

Using Linphone with Comrex STAC VIP

Introduction

Linphone is a free SIP calling app available for iPhone, Android, and other platforms.

Comrex STAC VIP is a multi-line talk show system that can

- 1) Take pure Internet (SIP) calls from the outside world
- 2) Process calls that use wideband (HD Voice) codecs like **Opus**

Linphone supports the **Opus** codec, and is a great way to connect to the STAC VIP from smartphones.

Opus is supported in STAC VIP **1.1p4** firmware and higher.

Setting up the STAC VIP

In order to take calls from Linphone, you must register STAC VIP with an Internet telephony provider that will support taking SIP calls from the Internet. Our favorite choice is **onsip.com**, as they will accept calls from user's whose phones are "**unregistered**". In this way, you don't need to enter any special SIP registration data into your phone. Many other providers will require that Linphone be registered to the same provider as STAC VIP (and most will provide a free SIP account for that purpose). Linphone registration is left to the reader—our example will use **onsip** with Linphone in "**unregistered**" mode.

First, you will create a new account at **Onsip.com**.

Let's get started

Register with your work email

Registration form for onsip.com. It includes a text input field for email (info@comrex.com), a text input field for password (Create A Password), a blue button labeled 'NEXT >', and two social login options: 'SIGN UP WITH GOOGLE' and 'SIGN UP WITH SLACK'.

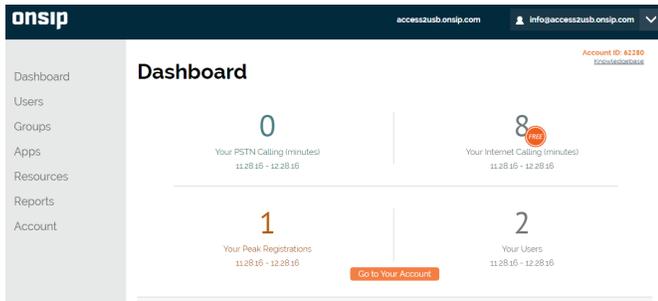
An email will be sent to you to activate your account. Once activated, a confirmation email will be sent. This will include a link to login to your account.

<https://admin.onsip.com/>

Login form for onsip.com. It includes a text input field for SIP address (info@access2usb.onsip.com), a text input field for password (masked with dots), a blue button labeled 'LOG IN', and two social login options: 'Sign in with Google' and 'Sign in with Slack'. There is also a link for 'forgot password'.

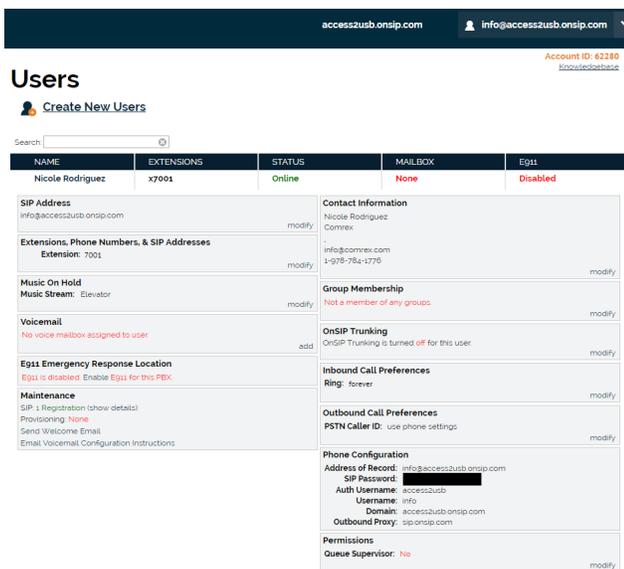
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Once logged in, you will be directed to a dashboard.

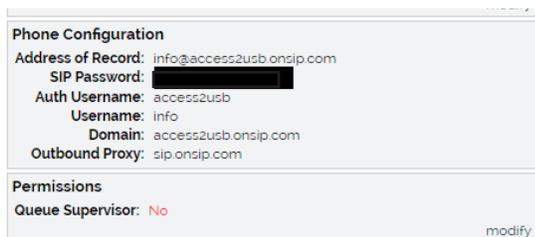


Click on **Users** in the menu to the left.

