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## Aerial Installer Newsletter

### Channel Islands edition – July 2010

### It's around 3 months until the Fremont Point transmitter group switchover – are you ready?

The Digital Switchover (DSO) plan for the **Fremont Point** transmitter group is on track. Switchover will take place on the 17 November 2010. Consumers may need guidance on accessing the new digital services after all analogue services cease.

**FREMONT POINT**  
Serving the Channel Islands

**DSO Day**

**17 November 2010**

The 24 transmitter group switchovers made since the beginning of 2009 have all shown a common group of technical issues. In order of significance, these are: **retuning, overlaps, 2K only kit, split NIT, aerial systems, amplifiers with high power signals, RF connected devices** and **Vestel T810 with 8K/negative offsets**.<sup>1</sup> The majority of these factors (although not in the same order), will be pertinent in the Channel Islands when Freeview terrestrial TV (DTT) commences. To help you prepare these are covered below in the expected order of significance.

#### Overlaps

The scope for receiving signals from more than one transmitter increases as the UK DTT network moves from a network of eighty primary transmitters to one that will see more than one thousand relays also broadcast DTT for the first time. This, with higher powered transmissions, new antennas at the top of masts and large-scale use of wideband aerials increases the possibility of overlaps and makes retuning more problematic for some.

Some homes in the Channel TV region may receive weak signals from a relay as well as desired strong signals from the **Fremont Point** parent primary transmitter. This may extend to some receiving DTT signals from France. Owners may then find that tuning their equipment for the first time or subsequently running a retune will give either no services or picture and sound break-up. This can also happen in the reverse situation where relay served homes also receive a little signal from the primary transmitter. The issue is often due to products not storing the best quality signal as specified in the Digital TV Group 'd-book' (the equipment specification bible) but loading the first received signals (even if they are weaker) from UHF channels lower in the band. (NB: **Fremont Point** uses lower UHF channels than all of its relays with the exception of **St Peter Port** on Guernsey). Use the Digital UK postcode checker trade view at [www.digitaluk.co.uk](http://www.digitaluk.co.uk) to identify all available transmitters and the UHF channels they use.

There are new products coming to the market that offer assisted or intelligent tuning to allow users to handle storing of duplicated or different regional channels simply. However, for legacy models without such features, there are four main ways for viewers to set up products to display only their desired services:

- **The manual tune procedure** – the user needs to know the UHF Channels for each multiplex. Don't forget the Digital UK website offers a **manual retune widget** available at [www.digitaluk.co.uk/manualretuning](http://www.digitaluk.co.uk/manualretuning). This explains the overlaps issue, and customises manual retune instructions with the UHF channels for the viewer's postcode.
- **Retuning with the aerial plug removed and then inserting just before** the process gets to **the wanted UHF channels**. This is ineffective when UHF channels used are directly next to each other and carry interleaved regional variations.
- **Adding an attenuator** to knock-out unwanted weak UHF channels. If removing the attenuator afterwards to maximise the desired signals, the user needs to keep the attenuator to hand as it will be needed again for future retunes.
- Alternatively, for many products, **"favourites" or "edit channels" features** can be used to reorganise services to the user's preferred order.

**Installers adopting RF bypass filters need to remember that these should be flexible enough to take account of sixteen UHF channels being auctioned off post switchover by Ofcom on behalf of the UK Government.**

**Split NIT equipment:** Tuning or retuning continues to bring to the surface certain old products that either stop working or do not load services in the usual logical channel number (LCN) location. This is as a result of the Freeview and digital multiplex operators' network changes in summer 2008. These models cannot handle the split network information table (NIT) in the broadcast service information (SI). They include more recent digital recorders and IDTVs that have had an over-air download provided but the home has missed this due to not running the update process manually, or missing an auto-update due to switching off the product at the end of the day. See [www.digitaluk.co.uk/splitnit](http://www.digitaluk.co.uk/splitnit)

