



Understanding broadband
for people who'd rather not



Start here

YOU'VE PROBABLY HEARD LOTS ABOUT BROADBAND RECENTLY. Perhaps too much. But in all the media comment one thing seems to be missing – a simple explanation of what broadband is all about.

So here it is. Broadband explained in plain English for people who really aren't that interested in all the technical stuff, but do want to know what it means.

If you already know the basics, go straight to page 19.

Contents

	pages
Start here	1
How fast do I need it to be?	3
How fast is fast?	5
Does my band look broad in this?	7
What kind of broadband would you like?	9
What equipment will I need to use broadband?	11
How do I get it all organised?	13
Any questions?	15
Broadband jargon explained	17
Understanding broadband – for people who'd rather know	19



What is broadband anyway?

Let's start as we mean to go on. Broadband is just a fast internet connection for your computer. That's all.

You can choose any broadband company you like. You don't have to get broadband from your telephone company.

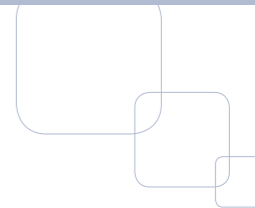
Most internet providers (also called Internet Service Providers or ISPs) can arrange broadband for you.

How is broadband different?

Dial up internet connections use your **phone line** to connect your computer to the internet each time you want to either send or receive emails or to go to a "www" website. You cannot use your telephone and the internet at the same time.

Broadband differs because it lets you use your telephone and the internet at the same time. Broadband stays connected all the time your computer is switched on, so you don't have to wait to use the internet, and you can use your phone normally.

But the main difference is speed. Broadband loads web pages and information from the Internet much faster than dial up.



ONE FACT

Broadband is just a fancy term for fast internet access.



WORKING OUT WHAT BROADBAND SPEED YOU NEED DOESN'T HAVE TO BE DIFFICULT. Just think about the way you want to use the internet.

If you only use the internet for email and checking on your TradeMe or eBay auctions a couple of times a week, you probably don't need a very fast connection.

For anything more – watching movies online, downloading music, internet gaming, using an internet phone service, or if you work from home – you'll find a full speed broadband connection much more useful.

How fast do I need it to be?

Slow/Standard

- Email
- Occasional web surfing
- Storing photos online
- Reading
- Online newspapers

Standard/Fast

- Watching movies
- Internet phone services (Skype or similar)
- Downloading music
- Internet gaming
- Working from home
- More than one computer connected

What do the numbers mean?

