner of the participant to redial.

Removing Participant from Conference

To remove a participant from the conference, users could press **DELETE** button on phone screen, then tap on  icon at the upper right corner of the participant, and then it will be removed.

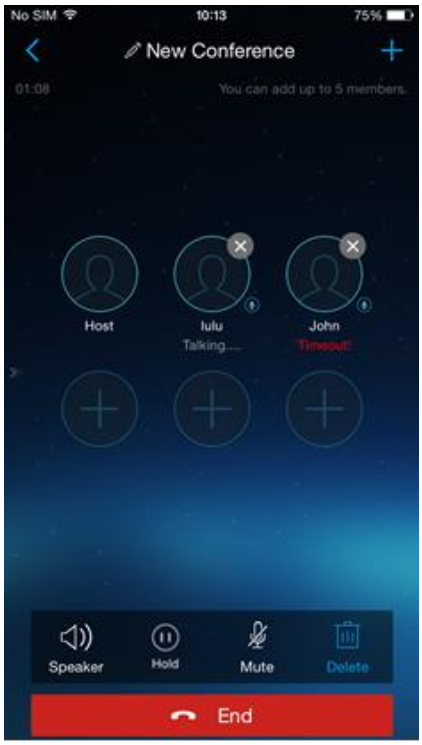


Figure 22: Grandstream Wave Conference - Delete Conference participant

Mute/Unmute Conference

During an active conference, users could press **MUTE** button on phone screen, and then tap on 

at the upper right corner of the participant to mute the participant. The muted participant will not be heard by other participants, but can hear other participants, while it still exists on the conference screen, as shown on the following figure:

Figure 23: Grandstream Wave Conference - Mute Conference Participant

Hold/Resume Conference

During the conference, users could press the **HOLD** button on phone screen to hold the conference with all participants at any time. If the remote participant presses the **HOLD** button, it will only hold his/her own call from the conference, as shown on the following figure:

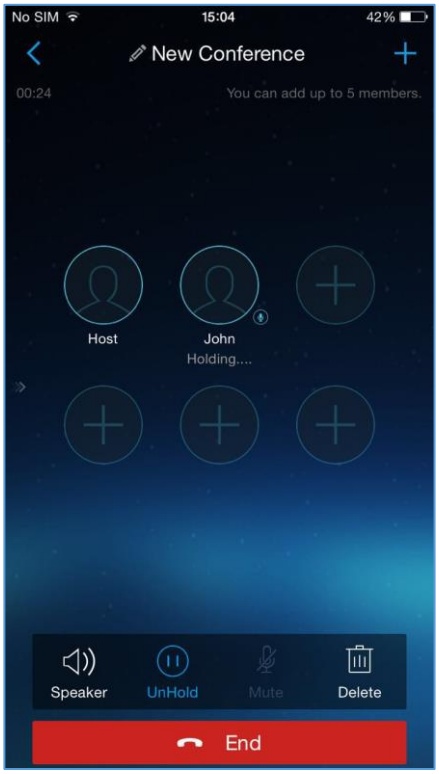


Figure 24: Grandstream Wave Conference - Hold Conference

To end the conference, users could tap 

on phone screen to disconnect all the participants from the conference. If the remote participant hangs up the call, it will be disconnected from the conference, but other participants in the conference will stay in the conference.

Voicemail

When there is a new voicemail, users could see a new message prompt on the Grandstream Wave messages list.

To configure voicemail UserID, access to **Settings->Account Settings->Edit Account** to fill in the details, as shown on the screenshot below.

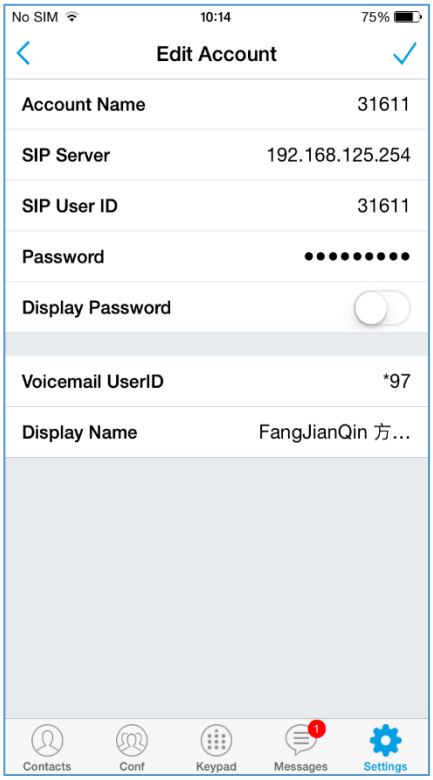
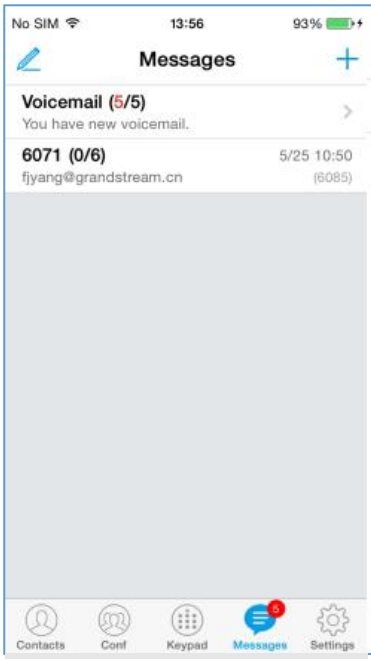


Figure 25: Configure Voicemail UserID

To retrieve the voicemail:



1. Tap on "Messages" to access Messages screen.
2. Tap on "Voicemail" to access the voicemail screen.

3. Tap on the voicemail to dial out.

4. Listen to the voicemail by following the voice prompt.

Figure 26: Retrieve Voicemail

Note: To access the voicemail, users will be required to enter the voice mail password, please contact the service provider to obtain the password.

Contacts

Users can manage their phone contacts and SIP contacts in Grandstream Wave Contacts. To access Grandstream Wave Contacts, tap on button  at the bottom of the main screen, as displayed on the following screenshot:

