<u>RASPBERRY PI 2,3,4 ALLSTARLINK + DVSWITCH</u> <u>SERVER INSTALLATION GUIDE</u>.



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DESIGN CUSTOMIZATION

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Flashing the ASL image

For all operating systems, we recommend downloading and installing balenaEtcher. It's available for macOS, Windows, and Linux. If you're flashing for RaspberryPi, an SD card reader is required.

Download balenaEtcher

USB Thumbdrive (PC/Pi4)

1. Follow the directions below, but use a USB thumbdrive instead.

SD Card (Pi2-Pi4)

1. Open balenaEtcher

2. Insert your SD card into your SD card reader

3. Press "Select Image" and locate the downloaded image (e.g. asl-2.0.0-beta.6-kc1kcc-20210324-rpi-armhf.img)

• • •	😚 balena E	tcher	¢ 0
+		4	
Select in	nage Select targ		

4. If your SD card is ready to flash, you can simply press the "Flash!" button:



5. Insert your SD card into your Raspberry Pi and boot it up!

Login & Create a Server

Once your account is verified, login to your account at <u>https://www.allstarlink.org/</u>

AlStar About - Portal - Node List	- ×	
	AllStar Account Login	
Welcome to AllStarLink! AlistarLink is a network of Amateur Radio repeaters, remote ba	Callsign	As you might imagine the implementation of this system
Voice over Internet Protocol. AllStarLink runs on a dedicated co home, radio site or computer center. It is based on the open so doe, red realises dedicities a comprise scenable of controlling	Password	r and its monthly upkeep is very costly. Any monetary help that you can and wish to give will be much appreciated. A Daviding departies building is provided if you with to do so
"nodes" to other systems of similar construction anywhere in th	Login	Thank you very much.
AllStarLink's primary use is as a dedicated computer node wire other VoIP clients and telephone calls are suported. We also hi computers to access AllStarLink nodes.	Sign Up - Forgot Password	Donate
AllStarLink has 16,078 users and 11,656 nodes.		

You will need to create a "server" : Click on **<Portal>** then **<Server Settings>**.

AllStar	About -	Portal -	Node	e List Support
We	elcome	Sign Up for A Reset Passw Change Calls	llStar ord sign	_ink!
AllStarL Voice o home, r App_rp "nodes"	ink is a network over Internet Proto radio site or comp t makes Asterisk a t o other systems	Account Settings Server Settings Node Settings of similar construction at		s, remote base stations and hot spots accessible to each other via dedicated computer (including the Rasperry Pi) that you host at your the open source Asterisk PBX running our app_rpt application. e of controlling one or more radios. It provides linking of these radio hywhere in the world via VoIP.
AllStarl	ink's primary use	is as a dedicate	d comput	ter node wired to your repeater or radio. Connections from Echolink

AllStarLink's primary use is as a dedicated computer node wired to your repeater or radio. Connections from Echolink other VoIP clients and telephone calls are suported. We also have a Java Applet which can be used on older computers to access AllStarLink nodes.

Click on <Add a new server>.

Please take the time to read the instructions on each page.

Then click **<Proceed with Server Setup>** if needed.

Fill in all of the information and click **<Submit>** at the bottom of the page.

Server Settings	
Edit Server	
Server Name	Click the map to select server latitude & longitude or type them in.
My New Server	Latitude
25 characters max	89.999665
Server Location	Server Logitude
Somewhere	-91.665742
City/State/Providence of server location. 30 characters max.	
Site	Map Satellite Search Box [3
My Tower Site	
Site Name, Bldg Number, etc. 30 characters max. Optional.	
Affiliation	
An Amateur Radio Club	
Affiliated with a club, etc. 30 characters max. Optional.	▼
Hostname	
hostname	· · · · · · · · · · · · · · · · · · ·
Unix Hostname. 25 characters max. Optional.	
IAX Port	+
4569	-
Normally 4569 when only one server behind a NAT router.	Google Map data 02019 50 m Terms of Use
Proxy IP	
IP address	
Normally blank. Only needed in rare cases. Optional.	
	Submit

Request a Node number

At the top of the page, click **<Portal>** and then on **<Node Settings>**.

AllStar	About -	Portal	Node List	Support	 ELogout
Ser Edit Se	ver Setti	Sign Up for A Reset Passw Change Call	VIStar ord sign		
Server My No	rver Name Server Settings		 Click the map to select server latitude & longitude or type them in. Latitude		
25 char	25 characters max		 89.999665		
Some	Server Location Somewhere		Server Logitude -91.665742		

Then click **<Request a new node number>**.

About -	Portal •	Node List	Support	Logout					
de Settir st a new node ny	1 gs Inder of edit one b Server	elow. Callsign	Password 1	Web Xceiver	Show Cmds	Rvrs Ap	Phone Portal	Rmt Base	Agile
1	My New Server			Yes	No	No	Yes	No	No
seover password	to show.								
	About - de Settir st.a new node nu vumber seover password	About - Portal - de Settings st a new node number of edit one to womeer server My New Server seover password to show.	About - Portal - Node List de Settings stanewnode number of edit one below. Number server Callsign My New Server essever seover password to show.	About - Portal - Node List Support de Settings stanen node number of edit one below number server Calleign Password , My New Server seover password to show.	About - Portal - Node List Support Logout de Settings stanen node number Number Server Callsign Password, Web Xceiver My New Server Yes seover password to show.	About - Portal - Node List Support	About - Portal - Node List Support Council Logout de Settings staneu node number of edit one below. Number server Calisign Password, Web Xceiver Show Cmds Rvrs Ap My New Server Password to show. seover password to show.	About - Portal - Node List Support Cogout de Settings stanen node number redit one below. Number server Callsign Password, Web Xceiver Show Cmds Rvrs Ap Phone Portal My New Server Callsign Yes No No Yes seover password to show.	About - Portal - Node List Support Logout de Settings stanew node number of edit one below. Number server Callsign Password , Web Xceiver Show Cmds Rvrs Ap Phone Portal Rmt Base My New Server Callsign Password , Web Xceiver Show Cmds Rvrs Ap Phone Portal Rmt Base Secver password to show. Secver password to show.

Select which server you would wish to have a node number assigned to

if you need more than one node number for the same server, repeat this process

A comment of 'additional node on same server' would be appropriate

IStar Link	About -	Portal •	Node List	Support	rt Elegout
No	de Settir	gs			
Reque	st New Node N	umber			
Serve	My New Server	~			
Select	server for the new	r node. It can b	e changed later.		
Do not Messa	request additionation	I nodes here. (Only one node per	request can be	be processed.
Requ	uesting my first no	de number. Th	ank you very much		
Option	al message.				
Sub	nt.				
5000					
0 2019	AllStarLink Inc				This site is dedicated to the memory of Jim Dixon WB6NIL

Your first node will be automatically approved. Subsequent nodes are subject to approval.

