Enabling Vodafone Sure Signal V3 (VSSv3) to work via a Netgear Router.

First, if not already done so, register the VSS with Vodafone, following the instructions on the pamphlet that was in the box with it. This is also where you tell them what phone (Vodafone SIM only) is going to be used with it.

Now to set a Static IP address for VSS on a Netgear Router. Assuming you have only one VSS, and a relatively normal domestic style LAN on a Netgear Router, such as the DGN1000 or DG834G series. (The setup dialogs are VERY similar.)

You will need the Routers Administration Login details, the Username and password. Your ISP should have provided that for you, else you will need to call their customer service people to obtain them.

Of course, if you bought and setup your own router, you have all that written down, don't you! ;)

Power down (turn off at the mains) the VSS you have tried and so far failed to get going.

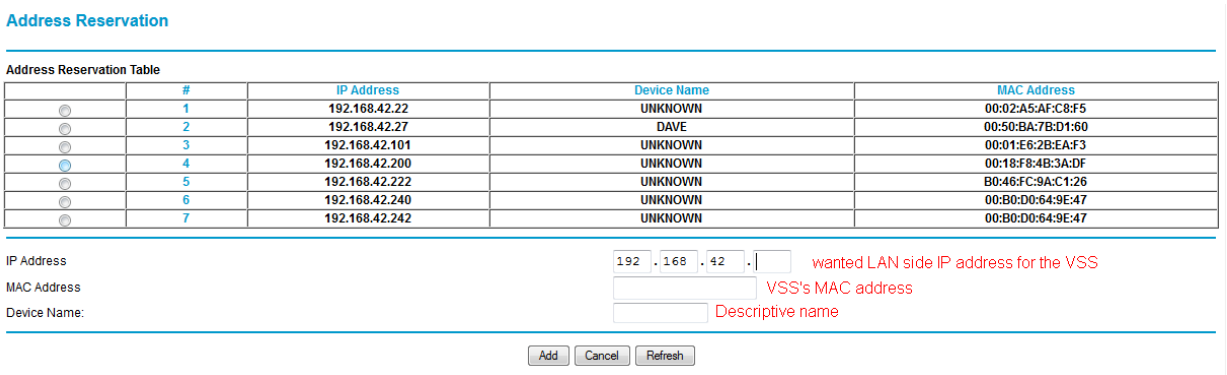
Login to Netgear Router's admin pages with a web browser. (IE, FF, Chrome etc) from a PC connected via a wired connection. (Use a wired connection, as it's MUCH more reliable than any Wi-Fi for doing this sort of thing.)

Down the left side of the router manager page, under "Advanced" select "LAN Setup".

In there, under Address Reservation, click the Add button.

In that dialog, fill in the blanks to select the IP address you want to assign to the VSS, also the MAC address for the VSS, and give it a descriptive name ("VSSv3" for example.)

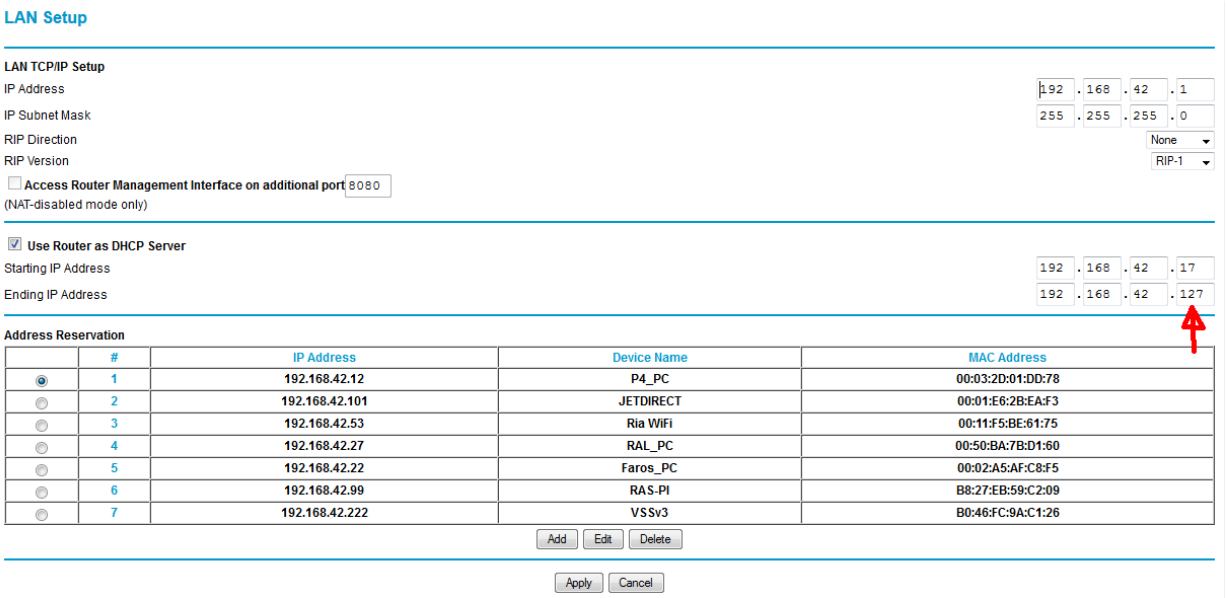
The MAC address, is shown on a label on the back of the VSS.