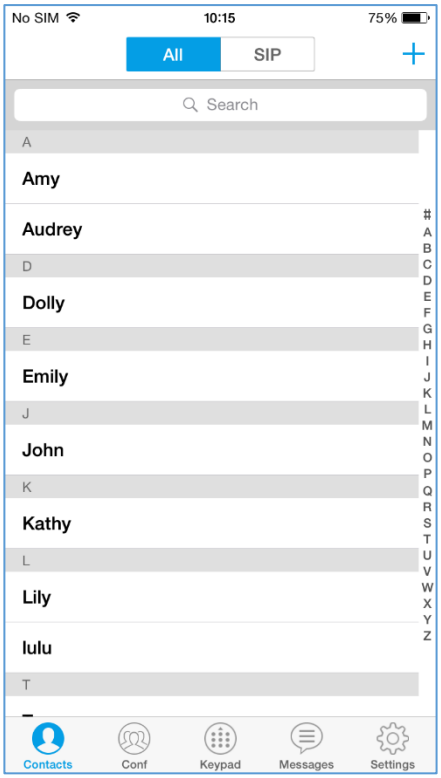
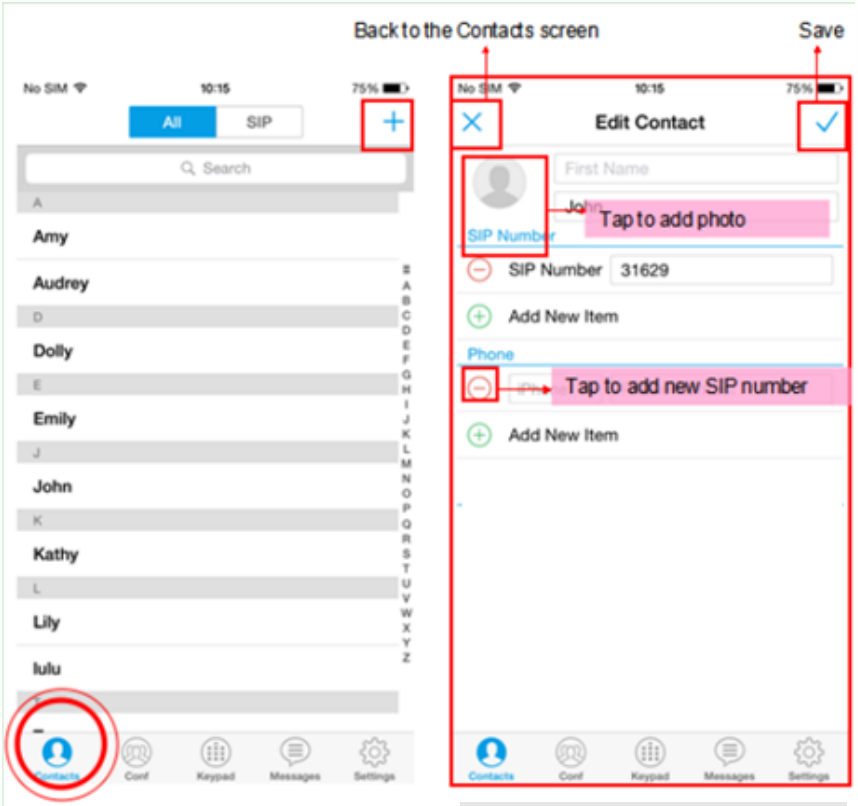


Figure 27: Grandstream Wave Contacts Screen

Add Contacts



1. Tap on "+" at the upper right corner to add a new contact.

2. Input contact information and tap on the check mark on the upper right corner to save the contact.

Figure 28: Grandstream Wave Add New Contact

Search Contacts

Tap on the search box on the Contacts screen to access the search screen, as shown on screenshot below:

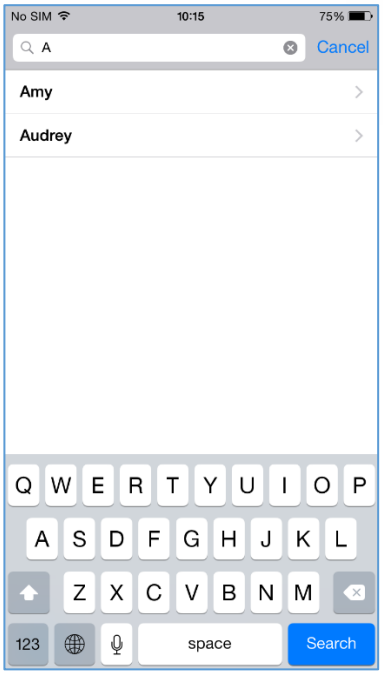


Figure 29: Grandstream Wave Search Contact

Enter the contact name or number to search, the contact will be updated and displayed automatically when entering the initial digits. Tap on the number to view details.

View Contact

Tap on one contact to view details or edit, as displayed on the following screenshot:

- Dial up the audio call.
- Access the Messages editing screen.
- Dial up the video call.

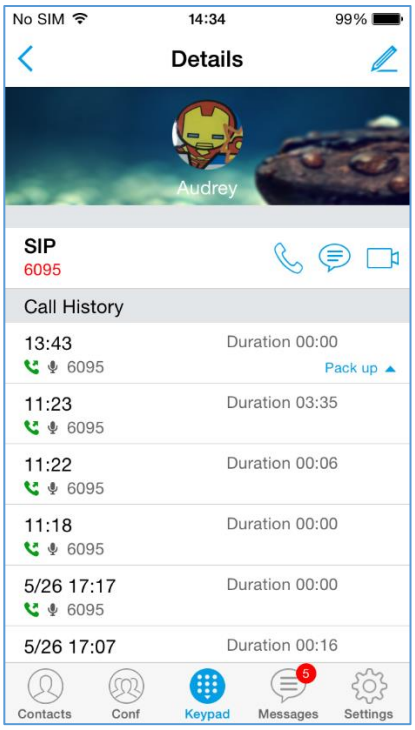


Figure 30: Grandstream Wave View Contact

Edit Contact

Tap on the contact to access Details screen, tap on on the upper right corner to access the **Edit Contact** screen.

Delete Contact

Tap on the contact to access **Details** screen, select **Delete Contact** to delete it.

Call History

To view recent call history or view classified call history on Grandstream Wave, tap on the dial screen or slide down the call history, as shown on screenshot below:

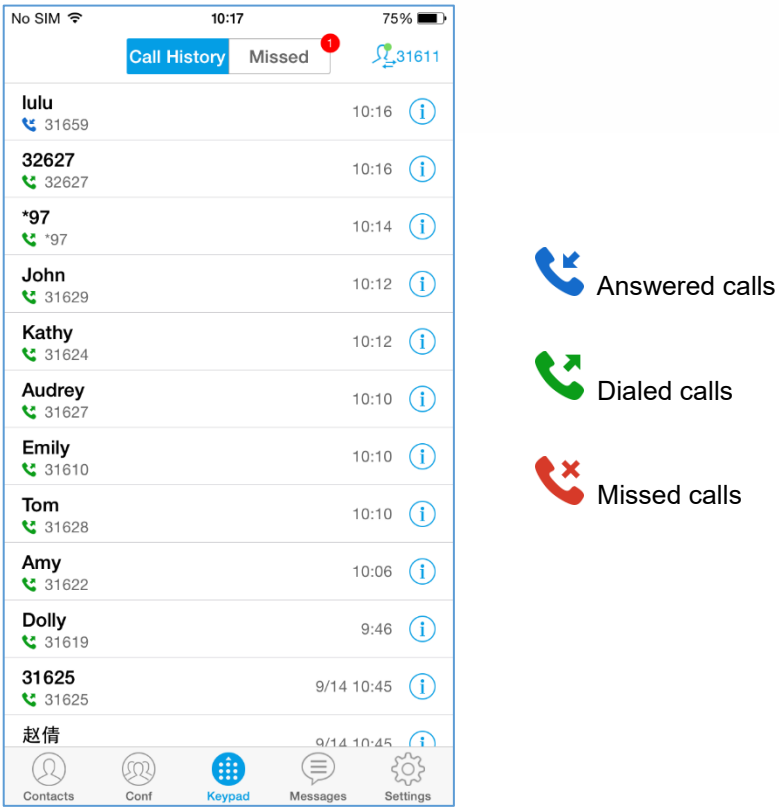


Figure 31 Grandstream Wave Missed Calls Screen

Tap on one call history entry to dial out with the last dial-out account. To access the details for this entry, tap ⓘ on the right side of the entry, as shown on following screenshot:

