



With kind permission of RDI-LB

Aerial Installer Newsletter

Meridian A (West) Edition – 30 November 2011

It's around 3 months until switchover for the **Hannington, **Midhurst**, **Whitehawk Hill** and **Rowridge** transmitter groups – are you ready?**

The Digital Switchover (DSO) plan for the **Hannington**, **Midhurst**, **Whitehawk Hill** and **Rowridge** transmitter groups is on track. Switchover will happen in two stages at each group on the dates below. Consumers may need guidance on accessing the mix of analogue and digital services in the 14-day transition period between stages, after which all remaining analogue services will cease.

Transmitter group	Coverage	Transition	DSO stage one	DSO stage two
Hannington	parts of Hampshire, Berkshire and Surrey	14 days	08 Feb 12	22 Feb 12
Midhurst	much of West Sussex	14 days	29 Feb 12	14 Mar 12
Whitehawk Hill	the Brighton area	14 days	07 Mar 12	21 Mar 12
Rowridge	Hampshire, the Isle of Wight, parts of Dorset, Wiltshire and West Sussex	14 days		

Switchover has been completed successfully at 51 transmitter groups to date and all have seen a common group of technical issues that need to be considered. 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**. In addition, the Freeview National Retune of 30 September 2009 revealed **early products with insufficient memory** unable to store all available services. More recently new product issues have arisen with models freezing or displaying no services due to not being able to decode extensions to the broadcasted Network Information Table (**extended NIT**). To help you prepare, these are all covered on the following pages.

Changes to clear poor reception

There is a long history of poor reception in the Meridian region caused by the local geography and the need to harmonise signals with those from neighbouring UK regions and the Continent. This has caused many consumers to align aerials to other masts in adjacent regions or install extra-large aerials and/or amplifiers that may prove to be excessive at switchover when high power increases are introduced. A number of initiatives will bring much improved post-DSO Freeview coverage and reception for homes across the Meridian region. These include the following for transmitter groups listed above:

- The **Hannington** transmitter will have the restriction currently used to protect Guildford analogue reception lifted. This allows a new ⁱomni-directional antenna to be used, bringing good reception to the East, including parts of Basingstoke, for the first time.
- **Rowridge** will have a new additional vertically-polarised feed to provide an alternative to households that find the current horizontally-polarised service is unreliable (These homes will need to realign their aerial to receive the new feed). This change will make Rowridge unique in the UK in having two polarisations with the same footprint. **Rowridge** also joins Crystal Palace in having the highest transmitter power in the UK.
- **Findon**, a relay of Rowridge, is being upgraded for switchover and will have both an omni-directional antenna and significantly increased power to provide a new alternative for Worthing and Littlehampton homes that have unreliable reception from the Rowridge main transmitter. The Findon site is in a different direction to Rowridge; this, together with the opposite polarisation and different group frequencies mean aerial work will be required.

ⁱ radiates equally in all directions on the same plane.

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 make things more complex 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 will have to retune their Freeview equipment (includes BT Vision and Top Up TV) 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 (e.g. HD) are introduced, or when TV and radio channels change position, as with the 'Freeview National Retune.' Full details can be found in the trade view of the Digital UK postcode checker at www.digitaluk.co.uk.

Be ready

Installers and their retailer partners are reminded to 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 – direct those seeking advice to the Digital UK consumer advice line 08456 50 50 50.
- Know where other retuning advice is available.

Digital UK retune tools: To help viewers and the 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 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. There is also a **manual retune widget** found under 'missing channels or wrong news service' which customises manual retune instructions for the viewer's postcode. **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.**

Overlaps

The scope for receiving signals from more than one transmitter increases as we move 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 may receive weak signals from a relay as well as desired strong signals from a parent primary transmitter. They may then find that running a retune will give either no services or picture and sound break-up. This can also happen where relay-served homes also receive a little signal from a primary transmitter resulting in their product displaying service names in tuning menus and banners but not receiving any clear pictures or sound. The issue is often due to products not storing the strongest 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. Use the Digital UK postcode checker trade view at www.digitaluk.co.uk to identify all available transmitters and the UHF channels they use.