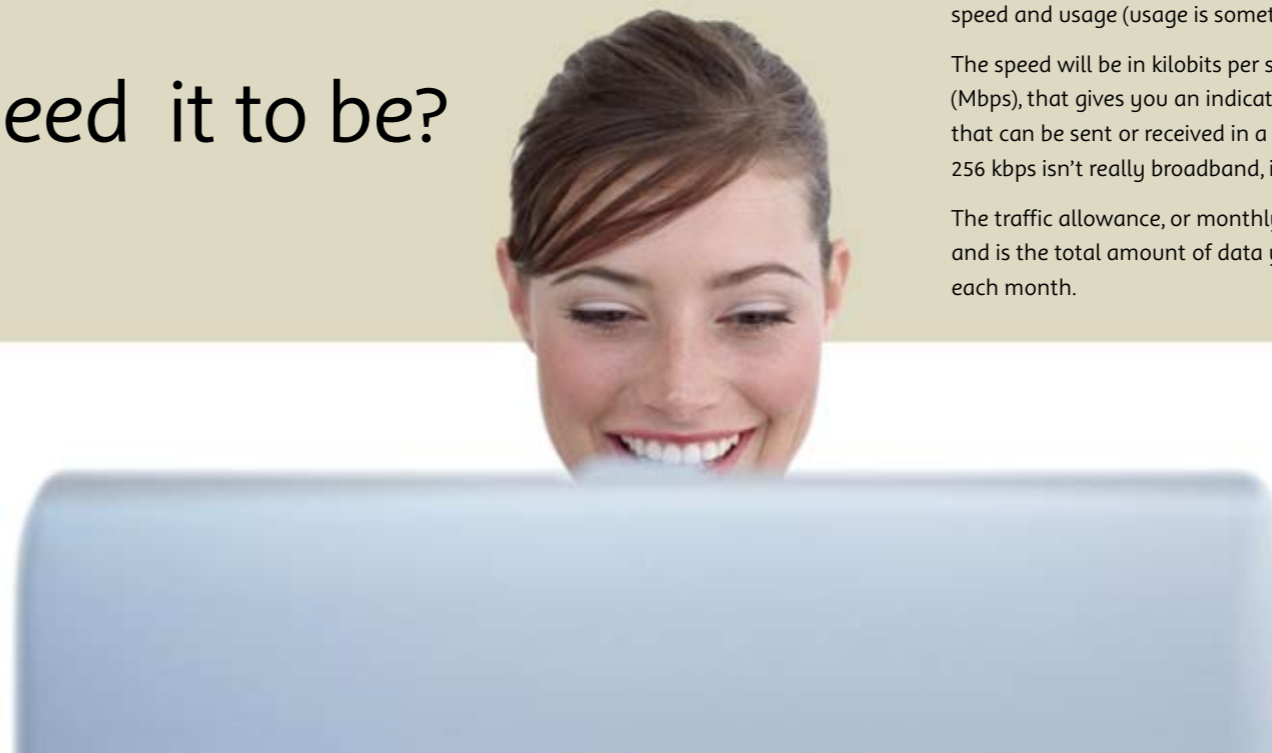
When looking at broadband plans you'll see two numbers – speed and usage (usage is sometimes called traffic allowance).

The speed will be in kilobits per sec (kbps) or Megabits per sec (Mbps), that gives you an indication of the amount of data that can be sent or received in a second. Anything less than 256 kbps isn't really broadband, it's not fast enough.

The traffic allowance, or monthly usage, will be in MB or GB and is the total amount of data you can send and receive each month.

ONE FACT

If there's more than one computer in your house, choose a standard or fast connection.



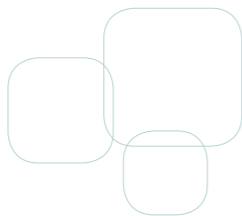
How fast is fast?



NOT ALL BROADBAND CONNECTIONS WORK AT THE SAME SPEED.

As you might expect, the faster your connection, the more you'll be able to do. Like send bigger pictures with your email, or watch TV and movies on the internet, or even use the internet to make phone calls.

Almost all broadband connections are faster receiving information (the *download* or *downstream* speed) than they are sending information (the *upload* or *upstream* speed). Usually, you won't notice this difference.



ONE FACT

You may not actually need the fastest broadband connection.

What does fast really mean?

	Dial up	Slow broadband (256 kbps download 128 kbps upload)	Standard broadband (2 Mbps download 128 kbps upload)	Fast broadband (10 Mbps download 512 kbps upload)
TradeMe homepage	20 to 40 secs	10 to 15 sec	2 to 3 secs	instant
5 minute song	10 mins	3 min	20 sec	3 to 4 sec
30 second film trailer	7 to 10 mins	2 min	10 to 15 sec	2 to 3 sec
Sending an email with a picture attached	15 seconds	5 sec	5 sec	1 sec
Online gaming	Not practical	Possible but delays may affect your game	Ideal for most real-time gaming, few or no delays	No noticeable delays

The information shown is based on the maximum achievable performance for each service. Actual performance may vary.

If you currently have access to the internet, TelstraClear has a demonstration page which provides a visual example of speeds.

Go to – www.telstraclear.co.nz/go/speed-demo
Click on the High Speed Internet – Demonstration Link.

WE'VE TALKED ABOUT SPEED, NOW LETS TALK ABOUT USAGE (ALSO KNOWN AS TRAFFIC ALLOWANCE) – this is the amount of data you can send and receive each month.

Remember, everything you look at on the web and every email you send or receive will create **usage**.