Once your node number request(s) are processed you will receive an email.

Edit Node settings

Log into your account on https://allstarlink.org/

Click <**Portal**> then <**Node settings**>.

The AllStarLink node numbers that have been assigned to you are displayed here.

Select which node you wish to view/edit.

Fill in the information for you node and click **<Submit>**.

AllStar	About - Portal - Node List Support 2000-003 Logour	l
	Node Settings Edit Node ✓ Node Number 50505 Node number cannot be changed. Password PASSWORD 6 to 15 characters. Callsign WB6NIL 15 characters max. Frequency 146.520 20 characters max. Optional. CTCSS Tone 103.1 20 characters max. Optional.	My New Server ∨ Select the server for this node. Yes ∨ Allow Web Transceiver access? No ∨ Show function list on Webtransceiver? No ∨ Allow Reverse Autopatch access? Yes ∨ Allow Telephone Portal access? No ∨ Is node a remote base station? No ∨ If remote base, is it frequency agile?
		Submit

Write down your node number, password and the call sign you assigned for the node as you will use them to configure your AllStarLink system.

Install and configure ASL to your computer

Consult your owners manual or your favorite internet search engine for how to install an image for your computer system.

Install the AllStarLink disk image to your computer. Insert the appropriate media for your system and boot the computer.

When the login prompt appears enter the user ID of

repeater

and press **<Enter>**.

Enter the default password of

allstarlink

Follow the on screen instructions for the initial password change.

For users familiar with the linux operation system you may proceed to edit the system manually.

For users not familiar with linux and ASL, at the Linux CLI (command line interface)

Type **sudo asl-menu** as the example below shows.

repeater@repeater:~\$ sudo asl-menu

This will load the AllStarLink configuration menu.



AllStarLink software setup

Choose option <1>.



Since it is your first time setup, answer <No>.

Setup now will ask if you want to change "**repeater**" account password with select answer **<No>**.

repeater passw	ord
Would you like to change your password? User: repeater	
The second se	
<yes></yes>	<no></no>

Now lets set time zone **<Ok>**.

** Time Zone setup **
By default, the time zone is set to America/Mexico_City. A correct time zone entry will allow the system clock to report the correct time.
 Koka

Choose the node's continent Europe.

Please select the geo configuration questic cities, representing	Configuring tzda ographic area in which ons will narrow this o the time zones in whi	ata n you live. Subsequent down by presenting a list of ich they are located.
Geographic area:		
	Africa <mark>America</mark> Antarctica Australia Arctic Ocean Asia Atlantic Ocean Europe	
<0k	:>	<cancel></cancel>
		The second s

Choose the node's city London.

Please select	the city or r	<mark>figuring</mark> egion cor	tzdata responding	to your	time	zone.
Time zone:						
	Managua Marigot Martini Matamor Mazatla Menomin Merida Metlaka <mark>Mexico</mark>	que os n ee tla City		← <u>8:98:98:</u> 3 = <u>8:98:98:98</u> :3→		
	<0k>		<cance< td=""><td>el></td><td></td><td></td></cance<>	el>		

Next you can change the name of you host name, the default is **repeater**.



Answer **<Yes>** to be able to make changes.

Existing hostname is repeater Existing Domain Name is NOT SET Existing FQDN is repeater IP address is DHCP	
Do you want to change this?	
<pre><yes></yes></pre>	<no></no>

Type the new host name and hit **<Enter>**.

Current hostname is repeater Ent	Hostname er New hostname.
P1-ASL	
< <u>(0k)</u>	<cancel></cancel>

If you want to set up a domain, type it and hit **<Enter>**.

Current	domain	is	NOT	SET	Enter	Doma New	domain	or	leave	blank	for	none.	
NOT SET													
			<01	<>					<can< td=""><td>cel></td><td></td><td></td><td></td></can<>	cel>			

Say **<Ok>** to this message.

Existing hostname is repeater Existing Domain Name is NOT SET Existing FQDN is repeater.NOT SET IP address is DHCP	
New hostname is Pi-ASL New Domain is NOT SET New FQDN is Pi-ASL.NOT SET with and IP address DHCP	
< <u>0k</u> >	

Now you can make your network settings **<Ok>**.

Setting for DHCP		
	<0k>	

You can now set up the networking for the syst either static or DHCP (dynamic) addressing. If you choose static addressing, you will need addresses handy: IP ADDRESS, NETMASK, DEFAULT PRIMARY DNS, and SECONDARY DNS.	tem to use d to have 5 key IP F GATEWAY,
<0k>	

To choose between DHCP or Static IP say < Yes>.

Networl	<pre> setup</pre>
Network DHCP or Static setup.	
Do you want to do this now?	
<yes></yes>	<no></no>

Use **<D>** for DHCP or **<S>**. for Static, if you choose Static, you will be asked to enter it next, for this example DHCP is in use.



Commented out any returning to DHCF	static IP settings in /etc/dhcpcd.conf IP addressing.	
	< <u><0k></u>	

Just say **<Ok>** to this message.

You can now configure you node or download a configuration from AllStarLink	
Second to contract the	
The second secon	
 COK> 	



Choose option <A1>.

	AllStarLink Asterisk
A1 Initial Node Setup	Node number, password, call sign
A2 Edit Echolink	Enable and Edit Echolink configur
A3 Enable savenode	Enables savenode.conf for node 19
A4 Quick backup	Copy existing files to folder /et
A5 Review	Review of configuration settings
A0 About	AllStarLink Asterisk
AZ SAVE	Save configuration and make it li
<selec:< td=""><td>t> <exit></exit></td></selec:<>	t> <exit></exit>

Choose option <N1>.

N1	Node Number	Current Node is 1999
NZ	Node Password	Current password is 123456
NB.	Node Call Sign	Current call sign is WA4XYZ
N4	Radio Interface	Node Radio Interface type dahdi/pseudo
N 5	Duplex type	Current duplex type is 1
Né	Asterisk-secret	t Change Asterisk manager.conf password
NS	SAVE	Save this configuration

Type the node number for your node. Yes the one you previously wrote down from AllStarLink site.

Current Node Number is 1999 Enter Ne	Number w Node Number
51467	
<0k>	<cancel></cancel>

Choose option <N2>.

