

## Guide to using Sipgate for your VOIP phone service

### CONTENTS

- 1 Introduction
- 2 Advantages/Features
- 3 Disadvantages
- 4 Equipment required
- 5 Connecting your router, ATA, phone and computer  
Example ATA set-up procedure (Grandstream HT802)
- 6 Voicemail and other features
- 7 Voicemail tips  
Using your mobile as an extension of your home phone
- 8 Hardware comments  
Making free non-Sipgate calls over the internet
- 9 Backing up your computer online - an example service provider

### **Introduction**

Once you have your B4RN fibre broadband service up and running the first thing you will probably want to do is to say goodbye to monthly phone line rental charges, yet a regular 'landline' phone and telephone number are handy to have because it is often cheaper for your friends and family to call in to than a mobile. The answer is a VOIP (Voice Over Internet Protocol) telephone service. While Vonage is the market leader for a simple plug-and-play VOIP phone line and its monthly charge is probably lower than a regular landline, if you want *no* monthly charge at all, then German company Sipgate's pay-as-you-go '**Sipgate Basic**' service is definitely worth considering if you don't mind a little set-up work.

<http://www.live.sipgate.co.uk>

**Creating a Sipgate account** is the first step and costs nothing. Sipgate has an address verification procedure that involves them posting you a start code along with basic instructions for getting online, for which you must wait before you can complete your registration. You can add money to your account for making phone calls later. If you want a second phone line and number later on you just repeat the process, using a different email address, as per Sipgate's instructions. Once registered you'll receive a **SIP ID** and **SIP Password**, each being a jumble of numbers and letters. Note these, as they will be needed later for your hardware set-up. They are also stored in your online Sipgate account under the 'Phones' menu on the left.

### **Advantages/Features**

- Sipgate's Unique Selling Proposition is that it has the option of a pay-as-you-go (PayG) plan called [Sipgate Basic](#) which is handy for people making few outgoing phone calls as there is **no** monthly charge. It also has various [monthly call packages](#), the cheapest of which costs 50p per month more than [Vonage](#) but this does include calls to UK mobiles\*.
  - For day to day ease of use my recommendation is to use an ordinary good quality telephone paired with an Analogue Telephone Adaptor (ATA ). The ATA connects the phone to your B4RN router. You could instead buy a VOIP phone, or use a computer based 'soft' phone, the latter being not dissimilar to using Skype's paid for service.
  - You can choose any primary UK area code, then pick one of 5 offered phone numbers. e.g. you could choose 01524 and a 6 digit number, probably beginning 88-, but not area code 015242 unless you opt to keep your present phone number.
    - Free call forwarding service - but you pay for any forwarded calls.
    - Free voicemail, instantly emailed to you as a clickable audio file.
    - You can have more than one phone line/number - one per email address.
- You just need to ensure that when you buy your ATA it [supports the number of lines you want](#) e.g. Grandstream make one, two and four line ATAs. This could be handy if you've got a house full of teenagers who each want their own dedicated phone line. You could then let them pay for their own calls! Plugging a second phone into a two-line Grandstream ATA without setting up a second phone number will give you a second incoming line on the same phone number. I.e. if the first phone is engaged on a call when someone else calls that number the second phone will ring. Not recommended if you'd rather it took a message than rang a second phone while you're engaged on a call!
- Free conference call service if your ATA (such as Grandstream) and phone (such as Gigaset) support that function. You just pay for the additional calls.†

- PayG service is reasonably priced for calls to UK landlines. At time of writing it is 1.18p/min with no connection charge, while calls to many overseas landlines and a few overseas mobiles cost 1.9p/minute. For full tariff rates [click here](#).
- You can choose to hide your own number when calling out, or display a different number. For instance, one of our lines displays my mobile number. Displaying any phone number that does not belong to you is likely to become illegal if it is not already by the time you read this, so do check the law on this.
- My combination of phone and ATA used with the B4RN service has resulted in audio quality somewhat better than I was getting with my copper wire landline.
- While having to buy your own ATA may seem to be a disadvantage over a service that bundles in a free ATA, the one off fee for the hardware is offset by free features that might elsewhere require a subscription: a second phone line, call forwarding, conference calls and voicemails emailed to you.
- Sipgate to Sipgate calls are free (but this is not covered here).