If you are sharing your broadband connection between several computers (if you work from home or your kids are connected as well, for example), you'll use several times more **usage**.

With some broadband providers, if you exceed your traffic allowance or usage in that month you may be charged extra or have your connection slowed down to dial up speed for the rest of the month. Extra charges can be a nasty shock – that's the *bill shock* you may have read about in the press.

TelstraClear's PDQ Broadband plans help eliminate bill shock and more importantly, won't slow you down to dial up speed if you exceed your usage.

All TelstraClear residential broadband connections include access to a FREE usage meter that lets you check how much data you have used at any time during the month. See www.telstraclear.co.nz/go/usagemeters.



Does my band look broad in this?

Choosing the right usage or traffic allowance

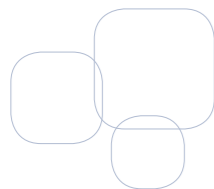
	Usage
If you only use the internet for email and to check up on your TradeMe or eBay auctions every few days.	Ideally 1 GB
If you send lots of email with attachments, and like to visit lots of websites or have kids doing schoolwork on the web.	At least 1 GB per month. Ideally 5 GB
If you want to download music and videos, play online games or use the internet for telephone calls.	At least 10 GB per month

ONE FACT

For flexibility, look for broadband that lets you choose speed and usage separately and lets you increase your usage easily.



What kind of broadband would you like?



ONE FACT

*There's no wrong choice.
All broadband's good.*

ADSL ... CABLE ... WIRELESS ... YES, THERE IS MORE THAN ONE KIND OF BROADBAND. If you live in Auckland, Wellington, Christchurch or some key regions, you could be lucky and have a choice. You'll find details of connections that are available in your area on page 21.

To be certain which of these options are available to you, you'll have to contact your chosen broadband provider.

ADSL

This is the most common form of broadband connection, available in many parts of New Zealand.

ADSL uses your existing telephone line and a special modem (or a router if you want to connect more than one computer). You don't need another line and you can still use your phone while on the internet.

Once your phone line has had ADSL switched on, you'll need to use special filters in each socket so you don't hear broadband interference over your phone calls.

You may wish to have a dedicated ADSL jack point installed which means you will not need a specific filter in your telephone sockets.

Cable

If you are on TelstraClear's cable network (available in most areas of Wellington, Kapiti and Christchurch), you can get broadband via the same connection.

Like ADSL, cable broadband needs a special modem or router, but it's usually much faster.

Cable broadband is only be available from TelstraClear and can be packaged with your Cable TV and PhoneLine.

Wireless

As the name suggests, wireless broadband dispenses with your ADSL or cable connection altogether.

You still need a special modem or router, but it uses radio to connect to a local transmitter, a bit like a mobile phone.

TelstraClear does not currently offer wireless broadband solutions to residential customers.



What equipment will I need to use broadband?



LET'S START WITH THE BASICS. You'll need a relatively new computer. Any Mac or PC bought in the last four years or so should be fine. But if you want to be sure, check with your chosen broadband provider.

If you're using Microsoft Windows or Mac OS, your computer will already have all the software it needs to use the internet. Your broadband provider will discuss modem/router and filter requirements with you.

More than one computer

If you work from home or have kids with their own computers you might want to share a single broadband connection between them.

There are several ways to do this but the easiest can be arranged as part of your broadband connection by asking for a broadband router (the router connects your computers together) instead of a modem. Be sure to tell your chosen broadband provider that you have more than one computer and how you want to use them. They should be able to advise you on the best choice for your intended use.

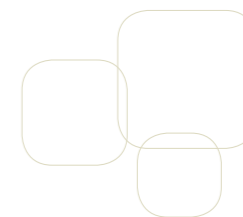
Each computer connects to the router and the router connects them all to the internet. There are two types of router for you to consider.

- A wired router (cost-effective, but you'll have wires running around the walls or skirting boards of your home).
- Wireless router (no wires running around the walls of your home), easy to install, but a bit more expensive.



Dynalink Wireless 4 Port Modem/Router

For use with multiple computers. Gives the flexibility to operate in different rooms, or move about the house.