**2K-only equipment:** Freeview IDTVs have been sold for a number of years on the Channel Islands for homes to use with the current analogue services. This brings the risk that some may be older 2K COFDM\* only models that will be unable to receive the 8K COFDM based digital services from 17 November. This includes models that carry an 8K chipset but not the driver software to activate the capability. 2K only models include ten year old ONdigital and ITVdigital boxes and many Freeview TVs made before 2004. For the latest list of affected models go to [www.digitaluk.co.uk/2kequipment](http://www.digitaluk.co.uk/2kequipment). By connecting any Freeview box or recorder carrying the digital tick certification mark to their 2K IDTV, consumers can continue to watch Freeview services on the TV screen. Any 2K only sets being used to just monitor pictures/sound from games machines or DVD players will continue to work as before.

**Extended NIT signalling can cause problems:** The Network Information Table (NIT) is a mandatory part of DTT transmissions. It provides a grouping of transport streams and relevant tuning information (e.g. masts, channels, services, languages) and is often used for equipment set-up procedures. The NIT now carries more elements including HD information, target region descriptor signalling plus data for more masts and services. This 'extended NIT' is now the biggest cause of new product issues. It differs to the aforementioned 'Split NIT' (where products could not handle a two part table.) The Extended NIT can include data that a product may not recognise or expects to see in a different part of the NIT. This can then lead to various issues such as receivers locking up not showing services or placing them in the wrong LCN position.

**Aerial systems:** Each switchover has identified a few cases where reports of product failures are then attributed to inadequate aerial systems. Numbers are low and well within the 5-10% expected cases predicted by Ofcom and the recent [G-Tech Report](#) commissioned by the Department for Business, Innovation and Skills (BIS). Rather than roof top equipment, the cause of lost services or picture blocking /sound disturbance is often due to an old or damaged coax fly-lead running between the product and a wall plate. Use of "Y" splitters to feed reduced signals to different products is another cause. Mast-head amplifiers, or more commonly, behind-TV splitter/boosters continue to cause reception problems either through having poor noise rejection or delivering too much signal in combination with post switchover high power transmissions. **(Note: Digital terrestrial TV only requires 10% of the analogue transmission power (W-ERP) to achieve the same coverage. Fremont Point will transmit at 3.2kW.** The next newsletter will give transmission powers, for all muxes, from all of the Fremont Point relays.

**RF connected devices:** There have been instances, particularly among elderly households, where they have a VCR or Sky connected via the product's RF modulator. This has resulted in UHF channel clashes and blocked reception of incoming DTT signals to Freeview TVs or boxes. The use of RF coax rather than the better quality SCART connection is often done as a simpler way to switch between terrestrial TV services and a recorder or satellite input. Rather than the consumer having to toggle between TV channel buttons and AV connections, it is easier for them to move through buttons "1" to "5" for standard TV broadcasts and on to button "0" or "6" when using the recorder or satellite services.

The Sky digibox RF2 – 'tv eye' connection to feed and control the receiver's services from another room may also conflict with adjacent UHF channels being used for DTT muxes.

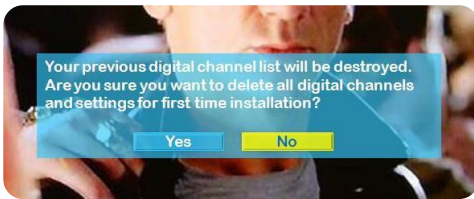
In both cases, these require the user or installer to retune the modulator to an alternative free UHF channel.

<sup>1</sup> The Vestel T810 issue has not been included as it relates to digital only recorders sold in 2006-2007 when there were no DTT signals on the Channel Islands.

Retuning is a factor that is extremely likely to occur – after switchover. When UHF channels change, viewers will need to retune their digital models to the new position. This can be worrying or confusing for some viewers and is currently the biggest cause of calls to Digital UK's advice line and visits to our switchover roadshows. The next page outlines retuning in detail to help you prepare.

