

FIBRE BROADBAND CABLING GUIDE

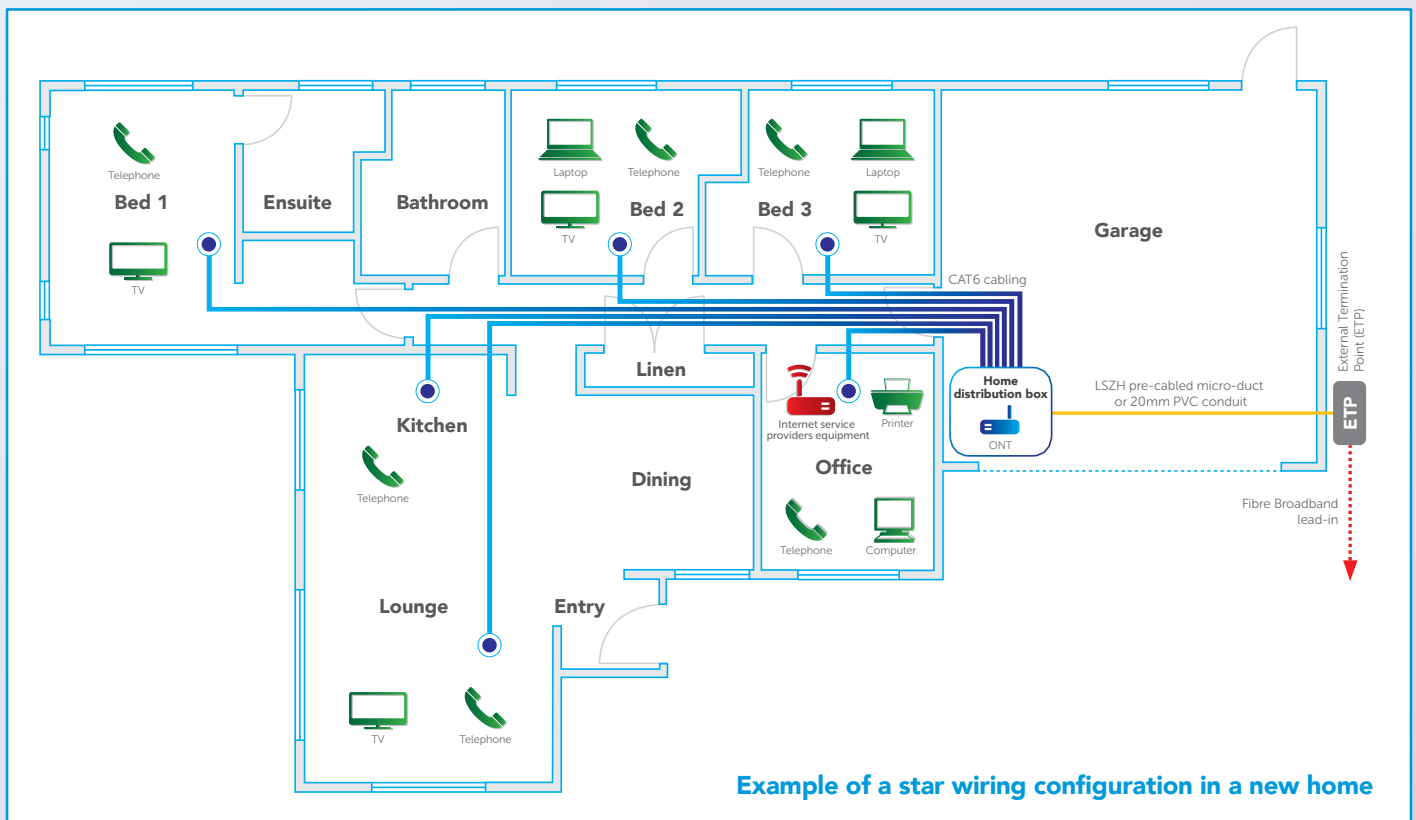
For new or renovated homes.

MINIMUM REQUIREMENTS

Preparing a new or renovated home for fibre broadband ensures you will get the best internet performance to enjoy all the high-bandwidth technology in the future.

Please note: Enable's requirements only relate to cabling for communication services and do not address required cabling for other services such as satellite TV.

- Cabling should be a 'star configuration' and include a home distribution box. See Installing a Home Distribution Box for details.
- Minimum specification of Cat6 cables.
- 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.
- At the star wiring point the Cat6 cables should ideally be terminated on RJ45 type modular sockets mounted in a patch panel.
- Run Low Smoke Zero Halogen (LSZH) pre-fibre cable micro duct or 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. See Installing Internal Fibre Feeder Conduit 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.
- All installed cabling should be thoroughly tested and verified by the installer as being able to perform at the speed it is rated for.



