

How to use iaxrpt with Allstar on the hamvoip releases

This document has been expanded to include the Android iaxrpt version as well as the windows version. For the Android version instructions scroll down.

Windows iaxrpt Version

iaxrpt is a Windows based client that allows a full duplex voice connection to Allstar. It allows voice communications with your node and any node it is connected to as well as the ability to send commands. Setup is rather simple and in most cases it should only take a few minutes to complete.

You can download the program for windows or wine in linux at:

<http://www.xelatec.com/xipar/iaxrpt>

The Android app can be found at -

<https://play.google.com/store/apps/details?id=org.dvswitch&hl=en>

iaxrpt runs in all versions of Windows and also works well in wine under Linux. There is also an Android version available. Anyplace you can run (or could run) the web transceiver you can run iaxrpt. The difference is iaxrpt is a secure connect to a node under your control or to a node for which you have the iaxrpt password.

The iax config file (**/etc/asterisk/iax.conf**) in all versions of the hamvoip code already includes the required settings to enable iaxrpt. If you are using your own configs and you would like to set it up the required code is shown below. If you are using the example code then all you need to do is put a password in the [iaxrpt] stanza in the **/etc/asterisk/iax.conf** file. It is defined as 'secret=' followed by your password. The password is defined by you and would then also appear in your Windows iaxrpt account setup shown below.

The script automated setup routines for the hamvoip versions asks if you want to setup an iaxrpt password. We generally recommend you do that. You could use the same password as your login password. If you did not do that you can edit the file and insert a password on the 'secret =' line shown below. If you did already setup and iaxrpt password then you can skip down to the account setup for the iaxrpt program below.

The following is included in **/etc/asterisk/iax.conf** on all hamvoip images.

```
[iaxrpt]
username=iaxrpt
type=user
context=radio-iaxrpt
auth=md5
secret=xxxxxxx ; *** Important! Change this to your password!!!
host=dynamic
disallow=all
allow=ulaw
allow=gsm
transfer=no
```

And this code in /etc/asterisk/extensions.conf

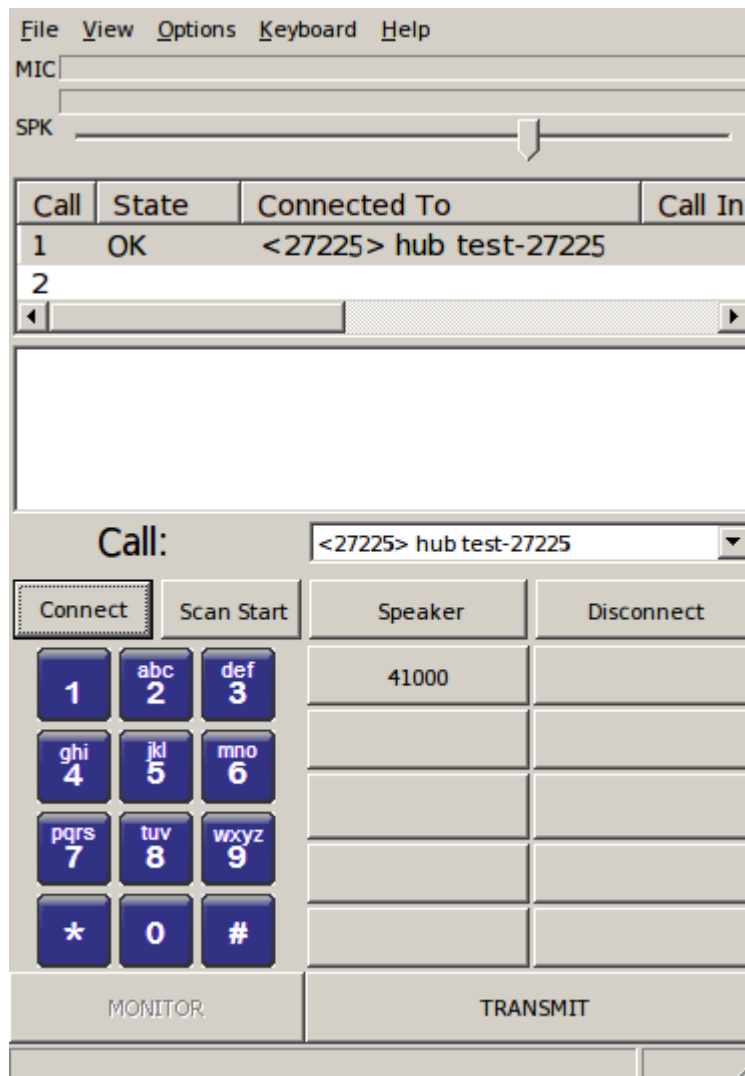
```
[radio-iaxrpt]
exten=40638,1,Rpt,40638|X
```

Change 40638 to your node number in BOTH places!

