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GTC Technical Guidelines – Fibre Integrated Reception System FIRS dSCR



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1 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.

2 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 which is located adjacent to the Home Hub box.

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.

Figure 1 illustrates the recommended layout showing the dSCR GTU located adjacent to the Home Hub box.

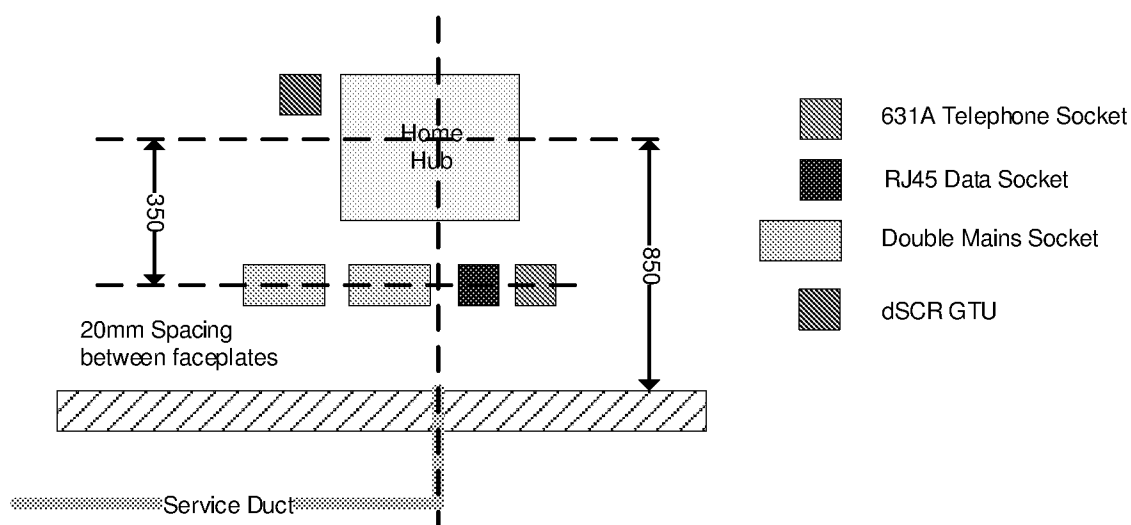


Figure 1 – FIRS GTU Positioning

All coax cables must be connected back to the dSCR GTU and pre-terminated using F-Type connectors. The coax cables must be delivered outside and to the left of the Home Hub box and be at least 150mm in length. The coax cable used for the installation must be suitable for distribution of digital TV services such as CT100 or similar.

We recommend the use of crimp F-Type connectors as shown in Figure 2



Figure 2 - F-Type Connector

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.

Figure 3 shows a dSCR GTU and splitter providing four outputs to provide a mixture of satellite, Digital Terrestrial TV and DAB/FM radio.



Figure 3 - Coax Connectors on Fibre IRS GTU

Figure 4 shows the final installation with coax cables terminated on the dSCR GTU adjacent to the Home Hub box:

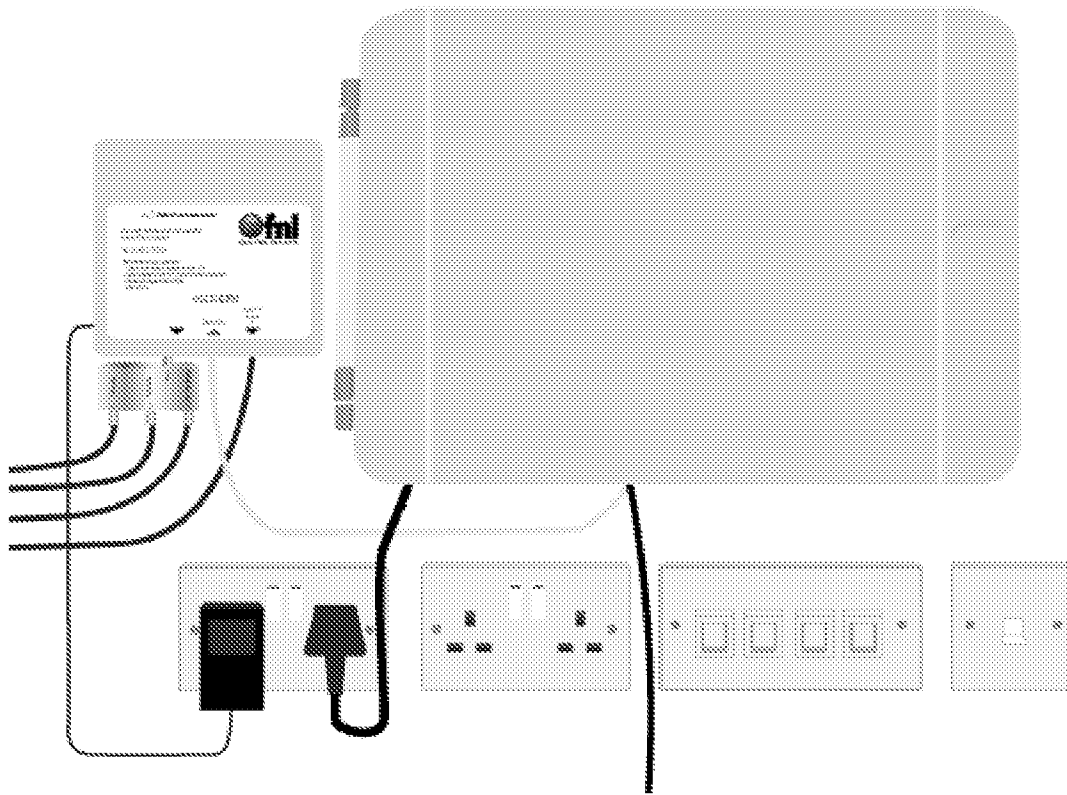


Figure 4 - Home Hub Layout

3 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. SkyQ, Sky+ or Freeview+), digital TV, and Radio outputs. Typically deployed in lounge.

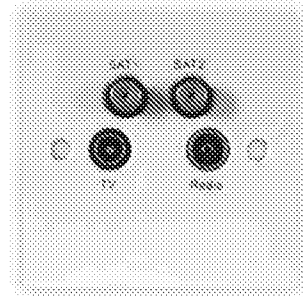


Figure 5 – Sky+ /Freeview+ Triax 304109 socket

Triax 304118

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

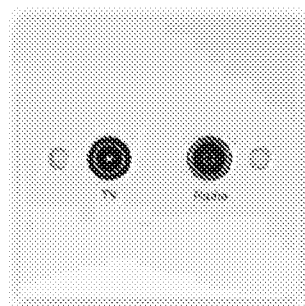


Figure 6 – Digital TV & Radio Triax 304118 socket

4 EXAMPLE WIRING DIAGRAM

In the below wiring diagram all faceplates support Digital TV and radio. The two ports to the Living Room also support satellite TV services such as Sky Q, Sky+ and Freesat.