ONE FACT

This might be a good time to think about getting a new computer too.

How do I get it all organised?



BY NOW YOU SHOULD KNOW MORE OR LESS WHAT KIND OF BROADBAND YOU NEED. Actually getting it shouldn't be too hard.

Choose an internet provider and broadband package

Work out what speed and usage you need, then look at what type of connection you need or is available to you.

If you are changing your internet provider you will probably have to change your email address and some settings on your computer. Your internet provider will be able to send you information on how to do this and most have a Toll Free number you can call if you get stuck.

Five easy steps to broadband

- 1 Check what types of broadband (ADSL, cable or wireless) are available in your area.
- 2 Choose a broadband provider that offers the speed and usage combination you need.
- 3 Work out the speed and usage allowance that best suits your needs.
- 4 Choose a modem or router and order any filters if you need them.
- 5 Call your chosen broadband provider and get going.

Work out whether you need a special installation

If you already have a telephone line and need ADSL broadband, you may not need to have anything special installed, but check with your broadband provider.

If you have a monitored burglar or medical alarm fitted, don't currently have a phone line, or are switching from ADSL to cable broadband (see page 9 and 10 for an explanation of ADSL, cable or wireless broadband options), you will probably need a professional installation.

Your broadband provider should be able to arrange installation for you and will let you know how much this will cost.

How long will it take?

Getting ADSL broadband switched on for your home varies from provider to provider. Your broadband provider will let you know how long it will take.

Any questions?

Do I have to get my telephone and broadband from the same company?

No, but sometimes you can get a package deal by getting everything from one supplier.

What is an ISP and do I really need one?

An ISP, or Internet Service Provider is the organisation that provides your connection to the internet. Without an ISP your broadband won't connect to anything. So you do need one.

Usually your ISP will be the same company as your broadband supplier (although it may have a different name). Clearnet is the ISP associated with TelstraClear.

Can I get the same broadband everywhere in the country?

No. ADSL is available to the majority of households around the country (mostly in towns and cities). TelstraClear's cable network is available in most areas of Wellington, Kapiti and Christchurch. Wireless broadband is also available in other locations.

How long will it take to get connected?

Probably only a few days, though if you need to have equipment installed it can take longer.

Will somebody install broadband for me?

Chances are you'll be able to install ADSL yourself. If you need wiring done, your broadband provider will be the best organisation to arrange this.

Can I have more than one broadband connection?

Usually you won't need more than one as it's easy to share a single connection between computers with a wireless or wired network at home. If you really need a second broadband connection, you'll need to get a second phone line or cable connection to your home first.

What is *bill shock*?

Some broadband plans have high charges for exceeding the usage allowance (the amount of information you can send and receive each month). Your first bill may be high for completely different reasons. With most broadband providers your first bill will show all the connection charges along with your modem or router and some filters, on top of which you usually pay for your first month of broadband in advance. It all adds up, so talk to your broadband provider about what the total cost of setting up will be so you know what to expect.



Can I change my broadband plan?

Usually it's easy to upgrade, but some providers charge extra for downgrading a plan.

Do I need to take any special security precautions?

Because a broadband connection is active when your computer or modem is switched on, we recommend you take some precautions to prevent unauthorised access. Ask your internet provider or computer dealer for information about firewall and internet security software. It's not expensive and can prevent most problems.

If you are upgrading from dial up to broadband, make sure you disconnect your old dial up modem.

Should I worry about viruses?

Because your computer will be permanently connected to the internet, the risk of suffering from a virus is higher than it would be otherwise. Free anti-virus software can help protect you against some problems. However, we recommend you discuss other options with your internet provider or computer dealer.

Is broadband speed guaranteed?

Unfortunately no. There are many factors that have an effect on the speed of your internet connection. Every connection between you and the webpage you're looking at will have an effect and the speed you experience will be determined by the slowest link in that chain and time of day.

Broadband jargon explained

There's certainly no shortage of jargon and technical terms with broadband. Here are some of the more common ones, explained in reasonably plain English.