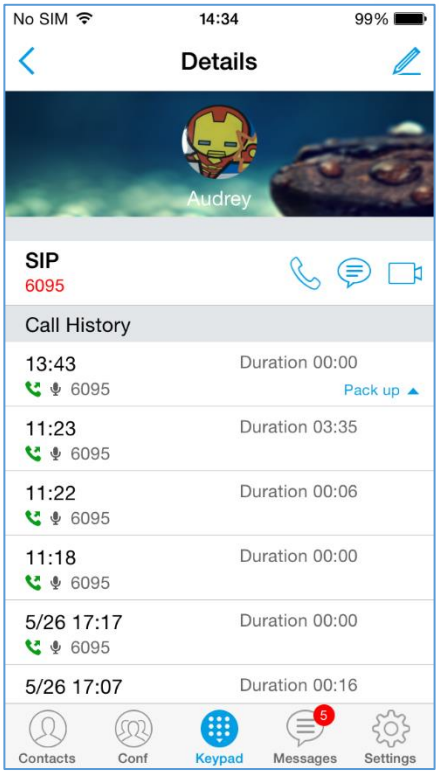


Figure 32: Grandstream Wave Call History Details Screen

Users could view recent call history of this entry, make calls or send messages to it (not applicable to SIM card number or anonymous call). Tap on button at the upper right corner to edit contact. If the call is coming from a non-existing contact, save it to **Contacts** before making the operations.

Messages

Messages function allows users to send/receive messages. Tap on button to access the Messages screen, as shown on the following screenshot. Tap on the upper left corner to delete or batch delete messages.

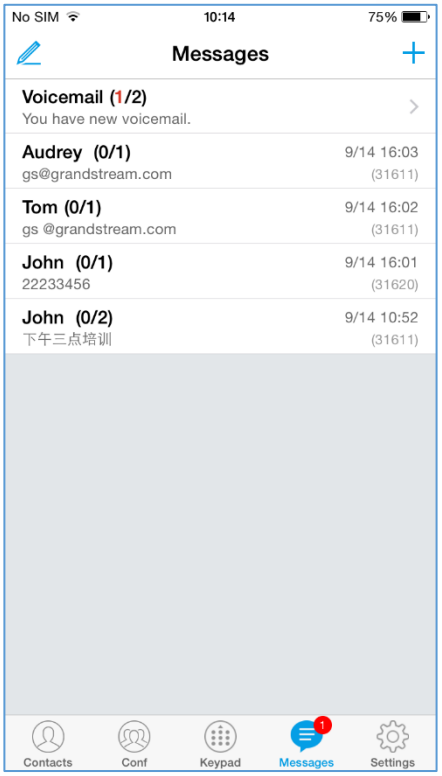


Figure 33: Grandstream Wave Messages Screen

Note: Messages function is not available in all countries and regions. Please contact your service provider for more details.

View Message

The Message screen displays sent & received (draft) messages, the messages are classified by contacts names or numbers while sorted by sent & received time. Tap on one message to check the details, as shown on the following screenshot:

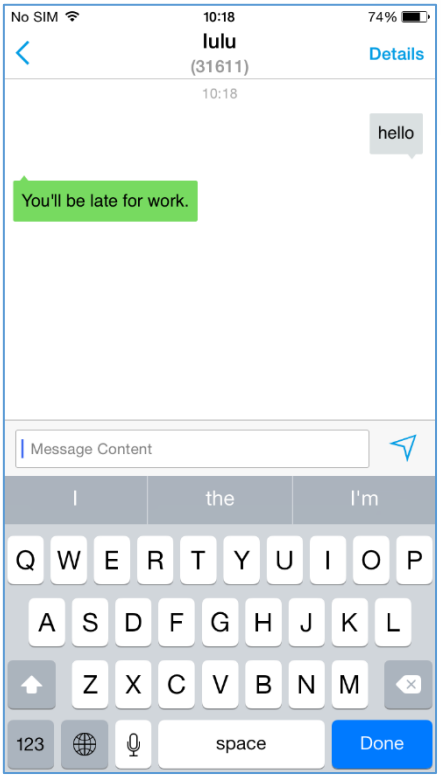


Figure 34: Grandstream Wave Message Details Screen

Create New Message

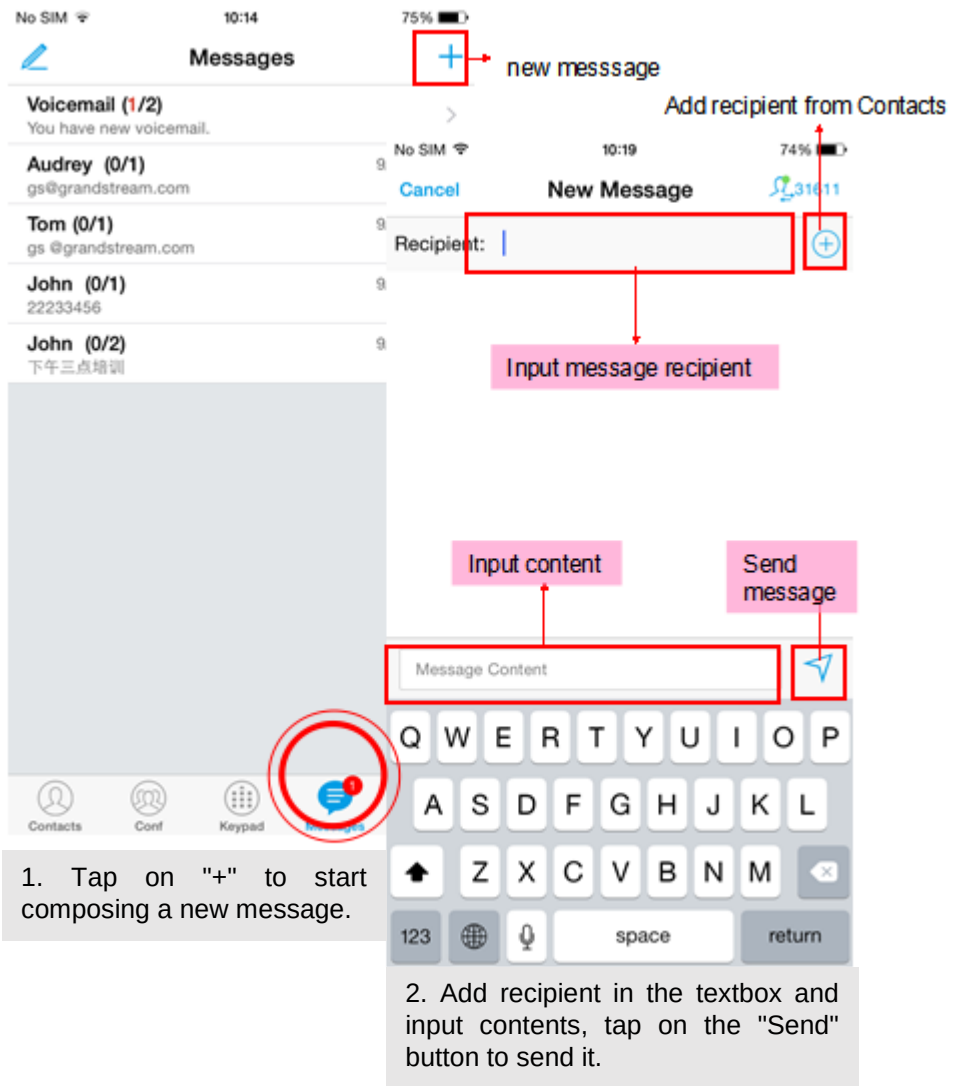


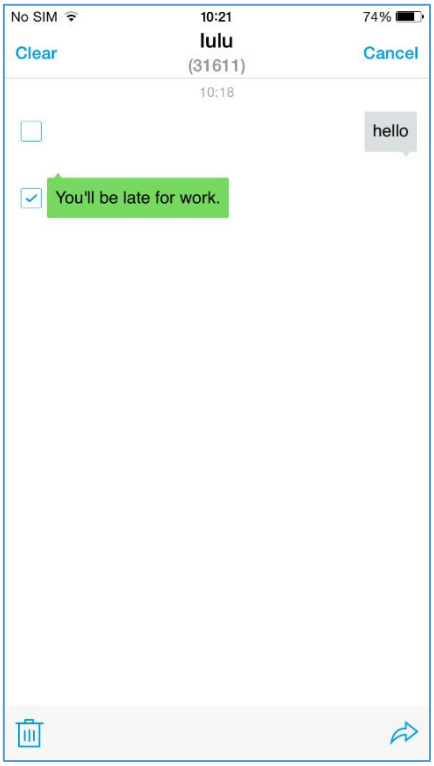
Figure 35: Grandstream Wave Create New Message

Tap on the right of the input box to add one contact or more from Grandstream Wave Contacts, or input the contact phone number or name in the input box to find the corresponding contact.

If the sent or received message is phone number or Email address, you can tap on the number to dial out directly or tap on the Email address to send an email.

Edit Message

You can tap on the upper left corner to delete all messages from different recipients. To delete message content of one certain recipient, long press one message content, select "Copy" to copy this content, or select "more" to access editing screen, check more contents to batch delete or forward.



- Forward the selected message.
- Delete the selected message.

Figure 36: Grandstream Wave Message Screen - Edit Message

SETTINGS

For the first time using Grandstream Wave, go to the **Settings** screen to complete the basic settings, including **Account Settings**, **Advanced Settings**, **Custom Settings**, **About Version**, **Debug**, etc.

Account Settings

Grandstream Wave supports up to 6 independent SIP accounts and 6 lines. Users can make calls after registering the account to the SIP server. Tap on button + at the upper right corner of the **Account Settings** screen to add accounts. Users could add account via **Generic Accounts** or **VOIP Providers**.
To add generic account, tapping on "**UCM Account (Scan QR Code)**" or "**UCM Account (Select QR Code Image)** ", or tap on "**SIP Account**" to add account, as shown on figure below.
The way to add VoIP Providers accounts is the same as add generic accounts, just select the providers in the list below and input required information.

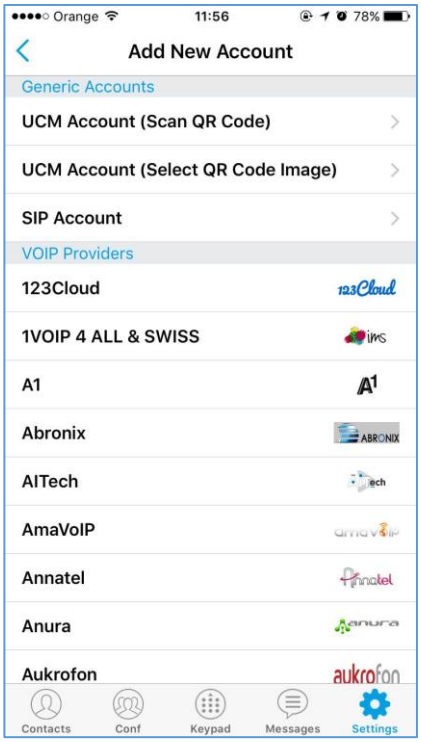


Figure 37: Add New Account Screen

UCM Account (Scan QR Code)

To add account by QR code scan, please follow the steps below as shown in figure 38.

1. Tap on "**UCM Account (Scan QR Code)** " to access the scan screen;
2. Scan the QR code containing configuration info sent from the UCM server to the mailbox;
3. Choose whether to overwrite account or add new account, and then the account will be added to the list.

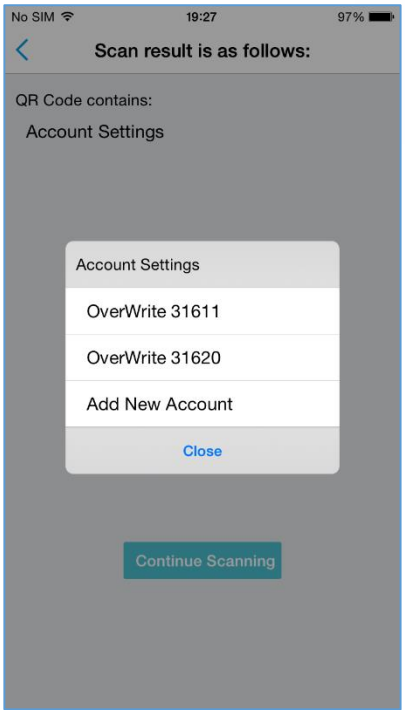


Figure 38: QR Code Scan Screen

Note: Users could add up to 6 accounts, if already reached the limit, you can select overwrite account only.

UCM Account (Select QR Code Image)

Tap on "**UCM Account (Select QR Code Image)**" to access the images screen;

1. Select the QR code image containing configuration info;
2. Choose whether to overwrite account or add account, and then the account will be added to the list.

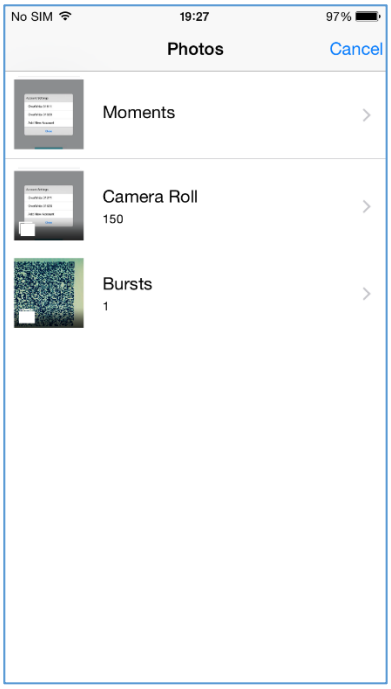


Figure 39: Scan QR Code Image Screen

Note: Users could add up to 6 accounts, if already reached the limit, you can select overwrite account only.