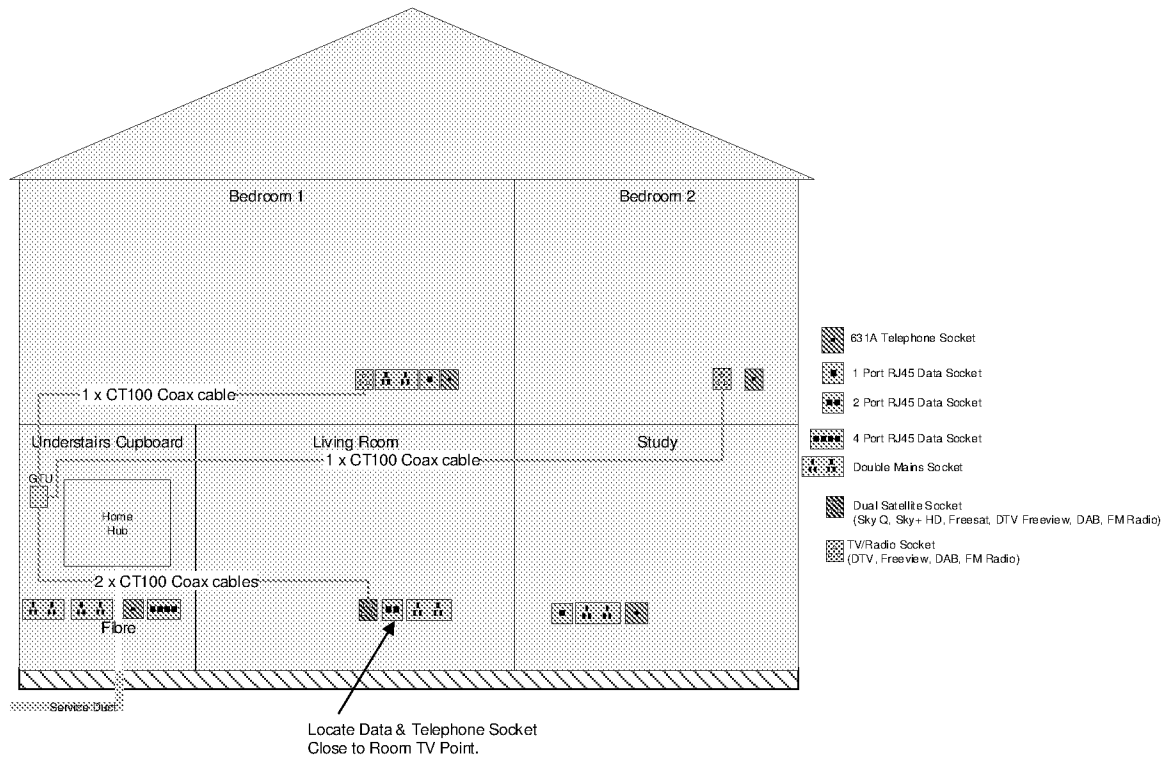


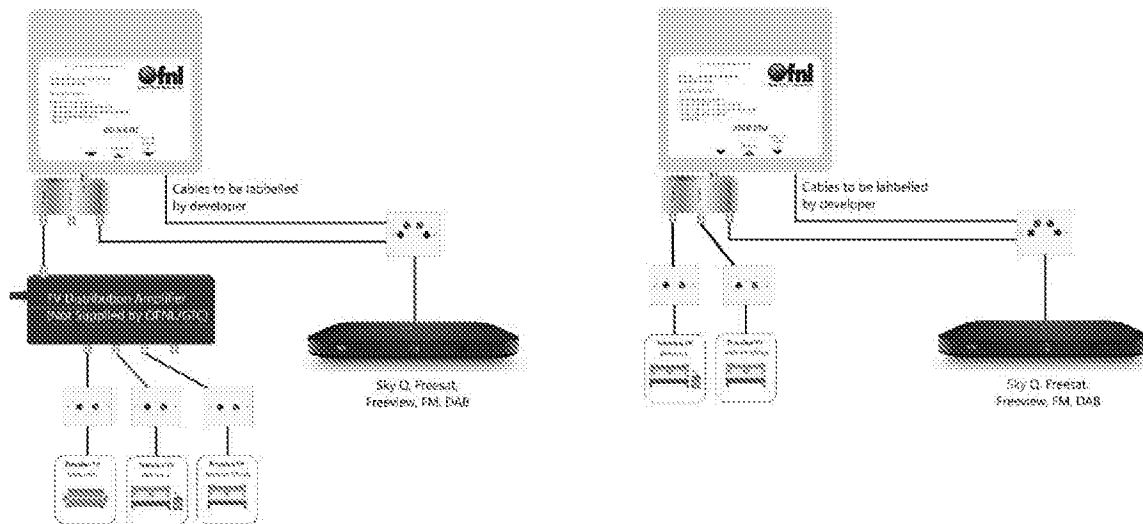
Figure 7 - Home Wiring – One Sky Q/ Sky+ and two DTV Rooms

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

5 INSTALLING ADDITIONAL TV POINTS

In the below diagrams we show how the dSCR GTU can be connected and how the system 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.



6 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.

6.1 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.

A typical Satellite Dish, DVB-T and DAB Antenna installation on an OSCP/Substation building is shown in the below photograph:



6.2 MDU Development

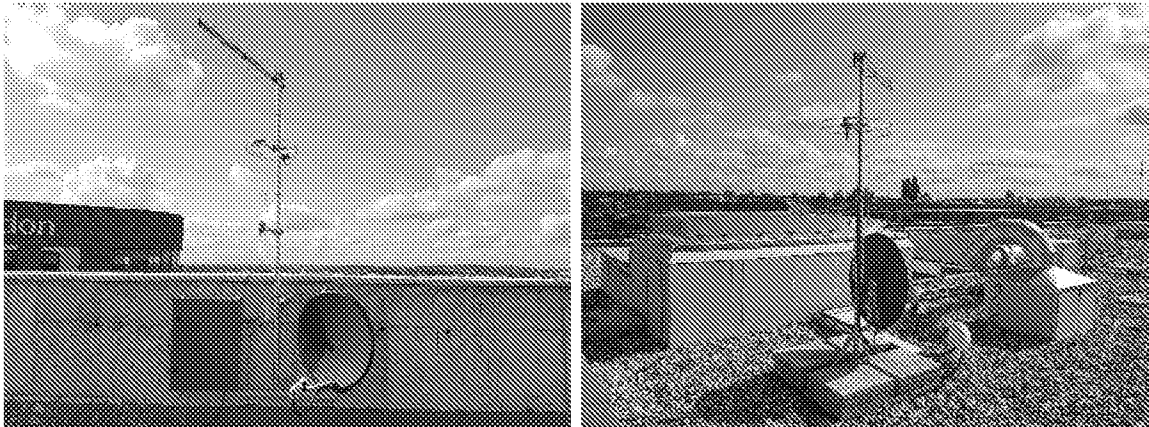
If installing FIRS into an MDU block then the dish and antenna array are normally installed on the roof or wall. Electronic head end equipment may need to be installed into a roof box or riser cupboard. Positioning of this equipment will be agreed during the design phase and site survey.

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 located 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.

Typical roof top deployments are shown in the below photographs:



7 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>