New Freeview HD and SD models offer assisted or intelligent retuning to allow users to handle storing of duplicated or different regional channels simply. The large legacy base of deployed receivers do not and for these there are four main ways for consumers 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 manual retune guide is located at www.digitaluk.co.uk/retune
- 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.
- Retuning with the aerial plug removed and then inserting just before the process gets to the wanted UHF channels. This is becoming increasingly ineffective when more transmitters provide digital and use UHF channels directly next to each other and carry interleaved regional variations.
- Alternatively, for many products, "favourites" or "edit channels" settings 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 Government. This will commence with the auction of UHF channels 61 and 62. See: <http://stakeholders.ofcom.org.uk/spectrum/project-pages/ddr/>

2k-only equipment: The move to 8k COFDM transmissions at switchover continues to reveal old 2k COFDM only digital boxes and digital TVs (IDTVs) that stop working. This includes models that carry an 8k chipset but not the driver software to activate the capability. A significant number of the 2k models are ten year old ONdigital and ITVdigital boxes as well as early Freeview TVs. For the latest list of affected models go to the 2k list at www.digitaluk.co.uk/2kequipment.

Split NIT equipment: Retuning continues to bring to the surface other old products that either stop working or do not load services in the usual logical channel number (LCN) location 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

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 Dec 09 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.

(For Hannington, transmission powers (kW) for all muxes except for Mux A/SDN will increase 2.5 times giving +3dB gain. SDN already operates at comparable power and therefore only increases marginally (by 5kW.)

At Midhurst powers for all public service (PSB) multiplexes and Mux D/Arqiva B increase ten-fold, equating to 10dB added gain. Mux A/SDN power increases five-fold and Mux C/Arqiva A by four times representing +6dB uplift for both.

Power increases for the Whitehawk Hill muxes range between a four-fold and twenty-fold uplift giving between 6dB and 13dB added gain to the system.

The existing Rowridge horizontal polarity (HP) transmitter feed will have a ten-fold power increase on the PSB muxes (+10dB) while levels for its commercial (COM) muxes lift 2.5 times (+3dB). The new Rowridge vertical polarity (VP) feed will run all muxes at 200kW each making this the most powerful UK transmitter alongside Crystal Palace in London.

RF-connected devices: There have been instances, particularly among elderly consumers, 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 has often been 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. Similar issues can extend to other RF based devices such as games consoles and through TV security camera systems.

Vestel – 8k/negative offsets: Some early Vestel-produced Freeview boxes and recorders with original software cannot handle 8k transmissions from muxes using UHF channels with negative offsets applied. The issue is confined to old Goodmans GDB2, GDB3 boxes produced in 2003 for which there is no fix available; plus various branded hard-disk recorders built on Vestel's T810 platform in 2006-07 that did not receive one of the over-air updates broadcast regularly through 2008-09. The issue is normally seen in homes served by primary transmitters which adopt the 8k/negative offset configuration. Relay-served homes are unlikely to have purchased such a recorder some three or more years before DTT transmissions commence, however cases can emerge where consumers inherit products from family and friends, or they buy a secondhand machine. For more detail, see helpsheets at digitaluk.co.uk/retailers/tv_equipment/trouble_shooting_guides

NB: negative offsets will be applied at the Chisbury relay in the Hannington group, the Midhurst primary mast plus Lulworth and Salisbury relays in the Rowridge group. Negative offsets will operate on the BBC-B (HD) mux at the Steyning and Horndean relays but as this mux uses 32k transmissions the issue will not apply. For full details see Ofcom's channel tables here.

Early TVs may not store all channels: Following Freeview's latest network changes there are now over 100 services for Freeview TVs, boxes, and recorders to handle. There can be more than this, if homes also receive extra signals due to transmitter overlaps. The National Retune on 30 September 2009 revealed some older cathode-ray tube Freeview TVs (many being 2k-only models that cease to work at switchover) that cannot store some services due to lack of memory. For some products, over-air software updates were broadcast in 2009 to reallocate memory in the model but some homes missed these. Where no updates are available, the use of the 'manual retune' and 'favourites' options can enable the consumer to select the channels they definitely want and discard others.

Extended NIT signalling can cause problems: The Network Information Table (NIT) is a mandatory part of 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.

