

## VOIP Hardware Guide

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Using [VOIP](#) hardware frees up your PC and gives you better quality calls. This guide introduces the most common types of hardware, and should help you decide a suitable unit for you. The most important part of choosing hardware is to make sure it's [SIP](#) compliant, [SIP](#) is the most widely used [VOIP](#) protocol and the only one we use at freespeech

**NOTE: We do not sell VoIP hardware at freespeech, SIP compatible VoIP hardware is widely available from retail computer stores.**

The most common types of hardware are

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Analogue Telephone Adaptors - let's you connect a regular phone to Freespeech.

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VoIP Gateway Adaptors - let's you connect a regular phone but also provides your local network with improved call quality.

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IP Phones - a VoIP phone that can connect directly to Freespeech

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IP PBX's - a business phone system that can support 'SIP trunks' for connection to freespeech

### Using a regular telephone

The easiest way to use your freespeech account is with a regular analogue telephone, just like the the one your used to using at home. You will make and receive calls just like you do on a normal phone and will not need to keep your computer on. To connect a regular telephone you need what's known as an *Analogue Adaptor* (also refererred to as AT, ATA or TA).

#### Analogue Adaptors

This is an example of a basic analogue adaptor

Analogue adaptors come in many shapes and sizes but what they all have in common is they provide an analogue telephone socket (just like the traditional phone socket you have on your wall) and a (LAN) network connection socket for connecting to your router. The analogue phone socket is often referred to as an *FXS* (Foreign Exchange Station) port.

You connect the analogue adaptor to your computer network (LAN) via the network connection socket. Your regular phone connects to the analogue telephone socket.

This is an example of the most typical connection. When your adaptor is configured and you connect your phone, it works just like a regular phone.

## Configuring an Adaptor

Most telephone adaptors use a web page for configuration (using internet explorer), many also support a voice prompt menu which you can reach by picking up the attached phone and dialing a specific code.

### Additional features you can expect on adaptors

- » Additional FXS ports - this allows you to connect additional phones to your adaptor.
- » FXO(Foreign Exchange Office) port(s) - this allows you to share your connected phone between your VOIP line and your traditional phone line. You connect an FXO line to your phone wall socket (where you would normally plug in your phone). An FXO port will also allow you to dial into your adaptor via your traditional analogue line and re-route calls out via your VOIP line.
- » PSTN passthrough/fallback port - similar to FXO port but more limited, does not allow dial in for re-routing of calls.
- » Additional LAN port - This allows you to connect a PC via your adaptor, usefull if you only have one LAN port on your router. Note: this does not mean there is a router in your adaptor, this is important if you have a single PC and want to add an adaptor to your setup.
- » Built in router - see below

## Combined VOIP Gateway/router/adaptor

This device combines the function of a router and adaptor into a neat package reducing the complexity of your setup. A VOIP gateway will also improve the quality of your calls by prioritising voice over data.

This is an example of the most typical connection. When your VOIP gateway is configured you can make/receive calls just like a regular phone.

## Using a VOIP telephone

A VOIP phone (also known as an IP phone) is a next generation telephone which natively supports VOIP, it's like an adaptor and phone combined. VOIP phones typically give better quality than adaptors and have can have a broader set of features supported. A VOIP phone works in a similar way to a regular phone for a users perspective.

This is an example of a basic IP phone.

All IP phones are directly connected to the network with a (LAN) network cable.

This is an example of the most typical connection. When your IP phone is configured you can make/receive calls just like a regular phone.

## Configuring an IP phone

Most IP phones use a web page for configuration (using internet explorer), many also have a menu system configuration you can use with the phones display.

### **Additional features you can expect on IP phones**

- » LCD display - most IP phones have a display, this is usefull for phone settings, call history and caller id.
- » Multiple call appearances - Allows you receive more than one call at a time on a single VOIP number and to switch between the calls, many phones will also support conferencing between calls.
- » Multiple Accounts - Allow you to set up with multiple VOIP providers, normally selected via a 'line' button on the phone.
- » Call features - transfer, conference, mute, voicemail indicator, hold, speed dial.
- » POE (Power Over Ethernet) - Power can be supplied to the phone over the network cable to avoid using external power supplies. The router/switch you are plugged into must support this feature to use it.