### **Disadvantages**

- Not at all plug-and-play. Set-up requires entering a fair bit of information on a couple of web pages, following your ATA's and Sipgate's guides.
- If you want to transfer over a current landline number that will cost £30 (unlike Vonage which is free)
- You must buy your own ATA. With Vonage that is included, plug-and-play.
- The Pay as you Go (PayG) cost to call UK mobiles is high at 9.9p/minute compared to, say, Three Mobile PayG which costs only 3p/minute, but is similar to Vonage's basic TalkUK Plan which charges 10p per minute for calls to UK mobiles\*.
- Most overseas mobiles are expensive to call, with a few notable exceptions such as USA, Canada, China and Singapore which cost only 1.9p/min\*.
- If you have a favourite overseas destination compare the rates at <http://www.18185.co.uk> with [Sipgate's rates](#), but note that unlike Sipgate, Call18185 has a 4p connection charge. Call 18185 is merely an *add-on* to any phone service you already have, including with Sipgate. It is not an alternative VOIP provider\*.
- A copper wire phone will work during a power cut because telephone exchanges have banks of batteries, unlike any VOIP service, unless you have an Uninterrupted Power Supply (UPS) as a backup.
- For the purpose of emergency calls ensure that your Sipgate account has your correct geographical address recorded. This would only be an issue if your billing address is different from where your Sipgate phone service is, in

which case you would need to manually correct the 'Emergency Address' on your account page on the Sipgate website.

- 101 (Police non-emergency) and 111 (NHS Medical Advice) are NOT available. (999 calls are available)
- While "free" web based SMS is available [as Sipgate claims](#), it's only free to sign up for, not free to actually use!

### **Equipment required**

[links given are just examples - other suppliers are available!]

- A computer with browser is needed, but only for set-up. Preferably with an ethernet socket (RJ45), in case connecting wirelessly to the B4RN router isn't adequate for the Sipgate set-up, but wireless is likely to be adequate.
- [Note that if you wish to access your B4RN Genexis router's control panel the correct access address may be <http://192.168.1.1> rather than the address in the book ending with 254. This is handy if you want to change your router password away from 'admin', your wireless network name to something less gobbledegook and want to set a wireless password you can easily remember for when visitors request access, but none of this is necessary for Sipgate set-up...]
- An Analogue Telephone Adapter (ATA). Make sure it is a [brand supported by Sipgate](#). My Grandstream HT702 has been superseded by the HT802 but anything in the HT series is compatible\*. Both models above have an extra port for a second phone line and optional additional phone number. One ethernet cable (RJ45 to RJ45) is included in the box. Guide price: from [about £38 delivered](#)\*. You don't *have* to use Sipgate as your VOIP provider for your other line/s. You could choose any VOIP provider and telephone number from around the world!  
<https://www.netxl.com/network-routers/grandstream-ht802-voip-analogue-adapter/>
- An RJ11 plug to BT Socket adaptor (a short lead that converts a U.S. phone plug to a UK phone socket). Guide price: [from £1.69 delivered](#). If you'll have two phone lines you'll need two of these.  
<https://www.ebay.co.uk/itm/BT-Socket-to-RJ11-Plug-4-Pin-Telephone-Phone-Cable-Adaptor-Converter-UK/400844006738>
- An extra RJ45 (ethernet) cable is optional for the ATA set-up, as the ATA set-up should work fine via the wireless connection to the router.
- A telephone! Anything will do, but I can recommend the cheapest basic Gigaset models for sound quality and ease of use. Duo or Trio versions are useful as around-the-house intercoms. [An example supplier I have used is Ligo](#). If you can find a Gigaset Trio for £60 or less (see Hardware Comments on P.8) then, that would be pretty good value - do shop around.

## **How to connect your B4RN Router, ATA, Telephone and Computer**

- a) Connect the supplied ethernet cable (RJ45 to RJ45) that came with the ATA from your B4RN router to your ATA
- b) Take your RJ11 to BT Socket Adaptor lead, plug the RJ11 end into the ATA's first FXS (phone) port (marked as No. 1) and plug your phone into the BT socket at the other end of the lead.
- c) Plug in your ATA's power supply.
  - the above connections remain in place permanently
- d) For setting up only: If your computer is logged in to your B4RN router's wireless connection this is likely to be adequate for the ATA set-up, but if not connect another ethernet cable from your B4RN router to your computer.