		AllStarlink Asterisk	
N1 Noo N2 Noo N3 Noo N4 Rao N5 Duj N6 As N9 SA	de Number de Password de Call Sign dio Interface blex type terisk-secret /E	Current Node is 51467 Current password is 12345 Current call sign is WA4 Node Radio Interface type Current duplex type is 1 Change Asterisk manager.c Save this configuration	66 IXYZ e dahdi/pseudo conf password
ndans	<sel(< td=""><td>ect> <</td><td>·Back></td></sel(<>	ect> <	·Back>

Type the node password for your node. Yes the one you previously wrote down from AllStarLink site.

Enter password for Node 51467	Password		
123456 <0k>		<cancel></cancel>	

Choose option **<N3>**.

		🕇 AllStarlink Asterisk	
N1 N2 N4 N5 N6 N9	Node Number Node Call Sign Radio Interface Duplex type Asterisk-secret SAVE	Current Node is 51467 Current password is 123. Current Gall sign 15 W Node Radio Interface ty Current duplex type is : Change Asterisk manager Save this configuration	456 A4XYZ De dahdi/pseudo L .conf password
	<sel(< td=""><td>≤ct></td><td><back></back></td></sel(<>	≤ct>	<back></back>

Type the call sign for your node. Yes the one you previously wrote down from AllStarLink site.

Current Call is	WA4XYZ	Call Sign Enter New Call Sign for 51467
	<0k>	<cancel></cancel>

Choose option **<N4>**.

		AllStarlink Asterisk	
N1 N2 N3 N4 N5 N6 N9	Node Number Node Password Node Call Sign Radio Interface Duplex type Asterisk-secret SAVE	Current Node is 51467 Current password is 123 Current call sign is KM Node Radio Interface ty Current duplex type is 3 Change Asterisk manager Save this configuration	456 4NNO p <mark>e dahdi/pseudo</mark> 1 .conf password
	<sel:< td=""><td>ect></td><td><back></back></td></sel:<>	ect>	<back></back>

Choose option **<I4>** Dahdi/Pseudo No radio interface or HUB node.

Select repe	ater interface o	thannel driver	to load	
<mark>I1 SimpleUSB</mark> I2 USBRadio I3 Voter I4 Dahdi/pseudo	CM1xx USB Cards CM1xx USB Cards Voting systems No radio interf	s no/DSP (URIX) s with DSP (URI) with RTCM's face or HUB node	or RA-40) x or RA-4 e	0)
 <sele< td=""><td>ct></td><td><back></back></td><td></td><td></td></sele<>	ct>	<back></back>		



Choose option <**N5**>.

	A1	llStarlink Asterisk 🖡	
N1 N2 N3 N4 N5 N6 N9	Node Number Node Password Node Call Sign Radio Interface Duplex type Asterisk-secret SAVE	Current Node is 51467 Current password is 1 Current call sign is 1 Node Radio Interface Current duplex type is Change Asterisk manag Save this configuratio	23456 KM4NNO type SimpleUSB <mark>s 1</mark> er.conf password on
	<select></select>	<	Back>

Your node will be a simplex node type <1>.

0 = Half duplex with n 1 = Half duplex with t 2 = Full Duplex with t 3 = Full Duplex with t 4 = Full Duplex with t The most common types See wiki.allstarlink.o	Duplex type o telemetry tones elemetry tones (simplex node) elemetry tones (repeater) elemetry, but no repeated audio. elemetry (Special use) are (1) or (2) rg for full documentation
<0k>	<cancel></cancel>

Choose option <N6>.

A115	Starlink Asterisk
N1 Node Number N2 Node Password N3 Node Call Sign N4 Radio Interface	Current Node is 51467 Current password is 123456 Current call sign is KM4NNO Node Radio Interface type Simple
N5 Duplex type N6 Asterisk-secret	Current duplex type is 1 Change Asterisk manager.conf pass
NA 244E	save this configuration
<select></select>	<back></back>

Type in your Allstarlink node Password to have access from the nodes web site Allmon2, the default password will be your AllStar node password'.



Setting	new manager.	conf secret ll	cgi	
		<0k>		



Choose option <N9>.

A	llStarlink Asterisk
N1 Node Number N2 Node Password N3 Node Call Sign N4 Radio Interface N5 Duplex type N6 Asterisk-secret N9 SAVE	Current Node is 51467 Current password is 123456 Current call sign is KM4NNO Node Radio Interface type SimpleUSB Current duplex type is 1 Change Asterisk manager.conf password Save this configuration
<select></select>	<back></back>















Choose option **<Back>**.

	A	llStarlink Asterisk
N1 N2 N3 N4	Node Number Node Password Node Call Sign Radio Interface	Current Node is 51467 Current password is 123456 Current call sign is KM4NNO Node Radio Interface type SimpleUSB
N 5 N 6 N 9	Duplex type Asterisk-secret SAVE	Current duplex type is 1 Change Asterisk manager.conf password Save this configuration
	<select></select>	<back></back>

Choose option <AZ>.

A119	StarLink Asterisk
A1 Initial Node Setup A2 Edit Echolink A3 Enable savenode A4 Quick backup A5 Review A0 About <mark>AZ SAVE</mark>	Node number, password, call sign Enable and Edit Echolink configur Enables savenode.conf for node 51 Copy existing files to folder /et Review of configuration settings AllStarLink Asterisk Save configuration and make it li
<select></select>	<exit></exit>

Review what you wrote down with what you have configured on your system and press **<Enter>**.

	Node number to be used 51467 Registration password 123456 Call sign KM4NNO Radio interface type SimpleUSB Manager password llcgi
	If you did not configure echolink then ignore these values. Echolink call sign: INVALID Asterisk node associated with echolink: 1999 Echolink node number: 000000 Echolink password: INVALID Echolink owners name: YOUR NAME Echolink QTH: INVALID ; Echolink contact email: INVALID Echolink Latitude: 0.0 Echolink Latitude: 0.0 Echolink Longitude: 0.0 Echolink Antenna Height value: 0 Echolink Antenna Gain (db): 0 Echolink Repeater Frequency: 0.0 Echolink PL tone: 0.0
L	

Choose **<Yes>** to backup your configuration.

	Backup and save?	
Backup originals and Save	the New Configuration?	
<yes></yes>	<no></no>	



Just say **<Ok>** to this message.





Choose option **<Exit>**.

