Quick Guide

Home wiring

The wiring that you install in your customer’s properties is pivotal to their experience.

Your options in the installation of internal wiring are shown as below

Implications of locating the service provider’s router in a cupboard

It is important to note that the Wi-Fi service your customer receives is dependent upon the intended location of the communication provider’s router. Placing the router in a service cupboard or under stairs cupboard will significantly reduce the speed and coverage your customer will receive.

It is highly recommended that if you position the router in this way that you provide additional RJ45 ports within the home.

Ideally for optimum speeds to be enjoyed using Wi-Fi service it is recommended that you locate the router centrally within the property.

For information, advice and guidance around positioning, please refer to: PAS: 2016 Next Generation Access for new Build Homes Guide.

Please note

All internal wires and sockets beyond the ONT are the responsibility of the developer/future home owner.

If any part of the connectorised internal fibre cable is found to be damaged at commissioning, it is the developer’s responsibility to replace it.

If the homeowner experiences a lack of service or poor service, which is due to a fault within the internal installation of wiring, which requires Openreach to rectify, the homeowner will be charged.
Option 1: The simple install

The simplest installation will be the provision of the Openreach equipment (i.e. the ONT will be positioned adjacent to the outside wall) to which the customer then attaches the router, provided by their communications provider. This installation limits the number of physical connections to the router and means the homeowner may not make the most of their FTTP connection due to the reliance on wireless connectivity.
**Option 2: Relocating the router via internal network cabling**

Relocating the communication provider (CP) router provides a better quality wireless connection, as well as the ability to connect static devices such as TVs or games consoles physically. This allows these devices to take full advantage of the high speeds and bandwidth of a full fibre connection.

Additional Cat6* cabling is required for this option from the ONT to the chose relocation area. This connection should terminate in an RJ45 socket. A power socket should be provided for the CP router next to this socket.

*Cat6 is the preferred option to ‘future proof’ for modern devices
Option 3: The networked home

Further to the second option, this setup cables back from the CP router position within the property to the under stairs/service cupboard position of the Openreach ONT for the location of a patch panel. This means that, as much as possible, any structured cabling is discreetly located out of sight.

A patch panel is the best option to intelligently connect multiple rooms with structured cabling. In this setup a customer could also install an ethernet bridge/switch to further create a truly networked home.
Provision of the Openreach equipment

When Openreach install the equipment we will install the ONT wherever the incoming fibre cable is located. Where you self-install the ONT, you will have control over when the equipment is installed. The ONT will remain the property of Openreach in both installation scenarios.

Where you are self-installing the Openreach equipment we will supply the ONT, along with the battery back-up and the connectorised internal fibre cable you need. If you are installing the ONT opposite the cable entry hole, you will need to install a flush mounted double back box on the internal wall where the ONT is to be located.

The ONT will be installed at this location unless an alternative position has been agreed with your FBC and the appropriate connectorised internal fibre cable run in a continuous fault-free length to the alternative position.

While the provision of internal wiring beyond the Openreach ONT is the responsibility of the developer, you can contract an Openreach engineer to do this work for you. If interested, please contact your local customer network solutions team on 0800 783 2023. Terms and Conditions for the provision of internal wiring will apply.

Please note
If connectorised cable is damaged by developers during installation then an internal Splice Point may be required to be fitted to complete installation. This will be undertaken at commissioning stage by Openreach.

Installation of internal cabling

Voice Cabling

- Voice extension cabling shall run direct from the ONT voice port. Connection to the ONT is made via a BS6312 431A Plug inserted into voice port 1. This socket must be a slave socket, not a master socket.
- Extension sockets shall be located close to power sockets for easy equipment connection. A minimum of 50mm between telephone cables and power cables must be left throughout.
- Where this isn’t practical, telephone and power cables must be separated by an acceptable divider (i.e. of rigid, non-conducting material).
- Extension wiring must be telephone/data grade and have plain annealed solid copper conductors of a diameter between 0.5mm and 0.63mm. The conductors must be in twisted pair format. The conductor resistance shall be of a maximum of 96 ohms/km. The cable sheath must be PVC.

Data Cabling

- As a rule of thumb connectorised internal fibre cables must not exceed the minimum bend radius (i.e. no smaller than) of a £2 coin.
- Detailed information on cable installation and separation is given in the British Standards.
- Code of Practice 6701, Part 1 (particularly clause 6) and the relevant sections of the latest IEE Regulations for electrical Installation (Regulation 525 is of particular importance).
- The wiring pattern for cabling must be either in series or spur. For data it must be point to point as speeds will be impacted after the first point of a daisy chain.
- We’d recommend data cabling rooms likely to benefit most from a physical connection, like the room with the main TV and the home office.ohms/km. The cable sheath must be PVC.

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