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
- 2 The planned engineering web pages:**
With information and alerts on switchover related transmitter work 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
- 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
- 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.

Call us free for BT customers with inclusive calling plans. Call charges from other providers may vary. The standard business hours for Digital UK's contact centre are open to you Monday to Friday and 10am to 4pm on a Saturday. Opening hours will be extended during switchover in each area.

get set for digital

The Registered Digital Installers Scheme – latest developments

As required by the Government (Dept. for Culture, Media & Sport) - the owners of the 'digital tick' logo Certification Mark, Digital UK's consumer marketing continues to centre on those installers that are qualified, security checked and have working at heights accreditation. **It will focus on promoting those installers who have committed to become Registered Digital Installers (RDI's). Only installers with full RDI status (excludes ARDIs) can use the 'digital tick installer' certified logo and Aeri-AI (robot) image** consistent with rules outlined in 'the dos and don'ts' usage guidelines available at: www.digitaluk.co.uk/retailers/Logo_dos_and_donts

Pre-advert placement check routines have been agreed with Yellow Pages and Thomson management. Yell and Thomson sales teams have been provided clear guidelines on when and where the logo and images can be used. They work with the RDI team and website to check eligibility before adverts are agreed. Digital UK backs this up with an **advertising campaign** that runs in new regional listing directories for switchover regions. The adverts reiterate the need for consumers to double check installers with adverts that carry the 'digital tick' without an associated membership number. Consumers and trade alike can use the popular **'find an installer' tool with photo-ID** for licensed installers at www.rdi-lb.co.uk. The **'name and shame'** area of the site is where companies misusing the logo or operating bad practices will be listed. This includes those with lapsed membership and ARDIs who have failed to complete the required NVQ training within the agreed time frame. In the dedicated 'Installer' area of the site, anyone can report installers that are misusing the 'digital tick' logo and attach pictures up to 200kb as evidence. This may be used by the RDI-LB's **enforcement officer** who works closely with key organisations including Trading Standards, The Advertising Standards Agency, CAI and the Police.

Need a new aerial?

Only licensed installers are allowed to use this logo - they must show their own unique ID number below:



18269999

This means they are trained, insured, and have been security checked.

Check any installer that does not display an ID number with the RDI. For more information visit www.rdi-lb.tv or call 0870 129 8015

Freeview HD: update and clarification



The **Hannington, Midhurst, Whitehawk Hill and Rowridge** transmitter groups will launch the HD mux, BBC B, at DSO stage two. 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 such as those with MPEG-4 chips alone, Freesat satellite TVs (with standard definition Freeview DTT) 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.

Freeview service variations

Remember, the range of DTT channels available to homes depends on which transmitter they receive signals from:

Virtually all households will be able to receive around 15 of the most-watched Freeview (SD) channels via their aerial. Many households will be able to receive more than 40 channels. An Ofcom fact sheet on the topic is available at: <http://stakeholders.ofcom.org.uk/binaries/research/tv-research/no3factsheet.pdf>

- Homes served by the **Hannington, Midhurst, Whitehawk Hill, Rowridge and Salisbury primary** transmitters, should be able to receive 6 multiplexes that deliver all Freeview channels, plus optional Top Up TV subscription services. All other relays in the these transmitter groups will broadcast the three public service broadcast multiplexes (3PSB) and served homes will receive around 15 of the most watched Freeview (SD) channels from the BBC, ITV, Channel 4, and Channel 5.
- After the updating of the network, all primary and relay transmitters in the UK will provide 'Freeview HD' broadcasts from the vacated BBC B public service multiplex. Therefore any DTT home will have the possibility to get HD through an aerial and watch 'Freeview HD' services when using a DVB-T2 receiver.

Keeping you posted

We will write to you again around one month before each 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 all masts in the **Hannington, Midhurst, Whitehawk Hill, and Rowridge** transmitter groups. 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:

- Their switchover dates.
- 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.

Existing DTT homes need to check if they:

- Are using 2k-only equipment or other products affected by Split NITs that will stop working at switchover.
- Have a Vestel T810 model that needs an over-air download.
- 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. Twitter and Facebook pages are also available.

get set for digital 
08456 50 50 50 digitaluk.co.uk