SIP Account

Follow the steps below to add account manually:

1. Tap on "**SIP Account**" to access the **Add New Account** screen, fill in account details and the SIP server address (provided by the service provider);
2. Tap ✓ on the upper right corner to save the configuration and go back to the account settings screen;
3. The following figure shows the accounts are successfully registered, and the account icon is in green ●. If the account icon is in red ●, it means the registration failed. Users could also slide left to delete this account as shown on the screenshots below:

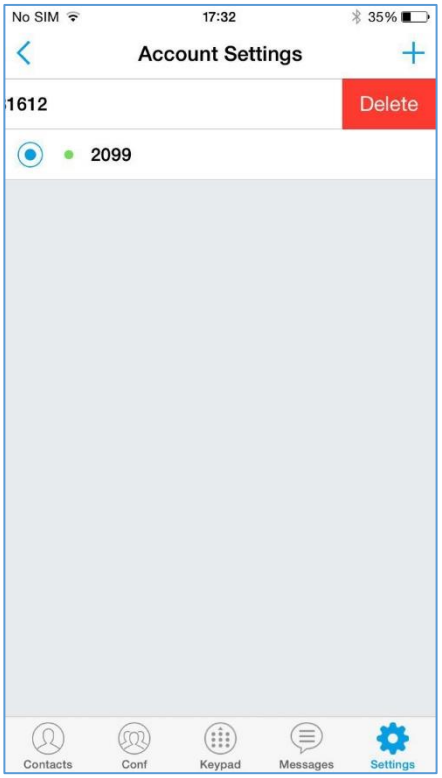


Figure 40: Account Settings Screen - Registration Success

Table 3: Edit Account Parameters

Account Name	Defines the name associated to the account to be displayed on the LCD.
SIP Server	Defines the domain name or IP address of your SIP server, provided by your VoIP service provider (ITSP). Note: THE GSWave support IPv4 and IPv6 for this field
SIP User ID	Configures the user account information, provided by your VoIP service provider (ITSP). It's usually in the form of digits similar to phone number or the same as the phone number.
SIP Authentication ID	Configures the SIP service subscriber's Authenticate ID used for authentication. It can be identical to or different from the SIP User ID.

Password	Defines the account password required for Grandstream Wave to authenticate with the ITSP (SIP) server before the account can be registered.
VoiceMail UserID	Configure the voicemail user ID to retrieve voicemail by pressing LISTEN button on the message screen. This user ID is usually the VM portal access number. For example, the UCM server voicemail access number is *97.
Display Name	Configures the name to display on LCD when calling, it needs SIP server to support it if this function is enabled.

After configuring the account, users could tap on the existing account for more settings, such as **General Settings**, **Call Settings**, **SIP Settings, Network Settings** and **Codec Settings**.

Table 4: Account Settings - General Settings Parameters

Activate Account	Activate / deactivate the SIP account.
Edit Account	Edits the accounts settings and parameters.
Delete Account	Deletes the current account.

Table 5: Account Settings - Call Settings Parameters

Ringtone	Defines the ringtones played when receiving an incoming call.
DialPlan Settings	Configures to either enable or disable the dial plan.
DialPlan Prefix	Configures the prefix to be added to each dialed number. All numbers use this account will automatically add the prefix. For example, if the prefix is 5, the phone number is 337, thus the dialing number is 5337.
DialPlan Settings	Configures the allowed dial plan for the phone. Default setting is "{ x+ | \+x+ | *x+ | *xx*x+ }". Dial Plan Rules: 1. Accepted Digits: 1,2,3,4,5,6,7,8,9,0 , *, #, A,a,B,b,C,c,D,d; 2. Grammar: **x** – any digit from 0-9 **X** – digits from 0-9, and letters from a-z, A-Z. **a) xx+** - at least 2 digit numbers **b) xx** - only 2 digit numbers **c) ^** - exclude **d) [3-5]** - any digit of 3, 4, or 5 **e) [147]** - any digit of 1, 4, or 7 **f)** - replace digit 2 with 011 when dialing **g)** | - the OR operand **h)** {X123} - match Z123, e123, 5123, … **i)** Back slash "\" Character can be used to escape specific letters. e.g. if { \p\a\r\k\+60 } dial plan is configured, park+60 should be able to pass dial plan check. This also can be used to escape Mark and User unreserved characters. **Mark** = "-" / "_" / "." / "!" / "~" / "*" / "'" / "(" / ")"

	User-unreserved = "&" / "=" / "+" / "$" / "," / ";" / "?" / "/
Use # as Dial Key	Configures the "#" key as the "Send" key. If enable, press the "#" key to dial the numbers out immediately; If set to disable, the "#" key will be included in the dialing string.
Call Forward	Tap to access Call Forward Settings screen.
Call Forward Settings	It is used to specify the Call Forward Type from 4 modes: Unconditional, Time Based, Others (Forward When busy and No Answer Forward).
Auto Answer	It is used to configure auto answer mode. If set to "Yes", the phone will automatically turn on the speaker phone to answer incoming calls after a short reminding beep. If set to "Enable Intercom/Paging", it will answer the call based on the SIP info header sent from the server/proxy. Default setting is No.

Table 6: Account Settings - SIP Settings Parameters

SIP Port	It is used to define the local SIP port used to listen and transmit. If enabled Random Port option on Advanced Settings screen, this option will be unavailable.
Transmission Protocol	It is used to configure the transmission protocol to transmit SIP info. Users could choose TCP/UDP/ TLS. The default is "UDP".
Registration Expiration (m)	Specifies the frequency (in minutes) in which the phone refreshes its registration with the specified registrar. The minimum value is 1 minute while the maximum is 64800 minutes (about 45 days).The default value is 60 minutes (1 hour).
Unregister Before New Registration	If set to "Register All", the SIP contact header will use "*" to clear all SIP user's registration information. If set to "Do Not Register", the phone will not clear the current SIP user's info. The default is "Unregister Single", that means do not cancel the SIP user's registration information.
Only Accept SIP Requests from Known Servers	Once enabled, only accept SIP request sent from known servers, the default setting is "Disable".
Check SIP User ID for Incoming Invite	Checks SIP User ID in the Request URI of incoming INVITE; if it doesn't match the base SIP User ID, the call will be rejected. Direct IP calling will also be disabled. Default is No.