	ALLSTARLINK ASTERISK
A1 Initial Node Setup A2 Edit Echolink A3 Enable savenode A4 Quick backup A5 Review A0 About AZ SAVE	Node number, password, call sign Enable and Edit Echolink configur Enables savenode.conf for node 51 Copy existing files to folder /et Review of configuration settings AllStarLink Asterisk Save configuration and make it li

Answer **<Yes>**, because we already saved our configuration.



If you want to automatically start your system with this menu answer **<Yes>**, if not then **<No>**.



If you answer was **<No>**, remember you can come back to this menu typing **sudo asl-menu** as the following example:

repeater@repeater:~\$ sudo asl-menu



Now your node will reboot to apply all the changes we have done, so say **<Ok>**.



After Reboot open up a new terminal in putty and login, at the prompt type in sudo –s, then asl-menu.



Choose option <6>

🧬 repeater@repeater: ~	>
	ASL Main Menu
1	Run first-time menu
2	Run radio-tune-menu for USBradio configuration
4	Run simpleusb-tune-menu for SimpleUSB configuration
5	ASL Asterisk CLI
6	ASL Configuration Edit Menu
7	Operating System Menu
8	System Security Menu
9	System Diagnostics Menu
0	Information Start shall
5	Start a bash shell
	<select> <exit></exit></select>

Select option **<F>**.

e∰ repeater@repeater: ~	- 🗆 X
ASL Configuration Menu Use A Backup Restore Menu B Edit rpt.conf file C Edit extensions.conf D Edit iax.conf file E Edit modules.conf fi G Edit echolink.conf fi G Edit echolink.conf fi H Edit usbradio.conf fi J Edit simplusb.conf fi J Edit voter.conf file K Edit savenode.conf L Edit allmon2 config M Information	es the NANO Editor
<select></select>	<back></back>



Change **secret =aGR2GF5VfQu7Nvh** to your node **password**.

Ctrl X, Yes and exit to save. Now select option ****.

🧬 repeater@repeater: ~		- 🗆 ×
Prepeter®repeter.~	ASL Configuration Menu Uses the NANO Editor A Backup Restore Menu B Edit rpt.conf file C Edit extensions.conf file D Edit iax.conf file E Edit modules.conf file F Edit manager.conf file G Edit echolink.conf file H Edit usbradio.conf file I Edit simplusb.conf file J Edit voter.conf file, RTCM users K Edit savenode.conf	x
	L Edit allmon2 config file M Information <select> <back></back></select>	

put semicolon in front of **rxchannel = dahdi/psuedo**



remove semicolon from **RX channel = USRP/127.0.0.1**, CTRL X, save and Exit and then Exit asl-menu.



At prompt cd /var/www/html/supermon.

Then **nano allmon.ini**, change **[1998**] to **[your node number]** and change **passwd = aGR2GF5VfQu7Nvh** to your node **passwd**.

🧬 repeater@repeater: ~		-	
GNU nano 3.2	allmon.ini		^
[1998]			
host = 127.0.0.1:5038			
user = admin			
passwd = aGR2GF5VfQu7Nvh			
menu = yes			
hideNodeURL = no			
host = 12/.0.0.1:5038			
user = admin			
passwd = aGR2GF5VIQu/Nvh			
menu = yes			
nideNodeURL = no			
[AII NODES]			
monu = woo			
menu – yes			
[leNodos]			
	Read 27 lines 1		
Cot Holp 🔷 Write Out 🏧 Whee	ro Is AR Cut Toxt AT Justi	fy AC Cur Pos	
^X Exit ^R Read File ^\ Rep	lace <u>^U</u> Uncut Text^T To Sr	Dell ^ Go To l	ine
^X Exit	lace <mark>^U</mark> Uncut Text <mark>^T</mark> To Sp	oell \land Go To l	Jine 🗸

CTRL-X, save and exit. Type in terminal cd ..



Type in htpasswd –cB .htpasswd admin. Then at the prompt type in your node password, and then type it again to confirm.



Type in terminal cd .. then cd allmon2 then type in the command ./astdb.php



Now open up a web browser to the IP address of your raspberry pi. i.e http://192.168.0.55/supermon



Welcome to Your CALL and associated AllStar nodes. This Bridge runs on the lastest HamVoIP Distribution of AllStar Link.

This Supermon web site is for monitoring and managing ham radio <u>AllStar</u> and app_rpt node linking and <u>RTCM clients</u>. This is version 6.1+ of Supermon which includes a vast number of internal and UI improvements to version 2.1.

On the menu bar click on the node numbers to see, and manage if you have a login ID, each local node. These pages dynamically display any remote nodes that are connected to it. When a signal is received the remote node will move to the top of the list and will have a dark-blue background. The most recently received nodes will always be at the top of the list.

- The Direction column shows IN when another node connected to us and OUT if the connection was made from us
- The Mode column will show Transceive when this node will transmit and receive to/from the connected node. It will show Receive Only or Local Monitor if this node only receives from the connected node.

Any Voter pages will show RTCM receiver details. The bars will move in near-real-time as the signal strength varies. The voted receiver will turn green indicating that it is being repeated. The numbers are the relative signal strength indicator, RSSI. The value ranges from 0 to 255, a range of approximately 30db. A value of zero means that no signal is being selected. The color of the bars indicate the type of RTCM client as shown on the key below the voter display.

Please feel free to download Allmon2.1 for your own site. Enjoy!

Version 2.1 and 6.1+ changes:

• The primary new feature is the addition of dropdown menus. The menu could get out of control due to managing more and more clients.

Login with admin, and your node password or just click on your node number.

ile <u>E</u> dit	View History Bookmark	s <u>l</u> ools <u>H</u> el	р							
192.16	8.0.21 Supermon 55720 ×	+								
$\leftarrow \rightarrow$	Câ	C	28	192.168.0.2	1/supermo	n/link.php?n	odes=55720			
- Impor	t bookmarks 🕴 PEANU	T-GLOBAL	EURO	PELINK 🔽 TO	GIF Network	HF Web	SDR at RAF Ha	X DVSwitch Dashboard	BM Hoseline	1 Da
Your Login Edit / RPi2-3 5572 Display C	CALL - Supern var/www/btml/su a hode 0 1999 All Nodes onfiguration [CPU: 9 r conditions for Edit /v	permon/ s IsNodes 23°F, 34°C ar/www/htr	F (AS globa AllS @ 19: nl/supe	SL) AllSi Linc to ch tarLink 35] rmon/globa	tar Mot ange! Linc to ch	ange! 93301	1: 73°F, 23°C	2/Partly Sunny]		
Node 5	55720 => M7MRX 146	5.520 reddit	ch,woi	rcs,b989ja	Bubble Ch	art <u>IsNodes</u>	1			
Node	Node Information	Received	Link	Direction	Connec	ted Mode				
55720	Idle		142	20 						
No Co	nnections.									