## Retuning

Typically at each switchover around 1% of homes in a region call the Digital UK Advice line. The vast majority of calls are for assistance with retuning Freeview TVs and boxes. In most cases it is necessary to direct the caller to the first time installation (factory reset) process, or give reassurance to continue the process when they face worrying on-screen menus saying that all channels will be lost, as per the example below.



Ambiguous terms such as 'default settings', 'shipping condition' and 'plug and play' to represent a 'factory reset' are not understood by viewers. They invariably opt for the 'automatic search' or 'add channels' options in the belief that these will completely reset their product. Some models compound the confusion by having 'full retune' options hidden in the 'software update' menu.

### The retune challenge

Retuning is the single most common issue that causes viewers to contact telephone advice lines and retailers. At each stage of switchover, viewers have to retune their Freeview equipment to pick up the new digital services. Further retunes can be required when adjacent transmitters switch. Retuning is also required outside of switchover. This can be when new services are introduced, or when TV and radio channels change position.

### Beyond switchover: Channel 61 & 62 clearance

- Since the plan for switchover was developed, a pan-European agreement has been reached to clear frequency channels 61 and 62 for other technologies.
- Channel 62 will be used by the transmitters at **Gorey, St. Brelades, St. Helier** and **Torteval** after switchover.
- At some point in the future (exact date is not yet known), viewers receiving signals from these transmitters (and possibly some others) will need to retune their Freeview TVs and boxes to continue to receive all available services when the frequencies change.
- It will help your customers in the future if you explain the benefits of retuning Freeview from time to time, to keep the equipment's memory clean and to receive all the available services.

### Be ready

**Installers and their retailer partners are reminded to educate their staff on how to retune the products sold and to promote to customers the need to retune Freeview products from time to time. When dates are announced ensure you have sufficient staff available and plan to handle retuning for customers not able to manage it themselves.** Some suggestions include:

- Explain retuning and its importance when you sell equipment.
- Offer chargeable 'Home Help' options around switchover and beyond.
- Have dedicated (temporary) staff to run an in-store 'retune area'. This helps separate the customers wanting advice from those wanting to buy.
- Tailor your answerphone message – this may include directing those seeking advice to the organisation leading the retune event
- Know where other retuning advice is available.

**Digital UK retune tools:** To help viewers and trade, Digital UK has created simple retune guides that are being included by manufacturers in their UK DTT model packaging. These are also available to download from the Digital UK website for downloading, alongside generic guides ideal for retailers. There are also manual search helpsheets (one for the more technical user and one that is designed more for the general public), a web video designed to reassure users and a drop down search area where full instruction manuals can be accessed for many models. All can be accessed via [www.digitaluk.co.uk/retune](http://www.digitaluk.co.uk/retune). There is a **manual retune widget** available at [www.digitaluk.co.uk/manualretuning](http://www.digitaluk.co.uk/manualretuning) which customises manual retune instructions for the viewer's postcode.

### FREEVIEW NATIONAL RETUNE – WEBSITE AND IVR TO CONTINUE

The TV Re-tune website ([www.tvretune.co.uk](http://www.tvretune.co.uk)) designed and operated for the (non-switchover related) Freeview National Retune of 30 September 2009 will continue to run. It offers dedicated re-tune guides and full instruction manuals for many popular models. The National Re-tune phone line (08456 05 11 22) will stay live as an automated interactive voice response (IVR) service until further notice.

**Encourage viewers to learn how to retune their Freeview TV, box or recorder. Retuning from time to time will ensure they always have the latest services and best performance from their equipment.**

## Freeview services

Following switchover, virtually all households will be able to receive around 15 of the most-watched Freeview (SD) channels via their aerial. After the updating of the network on 17 November 2010, **Fremont Point** and its relays will also provide 'Freeview HD' broadcasts from the BBC-B public service multiplex. Therefore any DTT home will have the possibility to get additional the HD channels through the same aerial with an appropriate DVB-T2 receiver.