ADSL/ADSL Modem

Asymmetric Digital Subscriber Line or ADSL uses your existing telephone line and a modem/router. It works over your existing phone line and means you can still use your phone line while on the internet. Asymmetric means your download speed is higher than your upload speed.

Broadband

Broadband is any fast internet connection for your computer that allows you to connect to the internet and use your telephone line at the same time. Broadband can also be a generic term for fast internet.

Cable/Cable Modem

A cable that allows you to receive TV, phone and internet services. The cable modem is a device that enables you to hook up your computer to your cable connection.

Dial up

Dial up internet uses your telephone line to connect to the internet. You CANNOT use your phone while you are online.

Download

Receiving information from the internet to your computer. For example, receiving emails from friends or relatives, opening web pages, getting songs or playing online games.

Ethernet

A common method of linking multiple computers using cables. Ethernet is often used in a business environment.

File Sharing Software

Computer programs that allow you to share files like songs or clips from movies with other internet users.

Filter (ADSL Line Filter)

An accessory, which is plugged into each phone jack point. It prevents broadband noise (audible high frequency interference) when you are talking on the telephone and are connected to the internet at the same time.

Firewall

A firewall for your computer is a little like a door lock on your house. It only lets in people with the key. Or more technically, it checks anything that attempts to connect to your computer via the internet and if the firewall recognises a hacker or a virus, it attempts to block it so that it does not damage your computer.

Internet Diallers (usually only affects dial up not broadband users)

Software that hides in a file or program in your computer. It then tells your computer (or more accurately your modem) to connect to the internet by making a toll call (often to highly priced 0900 number or expensive toll calling destinations). You are then billed for this as if it is an international toll call.

ISP (Internet Service Provider)

TelstraClear's ISP is Clearnet.

Keystroke Logger

A computer program that records all the information you type on your keyboard, including user names and passwords and then forwards it to a third party.

Kbps/Mbps

Kilobits or megabits per second. This is a measurement that tells you how much data you can send and receive per second. The higher the number the faster you go.

K = 000s

M = 000,000s

MB/GB

Megabyte or Gigabyte. This is commonly used to describe the size of the emails and other items that you send or receive over the internet.

Most companies calculate the total amount of the data that you send and receive each month and then charge you for usage.

Spam/Phishing

Electronic junk email or unsolicited emails. Sometimes email is used to deliver fake messages that claim to be from businesses you are familiar with, for example your bank, and attempt to trick you into providing your account details and passwords.

Sniffers

Sniffers can be used for stealing information from a network. Unauthorised sniffers can be extremely dangerous to a network's security because they are virtually impossible to detect and can gain access almost anywhere.

Spyware

Is software that covertly gathers information about you through your internet connection without your knowledge, usually for advertising purposes. It can also gather information such as passwords and credit card numbers.

Trojan

A harmful program that's been hidden in a harmless file. Trojans often come as email attachments and can give unauthorised users access to your computer. One of the worst types of trojan is a program that claims to rid your computer of viruses but instead introduces new ones onto your computer.

Upload

Uploading is the information that you send out. So these are the emails you send, web pages you move online or pictures/videos you place in online photo albums.

Usage

Your internet usage is the amount of data that you upload (send) and download (receive). You usually have to monitor this carefully as ISPs charge depending on how much you are sending or receiving every month.

USB – Universal Serial Bus

USB is a way to connect or plug in a device such as a camera or memory stick to your computer without having to restart it.

Virus or Worm

A program that is loaded onto your computer without your knowledge, then runs against your wishes. All computer viruses/worms are man-made. Even a simple virus/worm is dangerous. They can slow down your computer, steal confidential information or cause serious irreparable damage.