Table 7: Account Settings - Network Settings Parameters

Outbound Proxy	Configures the IP address or Domain name of the Primary Outbound Proxy, Media Gateway, or Session Border Controller.
Secondary Outbound Proxy	Configures the IP address or Domain name of the Secondary Outbound Proxy, Media Gateway, or Session Border Controller. Secondary outbound proxy will be used when the primary outbound proxy fails.
DNS Mode	Controls how the search appliance looks up IP addresses for hostnames. There are three modes: A Record, SRV, NAPTR/SRV. The default setting is "A Record". If the user wishes to locate the server by DNS SRV, the user may select "SRV" or "NATPTR/SRV".

NAT Traversal	Enables or disables the NAT traversal mechanism. The default setting is "Keep-alive". • If set to "STUN" and STUN server is configured, the phone will route according to the STUN server; If NAT type is Full Cone, Address-Restricted Cone or Port-Restricted Cone, the phone will try to use public IP addresses and port number in all the SIP&SDP messages. • The phone will send empty SDP packet to the SIP server periodically to keep the NAT port open if it is configured to be "Keep-alive". • Configure this to be "NAT NO" if an outbound proxy is used. • Configure this to be "UPnP" if the router supports UPnP. • If set to "Auto", the phone will try to use all traversal methods mentioned above until find the available one.
Proxy-Require	A SIP Extension to notify the SIP server that the phone is behind a NAT/Firewall. Do not configure this parameter unless this feature is supported on the SIP server.

Table 8:Account Settings - Codec Settings Parameters

DTMF	Users can choose different ringtones. Specifies the mechanism to transmit DTMF digits. There are 3 supported modes: • **In audio:** which means DTMF is combined in the audio signal (not very reliable with low-bit-rate codecs); • **RTP (RFC2833):** allows to specify DTMF with RTP packet. Users could know the packet is DTMF in the RTP header as well as the type of DTMF; • **SIP INFO:** uses SIP INFO to carry DTMF. The defect of this mode is that it's easily to cause desynchronized of DTMF and media packet for the reason the SIP and RTP are transmitted respectively. Default settings is via “RFC2833”.
Preferred Vocoder	Selects which codecs will be used on Wi-Fi, 2G, 3G and 4G Multiple vocoder types are supported on the phone (PCMU, PCMA, OPUS, G722, G726_32, iLBC, G729 and GSM). The vocoders in the list is a higher preference. Users can configure vocoders in a preference list that is included with the same preference order in SDP message.
H.264 Image Size	Configures different image size (720P, VGA, CIF, QVGA and QCIF) in different network environment. For Wi-Fi network, the default setting is VGA; For 2G/3G/4G mobile network, the default setting is QVGA.
Video Bit Rate	Configures different video bite rate in different network environment. It is recommended to increase the bit rate if the bandwidth is sufficient, and the video quality will be reduced if the bandwidth is not enough. For Wi-Fi network, the default setting is 512kbps; For 2G/3G/4G network, the default setting is 192kbps.
H.264 Payload Type	Configures the H.264 codec payload type. The valid range is from 96 to 127. The default value is 99.

SRTP Mode	Configures the SRTP Mode, when set to "Enable and Force" it will enable and force to use SRTP and when set to: "Enable but Not Force", it will enable but not force to use SRTP. The default setting is "Disable".

Advanced Settings

Advanced Settings include **General Settings**, **Call Settings**, **Network Settings** and **Additional Settings**.

General Settings

Table 9: Advanced Settings - General Settings Parameters

Random Port	Forces random generation of both the local SIP and RTP ports when set to "Yes". This is usually necessary when multiple phones are behind the same full cone NAT. The default setting is "Yes".
STUN Server Settings	Configures the IP address or domain name of STUN server. Only non-symmetric NAT routers work with STUN.

Call Settings

Call Settings is mainly used for DND settings. When DND is on, the phone will reject calls automatically and you will see the top screen becomes red. Tap on "DND Settings" to configure as shown on the figures below:

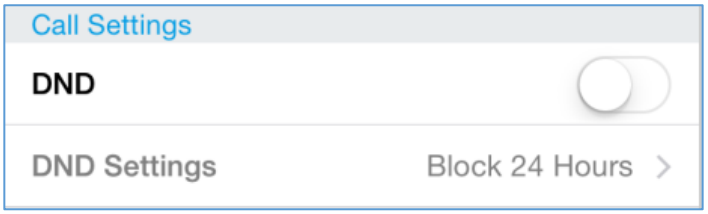


Figure 41: Call Settings Screen

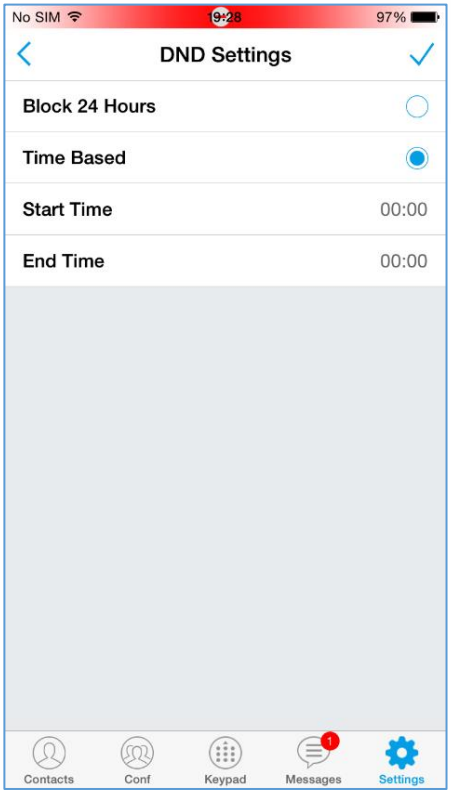


Figure 42: DND Settings Screen

Note:

- When Grandstream Wave is in an active call, turning on/off DND will not affect the current active call. It will take effect on the next incoming call.
- When the DND is on, users could view all the incoming calls in missed call history.

Network Settings

Grandstream Wave supports data communication via **2G/3G/4G** and **WiFi**, you can also configure QoS settings.

Table 10: Advanced Settings - Network Settings Parameters

WiFi Only	In the WiFi environment, only register account with this specified connected WiFi.
QoS Settings	Configures layer 3 SIP QoS and layer 3 audio QoS. The valid range is 0-63. The default setting is 48.

Note: When the phone is connected to a network environment with IPv4 and IPv6 addressing mode, by default the preferred protocol used is IPv4 to avoid registration issues to the SIP Servers, and to have communications for both SIP signaling and media through IPv4.