### **Example set-up of Sipgate VOIP using a Grandstream HT802 ATA**

*The following instructions apply only to [a typical Grandstream ATA](#), but serve as an example of the type of procedure involved, should you buy a different ATA. Check first that Sipgate has a set-up guide for whatever ATA you are considering buying. This [link](#) shows which ATAs Sipgate supports.*

<https://basichelp.sipgate.co.uk/hc/en-gb/categories/200656382-Setting-Up-VoIP-Phones-Devices>

#### **1) Log in to your ATA**

First you must find its 'web' address. On your telephone keypad press \*\*\*, wait for a voice prompt, then press 02 and listen. That is, you press the star key three times, wait for a voice prompt, then press 'zero-two'. A voice will then tell you your ATA's (local) IP address. If you hear nothing make sure your phone is connected to the ATA's Port 1 (FXS 1). Write down the IP address you hear, then with everything connected as above put this address into your computer's web browser and press Enter. It will look something like 192.168.1.125. You don't need to add http:// etc. This will give you access to the Grandstream ATA's Control Panel login page. Do bookmark this address. The above is on P.20 of the [Grandstream HT80x User Guide](#) found on the Grandstream website.

[www.grandstream.com/sites/default/files/Resources/ht80x\\_administration\\_guide.pdf](http://www.grandstream.com/sites/default/files/Resources/ht80x_administration_guide.pdf)

#### **2) Enter all the required set-up information**

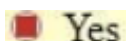
For this you need [Sipgate's guide to setting up](#) found on the *Sipgate* website, *not* on the Grandstream website. This will give you almost everything needed to set up your Grandstream ATA, but do see my tips in bold below.

<https://basichelp.sipgate.co.uk/hc/en-gb/articles/204237381-Grandstream-HT-Adapters>

At the Grandstream login page you will enter the default password from the instructions, normally 'admin'. For security, you should change this in 'End User Password' found under Basic Settings, but as there is no 'Forgotten password?' option, when I created a bookmark for my login page I added to the name of the bookmark a clue to the login password. Should you lose your password the ATA has a Factory Reset button.

**After completing the entries on each web page make sure they are saved by scrolling down to the bottom and clicking 'Apply' - the Sipgate guide omits this.**

The Sipgate guide will instruct you how to enter your Sipgate account details in the FXS Port 1 web page. The necessary items are all highlighted in the guide in **red** - don't overlook any small red radio buttons:



If you want two phone lines/numbers and have created two separate Sipgate accounts by means of a second email address then you will be entering the second set of details on the FXS Port 2 page. In that case, note the special instructions concerning the two Port fields that will differ from FXS Port 1, apart from the different Sipgate ID and Password. **I would advise leaving setting up a second phone number until after you have the first one set up and working.**

The guide will then have you fill in settings specific to your ATA, under Advanced Settings. It gives two different settings for STUN Server: 10000 and 3478. I chose 3478 and it worked.

When you have finished entering the settings on each page as instructed and have clicked on 'Apply' for the final time, click on Basic Settings, scroll down to the bottom and click on 'Reboot' for the new settings to take effect. Lights reappearing on the ATA will indicate when reboot is complete.

If you want to use 3-way conference calling or get into more esoteric stuff such as free IP address to IP address calling it would be as well to also download the [Grandstream User Guide](#) from the [Grandstream website](#).

[www.grandstream.com/sites/default/files/Resources/ht80x\\_administration\\_guide.pdf](http://www.grandstream.com/sites/default/files/Resources/ht80x_administration_guide.pdf)

### **Voicemail and other features**

For voicemail you can choose to use your own telephone, Sipgate's voicemail service (just set it up on their website), or the voicemail option built into your

ATA. When at home I like to use our telephone's built-in answering machine because it's easy to use and the handsets all flash if a message has been left, but I revert to using Sipgate's voicemail if I go away as any Sipgate voicemail is instantly sent to me by email with the audio attached - just click to listen.

Grandstream ATAs include many other functions, such as conference calls, that I haven't yet explored. For comments on hardware choices, see my Hardware Comments section on page 8.

### **Voicemail tips**

You could set your home phone to go to voicemail after 20 seconds and set up your free Sipgate voicemail to answer after 30 seconds. Your home phone will by default pick up messages. When you go away just switch off your home phone's answering machine and Sipgate will then take messages by default, which you will receive by email. You can also log into your Sipgate account's web page if your email service isn't working for any reason.

