



Preparing a new or renovated home for fibre broadband

It's important to consider fibre broadband as part of the home building or renovation process.

Fibre broadband services operate over specific network infrastructure. Like power cables or water pipes, this new infrastructure needs to be installed from the boundary into your property.

We recommend doing this work while your home is being built or renovated.

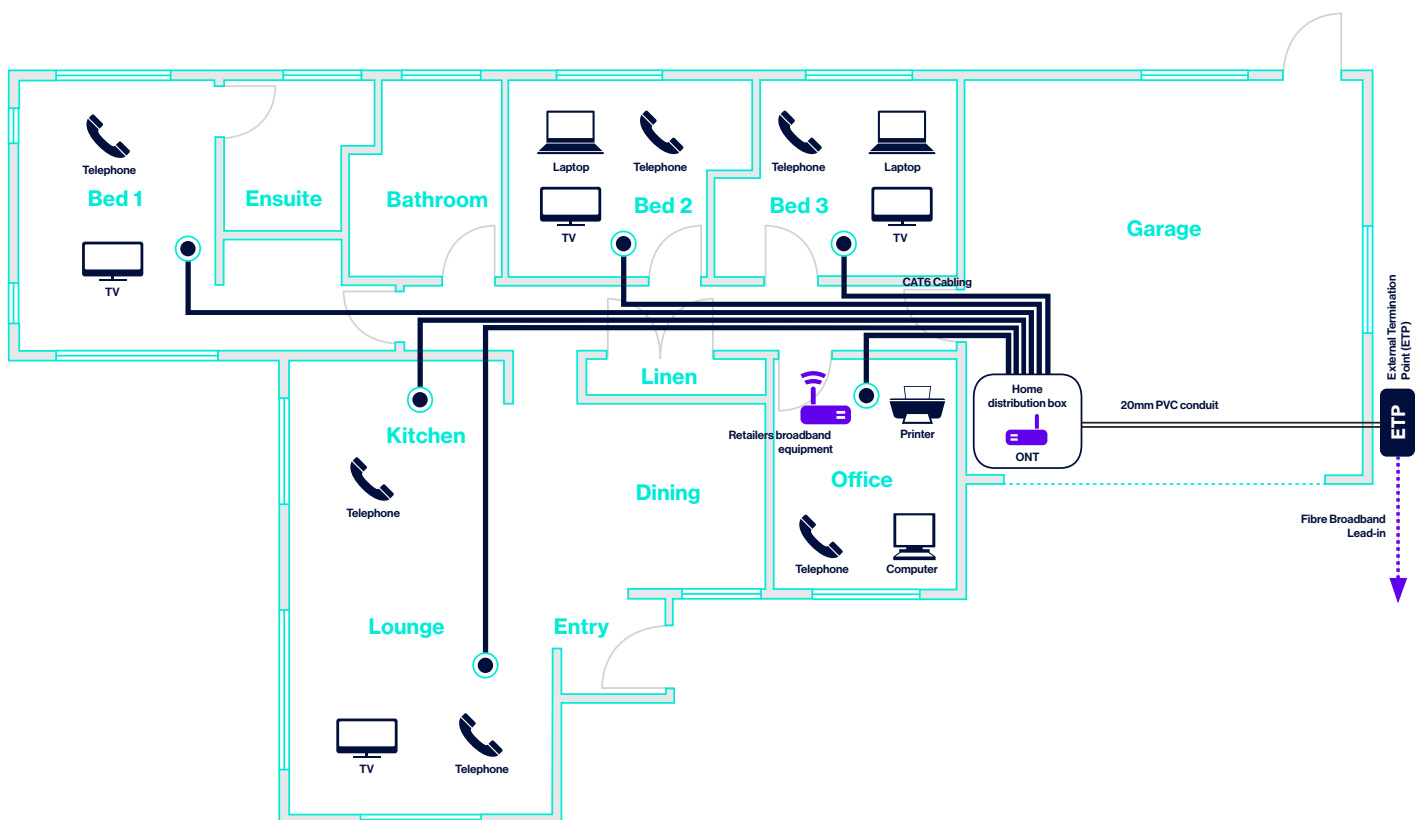
It will mean less disruption down the line when you want to connect to fibre broadband and ensure your home is set-up to meet your future connectivity needs.

Wiring guide for new or renovated homes

Internal cable installation recommendations

The following standards should be followed.