Additional Settings

Table 11: Advanced Settings - Additional Settings Parameters

GDS Settings	**GDS Name**	Specifies the name to identify the GDS3710. **Note**: The GS Wave support up 10 GDS items.
	GDS Number	Specifies the GDS number which is the SIP user ID configured on GDS3710.
	GDS Password	Determines the GDS password which should match the one configured on "Remote PIN to Open the Door" field on GDS3710 settings. For more details about the GDS settings please refer to Connecting GS Wave to GDS Door System.
LDAP Settings	Tap to access the LDAP Settings screen to set up features. Users could set by QR Code Scan, Select QR Code Image or Manual Settings. • Tap on "Scan QR Code" to access QR code scan screen, scan the QR code which contains LDAP information sent by the UCM server to configure LDAP settings. • Tap on "Select QR Code Image" to access screen with QR code image, select the image which contains LDAP information to configure LDAP settings. • Tap on "Manual Settings" to access screen as shown in Figure 43. (Please refer to Table 12 for the description of the manual settings)	
BLF	Configures whether to enable contacts status detection in BLF list. The status will be shown under SIP option of the Contacts.	
BLF List	Add the contacts to monitor its BLF status online in BLF list. The status will be shown in SIP option of the Contacts.	
Vibrate When Ringing	Configure to vibrate when ringing. It is only applicable to the incoming calls for the GS Wave. The phone settings priority is higher than this option. When disable vibrate mode on the phone, the phone will not vibrate when ringing even set this option to "Yes".	
Default Account Registration Notifications	Defines whether to enable default account registration notifications. Once enabled, when the default account changes, there will be a push notification on the notification bar.	

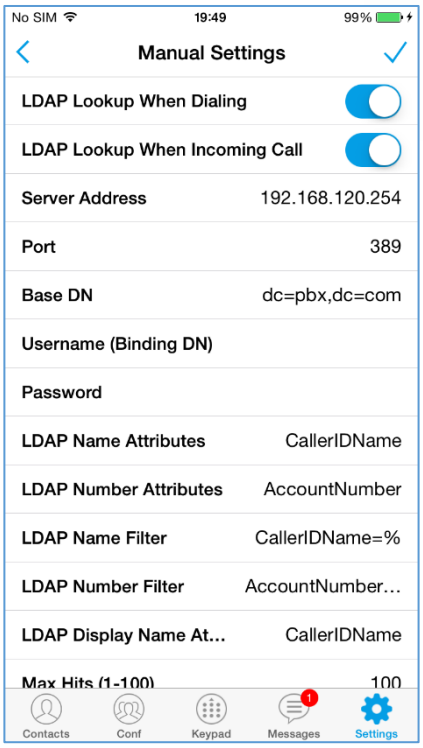


Figure 43: LDAP Settings Screen

Table 12: LDAP Settings Parameters

LDAP Lookup When Dialing	Defines whether to search LDAP when dialing. Default setting is "Yes".
LDAP Lookup When Incoming Call	Defines to search LDAP when there is an incoming call. The default setting is "Yes".
Server Address	Configures the LDAP server URL or IP address.
Port	Configures the LDAP server port. The default value is 389.
Base DN	Configures the base DN which is the root directory of the LDAP server, it means under which directory to search contact.
Username (Binding DN)	Specifies the username to access the LDAP server.
Password	Fill in the password to access the LDAP server.
LADP Name Attributes	Specifies the "name" attributes of each record which are returned in the LDAP search result. Example: gn cn sn description
LADP Number Attributes	Specifies the "number" attributes of each record which are returned in the LDAP search result.

	Example: telephoneNumber telephoneNumber Mobile
LDAP Name Filter	Configures the filter used for name lookups. Examples: (|(cn=%)(sn=%)) returns all records which has the "cn" or "sn" field containing with the entered filter value; (!(sn=%)) returns all the records which do not have the "sn" field containing with the entered filter value; (&(cn=%) (telephoneNumber=*)) returns all the records with the "cn" field containing with the entered filter value and "telephoneNumber" field set.
LDAP Number Filter	Configures the filter used for number lookups. Examples: (|(telephoneNumber=%)(Mobile=%) returns all records which has the "telephoneNumber" or "Mobile" field starting with the entered filter value; (&(telephoneNumber=%) (cn=*)) returns all the records with the "telephoneNumber" field starting with the entered filter value and "cn" field set.
LDAP Display Name Attributes	Configures the entry information to be shown on phone's LCD. Up to 3 fields can be displayed. Example: %cn %sn %telephoneNumber
Max Hits (1-100)	The maximum contacts results return to the LDAP server. If set to "1", The server will return all query results. The default setting is 100.
Search Timeout (s)	Specifies the interval (in seconds) for the server to process the request and client waits for server to return. The default setting is 10 seconds.
Connection Security Type	Configures LDAP connection security mode, users could choose None or SSL.

Offline. Unable to detect the contact status, or the contact's registration is failed.

Busy. The active line of the contact is busy.

Online. The call line is in idle.

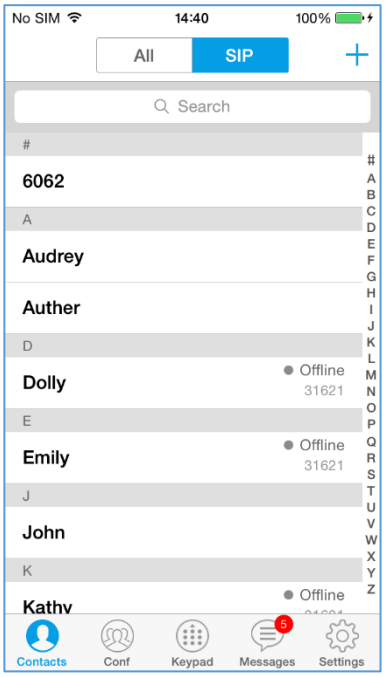


Figure 44 Online Status Interface

Note: The BLF function requires that the server supports BLF feature.

Custom Settings

Users could configure Color and Languages on Custom Settings screen.

Table 13: Custom Settings Parameters

Color	Configures the color of icon, tab bar, navigation bar, send & receive message backgrounds.
Languages	Selects the language on the application to be displayed.

About Version

About version page displays the version of the application running as shown on the following screenshot and also allows users to access the Grandstream Privacy Statement web page when clicking on “Privacy agreement”.

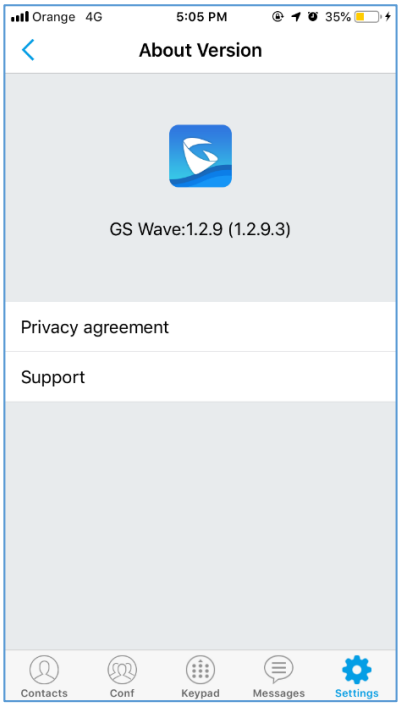


Figure 45: About Version

Debug

Users could trace SIP message with Debug function when coming across software problems.

Table 14: Debug Settings Parameters

SIP Message Trace	Save the SIP message trace for on the phone for troubleshooting purpose.
SIP Message Retention Period	Configures the retention period of the SIP message trace on the phone.