In the terminal, type **astres.sh** to restart the asterisk service.



Then type asl-menu and select asl configuration menu then select option $<\!E\!>$.

🚰 repeater@repeater: ~		- 0
	ASL Configuration Menu Uses the NANO Editor A Backup Restore Menu B Edit rpt.conf file C Edit extensions.conf file D Edit iax.conf file E Edit monager.conf file G Edit echolink.conf file H Edit usbradio.conf file I Edit simplusb.conf file J Edit voter.conf file, RTCM users K Edit savenode.conf L Edit allmon2 config file M Information	
	<select> <back></back></select>	

Scroll down to ;Channels

₽ repeater@repeater: ~	×
GNU nano 3.2	/etc/asterisk/modules.conf
noload => chan_agent.so ; noload => chan_alsa.so ; noload => chan_beagle.so ; load => chan_dahdi.so ;	Agent Proxy Channel ALSA Console Channel Driver Beagleboard Radio Interface Cha\$ DAHDI Telephony
<pre>hoload => chan_echolink.so ; hoload => chan_features.so ; hoload => chan_gtalk.so ; hoload => chan_gtalk.so ;</pre>	echolink Channel Driver Feature Proxy Channel Gtalk Channel Driver
load => chan_lax2.so ; load => chan_local.so ; noload => chan_oss.so ; noload => chan_phone.so ;	Local Proxy Channel (Note: used Channel driver for OSS sound ca Generic Linux Telephony Interfa
hoload => chan_pl.so ; load => chan_simpleusb.so ; noload => chan_sip.so ; noload => chan_tlb.so ;	DMK Engineering "PITA" Board onş CM1xx USB Cards with Radio Inte\$ Session Initiation Protocol (SI\$ TheLinkBox Channel Driver
noload => chan_usbradio.so ; noload => chan_usrp.so ; noload => chan_voter.so ;	CM1xx USB Cards with Radio Inte\$ GNU Radio interface USRP Channe\$ Radio Voter Channel Driver
^G Get Help <mark>^O</mark> Write Out <mark>^W</mark> ^X Exit <mark>^R</mark> Read File ^\	Where Is <mark>^K</mark> Cut Text <mark>^J</mark> Justify <mark>^C</mark> Cur Pos Replace <mark>^U</mark> Uncut Text <mark>^T</mark> To Spell <mark>^</mark> Go To Line

Remove the **no** from **noload => chan_usrp.so**, the CTRL-X save and exit. then exit asl-menu to get back to command line. Type in **cd /tmp.** Now we will install DVSWitch. First type in the terminal **wget** <u>http://dvswitch.org/buster</u>

root@repeater:/tmp# 2021-10-21 19:46: Resolving dvswitch. Connecting to dvswi HTTP request sent, Length: 1831 (1.8K) Saving to: `buster'	wget http://dvswitch.org/bus 08 http://dvswitch.org/bus org (dvswitch.org) 44.103. tch.org (dvswitch.org) 44.103 awaiting response 200 OK	tter 34.4 .34.4 :80 connec	cted.
buster	100%[====>]	1.79KKB/s	in Os
2021-10-21 19:46:08	(27.1 MB/s) - 'buster' saved	[1831/1831]	

The type in **chmod +x buster** followed by **sudo** ./buster.

root@repeater:/tmp# root@repeater:/tmp# 2021-10-21 19:46:2 y Resolving dvswitch.o Connecting to dvswit HTTP request sent, a Length: 1678 (1.6K)	chmod +x buster ./buster 1 http://dvswitch.org/DVSu org (dvswitch.org) 44.103.3 ch.org (dvswitch.org) 44.103 waiting response 200 OK [application/pgp-keys]	witch_Repository/dvswitch.gpg. 34.4 .34.4 :80 connected.
-	100%[=====>]	1.64KKB/s in 0s
2021-10-21 19:46:22	(22.7 MB/s) - written to stde	out [1678/1678]

Now before we carry on and install DVSwitch, we will do an update, so type in at prompt **apt update** be warned this can take a while so get yourself a pint of beer and sit back. Oh and press y at any prompts.

root@repeater:/tmp# apt update
Hit:1 http://archive.raspberrypi.org/debian buster InRelease
Get:2 http://raspbian.raspberrypi.org/raspbian buster InRelease [15.0 kB]
Hit:3 http://dvswitch.org/DVSwitch Repository buster InRelease
Get:4 http://apt.allstarlink.org/repos/asl builds buster InRelease [7392 B]
E: Repository 'http://raspbian.raspberrypi.org/raspbian buster InRelease' chang
d its 'Suite' value from 'stable' to 'oldstable'
N: This must be accepted explicitly before updates for this repository can be a
plied. See apt-secure(8) manpage for details.
Do you want to accept these changes and continue updating from this repository?

At prompt type in **apt-get install -y dvswitch-server** and sit back and watch the show.



This continues for about 5 mins.

Creating config file /etc/php/7.3/cgi/php.ini with new version
Setting up ircddbgateway (20201028–17)
Created symlink /etc/systemd/system/multi-user.target.wants/ircddbga
$ce \rightarrow /lib/systemd/system/ircddbgatewayd.service.$
Setting up libapache2-mod-php7.3 (7.3.29-1~deb10u1)
libapache2-mod-php7.3: not switching MPM - already enabled
Setting up node-tinycolor (0.0.1-1)
Setting up node-ws (1.1.0+ds1.e6ddaae4-5+deb10u1)
Setting up dvswitch-dashboard (1.6.0-20210301-79)
Created symlink /etc/systemd/system/multi-user.target.wants/webproxy
lib/systemd/system/webproxy.service.
Setting up php-cgi (2:7.3+69)
Setting up dvswitch (1.6.0-20201029-13)
Setting up dvswitch-server (1.6.0-20201029-7)
Processing triggers for systemd (241-7~deb10u6+rpi1)
Processing triggers for man-db (2.8.5-2)
Processing triggers for libc-bin (2.28-10+rpi1)
root@repeater:/tmp#

root@repeater:/tmp# cd /usr/local/dvs root@repeater:/usr/local/dvs# ./dvs

At the prompt type in cd /usr/local/dvs then the command ./dvs to enter the dvswitch menu. First you will be asked if you want to change the language select <0K>.