NOTE! The address you give it, must be unique, and never to be used by any other device, or as the song goes… "There will be trouble ahead!"...

When ready, hit the Add button. (Nothing will appear to change!)

Re-click the LAN Setup menu item on the left, you should now see your "Reservation" for the VSS listed, as below.



LAN Setup

LAN TCP/IP Setup

IP Address 192 . 168 . 42 . 1

IP Subnet Mask 255 . 255 . 255 . 0

RIP Direction None

RIP Version RIP-1

Access Router Management Interface on additional port 8080

(NAT-disabled mode only)

Use Router as DHCP Server

Starting IP Address 192 . 168 . 42 . 17

Ending IP Address 192 . 168 . 42 . 127

Address Reservation

	#	IP Address	Device Name	MAC Address
◉	1	192.168.42.12	P4_PC	00:03:2D:01:DD:78
○	2	192.168.42.101	JETDIRECT	00:01:E6:2B:EA:F3
○	3	192.168.42.53	Ria WiFi	00:11:F5:BE:61:75
○	4	192.168.42.27	RAL_PC	00:50:BA:7B:D1:60
○	5	192.168.42.22	Faros_PC	00:02:A5:AF:C8:F5
○	6	192.168.42.99	RAS-PI	B8:27:EB:59:C2:09
○	7	192.168.42.222	VSSv3	B0:46:FC:9A:C1:26

Add Edit Delete

Apply Cancel

Hit the "Apply" button, to make the changes take effect.

(Ignore the Red arrow, which was used to help sort out someone else's mayhem.)

Now for the Firewall Rules...

There are "A LOT" of entries (18 rules) to do here, so there are two choices.

Manually enter them all through the Routers' admin portal (it works, but take an age and a half to do.) Or save the routers setup details as a file, edit it, and load it back into the router.

If anyone wants that info, say so, and I'll make it available. BUT... Windows users note! The files are UNIX format text files. Notepad, WordPad (or Word!) will not "cut the mustard" with them. I will divulge all if asked. Apple, Linux or BSD users should be able to edit them with their favourite "text" file editing tool.

Anyway...

First: Get back into your Routers admin page.

Under the "Maintenance" heading on the left, select "Backup Settings".
Use the top selection in there "Save a Copy of Current Settings."
Do the usual thing to save a file to your PC, somewhere you know you can get to and remember.

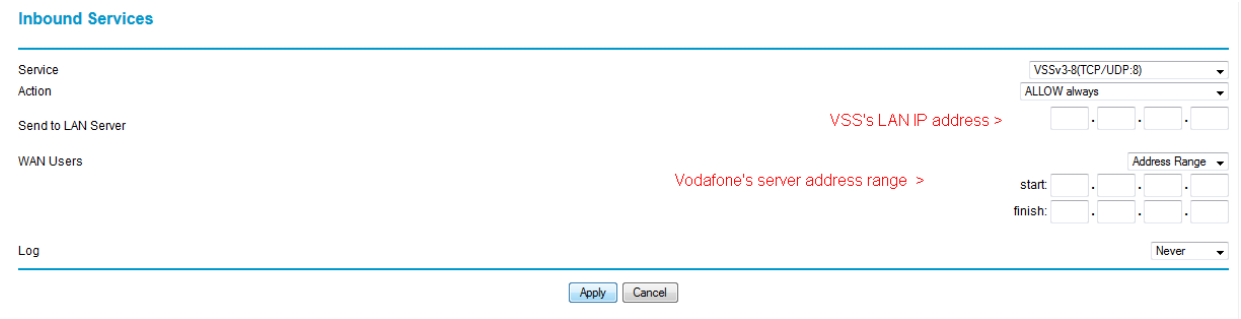
IMPORTANT!...
Do this twice, so you have two files, in totally different places (one on the PC, one on an external drive or memory stick for example. Do it a third time to be totally safe and sure! To a third storage device.)