Again the hamvoip initial setup script does this for you and assigns the first (primary) node number here. You may add additional exten lines if you have more than one node on the server you want to connect to ia xrpt.

That completes the changes in the Allstar configs. In most cases all these changes will already be made when you setup your node. Now you need to setup an account in ia xrpt.

The ia xrpt application looks like this -



This shows the DTMF keys in the lower left. The example is currently in the connected state to the node shown. The OK shows in the upper screen. To the right of the DTMF pad are special function keys that can be defined. Ia xrpt allows many multiple connections to be opened simultaneously that you can switch between easily.

To setup account select the OPTIONS tab at the top.

Under the OPTIONS drop down select Accounts, then Add.

You will see the following account setup screen -

The screenshot shows a dialog box for adding a new account. The fields are as follows:

- Account Name: 27225
- Description: Philadelphia Allstar Hub
- Host: Host IP address or Domain Name
- Username: iaxrpt
- Password: *****
- Confirm: *****
- Type: Duplex (dropdown menu)
- One Touch Key List: 0 (spin box)
- Has Monitor:
- Mute On PTT:
- Exclude from Scan:
- Show Connections:
- Log to Display:
- Disable Keypad:
- Disable Functions:

Buttons: Save, Cancel

The Account name is the Allstar node number you want to connect to. It must be located on the server you are defining here.

Description – Optional, anything you want to describe this account.

Host - the local IP address of the server your node is on. If outside the network then this would be the domain name or public IP. Note that if the public IP is not static it could change. Also if you server is on a different iax port than the default 4569 you MUST specify the port in this field. The port is entered with a semicolon after the IP address - 192.168.1.10:4568

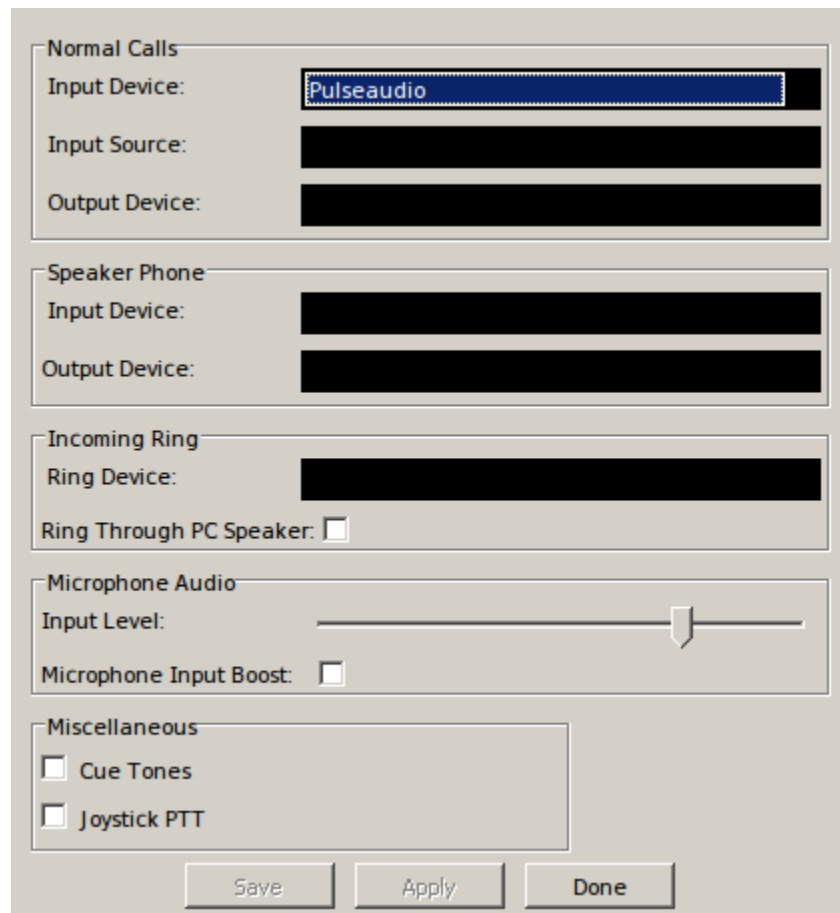
Username - iaxrpt

Password - same as the secret in iax.conf

Type – duplex

Save your settings and exit back to the opening window.

Now select OPTIONS then Devices. Here you will setup you audio settings.



The settings for the audio input and output device you will be using are set in the normal calls section at the top. The microphone slider adjust mic input level and if needed you can select the boost check box.