Select English and **<OK>**

	Language
We will	l add more later
10 111	
	1 English 2 français 3 Deutsche 4 Eλληνικά 5 日本語 6 한국어 7 Polski 8 Español
<0k>	<cancel></cancel>

Select **<OK>**

You are already using English
KOK>

Select Option <01>

	MAIN MENU Menu Script v.1.0
Ol Initial Configuration 02 Advanced Configuration 03 Tools 04 Credits 05 Exit	Enter Callsign, DMR ID, BM Server and AMBE TG/Ref Management and Adhoc Macro SD Card Clone, Upgrade, Language, Reboot/Shutdown Credits of DVSwitch and Menu Scripts Exit DVSwitch Menu
<0k>	<cancel></cancel>

Select <Yes>



Enter Call Sign and select **<OK>**

Callsign? (c	ase-insensitive)		
_ <u>M7???</u>			
	<0k>	<cancel></cancel>	

Enter your dmrID and select **<OK>**

CCS7/DMR ID ?	- Input
1234567	
<0k>	<cancel></cancel>

Your DMRID will appear gain with a 2 digit suffix on the end you can change this number to anything between 0 and 99, I usually leave it to default unless you are going to use 1 or more servers.

CCS7/DMR ID + 2 digit numb	nput er (00 ~99) ?
12345611	
<0k>	<cancel></cancel>

Leave Dstar module at default and Select **<OK>**.

Dstar module ? (A~Z)	? Input
B	
<0k>	<cancel></cancel>

Select **<OK>**

NXDN ID?	(Enter for	none)	
	<0k>	<cancel></cancel>	

Enter 52424 and Select **<OK>**

USRP Port?	(Recommand:	50000~55000, None: default)
-		
	<0k>	<cancel></cancel>

Now Choose Your local BrandMiester Server

Cl	hoose your local BM Server	
1	BM 2001 Europe HAMNET ↑	
2	BM 2001 Europe	
3	BM_2021_Greece	
4	BM 2042 Netherlands	
5	BM_2061_Belgium	
6	BM 2081 France	
7	BM_2082_France	
8	BM_2141_Spain	
9	BM 2162 Hungary	
10	BM_2222_Italy	
11	BM_2262_Romania	
12	BM_2281_Switzerland	
13	BM_2302_Czech_Republic	
14	BM_2321_Austria	
15	BM_2341_United_Kingdom	
16	BM_2381_Denmark	
17	BM_2401_Sweden	
18	BM_2421_Norway	
19	BM_2441_Finland	
20	BM_2502_Russia ↓	

Enter ok for default unless you have setup your own password in selfcare, when complete Select ${<}OK{>}$

In Enter your personalized hot Brandmeister SelfCare, if a default. passw0rd	nput spot password configured via applicable, otherwise leave as
<0k>	<cancel></cancel>

Choose Option <4> and Select <OK>

Ha	ardware Vocoder (AMBE)
<mark>1 AMBE Server</mark> 2 USB Type AMBE 3 GPIO type AMBE 4 No Hardware Vocoder	External AMBE Server e.g., ZumAMBE Server ThumbDV, DVstick DV3000 or PAMBE Board Use Software Vocoder
<0k>	<cancel></cancel>

Select **<Yes>** to save your options.

Input Finished
Input for Initial Configuration Finished. ini files' Configuration will start.
<yes> to Continue, <no> to Cancel</no></yes>
<pre><yes> <no></no></yes></pre>
Processing Initial Configuration
Please WAIT
20%

Select **<OK>** to return to Main Menu.



Choose Option <2>

MAIN MENU Menu Script v.1.61			
01 Initial Configuration	Enter Callsign, DMR ID, BM Server and AMBE		
02 Advanced Configuration	TG/Ref Manage, Macro, DMR Networks		
04 Credits	Credits of DVSwitch and Menu Scripts		
05 Exit	Exit DVSwitch Menu		
<0k>	<cancel></cancel>		

Choose Option <23> and select <OK>

Advanced Config	uration Menu
21 Configure other stanzas	Freq, Pwr, Lat, Long, Location
22 Configure Favorite TG/Ref	Edit Favorite TGs and Reflectors, Push t
23 Ad Hoc Menu & Macro	Managing Ad Hoc Menu and Macro
24 Additional DMR Networks	Setup for DMRPlus, TGIF and other Networ
25 Back	Return to MAIN MENU
<0k>	<cancel></cancel>

Select <Yes>



Select **<Ok>**



Select Option <10> and select <OK>

	Ad Hoc Menu & Macro <advanced></advanced>
	SAVE : Ctrl-X >> Y >> Enter CANCEL : Ctrl-X >> N
	To apply editing, <restart dvswitch=""></restart>
1	Edit <advanced macro=""> dvsm.macro</advanced>
2	Edit adv main.txt
3	Edit extra 1.txt
4	Edit extra 2.txt
5	Edit extra 3.txt
6	Edit extra 4.txt
7	Edit extra 5.txt
8	Restart DVSwitch Services
9	Change to <basic> dvsm.macro</basic>
10	Back to Advanced Configuration Menu
	<ok> <cancel></cancel></ok>

Select Option <24>

Advanced Configuration Menu			
21 Configure other stanzas 22 Configure Favorite TG/Ref 23 Ad Hoc Menu & Macro <mark>24 Additional DMR Networks</mark> 25 Back	Freq, Pwr, Lat, Long, Location Edit Favorite TGs and Reflectors, Push t Managing Ad Hoc Menu and Macro Setup for DMRPlus, TGIF and other Networ Return to MAIN MENU		
<0k>	<cancel></cancel>		

Select Option <2>

DMR Ne	etworks
1 Change Defa <mark>2 Configure 1</mark> 3 Back	ault DMR Server DMR Server
<ok></ok>	<cancel></cancel>

Now because we set up the BrandMeister network up in the initial configuration we don't need to touch it so select Option <2> and select <OK>



Select <Yes>

	DMRPlus Network		
	Current Setup		
None:	Server address = n/a Password = n/a USRP Port? (Recommand: 50000~55000, e: default) = n/a		
	Do you want to set the network?		
	<yes> <no></no></yes>		

Scroll down the list and choose option $<\!\!59\!\!>$ IPCS2-PheonixF unless you have a preference and press $<\!\!Enter\!\!>$

