



## **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	
info@comrex.com	
Create A Password	
NEXT >	
G SIGN UP WITH GOOGLE	

onsip

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/

onsip		
SIP ADDRESS		
info@access2usb onsip.com		
PASSWORD		
or		
G Sign in with Google 🔅 Sign in with Slack		
forgot password LOG IN		
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onsip Dashboard Dashboard Users 0 Groups 8 Apps Your PSTN Calling (mini 112816 - 122816 Resources Reports 2 1 Account ur Peak Registratic 11.28.16 - 12.28.16 Your Users 11 28 16 - 12 28 16

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.

	······
Phone Configuration	on
Address of Record:	info@access2usb.onsip.com
SIP Password:	
Auth Username:	access2usb
Username:	info
Domain:	access2usb.onsip.com
Outbound Proxy:	sip.onsip.com
Permissions	
Queue Supervisor:	No
	modify

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

	COMREX
STAC-VIP Mainframe	
System Configuration	
Line Configuration	>
Control Surfaces	>
System Behavior	>
Security	>
Time Settings	>

Navigate to the provider config page by selecting

#### Line Configuration->VoIP Providers

< Back	COMREX
VoIP Providers Configured Voice-over-IP service providers.	
MyMainProvider Registered	>
Add Provider	
Show Advanced	

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





Make sure the following entries are set correctly:

- Name->LinphoneIncoming (or any name you like)
- 2) **Outgoing Enabled** (your choice, Linphone will be primarily incoming)
- 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:

< Back	COMREX
VoIP Providers Configured Voice-over-IP service prov	Restart System
MyMainProvider Registered	>
Registered	۶.
Add Provider	
Hide Advanced	

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 Providet*" 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.

	COMREX
Signments Providers to STAC-VIP lines	
MyMainProvider	
MyMainProvider	
MyMainProvider	
SIP Trunk	
SIP Trunk	
Linphoneincoming	
	Providers to STAC-VIP lines MyMainProvider MyMainProvider MyMainProvider SIP Trunk SIP Trunk Linphoneincoming Linphoneincoming Linphoneincoming Linphoneincoming Linphoneincoming Linphoneincoming Linphoneincoming





## Linphone for Android

- 1) Download and install Linphone from the Play Store
- 2) Open Linphone
- 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.

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



This Settings menu will appear.

AT&T	۹C count configured	)) 🐨 🍓 🗎 1:41
	SETTINGS	000
SIP ACCOUNTS		
PREFERENCES		
Audio		
Video		
Call		
Chat		
Network		
Advanced		
$\triangleleft$	0	

6) Select Video and deselect Enable Video





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



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#### Press "Back"

Choose the **Audio** option

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



#### Press "Back"

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



Press "**Back**" twice to return to the dialing screen

## Change to **64kbps**

Press "Back"

8) Choose Network and deselect Allow IPv6





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

This will open the keyboard

AT&T 🖿	🖬 🕕 🛡 🔽 📶 🗎 11:29		
No acco	No account configured		
info@acce	ss2usb.ons	sip.com 🔿	
1∞	2	3	
4	5	6	
7	8	9	
*	0+	#	
£	(	Ś	
<b>(</b> )	<u>දි</u>	: 🗩	
$\triangleleft$	0		

Toll Free in USA: 800-237-1776 • www.comrex.com e-mail: info@comrex.com 19 Pine Road, Devens, MA 01434 USA Tel: +1-978-784-1776 • Fax: +1-978-784-1717 **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.

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		JIO	пеп		TIONE
1					

- 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

Bac	k to App Store 11:38 AM  No account configured	* 💴
	ASSISTANT	
	WELCOME	
	This assistant will help you to use a SIP acco for your calls.	ount
	CREATE ACCOUNT	
	USE LINPHONE ACCOUNT	
	USE SIP ACCOUNT	
	FETCH REMOTE CONFIGURATION	4

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

		*
	No account No address	000
	Assistant	
<	Settings	count
	About	

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

Back to App Store	11:41 AM	*		
No account configured				
	Settings	000		
SIP ACCOUNTS				
	Run assistant			
SETTINGS				
Enable video		OFF		
Audio		>		
Call		>		
Network		>		
Advanced		>		

6) Deselect every codec option except Opus

Back to App Stor	e 11:41 AM	* 💷		
No account configured				
$\leftarrow$	Audio	000		
CODECS				
Speex 16kHz	<u>z</u>	OFF		
Speex 8kHz		OFF		
Opus 48kHz	(	ON		
Silk 24kHz		OFF		
Silk 16kHz		OFF		
AAC-ELD 16	kHz	OFF		
AAC-ELD 22	kHz	OFF		
AAC-ELD 32	kHz	OFF		
AAC-ELD 44	kHz	OFF		
AAC-ELD 48	kHz	OFF		
G.722		OFF		





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

Select 64 kb/s

●●●●● Verizon ବ 4:14 PM ※ 💷			
$\leftarrow$	Audio	000	
10 kbits/s			
15 kbits/s			
20 kbits/s			
36 kbits/s			
64 kbits/s		~	
128 kbits/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