### **Using your mobile as an extension of your home phone**

Smartphones can act as extensions to your new VOIP landline number if they are in a Wifi hotspot or otherwise connected to the internet anywhere in the world, by means of a virtual telephone app such as Zoiper. Download the Zoiper app to any number of smartphones and into the app enter your Sipgate User ID and Password. Any outgoing calls you make using Zoiper will get charged to your Sipgate account as if they were made from your phone at home, whether you are in Lancaster, Australia or Timbuktu. Conversely, if someone calls your Sipgate number any Zoiper equipped smartphones connected to the internet will ring simultaneously with your home phone. This could be a cheap alternative to roaming if you are outside the EU, but as it requires internet access it is not a full substitute. If you are at home with a few 'landline' wireless handsets AND a few Zoiper equipped mobiles switched on it can be quite a chorus when someone rings your Sipgate phone number! The call will go through to whichever handset or mobile you choose to receive the call on. Receiving calls this way incurs no charge. One curiosity is that if our 'landline' phone is engaged on a call and someone else calls that number the second call gets diverted through to our two Zoiper-enabled mobiles! I'm unsure if that is because of our Grandstream ATA or due to Zoiper - I suspect it's Zoiper. If you only have one VOIP phone number set up but have two

phones plugged into your ATA the second phone will ring if the first is engaged on a call. I.e two lines on one phone number.

### **Hardware Comments**

**Telephones:** Gigaset DECT phones have had good reviews in Which? Their basic models use plain English text in their menus - no obscure icons (like on Panasonic phones) to learn and if you buy a model such as one of the 'Trios' with three handsets it is easy to make internal calls between them. But do do your homework to compare features as new models appear. [The Gigaset AS405A Trio on Amazon](#) if still available is worth looking at, while online supplier [Ligo](#) usually has a large range of Gigaset phones.

**ATA:** My only experience is with my Grandstream HT702, which works fine but is now superseded by the [HT802](#). I have a second phone plugged into the second phone port with its own phone number.

If you have a small business with a few employees then you could be considering something like the [Gigaset DX800A PRO](#) used with [Sipgate](#) and [B4RN's business services](#).

<https://www.gigasetpro.com/systems/systemsdetail/product/en-dx800a-pro/>

### **Making Free non-Sipgate Calls Over The Internet / Wifi**

One reason for choosing Sipgate's pay-as-you-go service, Sipgate Basic, rather than a monthly call package is the proliferation of free alternatives to paid-for phone calls. If you have a tablet or smartphone, making voice or video calls worldwide using [WhatsApp](#), [WeChat](#) or [Skype](#) is straightforward and for long regular chats to friends who also have either a smartphone or tablet and a WiFi connection it is a bit of a no-brainer, which may leave you making very few paid-for phone calls. WhatsApp has one apparent advantage over WeChat in that a voice call rings the recipient's phone like a normal phone call and it seems to have a better message alerting service. WeChat is the service of choice if you are visiting or have friends in China and is slightly better on an iPad than on an Android phone.

<https://www.whatsapp.com> <http://www.wechat.com> <https://www.skype.com/en/>



## Backing up your data - Backblaze as an example

With a fast broadband connection, backing up your whole computer's contents online becomes more practicable. I signed up with [Backblaze](#) currently \$6 a month + VAT\* for an unlimited amount of data. They give you 14 days free trial to test out the service. You can set it to continuously backup or backup on demand and it's easy enough to use. On testing I could download selected files as required. I haven't done any sensible comparison of the many other services available, but reckoned the price was OK for unlimited data from one computer.

However, the 'blaze' component of the name is a bit of a misnomer as it is not the fastest of services. It took two to three days to upload the contents of my computer, 326GB, though subsequent incremental backups are much faster, typically 5 minutes, depending on how many photos or videos I've added. Their website has a throttle you can set to *their* maximum speed which nevertheless doesn't get near to making full use of B4RN's bandwidth. I've since uploaded and downloaded some very large files from other websites very rapidly, which proved to me that the speed cap is with Backblaze and not with B4RN. The reasonable price per GB and ease of set-up are its main selling points. However, if you get organised with an external hard disk or two then you might decide that this service isn't something that you really need.

<https://www.backblaze.com>

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\*Prices checked at time of writing - August 2018

† If you particularly want conference calling do check that your model of ATA supports that feature and that the phone model you choose has a 'Flash' or 'Recall' button. Most Grandstream ATAs and Gigaset DECT phones probably will support conference calling.