Cl	hoose	DMRPlus server	
52	DMR+	IPSC2-Naples	Ť
53	DMR+	IPSC2-NewYork	1000
54	DMR+	IPSC2-NewZealand	
55	DMR+	IPSC2-OE-DMO	
56	DMR+	IPSC2-OE-DMO-HAMNET	20000 20000
57	DMR+	IPSC2-OE-TEST-HAMNET	
58	DMR+	IPSC2-OZARK	
59	DMR+	IPSC2-PhoenixF	2000 2000 2000
60	DMR+	IPSC2-PhoenixK	
61	DMR+	IPSC2-Poland	
62	DMR+	IPSC2-Portugal	200000 200000
63	DMR+	IPSC2-QUADNET	
64	DMR+	IPSC2-QUADNET2	
65	DMR+	IPSC2-Romania	
66	DMR+	IPSC2-SWEDEN-	
67	DMR+	IPSC2-SWISS-DMO	
68	DMR+	IPSC2-SWISS-RPT	
69	DMR+	IPSC2-URUGUAY	
70	DMR+	IPSC2-USA-MN2	
71	DMR+	IPSC2-VKHOTSPOT	Ļ

Select **<No>** and press **<Enter>**

DMR Networks
Set this Network as a Default Server for DMR?
<yes> to Continue, <no> to Cancel</no></yes>
<yes> <no></no></yes>

Select Option <3> and <OK>



Select <Yes>

	TGIF Network
	Current Setup
None:	Server address = tgif.network Password = passw0rd USRP Port? (Recommand: 50000~55000, default) = 62031
	Do you want to change the setup?
	<yes> <no></no></yes>

Select **<OK>**

IP or DNS of TGIF Server	Input
tgif.network	
<0k>	<cancel></cancel>
(OR)	

Leave as default or type in your personnel TGIF password and select **<OK>**

Password of TGIF Server	Input
passw0rd	
<0k>	<cancel></cancel>

Select **<OK>**

Port of TGIF Server	
62031 <mark>_</mark>	
<0k>	<cancel></cancel>



DMR Networks	
Set this Network as a Default Serve	er for DMR?
<yes> to Continue, <no> to Cancel</no></yes>	
<yes></yes>	< <u>No></u>



Finished
<mark><0k></mark>

Select option <6>, then <OK>

	- DMR Networks
Co	onfigure DMR Server
1 2 3 4 5	Brandmeister Network DMRPlus Network TGIF Network FreeDMR ORM
6	Back
<0]	k> <cancel></cancel>

Select option <3> then <OK>

DMR Ne	etworks
l Change Defa 2 Configure I <mark>3 Back</mark>	ault DMR Server DMR Server
<0k>	<cancel></cancel>

Select option <25> then <OK>

Advanced Config	guration Menu
21 Configure other stanzas 22 Configure Favorite TG/Ref 23 Ad Hoc Menu & Macro 24 Additional DMR Networks	Freq, Pwr, Lat, Long, Location Edit Favorite TGs and Reflectors, Push t Managing Ad Hoc Menu and Macro Setup for DMRPlus, TGIF and other Networ
25 Back	Return to MAIN MENU
<0k>	<cancel></cancel>

Select option <05> then <OK>

MAI	N MENU
M	enu Script v.1.61
01 Initial Configuration	Enter Callsign, DMR ID, BM Server and AMBE
02 Advanced Configuration	TG/Ref Manage, Macro, DMR Networks
03 Tools	SD Card Clone, Upgrade, Language, Reboot/Sh
04 Credits	Credits of DVSwitch and Menu Scripts
	Exit DVSWitch Menu

In the Terminal type apt update

root@repeater:/usr/local/dvs# apt update
Hit:1 http://archive.raspberrypi.org/debian buster InRelease
Hit:2 http://raspbian.raspberrypi.org/raspbian buster InRelease
Hit:3 http://dvswitch.org/DVSwitch Repository buster InRelease
Get:4 http://apt.allstarlink.org/repos/asl builds buster InRelease [7392 B]
Err:4 http://apt.allstarlink.org/repos/asl builds buster InRelease
The following signatures couldn't be verified because the public key is not av
ailable: NO PUBKEY 6A72C389B517460F
Fetched 7392 B in 4s (1891 B/s)
Reading package lists 52%

When completed type **apt upgrade**

```
root@repeater:/usr/local/dvs# apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... 10%
```

Press **<Y>** to continue

```
102 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 111 MB of archives.
After this operation, 8569 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

Type in apt install analog-reflector

coot@repeater:/usr/local/dvs# apt install analog-reflector

Answer <Yes>

The following NEW packages will be installed:
analog-reflector libev4 libwebsockets8 lsof mosquitto
0 upgraded, 5 newly installed, 0 to remove and 0 not upgraded.
Need to get 11.7 MB of archives.
After this operation, 1035 kB of additional disk space will be used.
Do you want to continue? [Y/n] v

Type cd /opt/Analog_Reflector/ssl

root@repeater:/usr/local/dvs# cd /opt/Analog_Reflector root@repeater:/opt/Analog_Reflector# cd ssl root@repeater:/opt/Analog_Reflector/ssl# Type in ./mkcerts.sh reboot after this as pic

root@repeater:/opt/Analog_Reflector/ssl# ./mkcerts.sh Can not get country, state and locality, using placeholders. Generating self signed certificate, please wait.....

Type in cd .. , then ./ Analog_Reflector -f Analog_Reflector.json