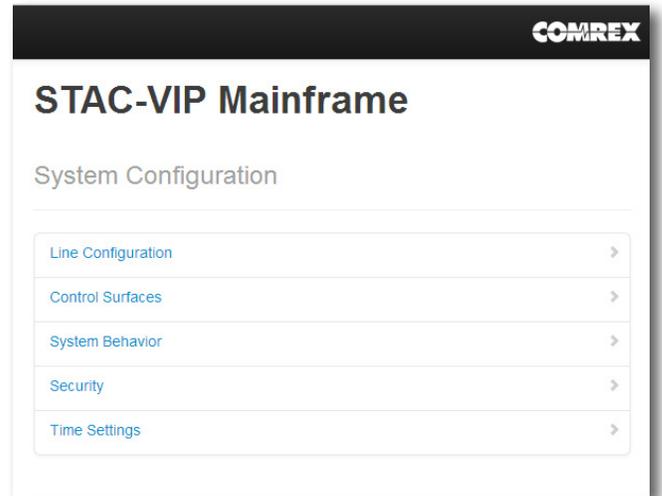
Select the username in the list to display user information below.



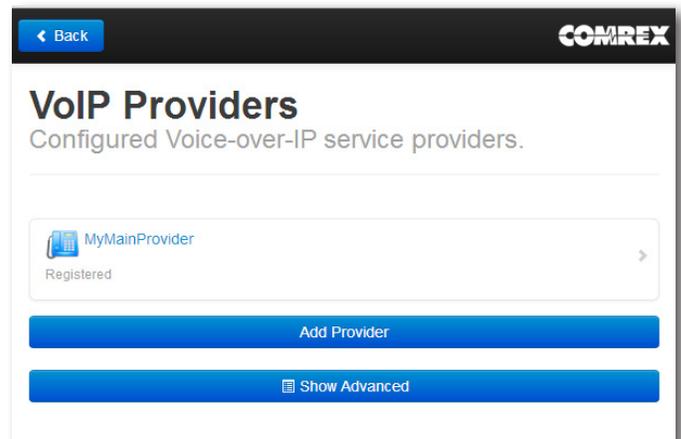
Copy the credentials under **Phone Configuration** and save it somewhere. This information is needed to configure your Comrex codec.



Now, log in to the web interface of your STAC VIP configuration page (as described in the manual).



Navigate to the provider config page by selecting **Line Configuration->VoIP Providers**



Choose **Add Provider->SIP Provider** to create a new provider entry.

Make sure the following entries are set correctly:

- 1) **Name**-> *LinphoneIncoming* (or any name you like)
- 2) **Outgoing Enabled** (your choice, Linphone will be primarily incoming)
- 3) **Color Code**-> (your choice, chooses banner color on caller interface page)
- 4) **SIP Provider**-> *OnSIP*
- 5) **Account Username** -> *Username* (from credentials)
- 6) **Account Password**-> *SIP Password* (from credentials, long string of characters)
- 7) **SIP Proxy Address**-> *Outbound Proxy* (from credentials)
- 8) **SIP Domain**-> *Domain* (from credentials)
- 9) **Auth Username**-> *Auth Username* (from credentials)
- 10) **Proxy/Domain**-> (Domain from credentials)