- Cabling should be a 'star configuration' and include a home distribution box. See installing a home distribution box for details.
- Run four Cat6 cables (with RJ45 jack points) from the home distribution box to the main entertainment hub and at least two Cat6 cables to all other outlet positions.
- Leave at least 300mm of cable slack at each outlet once the cable is terminated.
- Make sure you have thought about all the locations in your home where you may need an Ethernet jack point. Don't forget to also consider whether you may need jack points for landlines. In some cases, your telephone may need to be connected through your Optical Network Terminal (ONT) in the home distribution box. For further information please get in touch with your internet provider.
- At the star wiring point the Cat6 cables should ideally be terminated on RJ45 type modular sockets mounted in a patch panel.
- Run 20mm PVC conduit from the home distribution box to the point of external entry for the fibre cable. This is where a small External Termination Point (ETP) box will be installed. The ETP will be fitted to the exterior of your home, or garage if the two are connected. See installing internal fibre feeder for specific details.
- Make sure all clearances between communication cables and power cables are maintained. See the NZ Telecommunications Forum Premises Wiring Code of Practice for more detail on the segregation of services.
- Enable's recommendations only relate to cabling for communication services and do not address required cabling for other services such as satellite TV.



^ Example of a star wiring configuration in a new home

Detailed cabling standards are available at enable.net.nz/cabling

Organise an Enable fibre lead-in during a house build or renovation.

Call 0800 434 273 and request Enable to install a free fibre lead-in.

Enable uses specialist red micro-tubing for its fibre installations – and joins this to our network at the time of installation. We can use existing green or white duct, however only if it is unbranded and unoccupied.

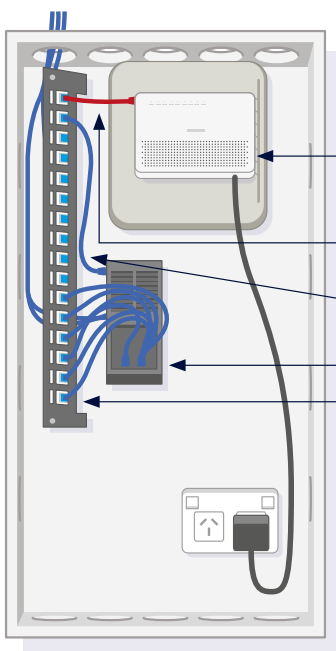
In order to provide a lead-in, Enable requires an open service trench with a minimum depth of 300mm or 100mm under a hard surface (such as concrete or asphalt). Allowances for industry required clearances from other underground services should be accounted for. It is important you provide us with 48 hours' notice when requesting a fibre lead-in as well as supplying us with the length of the trench. Please see our [Installation of Enable's Underground Fibre Duct](#) sheet for more information.

Installing a home distribution box

The home distribution box must be situated in an accessible place inside the home (usually at eye-level in a garage or utility room) and should be where the fibre feeder terminates.

It should be made of plastic ideally for effective WiFi transmission from within (if needed) and must be large enough (at least 700mm by 350mm) to contain:

- A minimum of two power outlets to power the Optical Network Terminal (ONT) plus any other services such as alarms or back up power devices.
- A patch panel with RJ45 type modular mounted sockets.
- An Optical Network Termination (ONT) provided by Enable at the time of connection to integrate with the internal wiring.



Example of home distribution box

- ONT
- To internet service providers equipment
- From internet service providers equipment
- Network equipment
- Cat6 cabling to room outlets

- A back-up power device (if the home owner purchases one) that will allow the ONT to operate for a period of time in the event of a power cut.
- Any other network equipment that the internet provider supplies – if this is deemed the most appropriate place to house it.

Installing internal fibre feeder

An internal fibre feeder conduit should be installed in the wall cavity during a new home build or major renovation.

In a new home build (particularly in new subdivisions) an internal fibre feeder should be installed through the external wall directly above the power/telecommunications services trench. In a renovation the feeder should begin through the external wall close to the front of the property. In both cases, the building entry point should be between 300mm-1500mm above ground level.

The other end of the feeder should terminate where the home distribution box will be located.

The feeder should be:

- 20mm PVC conduit with a draw wire.
- Installers need to be careful to protect the integrity of the conduit and ensure there are no 90 degree bends, so that the product will be suitable for a fibre broadband installation.