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

ORGANISE AN ENABLE FIBRE LEAD-IN DURING A HOUSE BUILD OR RENOVATION

To request Enable to install a free fibre lead-in or to confirm where your lead-in should be located, please call 0800 434 273.

Enable uses specialist red micro-tubing for its fibre installations.

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.

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.

Ideally it should be made of plastic for effective internal Wi-Fi transmission and must be large enough (at least 700mm by 350mm) to contain:

- A minimum of two power outlets to power the 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.
- A back-up power device (if the homeowner 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 service provider supplies – if this is deemed the most appropriate place to house it.

INSTALLING INTERNAL FIBRE FEEDER CONDUIT

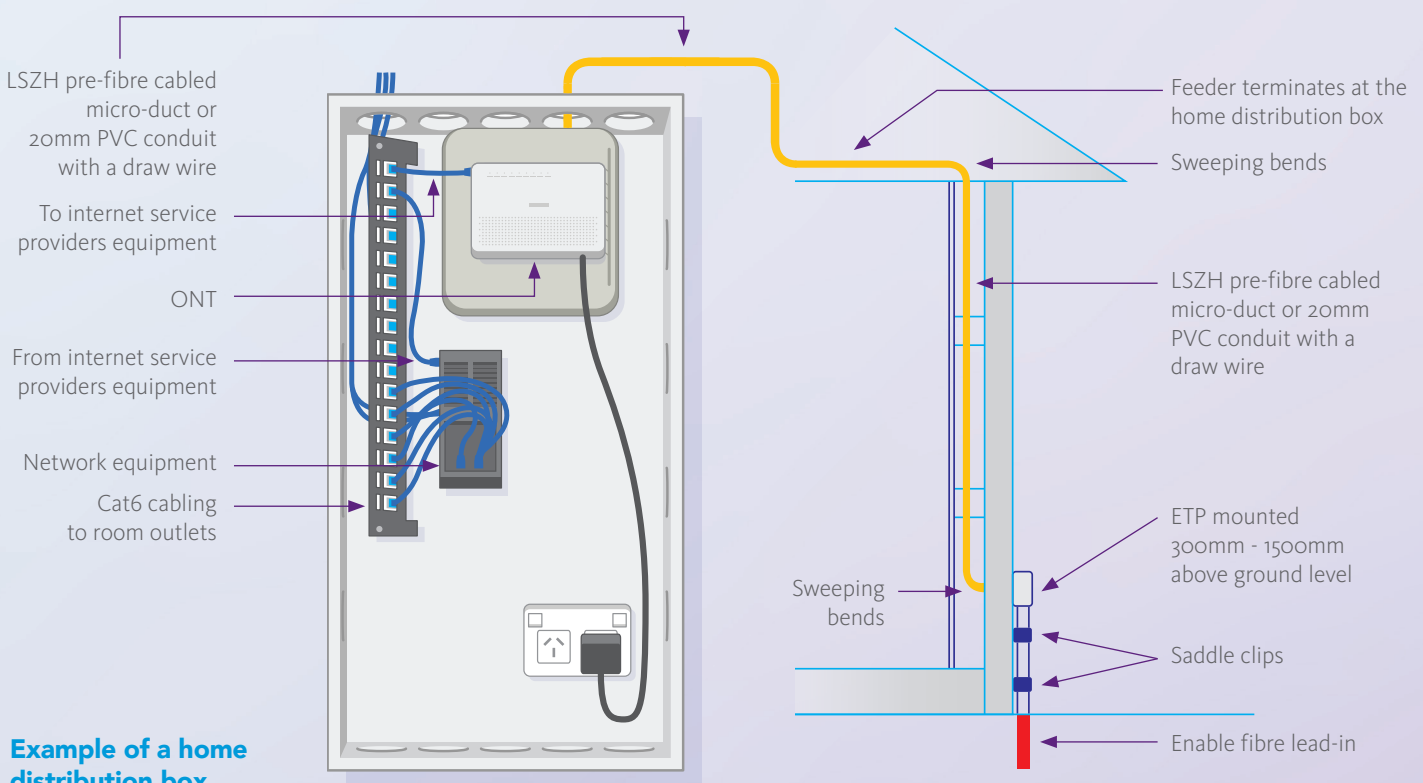
Internal fibre feeder conduit should be installed in the wall cavity during a new home build or major renovation.

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 300-1500mm above ground.

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

The feeder should be:

- Low Smoke Zero Halogen (LSZH) pre-fibre cabled micro-duct or 20mm PVC conduit with a draw wire.
- Installers need to be careful to protect the integrity of the microduct or conduit and ensure all bends are sweeping so that the product will be suitable for a fibre broadband installation.



Example of a home distribution box