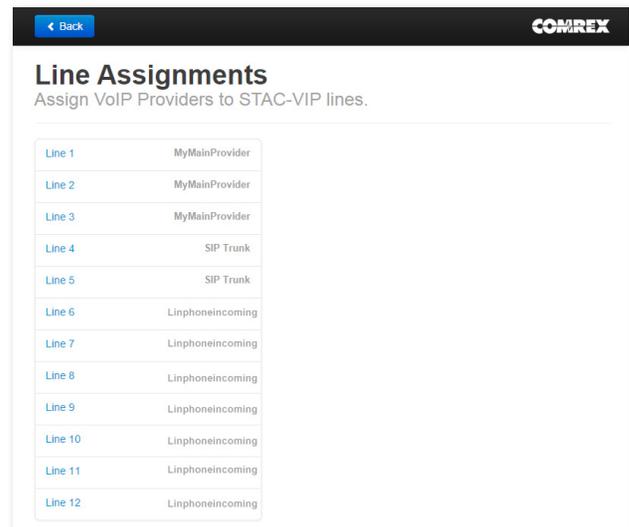
If all these parameters are correct, Choose “**Restart System**”. Once the system returns (about 10 seconds), check SIP Registration status as shown:



If any error messages appear here, carefully check the credentials as they were input. Also, be sure **UDP Port 5060** is not blocked for outgoing data.

Now you must assign this provider to one or more unused lines, so calls can be received. This is done by backing out to the main configuration menu and selecting **Line Configuration**-> *Line Assignments*.

As shown in the example, the first three lines have been assigned to the “*Main Provider*” the next two have been assigned to a “*SIP Trunk*”, and the last seven have been assigned to **onsip** (to take calls from Linphone). You may use as many lines as you like for Linphone, **onsip** will forward multiple calls to your STAC VIP on a single account.

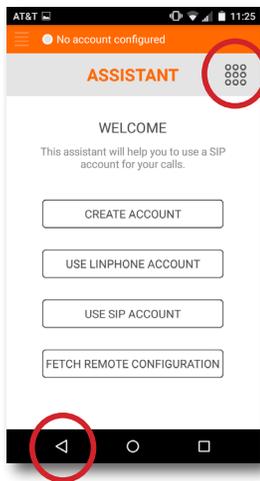


Linphone for Android

- 1) Download and install Linphone from the Play Store
- 2) Open Linphone
- 3) You will see the main welcome screen with a warning on top **"No account configured"**

Ignore this, since an account is not needed to connect to an IP address.

- 4) Press the top right dial menu or the back button at the bottom of the screen.



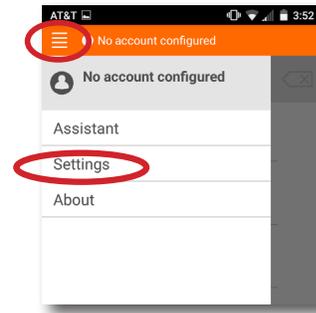
Special Note: Depending on your Android firmware, LinPhone may ask for additional permissions once you reach the dialing screen. You can deny the following permission requests:

Access to your contacts

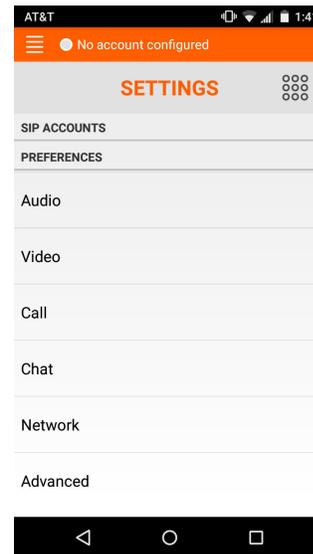
Make and manage phone calls

Access photos, media, and files on your device

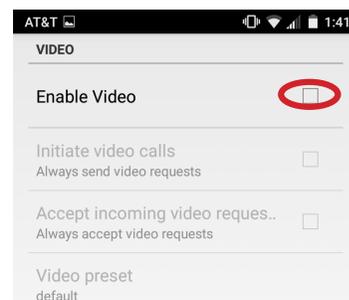
- 5) Select the top left options menu and select **Settings**.



This Settings menu will appear.