NOTE!!! DO NOT put these on any public file store, unless you have securely encrypted them, as they contain your login details for your ISP.

Doing this multiple times to different places local to you, so if you mess things up, you have a copy saved of how it was before the error. Then.. Even if the router fails to boot, you can do a factory reset, and reload the last known good settings back into it! Plus, you have two (or more) files, so if one is corrupt for some reason, you can restore from one of the others!...

OK. From within the Router's admin pages.

On the left, under "Security", select "Firewall Rules".
Under "Inbound Services" click the "Add" button.



As to Vodafone's Server farm address ranges. You will need to do each rule 3 times, once for each range of addresses. (Probably not strictly true, but this is based on the information posted by Vodafone's people, they have not given us the details as to which servers use what service, so we need all three ranges for all services/ports!)

Here are the list of address ranges, and Ports or Services to allow. (As of August 2014.)

Vodafone's VSS server IP Address ranges: Three IP address ranges have been made known for these.

Start 212.183.133.177
Finish 212.183.133.179

Start 212.183.133.181
Finish 212.183.133.182

Start 212.183.131.128
Finish 212.183.131.191

Ports & Protocols:

8 – TCP/UDP
50 – TCP/UDP
123 – UDP
500 – UDP
1723 – TCP/UDP
4500 – UDP

Notes:

Port 123. NEVER forward this port under a blanket rule (that encompasses "Any" outside IP address) to one specific device on your LAN, or other PC's/devices you have may not be able to do their own timekeeping correctly.

Here, we use three specific WAN (external) address ranges to qualify the rule, for to the VSS, any NTP replies (from other addresses) will go to the devices making such requests. All other unsolicited probes will be blocked. (Normal NAT router behaviour.)

Port 1723. Is not listed as "Needed" by anything other than BT Home Hubs. But as it is closely related to what happens with ports 500 and 4500, it's included here.

As you see, there are 6 ports/protocols to handle, and three address ranges, hence 18 rules to configure and enter! In the end, you should end up with what looks like this.

○	5	☑	VSSv3-8	ALLOW always	192.168.42.222	212.183.133.177-212.183.133.179	Match
○	6	☑	VSSv3-8	ALLOW always	192.168.42.222	212.183.133.181-212.183.133.182	Match
○	7	☑	VSSv3-8	ALLOW always	192.168.42.222	212.183.131.128-212.183.131.191	Match
○	8	☑	VSSv3-50	ALLOW always	192.168.42.222	212.183.133.177-212.183.133.179	Match
○	9	☑	VSSv3-50	ALLOW always	192.168.42.222	212.183.133.181-212.183.133.182	Match
○	10	☑	VSSv3-50	ALLOW always	192.168.42.222	212.183.131.128-212.183.131.191	Match
○	11	☑	VSSv3-123	ALLOW always	192.168.42.222	212.183.133.177-212.183.133.179	Match
○	12	☑	VSSv3-123	ALLOW always	192.168.42.222	212.183.133.181-212.183.133.182	Match
○	13	☑	VSSv3-123	ALLOW always	192.168.42.222	212.183.131.128-212.183.131.191	Match
○	14	☑	VSSv3-500	ALLOW always	192.168.42.222	212.183.133.177-212.183.133.179	Match
○	15	☑	VSSv3-500	ALLOW always	192.168.42.222	212.183.133.181-212.183.133.182	Match
○	16	☑	VSSv3-500	ALLOW always	192.168.42.222	212.183.131.128-212.183.131.191	Match
○	17	☑	VSSv3-1723	ALLOW always	192.168.42.222	212.183.133.177-212.183.133.179	Match
○	18	☑	VSSv3-1723	ALLOW always	192.168.42.222	212.183.133.181-212.183.133.182	Match
○	19	☑	VSSv3-1723	ALLOW always	192.168.42.222	212.183.131.128-212.183.131.191	Match
○	20	☑	VSSv3-4500	ALLOW always	192.168.42.222	212.183.133.177-212.183.133.179	Match
○	21	☑	VSSv3-4500	ALLOW always	192.168.42.222	212.183.133.181-212.183.133.182	Match
○	22	☑	VSSv3-4500	ALLOW always	192.168.42.222	212.183.131.128-212.183.131.191	Match
	Default	Yes	Any	BLOCK Always	Any	Any	Never