Wireless

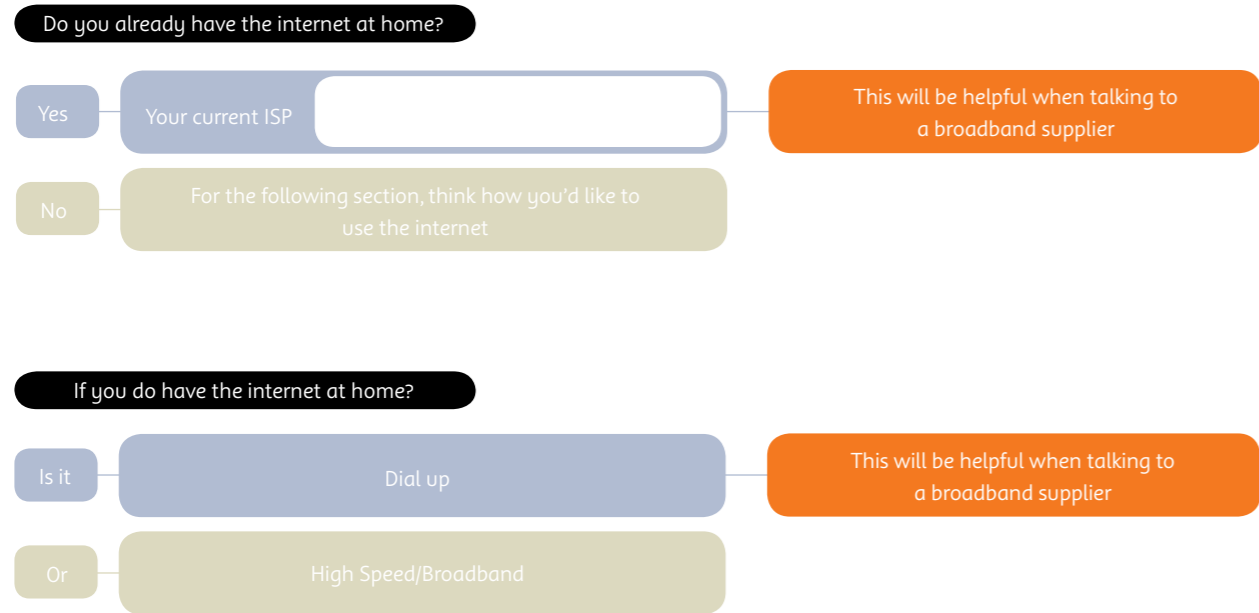
As the name suggests, wireless broadband does not need either an ADSL or a cable connection. You still have a modem or router, but instead of connecting to a phone line, it uses radio to connect to a local transmitter. A bit like a mobile phone. Wireless can refer to the method used to deliver a broadband service to your home, or technology such as Wi-Fi that allows you to connect a router or modem to your computer wirelessly.



Understanding broadband – for people who'd rather know

If you'd like to work it out for yourself, this simple checklist will help you to assess what your broadband requirements are.

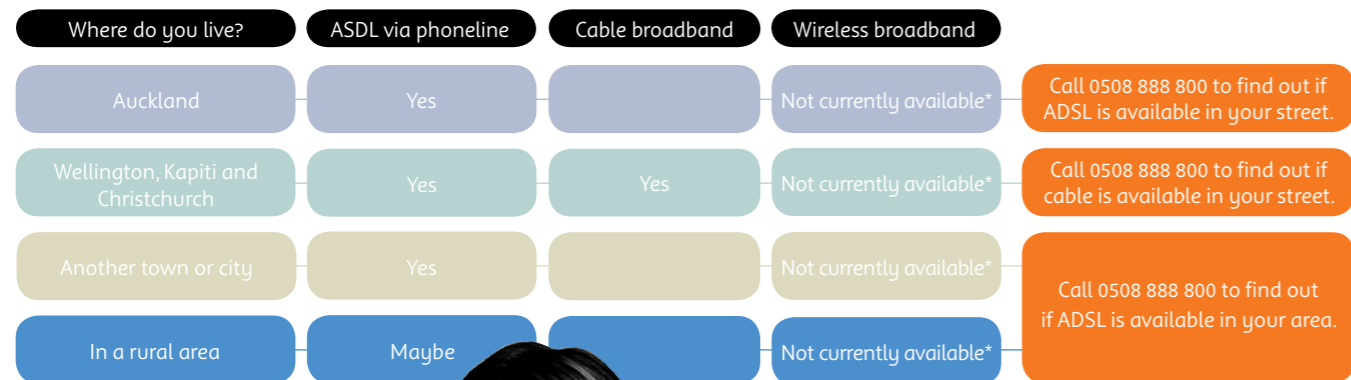
By the time you reach the end you'll know everything you really need to about getting and using broadband at home.