In the account pull-down to the right of Call: select the node you want to connect to and then click Connect. If all is well you should get and OK in the status line at the top.

Device values and levels will be different depending on the system you are using and system settings may effect this also. Once you have it set it should work equally for all accounts.

This completes the necessary setup steps. You can customize further if desired. To connect to a node select the one you want to connect to in the drop down window to the right of the Call: lable and select the connect box. If all goes well you should see OK in the status window. The DTMF buttons send commands to the node just like you were on a radio connected to it. You only need to select the transmit button to talk.

Some notes about iaxrpt

Be careful when using iaxrpt. You can easily leave the node in Transmit (PTT). There is a safety feature that if you click off of the iaxrpt window it will go out of transmit. This can be annoying if you are trying to look at other things on the screen.

Only one iaxrpt instance can be opened at a time under Windows but you can open multiple nodes in an instance..

Commands to your node are entered at the DTMF keyboard and are executed a few seconds after input stops. You must hit the characters in a reasonable time or it will timeout. There is no setting for the timeout period.

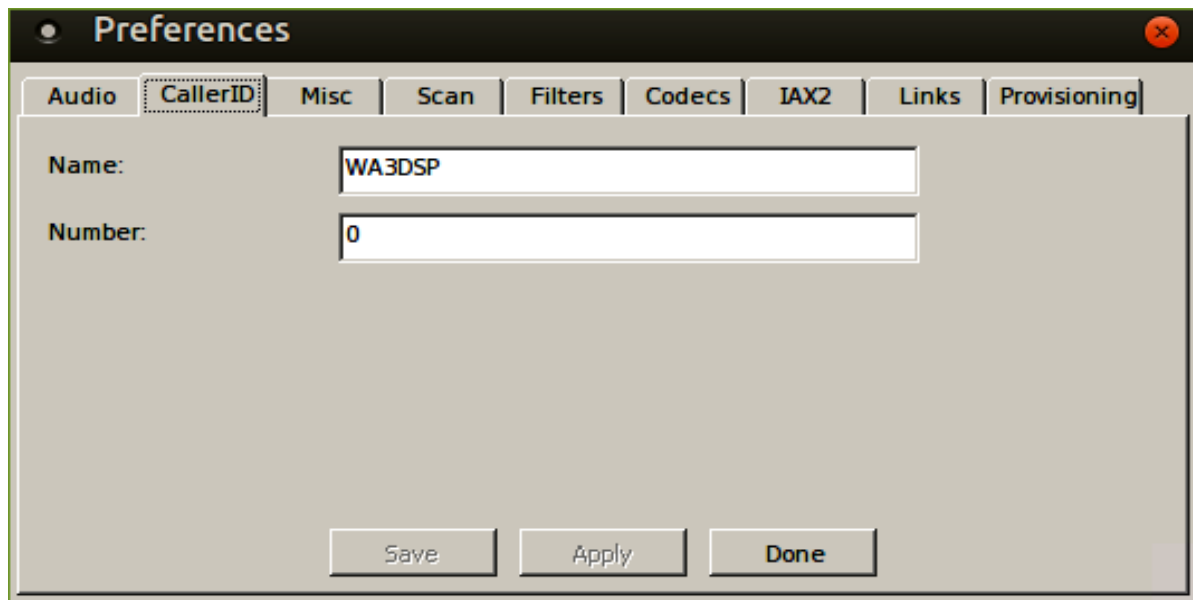
You must set your audio input and output device and levels under Options, Devices

iaxrpt is a nice way to monitor your nodes and allows transmit when you don't have a radio handy but it is much preferred to use a radio when available. It is also a good way to check and set levels as the level meter is accurate. Signals should never peak out to full scale. Try to set peaks to no more than about 95% of full scale.

IMPORTANT - If you have your servers iax port set to other than the default 4569 add the port number after the IP address or domain in the host entry block under accounts. If your IP address was 192.168.1.20 and your port was 4568 you would enter:

192.168.1.20:4568 or my.domain.com:4568

Using the Windows version of iaxrpt you can have multiple channels opened simultaneously. Under Options, Preferences, Misc The number of displayed calls can be increased. When you click on a call number on the display you can connect a node and monitor or scan through them. This is an often overlooked feature of iaxrpt.



Setting CallerID

Under Options/Preferences/CallerID users should put their call in the name field and a mandatory 0 (ZERO not 'o') in the number field. The zero is the default setting in most cases. This will ensure that Allstar recognizes the connection as being from iaxrpt and that your call or identifier is used when displaying connections such as in Supermon.