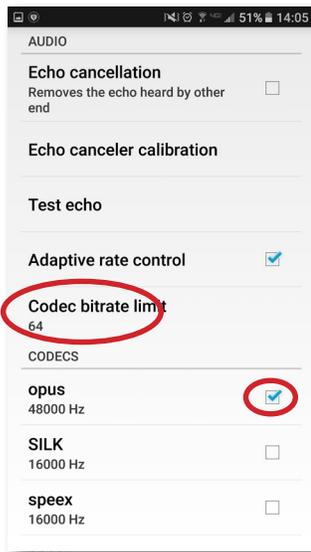
- 6) Select **Video** and deselect **Enable Video**



Press “**Back**”

Choose the **Audio** option

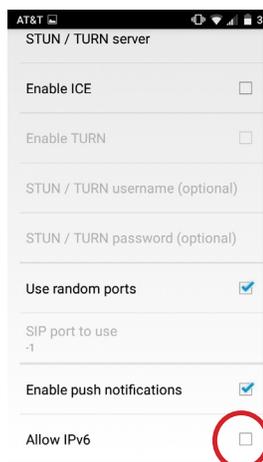
7) Deselect every codec option except **Opus** and then select **Codec bitrate limit**



Change to **64kbps**

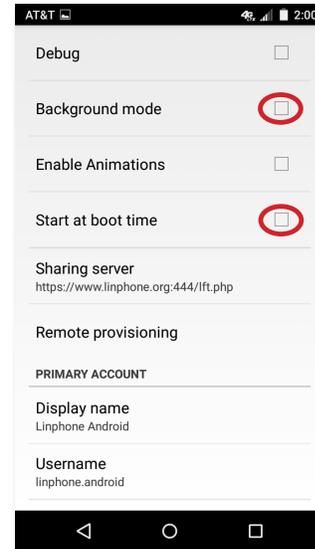
Press “**Back**”

8) Choose **Network** and deselect **Allow IPv6**



Press “**Back**”

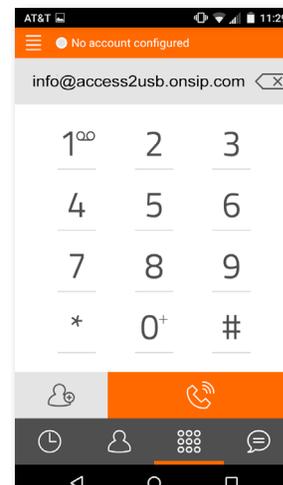
9) Choose **Advanced** and deselect **Background mode** and **Start at boot time**



Press “**Back**” twice to return to the dialing screen

10) Tap the area of the dialing screen that says “**Enter a number or an address**”

This will open the keyboard



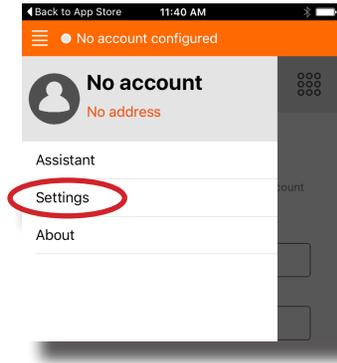
11) Enter the address of record of your SIP account like this:

info@access2usb.onsip.com

You may also store this as a contact and dial from your contact list

12) Press the “**phone**” icon to make a call

Special Note: Depending on your Android firmware, LinPhone may ask for permission to record audio. You MUST select allow or it will not transmit audio.



5) Under the Settings menu, turn **Enable video** to **OFF** then choose **Audio**

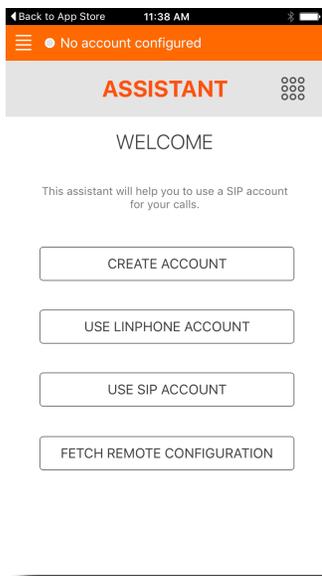
Linphone for iPhone

1) Download and install Linphone from the App Store

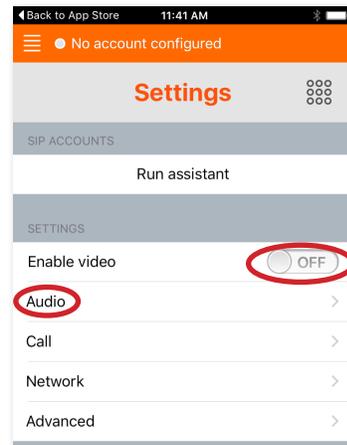
2) Open Linphone.