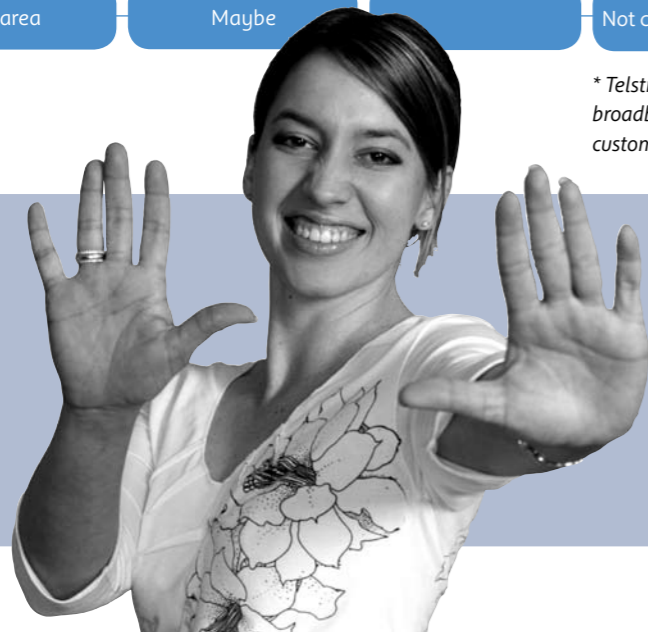
What broadband packages should I look for?



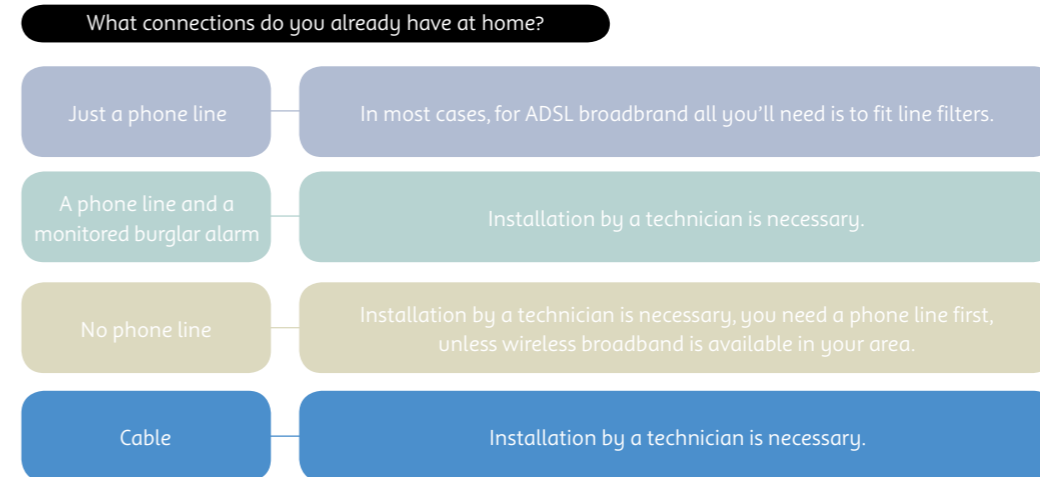
What kind of broadband can I have with TelstraClear?



* TelstraClear does not currently provide a wireless broadband service but can supply HomePlan™ customers with a wireless capable modem.



Will I need broadband to be installed?



Where next?

If you still have questions about broadband or would like to jump right in and arrange a connection for your home, TelstraClear's Customer Care team will be happy to help.

Call us on 0508 888 800 or visit us online at www.telstraclear.co.nz





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