



# **Fibre Integrated Reception System FIRS dSCR with 1+1 ONT GTC Technical Guidelines**

---

GTC Technical Guidelines and Safety Information for  
House Builders and Developers



## GTC Technical Guidelines

# Contents

---

1. Introduction.....	4
2. Fibre IRS GTU Installation .....	5
3. Distribution Cabling and Sockets Around the Property.....	8
4. Example Wiring Diagram .....	10
5. Installing Additional TV Points.....	11
6. Head End Equipment .....	12
7. Further Information .....	14

# Section One

---

## Introduction

The Fibre Integrated Reception System (FIRS) distributes a full range of digital television signals (satellite and terrestrial) and DAB/FM radio from a central location to all premises on a site via the fibre network.

This document is designed to enable you to undertake all required in-home works to ensure your homeowners get the maximum benefit of FIRS technology and have the best possible experience.

This document covers the installation of a dSCR GTU which is compatible with Sky Q, Sky+, Freesat and Digital Terrestrial TV such as Freeview plus DAB/FM radio.

This document also covers the requirements for the installation of the head end equipment and dishes/antennas.

This document should be read in conjunction with the *GTC Technical Standards – Fibre GF-TGI-IG-0016* document and should be treated as an appendix to that document.

## Disclaimer

Although the greatest of care has been taken in the compilation and preparation of this document, GTC respectfully accepts no responsibility for any errors, omissions or alterations or for any consequences arising from the use, or reliance upon the information in this document.

# Section Two

---

## Fibre IRS GTU Installation

The TV signal is distributed around the site using the fibre optic infrastructure. Within the home the fibre optic cable is connected to a dSCR GTU.

Coax cables are used to distribute digital television and DAB radio signals from the dSCR GTU to points around the home that have been terminated with the appropriate faceplate.

The Fibre dSCR GTU, in combination with a splitter, provides four outputs which can be wired to support Sky Q and legacy devices requiring two signal feeds such as Sky+ or Freeview+ or single feed devices with no recording capability. All outputs provide DAB/FM radio signals.

All coax cables must be connected back to the dSCR GTU and pre-terminated using F-Type connectors. The coax cable used for the installation must be suitable for distribution of digital TV services such as CT100 or others approved via the Sky homes specification.



**Figure 1 – F-type connector**

We recommend the use of crimp F-Type connectors as shown in Figure 1

The installation, testing and labelling of all the coax cables with F-Type connectors is the responsibility of the Developer. All installed coax cables should be tested and labelled before cabling is signed off fit for purpose.

**Important Note: If labelling is not provided then this could lead to customer issues and will result in unnecessary fault calls. It is the Developer's responsibility to ensure that all cables are connected to the GTU on final installation.**

# GTC Technical Guidelines

Figure 2 shows a dSCR GTU and splitter providing four outputs providing a mixture of satellite, Digital Terrestrial TV and DAB/FM radio.

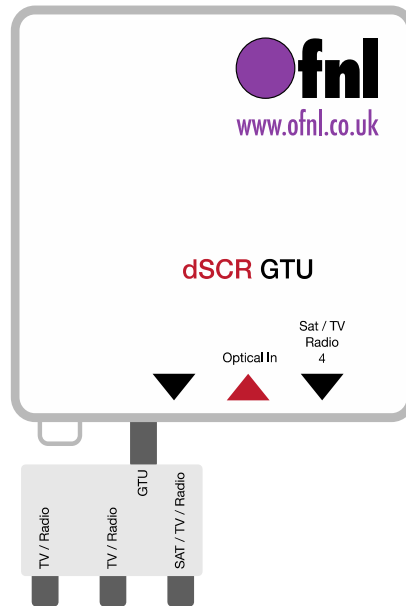


Figure 2 – Coax Connectors on Fibre IRS GTU

Figure 3 shows the final installation with coax cables terminated on the dSCR GTU adjacent to the ONT:

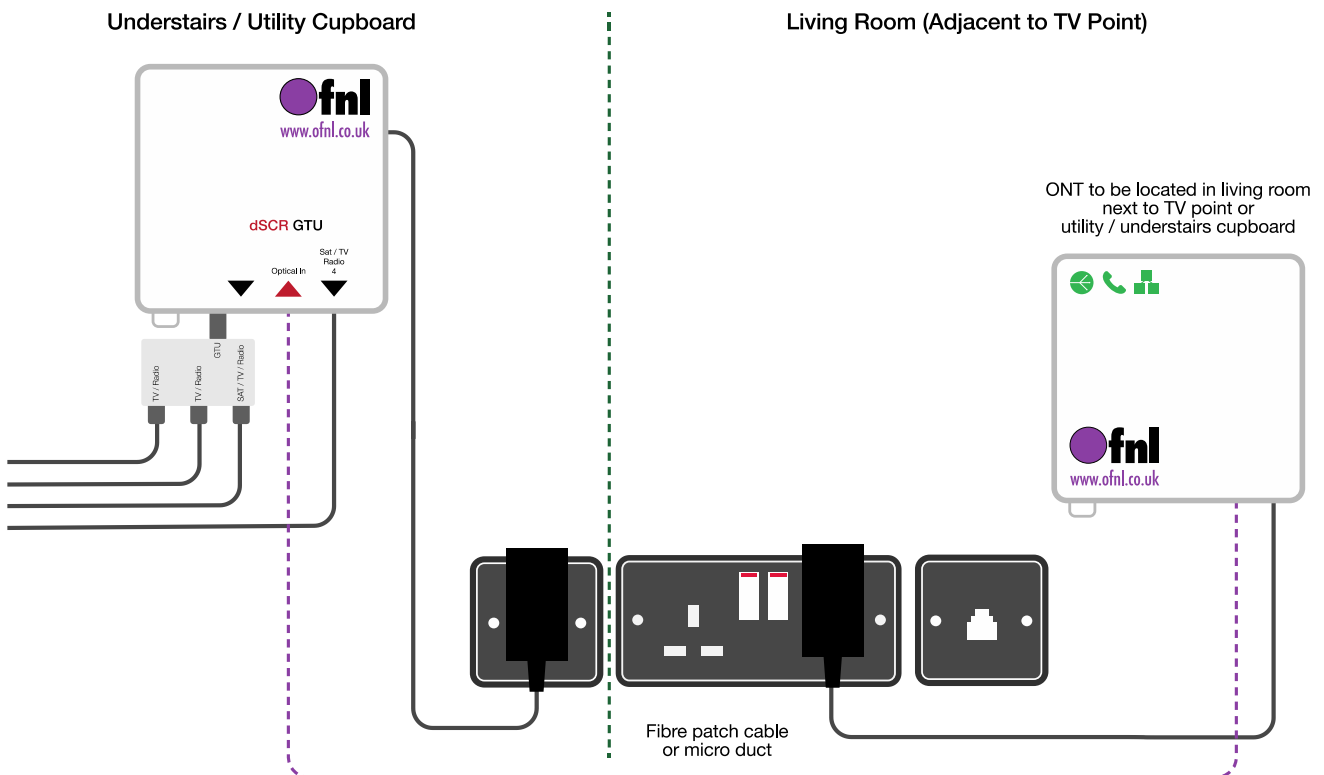


Figure 3 – Typical GNU & ONT layout

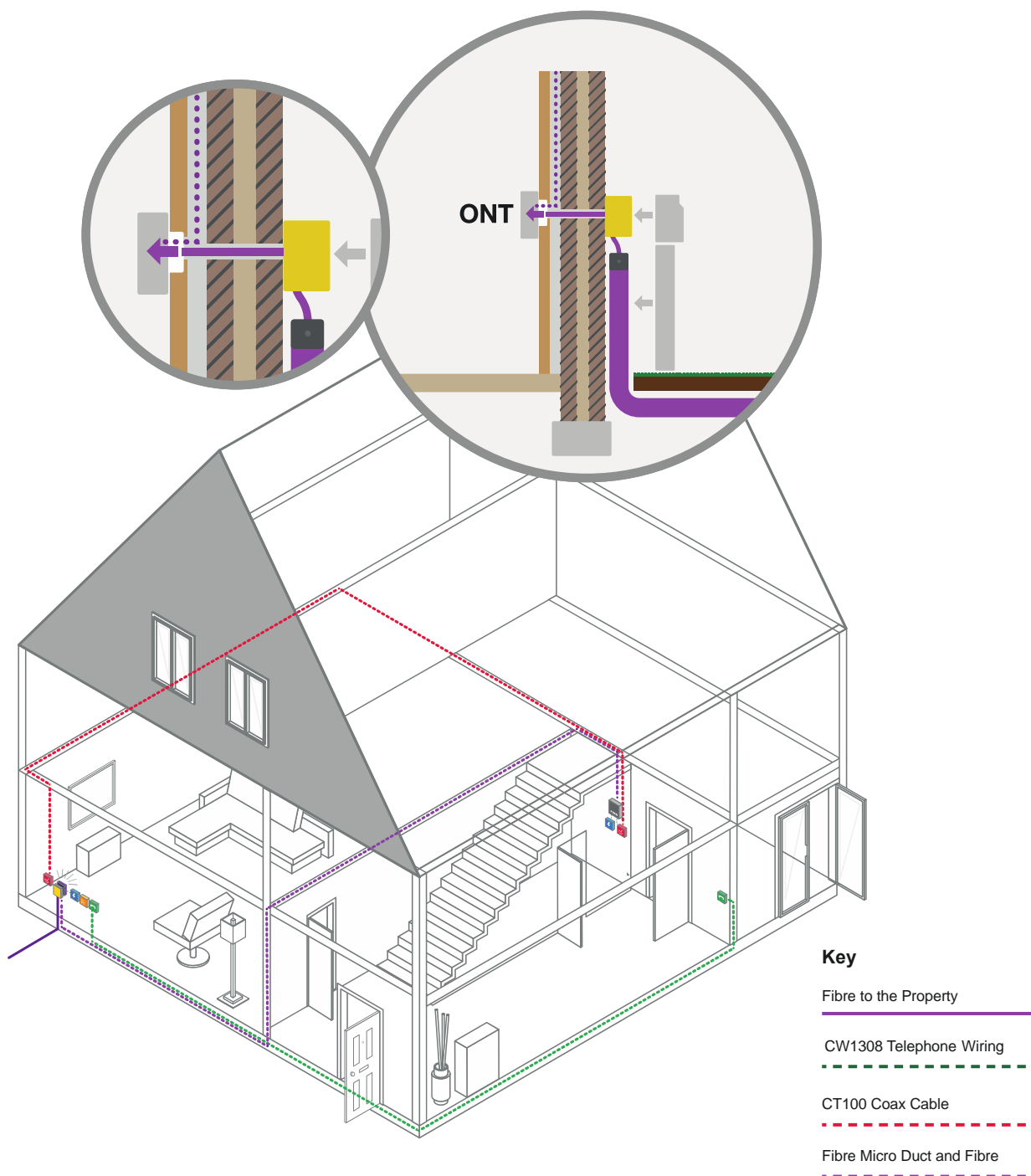


Figure 4 – ONT located in living room and GTU located in utility cupboard

# Section Three

---

## Distribution Cabling and Sockets Around the Property

All in-home cabling including the termination of the F-Type connector is the responsibility of the Developer. Appropriate coax cable that is suitable for digital and satellite TV must be used such as CT100.

The dSCR GTU with splitter provides you with the facility to wire one room to support both satellite and terrestrial TV services, such as Sky Q, Sky+, Freesat or Freeview, plus two additional rooms with Freeview Terrestrial TV services. All outputs support DAB/FM radio.

TV faceplates must be suitable for digital TV and satellite signals. Faceplates are to be supplied, fitted and tested by the Developer.

The following faceplates or equivalent are suitable for digital TV signal distribution.

### Triax 304109

Provides dual satellite (e.g. Sky Q, Sky+, Freesat or Freeview+), digital TV, and Radio outputs. Typically deployed in lounge.



Figure 5 – Sky+/Freesat/Freeview+ triax 304109



## GTC Technical Guidelines

### Triax 304118

Provides a single digital TV and Radio output. Typically deployed in secondary locations such as the kitchen or bedrooms.



**Figure 6 – Digital TV & Radio triax 304118 socket**

# Section Four

## Example Wiring Diagram

In the below diagram we show how the dsCR GTU can be utilised to serve three rooms. Room one with Sky Q / Sky+ and Freeview / Freesat TV and DAB radio, and rooms two and three supporting purely Freeview TV and DAB radio.

Further assistance with additional TV points can be obtained by engaging with a specialist contractor.

