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Wales Region Aerial Installer Newsletter

Preseli Edition – July 09

It's less than a month to the switchover in the south-west Wales area – are you ready?
Important information for installers and their customers to help make final preparations for the transition to digital TV in the Preseli transmitter group area.

Digital switchover (DSO) for the Preseli transmitter group, serving the south-west Wales area, is on track. Switchover will happen in two stages on the 19 August and 16 September. Consumers may need guidance on accessing the mix of analogue and digital services in the 28-day transition period, after which all remaining analogue services will cease.

Transition period: 28 days	
DSO Stage One	DSO Stage Two
Wednesday 19 August 2009	Wednesday 16 September 2009

The relay chains and switchover timings

The Preseli transmitter group has 27 broadcaster relays.

These are: **Abergwynfi, Broad Haven, Bronnant, Croeserw HP, Croeserw VP, Cynwyl Elfed, Dolgellau, Duffryn, Ferryside, Fishguard, Glynccorwg, Haverfordwest, Llandyfriog, Llandysul, Llangranog, Llangybi, Llwyn Onn, Mynydd Pencarreg, Newport Bay, Pembroke Dock, Pencader, Rheola, St Davids, St Dogmaels, Trefin, Tregaron and Ystumtuen.**

These operate in a chain as shown opposite.

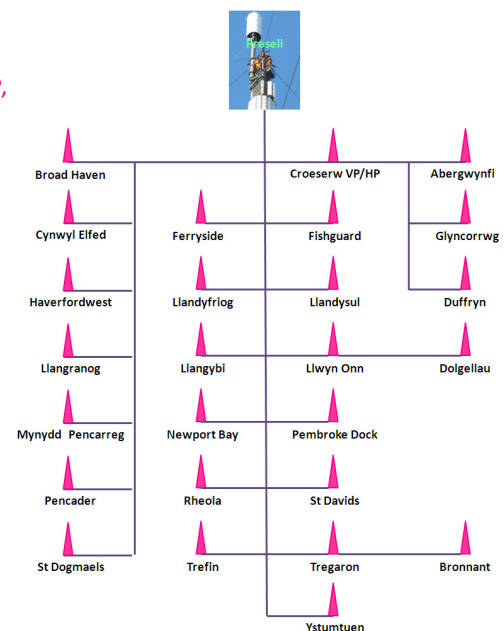
Reassignments

Fishguard and Ystumtuen were re-attributed from the Blaenplwyf transmitter group into the Preseli group.

Self-help relays

There are eight self-helps in the Preseli transmitter group. These are: Aberarad, Abergynolwyn, Cwmtdu, Drefelin, Llandyfriog C5, Poppit Sands, Rhydymain, Rhyd-yr-onnen. Ofcom advises that none of the owners have yet applied for a digital licence.

All masts switch on the same day - but at different times. See below and over.



Wales needs to re-tune on 9 September to retain S4C service

Separately from switchover, S4C is to move its service from Mux A (COM) to the D3&4 mux (PSB).

As it is **not a switchover**, there will be no move to 8K based high power transmissions, except for regions actually in between switchover stages. The move will give all DTT homes in Wales access to S4C – requiring a re-tune on all Freeview TVs and boxes (including BT Vision and Top Up TV). **Existing DTT homes served by the Preseli mast will therefore need to re-tune on 19 August (switchover), 9 September (for S4C) and again on 16 September (switchover).**



What happens on Wednesday 19 August?

Just after midnight, the switchover process for the Preseli transmitter group will start:

- At around midnight, analogue BBC Two ceases broadcasting permanently at all transmitters in the Preseli group (except Ferryside which has no analogue TV).
- At **Preseli** and **Ferryside** the low power Multiplex (Mux) 1 will be switched off permanently.
- Other services will be subject to interruption until daytime.
- Analogue channel moves will take place at **Preseli and all 27 relays.**
- Low powered existing DTT muxes remain on air at Preseli (Muxes 2, A, B, C & D.) At Ferryside, (Muxes 2, B & A)
- At all transmitters, the new BBC-A mux (replaces Mux 1) is launched at full DSO power in 64 QAM/8K COFDM mode.