Android iaxrpt Version

The Android version of iaxrpt can be downloaded from the apps store on your phone or pad. Search for iaxrpt. Once installed you will need to setup your account in a similar way as the windows version but first you must install some code in the Asterisk config files. Here is the code to install in /etc/asterisk/iax.conf

```
[joe-bobs-account] ;; The stanza is the "Username" from IAXRpt
type=friend
context=android-iaxrpt
host=dynamic
auth=md5
secret=squirrelpower33 ;; The "Password" from IAXRpt
disallow=all
allow=ulaw
transfer=no
calltokenoptional=0.0.0.0/0.0.0.0
requirecalltoken=no
```

and in /etc/asterisk/extensions.conf

```
[android-iaxrpt] ;; Stanza is the context from iax.conf
exten => 1998,1,Answer ;; The "Node" from IAXRpt is 1998
exten => 1998,n,Playback,rpt/node
exten => 1998,n,Playback,digits/1
exten => 1998,n,Playback,digits/9
exten => 1998,n,Playback,digits/9
exten => 1998,n,Playback,digits/8
exten => 1998,n,Set(CALLERID(num)=0)
exten => 1998,n,Rpt,1998|P|${CALLERID(name)} ;; The "CallerID" from IAXRpt
```

Adding a 'v' to the last extension line will activate VOX for applications where that is desired. This can be used with a steering wheel mute button hands free in a vehicle. The line from the example above would look like this:

```
exten => 1998,n,Rpt,1998|Pv|${CALLERID(name)} ;; The "CallerID" from IAXRpt
```

It is best to cut and paste these stanzas for accuracy. Syntax must be correct!

You could have multiple exten => lines if you had multiple nodes on a server that you wished to connect to. Just copy the lines above and repeat them with the other node numbers. Defined nodes must be on this server.

The following page shows the accounts setup page on the Android iaxrpt app using the above example.

Change nodes, names and passwords to suit your application.

The screenshot shows the 'Android IAXRPT' application interface on an Android device. The status bar at the top indicates 38% battery and 10:47 PM. The form contains the following fields:

- Protocol:** A dropdown menu set to 'IAX2'.
- Hostname:** A text input field containing 'myipadress.url.com'.
- Port:** A text input field containing '4569'.
- Username:** A text input field containing 'joe-bobs-account'.
- Password:** A text input field with masked characters '.....'.
- CallerID:** A text input field containing 'KB4FXC'.
- Caller Number:** A text input field containing '1234567890'.
- Node:** A text input field containing '1998'.

At the bottom of the form are two buttons: 'Save' on the left and 'Cancel' on the right.

The CallerID is usually set to your Call for remote ID and the Caller Number should be set to 0. This was tested on a Samsung Android tablet. Not all android devices work the same.

This shows the accounts entry page. A prior page allowed you to select from 10 entries which start out empty. Selecting an entry opens this page. Enter the IP address or domain name of the host (Pi server) you wish to connect to. Then on the port line the assigned bindport for that server. The default iax port is 4569 but if you have multiple servers behind a public IP address you would probably have assigned different ports to each. Use the port associated with the server you wish to connect to.

Your username is assigned in the context shown above that is inserted in iax.conf. In this case it is joe-bobs-account. You can change this if you wish but the name entered here and on the accounts page must match. The password must match the secret= in the context. Enter a password in the iax.conf context and the matching password here. Finally enter the node number on the server you wish to connect to. This must match one of the entries (exten=) in the context entered in the extensions.conf file as shown above.

Once all is entered press the save icon. If you entered something wrong you can always come back and edit it later. At this point you may have to press your back to last screen key to get back to the main iaxrpt screen which is shown below.



This is the main window for the Android iaxrpt app. After you have setup an account the node number for that account will show up in the white window above the send button. Select send to connect to this node. Once connected the send button will dim and the hangup button will light. Use the hangup button if you wish to disconnect from the node. When connected the PTT button at the bottom of the screen is used to key your node. When tapped it will go red and you will be transmitting to the node. Tapping it again will unkey and it will return to white. If you wish to send a command to the node enter it on the keypad and press send. As an example *81 would tell you the current time. Use the BS (back space) to the right to delete info in the send window.

NOTES

Be sure to disconnect when you are done using the app to avoid hanging up a channel. If you want to access your node locally and also remotely you may need to have two account entries one with the local IP address and the other with your public IP address or more likely a domain name. Use the asterisk client to troubleshoot watching the log messages there as you attempt a connect.

This app is NOT a hamvoip creation and we hold no responsibility for its proper operation nor do we have any control over it. We have tested it and it appears to work well on Android 7 as configured above and it probably works on most older versions also but your mileage may vary.