The First column: Is the rule edit/change select button

Second: Is the entry number in the table.
(Your entry numbers second column on the Left in blue will be different to mine. I've not shown the other 4 I have that relate to other systems at my location.)

Third: Weather to "Enable/activate" the rule. (You can play with this later, to see what breaks things, or not etc.)

Fourth: The Rule name (hence why I recommend you give the rules good names when you make them.)

Fifth: Is when to allow the rule. (ALLOW Always in this case.)

Sixth: Is the LAN address of the VSS that is where to send the data inside your network.

Seventh: The WAN address range to allow. (The Vodafone Server Clusters' public address ranges.)

Eighth: When/if to log what happens. I've never made this work on any of my Netgear routers, so in new cases, just select "Never" when specifying/entering rules.

As above, many of these are almost certainly redundant. But as Vodafone have not made available the exact details of what servers do what, or need which service/protocol, we can't do much better than this for now.

In my case, doing all this, the VSSv3 still worked OK after. If anyone has a router that correctly log's traffic, you could enable that that, and then figure out how to pear down this list to less than half its size I suspect.

For Outgoing rules, just use the default.

Any(All) ALLOW Always Any LAN user ANY WAN server.

Hit the "Apply" button, and back your way out of the router's dialog.

If you have not already done so. Power down (turn off) your VSSv3.

Restart the router. Wait for it to fully settle down.

Check for normal connectivity to the outside world.

Re-login to the router, and check all the above work has "stuck" and is shown as "Enabled". Correct if/as needed and try again...

Once all is good and stable. Make sure the VSS is connected directly to the Router. The "Thin" cable seems to work, but at least one other person on this list reported that theirs was changed for a piece of regular CAT5/6 cable, before it would work.

Power on the VSSv3, and now walk away from it for at least an hour! Seriously. For the first time they see Vodafone's servers, and make connection, there seems to be a huge amount of LAN traffic to/from the VSS, and it may do one or more apparent reboots of it's own. Just leave it to get on with things.

If all this makes your VSS work, nice. Now, make a new backup of the router's settings, so you can get back here if needed. Remember to give the file a descriptive name, so you know what and why!

If your VSS still refuses to work, there is probably something outside of your control preventing the VSS from communicating with Vodafone's servers. Talk to your ISP, it may be something they can tweak, or it may not. :(Some peoples public IP address appearing to be listed as located outside the UK, is a total show stopper for this service. Find your external (WAN side) IP address, either from within the routers admin dialog, or using a web service such as "Whats my IP" (Google it.)

Then, using google, do a search on "whois xxx.xxx.xxx.xxx" where the x's are your public IP address you found from above. If there is any hint of something being outside the UK, you may need to talk to your ISP to get them to ensure you get another that shows as in the UK in the future.

I have provided all this in good faith, based on "a lot" of reading and searching the web about all this, and the VSSv3 I'm trailing seems to work just fine. Mind you, in my case it does that even without all the inbound firewall rules, so "go figure" as the Americans would say!

Remember to make those router settings backups before attempting any of this. If you don't, and do break your ISP connection. It's not my fault!

Oh… Most Netgear Routers, if you have to do a "Factory Reset", their default login is "admin" and "password". Unless, you're ISP supplied box was customised by them.

Take care.

If in doubt. Don't bother, get someone else to do it for you, or try a different router.

My next challenge, is to get one of these things working in the office, but there is going to need to be a change of router hardware, as we already run a PtPP/L2TP VPN for business needs, and the cheapo BT "Business Hub" thing currently fitted, is not able to have multiple rules for the same protocol/service, applied to different external IP addresses (or ranges.)