```
Your certificate is now ready for use
root@repeater:/opt/Analog_Reflector/ssl# cd ..
root@repeater:/opt/Analog_Reflector# ./Analog_Reflector -f Analog_Reflector
```

Open up a web browser you're your PI's IP address <u>https://192.168.x.x/html/hUC-min.html</u> and check if the client page comes up. If it does login with your call sign and your node password. **NOTE:** you will not be able to transmit at this point.



Go back to the terminal type in cd .. , then cd Analog_Bridge, then nano Analog_Bridge.ini

root@repeater:/opt/	'Analog Reflector# o	cd		
root@repeater:/opt# cd Analog Bridge				
root@repeater:/opt/	'Analog_Bridge# ls			
Analog_Bridge	adv_hotspot.txt	adv_rxgain.txt	dvsm.basic	
Analog_Bridge.ini	adv_main.txt	adv_tgref.txt	dvsm.macro	
adv_audio.txt	adv_managetg.txt	adv_tools.txt	dvsm.sh	
adv_dmr.txt	adv_resetfvrt.txt	adv_txgain.txt	parrot.sh	
root@repeater:/opt/	'Analog Bridge# nand	> Analog Bridge.i	ni	

scroll down to **[USRP]** change **txPort** and **rxPort** to **31001**. The CTRL –X save and exit.

GNU nano 3.2 Analog	Bridge.ini
txTg = 9	; TG to use for all frames sent from An\$
txTs = 2	; Slot to use for frames sent from Anal\$
colorCode = 1	; Color Code to assign DMR frames
<pre>; Information for USRP channel driver. ; There are two typical configurations, ; to a digital network. Transcode is wh ; causing a TLV < (pcm <> pcm)> ? ; When using ASL, this matches the rpf ; rxchannel = usrp/127.0.0.1:34001:320 ; When Transcoding, make two ini files ; each instance with its own ini files USPP1</pre>	This interface uses PCM to transfer aud\$ ASL and Transcode. ASL (AllstarLink) i\$ hen Analog_Bridge actually points its PC\$ FLV type of architecture. c.conf ASL file with a setting like: 001 s and set txPort equal to the other inst\$
address = 127.0.0.1	: IP address of USRP partner (Analog Re\$
txPort = 52424	: Transmit USRP frames on this port
rxPort = 52424	; Listen for USRP frames on this port
usrpAudio = AUDIO USE GAIN	; Digital -> Analog (AUDIO UNITY, AUDIO\$
usrpGain = 4.00	; Gain factor when usrpAudio = AUDIO US\$
usrpAGC = -20,10,100	; Set the agc threshold (db), slope $\overline{(}db\$$
^G Get Help <mark>^O</mark> Write Out <mark>^W</mark> Where Is ^X Exit ^R Read File <mark>^\</mark> Replace 4	YK Cut Text AJ Justify AC Cur Pos U Uncut TextAT To Spell A Go To Line

Type in cd.., then ./Analog_Reflector user [call sign] [dmirid] [dmrid11] [node passwd] 11. Fill in the square brackets with your call sign, your dmrid, your dmrid with the 2 number prefix you chose in the initial setup of dvswitch, your node passwd and again the 2 number prefix.



In terminal type reboot



Click <OK>



Re open a terminal in putty and login at the prompt type in sudo -s



Type cd /opt/Analog_Reflector, then nano Analog_Reflector.json

coot@repeater:/home/repeater# cd /opt coot@repeater:/opt# cd Analog_Reflector coot@repeater:/opt/Analog_Reflector# nano Analog_Reflector.json

Change "dmrID":"1234567", to your dmrID number

	GNU nano 3.2	Analog	Reflector.json		
{					
	"nodeName":"DVSwitch",				
	"dmrID":"1234567",				
	"abAddress": "127.0.0.	L",			
	"usrpTxPort": "31001",				
	"usrpRxPort": "31001",				
	"mobilePort": "12345",				
	"WSPOrt": "443",				
	"keyDir": "./SSI/",				
	"Siteroot": "./arRoot"	a /duquitab /A	nalog Doflogton 1	ogl	
	"loglowel". "2"	Jg/dvSwitch/A	halog_kellector.1	og",	
	"disallowUnknownClient				
	"brokerIIRL" · "matt://1	ocalhost 1883	п		
	"rightsMask": "4".	Jearnose. 1005			
	"autoMute": true				
	"clientDebugMode": fal.	3e,			
	"clientModes": ["Inter	com", "DMR", "	"STFU", "DSTAR D-	Star", "NXDN"	, "P25", "YS\$
	"bridges": {				
		[Read	34 lines]		
^(<mark>G</mark> Get Help <mark>^O</mark> Write Ou	t [^] W Where Is	^K Cut Text ^J	Justify ^C	Cur Pos
^3	X Exit ^R Read File	e ^\ Replace	^U Uncut Text^T	To Spell ^	Go To Line

Scroll down to node and change [1999] to your Allstar node number.

GNU nano 3.2	Analog Reflector.json
"logFileName": "/var/lo	og/dvswitch/Analog_Reflector.log",
"logLevel": "2",	
"disallowUnknownClients	": false,
"brokerURL": "mqtt://lo	calhost:1883",
"rightsMask": "4",	
"autoMute": true,	
"clientDebugMode": fals	
"clientModes": ["Interd	com", "DMR", "STFU", "DSTAR D-Star", "NXDN", "P25", "YS\$
"bridges": {	
"asl": [
{"node" : "1999", '	'address" : "127.0.0.1", "rxPort" : "34001", "txPort" :\$
],	
"ab" : [
{"name" : "DMR",	"address" : "127.0.0.1", "rxPort" : "51100", "txPort"\$
{"name" : "D-Star",	"address" : "127.0.0.1", "rxPort" : "52100", "txPort"\$
{"name" : "NXDN",	"address" : "127.0.0.1", "rxPort" : "53100", "txPort"\$
{"name" : "P25",	"address" : "127.0.0.1", "rxPort" : "54100", "txPort"\$
{"name" : "YSF",	"address" : "127.0.0.1", "rxPort" : "55100", "txPort"\$
]	
[^] G Get Help [^] O Write Out	: <mark>^W</mark> Where Is <mark>^K</mark> Cut Text <mark>^J</mark> Justify <mark>^C</mark> Cur Pos
^X Exit ^R Read File	e ^\ Replace

Then scroll to the end of the line and **change "amiSecret" : "11cgi"** to **"amiSecret"** : **"your node password"**

GNU nano 3.2	Analog_Reflector.json	Modified			
"logFileName": "/var/lo	g/dyswitch/Analog Reflector.log".				
"logLevel": "2",					
"disallowUnknownClients	"disallowUnknownClients": false,				
"brokerURL": "mqtt://localhost:1883",					
"rightsMask": "4",					
"autoMute": true,					
"clientDebugMode": false,					
"clientModes"; ["Interco	om", "DMR", "STFU", "DSTARTD-Stal", "NA	IDN", "P25", "IS9			
"asl": [
\$Port" : "32001", "rights	" : 3, "ami <mark>U</mark> serName" : "admin", "amiSeo	<pre>cret" : "llcgi"}</pre>			
1,					
"ab" : [
{"name" : "DMR",	"address" : "127.0.0.1", "rxPort" : "5	51100", "txPort"\$			
{"name" : "D-Star",	"address" : "127.0.0.1", "rxPort" : "5	52100", "txPort"\$			
{"name" : "NXDN",	"address" : "127.0.0.1", "rxPort" : "5	53100", "txPort"\$			
{"name" : "P25",	"address": "127.0.0.1", "TXPORL": "3	55100", "txPort"s			
I fiame . ISF ,	address : 127.0.0.1 , 12000	JJIOU, CAPOLO 9			
1					
^G Get Help <mark>^O</mark> Write Out	^W Where Is <mark>^K</mark> Cut Text <mark>^J</mark> Justify	^C Cur Pos			
AX Evit AR Read File	AN Replace All Uncut TextAT To Spell	△ Co To Line			

CTRL-X save and Exit, type in reboot and that it your done