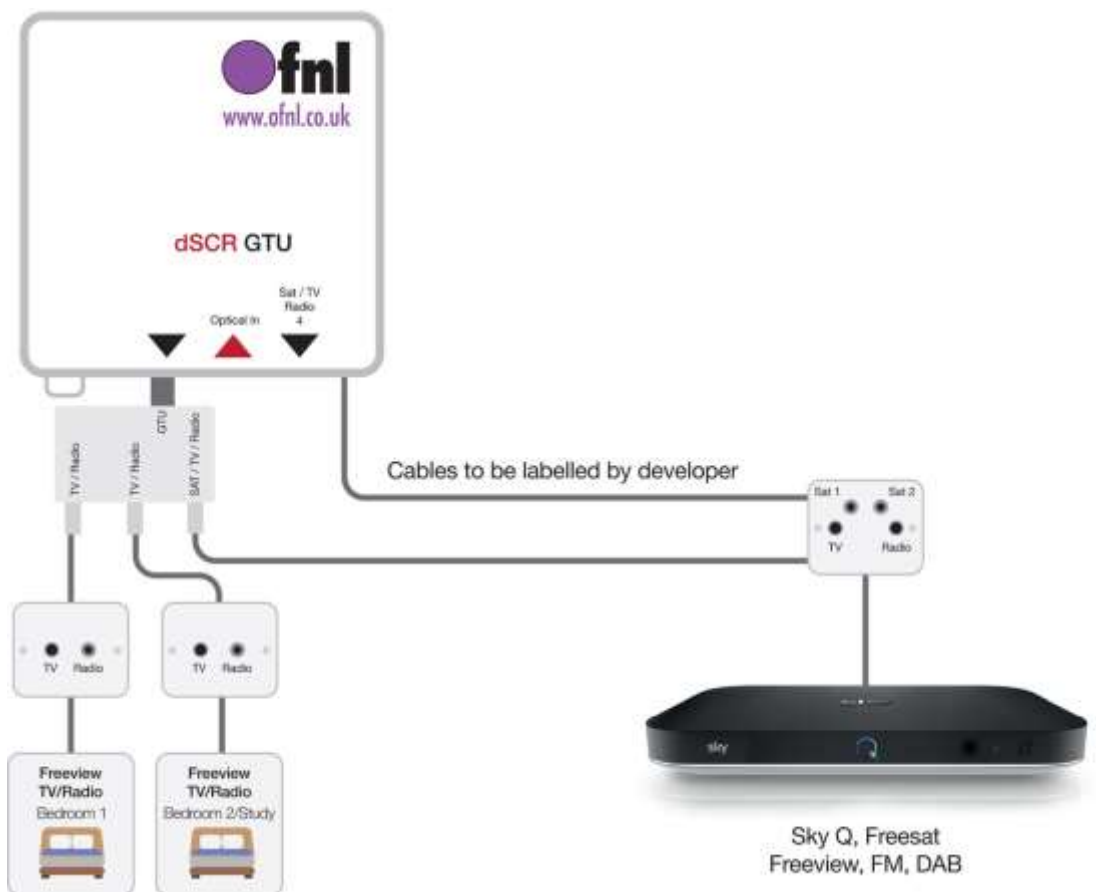


Figure 7 – One Sky Q / Sky+ / Freesat / Freeview / DAB and two Freeview / DAB rooms