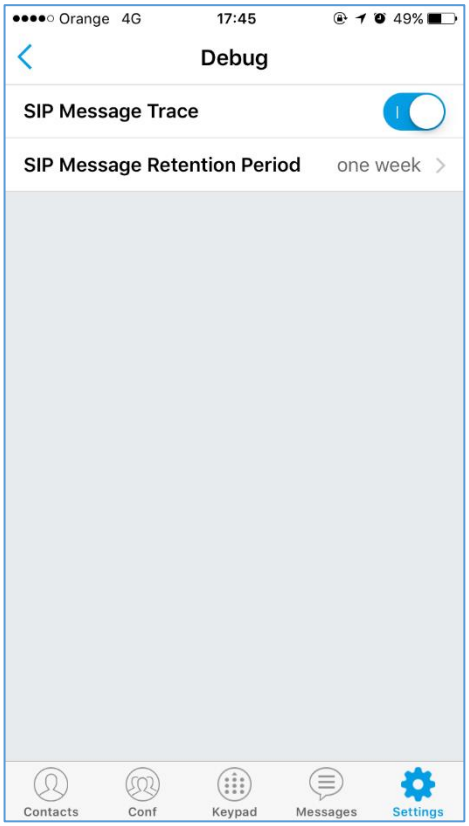


Figure 46: Debug

CONNECTING GS WAVE WITH GDS3710 DOOR SYSTEM

The GS Wave app on Apple IOS™ can interact with the GDS3710 Door System to allow users to open door, initiate call to the GDS3710 and get a real-time audio / video stream.

For more details about GDS3710, please refer to GDS3710 Web page.

The following steps illustrate how to configure GDS settings on the GS Wave assuming that GS Wave and GDS SIP extension are correctly registered.

1. Configure your SIP extension on the GS Wave using the same SIP server on which the GDS extension is registered.
2. Access Settings -> Advanced Settings -> Additional Settings -> GDS Settings.
3. Click on "Add New Item" and configure your GDS settings:
   - **GDS Name:** Specifies the name to identify the GDS3710.
   - **GDS Number:** Specifies the SIP extension number of the GDS3710
   - **GDS Password:** Configure the remote PIN code used on the GDS, it's available under GDS3710 web GUI -> Door System Settings -> Basic Settings -> Remote PIN to open the door.
4. Press on ✓ to save the new GDS settings and add the new item as displayed below.

Note: The GS Wave supports up 10 GDS3710 door systems.

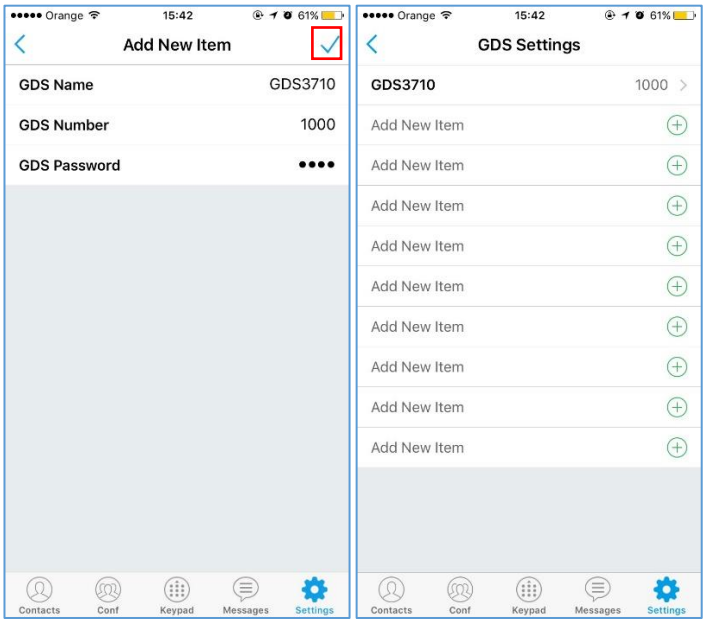


Figure 47: Configuring GDS3710 Settings on GS Wave

5. Access to GDS3710 Web GUI to configure the number called when the doorbell button is pressed under System Settings -> Basic settings -> "Number Called When Door Bell Pressed" as displayed on the following screenshot, and configure the remote PIN code if available.

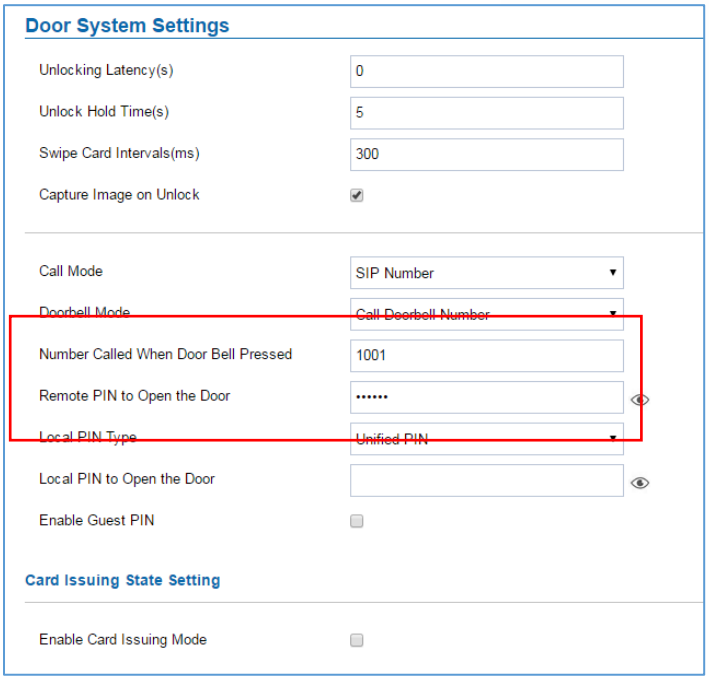


Figure 48: GDS3710 Settings

6. Save and apply the new settings and then when someone presses the doorbell button on the GDS3710, it will initiate a video call to GS Wave extension, The GSwave Application will show a preview stream from the GDS3710 Camera while ringing. At this stage users could press the "**OpenDoor**" button without answering the call to open the door

Figure 49: "OpenDoor" Button on Preview

7. Once accepting the incoming call, the users can open the door by pressing "**OpenDoor**" button as displayed on the following screenshots.

Figure 50: Open Door Button After Call Answering

For more details about connecting GS Wave with GDS3710, please refer to the following guide: http://www.grandstream.com/sites/default/files/Resources/Connecting_GDS3710_with_GS_Wave_iOS_Guide.pdf

EXPERIENCING GS WAVE

Please visit our Website: http://www.grandstream.com to receive the most up- to-date updates on firmware releases, additional features, FAQs, documentation and news on new products.

We encourage you to browse our product related documentation, FAQs and User and Developer Forum for answers to your general questions. If you have purchased our products through a Grandstream Certified Partner or Reseller, please contact them directly for immediate support.

Our technical support staff is trained and ready to answer all of your questions. Contact a technical support member or submit a trouble ticket online to receive in-depth support.

Thank you again for using Grandstream Wave application, it will be sure to bring convenience to both your business and personal life.