## Freeview HD: update and clarification

BBC-B will broadcast HD content using the new DVB-T2 standard (32K COFDM /256 QAM /MPEG-4) from all masts in the group. **Viewers will require a DVB-T2 based set-top box or recorder** connected via an HDMI socket on an 'HD ready' TV, **or an integrated DVB-T2 television to receive and watch any of the 'Freeview HD' services.** Existing TVs, even those with MPEG-4 chips which may already receive French HD channels, Freesat satellite TVs (with Freeview SD) and others marked with HD logos will not display the aerial based HD services. Look for the 'Freeview HD' or 'Freeview+ HD' logos carried on DVB-T2 models.



	Digital Terrestrial TV Equipment			
	HD FRANCE DVB-T: (8K, 64QAM, MPEG-4) MHP	Freeview UK DVB-T: (8K, 64QAM, MPEG-2) MHEG-5	HD FRANCE DVB-T: (8K, 64QAM, MPEG-4) MHP, Dolby Digital Plus	Freeview HD UK DVB-T2: (32K, 256QAM, MPEG-4) MHEG-5, Dolby Digital/HE-AAC
Standard Definition FRANCE	✓	✓ (may exclude services, e.g. text, interactive, subtitles)	✓	✓ (may exclude services, e.g. text, interactive, subtitles)
High Definition FRANCE	✗ (no Dolby Digital plus)	✗	✓	✓ (may exclude services, e.g. text, interactive, subtitles, Dolby Digital plus)
Standard Definition UK	✓ (may exclude services, e.g. text, red button, subtitles)	✓	✓ (may exclude services, e.g. text, red button, subtitles)	✓
High Definition UK	✗	✗	✗	✓

## Checking transmission status

Digital UK provides important webtools and a trade helpline that you can use to check the availability and quality of DTT transmissions.

# Digital switchover trade support



**1 The Digital UK postcode checker:**  
The only site for accurate information on switchover and re-tune dates, platforms and services availability, aerial groups and UHF channel allocations [digitaluk.co.uk/postcodechecker](http://digitaluk.co.uk/postcodechecker)

**2 The planned engineering web pages:**  
With information and alerts on switchover related transmitter work [digitaluk.co.uk/engineering\\_works](http://digitaluk.co.uk/engineering_works)

**3 The transmitter network microsite:**  
For maps, UHF channel tables, Installer newsletters and other useful downloads for the Installer's Almanac handbook [digitaluk.co.uk/transmitternetwork](http://digitaluk.co.uk/transmitternetwork)

**4 The manual re-tune widget:**  
Enter a postcode and get all of the UHF allocations for each mux through and beyond switchover. [digitaluk.co.uk/manualretuning](http://digitaluk.co.uk/manualretuning)

**5 The trade support helpline:**  
If your query is not answered by checking the websites above, you can call a dedicated trade helpline for switchover transmission enquiries on **0845 270 1708**. Identify your company and role and a Digital UK Liaison Engineer at Arqiva will be able to help you.

Calls are free for BT customers while include a calling plan. Call charges from other providers may vary. The standard business hours for Digital UK's contact centre are 9am to 5pm Monday to Friday and 10am to 4pm on a Saturday. Opening hours will be extended during switchover in each area.

get set for digital

## Keeping you posted

We will write to you again around one month before the transmitter group makes the switchover. We will give you the latest information to help you make your final preparations. This will include the important anticipated switchover times for the Fremont Point mast and each of its relays. This will help you inform consumers when to retune and to coordinate your home visits with transmissions being in place.

## Checklist

Things to remind your customers about include:

- The 17 November 2010 switchover date.
- Getting every TV in their home ready for switchover.
- The need to think about converting or replacing their recording equipment.
- Consider if they need their aerial checking, or other TVs connecting to the roof-top aerial.
- The need to retune digital equipment when new multiplexes or services are introduced.
- Are they using 2K equipment or other products affected by Split NITs that will stop working at switchover?
- Have an aerial amplifier or splitter booster that may need to be removed at switchover.

Contact the Digital UK advice line on 08456 50 50 50 for any further information or assistance.

get set for digital   
08456 50 50 50 [digitaluk.co.uk](http://digitaluk.co.uk)