3) You will see the main welcome screen with a warning on top “**No account configured**”

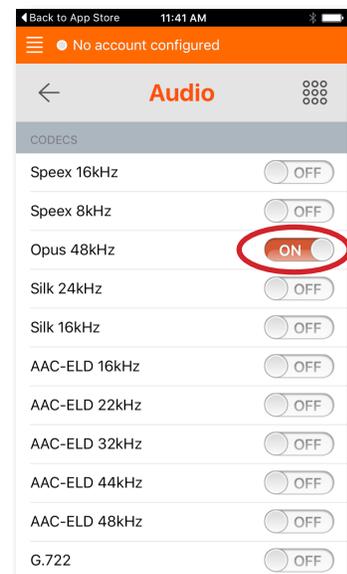
Ignore this



4) Press the top left menu to open the options menu and select **Settings**.



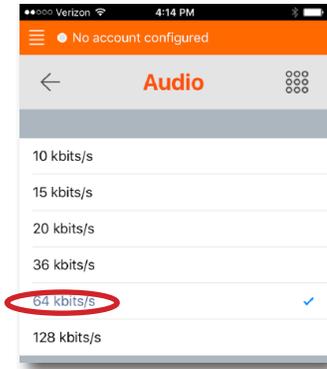
6) Deselect every codec option except **Opus**



Press “**Back**”

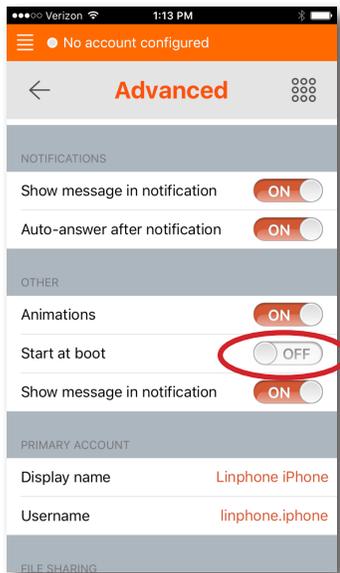
7) Scroll to the bottom of this list and choose **Codec bitrate limit**

Select **64 kb/s**

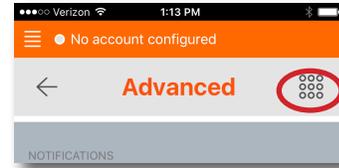


7) Press the **“Back”** arrow and then select **Advanced**

8) Change **Start at boot** to **OFF**

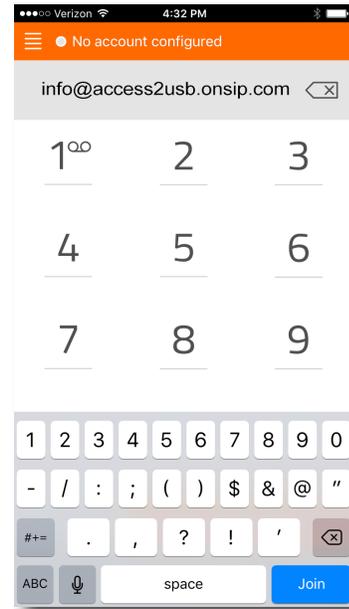


9) Go to the dialing screen by pressing the large dialpad icon in the top right



10) Tap the area of the dialing screen that says **“Enter a number or an address”**

This will open the keyboard



11) Enter the address of record of your SIP account like this:

info@access2usb.onsip.com

You may also store this as a contact and dial from your contact list

12) Press **“Join”** to make a call