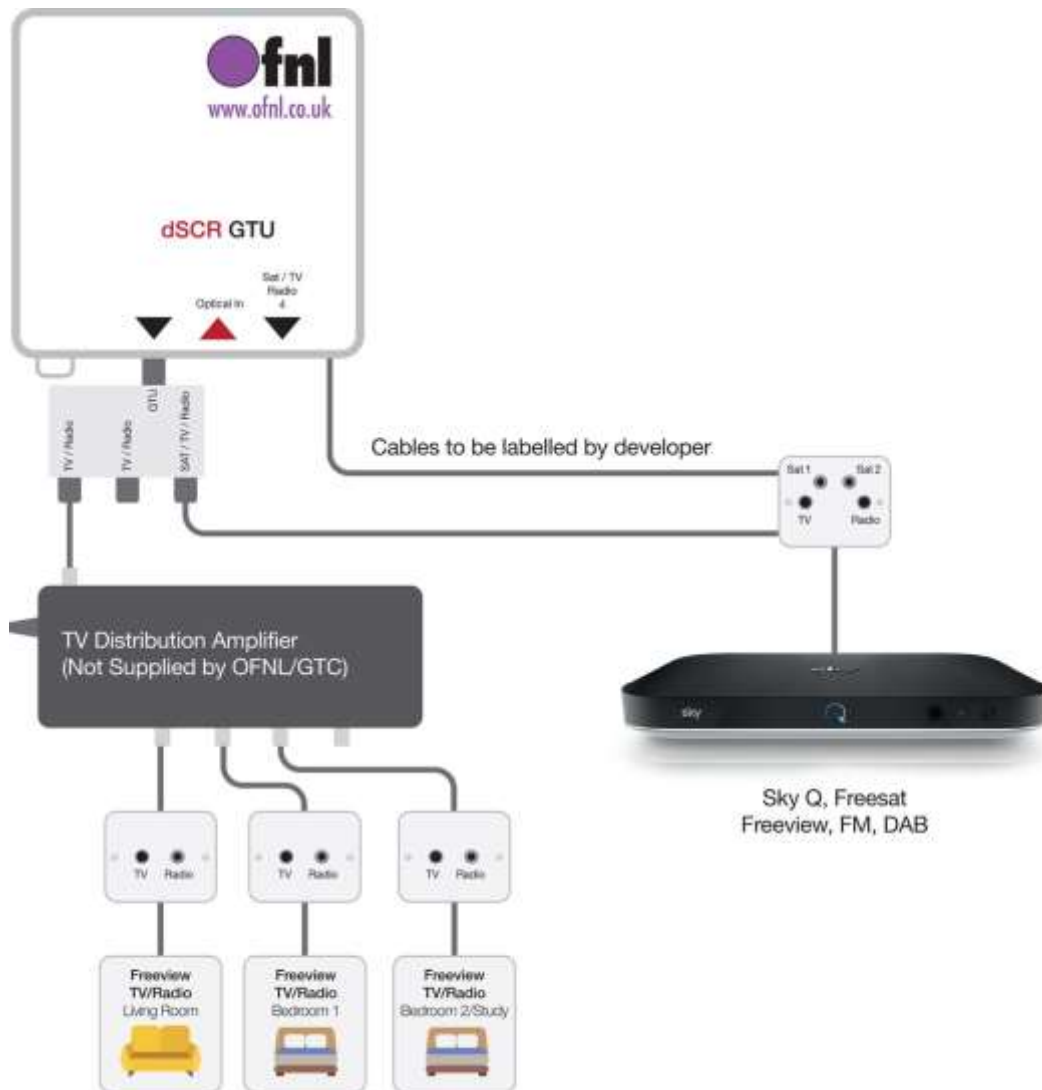
If you require more TV points than the standard installation scenario then please refer to section 5.

# Section Five

## Installing Additional TV Points

In the below diagram we show how the dSCR GTU can be expanded for more Digital Terrestrial TV points by adding a standard TV distribution amplifier.

Further assistance with additional TV points can be obtained by engaging with a specialist contractor.



**Figure 8 – One Sky Q / Sky+ / Freesat / Freeview / DAB and multiple additional Freeview / DAB points around the home**

# Section Six

---

## Head End Equipment

The positioning of head end equipment will be agreed during the design and site survey stage. There are several typical deployment scenarios which depend on the development type.

### Single Dwelling Units (SDU) Developments

FIRS head end equipment is normally installed into the OSCP and dishes/antennas installed on a mast or adjacent building. It must be possible to achieve clear line of sight to the satellite which will be determined during the site survey.

Careful consideration must be given to equipment access to ensure that the equipment and dishes/antennas can be maintained in a safe manner.

Positioning of all equipment will be agreed during the design phase and site survey.



**Figure 9 – A typical satellite dish, DVB-T and DAB antenna installation on an OSCP/substation building**

# GTC Technical Guidelines

## Multi Dwelling Units (MDU) Development

If installing FIRS into an MDU block, then the dish and antenna array are normally installed on the roof or wall. Electronic head end equipment may need to be installed into a roof box or riser cupboard. Positioning of this equipment will be agreed during the design phase and site survey.

The dish and antenna array must be in a suitable position with line of sight to the satellite which will be agreed during site survey.

The following must be a consideration to all equipment positioning:

- The dish and antenna must be accessible for maintenance purposes
- If located onto a roof, access must be provided in a safe and convenient manner
- Where an equipment roof box is required then power and cable containment to be provided by the Developer.
- Where equipment is in a riser then power and space must be assigned and agreed during site survey.
- Power to the riser and roof top equipment be provided from the landlord's supply.



**Figure 10 – Typical roof top deployments**

# Section Seven

---

## Further Information

After the installation has been completed Open Fibre Networks will manage and operate the FIRS network. Further information and troubleshooting advice can be found on their website using the following link:

**<https://www.ofnl.co.uk/about/firs>**





---

## Head Office

Synergy House  
Woolpit Business Park  
Woolpit  
Bury St Edmunds  
Suffolk  
IP30 9UP

**T:** 01359 240363

**E:** [info@gtc-uk.co.uk](mailto:info@gtc-uk.co.uk)

**W:** [www.gtc-uk.co.uk](http://www.gtc-uk.co.uk)