During the morning, analogue services (BBC One, ITV1 and Channel 4) are restored, and some Freeview channels will be available from relays for the first time (BBC Two digital, and the other BBC digital channels).

Analogue Channel Swaps within the Preseli Transmitter Group:

At DSO1, for **Preseli and all of its 27 relays**, analogue ITV1 will move to the old analogue BBC Two channel /slot – for the length of the transition period, until switched off permanently on 16 September. This means that ITV will appear on button “2” on analogue TVs and video recorders unless consumers re-tune their products. Any existing advance timer settings stored on a recorder for BBC Two will record ITV1 programmes unless the recorder is re-tuned.

DSO Stage 1: Target transmitter switch timings*	
<i>* These times and the order are subject to possible change due to events on the day.</i>	
On DSO days actual switchover timings can be found at www.digitaluk.co.uk/Preselirelaytimes	
By 6am	PRESELI and all relays except those listed below
By 9am	Ferryside, Tregaron and Newport Bay
By 11:30am	Bronnant, Fishguard
By 2pm	Ystumtuen, Haverfordwest
All viewers will then need to install or re-tune Freeview, BT Vision or Top Up TV equipment.	

What happens on Wednesday 16 September?

- At around midnight, all analogue services and existing low powered digital services will be switched off and will stop broadcasting permanently.
- At all transmitters, the BBC-A mux will remain on-air but be subject to switching breaks.
- During the morning, new (8K COFDM/64QAM) high power digital services are launched
 - **At all transmitters:** the new PSB DSO muxes D3&4 and BBC B launch on their final DSO channels and at full DSO power.
 - **At Preseli:** the new COM muxes SDN, Arqiva-A and Arqiva-B launch on their final DSO (UHF) channels.
 - **At Ferryside:** SDN also launches
 - SDN and Arqiva-A are expected to adopt their final post DSO transmission powers in autumn 2009 and Arqiva-B in Q1 2010. All dates are still to be confirmed. .

DSO Stage 2: Target transmitter switch timings*	
<i>* These times and the order are subject to possible change due to events on the day.</i>	
On DSO days actual switchover timings can be found at www.digitaluk.co.uk/preselirelaytimes	
By 6am	PRESELI, Mynydd Pencarreg, Croeserw HP, Croeserw VP, Pembroke Dock, Llandysul, Broad Haven
By 8am	Newport Bay
By 9am	Llwyn Onn, Llandyfriog, Rheola, Ferryside
By 10:30am	St Davids
By 11:30am	St Dogmaels, Abergwynfi, Pencader
By 12:30am	Ystumtuen
By 1pm	Trefin
By 2pm	Llangranog, Glyncorrwg, Cynwyl Elfed
By 3pm	Tregaron
By 4pm	Haverfordwest
By 4:30pm	Dolgellau, Llangybi, Duffryn
By 5:30pm	Bronnant
By 6:30pm	Fishguard
All viewers will then need to install or re-tune Freeview, BT Vision or Top Up TV equipment.	

Consumers should wait for each stage to end the process before tuning or re-tuning.

Before the completion of switchover at each stage, channels may appear at different times. We advise that consumers wait until the expected completion time for switchover at their transmitter on both dates, before re-tuning their equipment.

Captions

On screen messaging to Preseli transmitter group homes began in February 2009. This continues with varying captions running on analogue services right through switchover. In the two weeks running up to each switchover stage, messages will be split between flagging the loss of channels if not prepared for digital, and to tune or re-tune digital equipment.

Aerials

At **Preseli**, all multiplexes remain within the analogue aerial group B. At **Newport Bay** all three muxes will be outside the analogue aerial group C/D. However, most existing aerials should perform satisfactorily as the new UHF channels are lower in frequency. At **all other relay sites**, at switchover, all multiplexes will be within the analogue aerial group. Consequently, in most cases existing aerials giving good analogue reception will also be fine for digital.

Communal Systems

UHF Channel changes at **Bronnant, Haverford West, Newport Bay** and **Tregaron** will mean that communal systems will need to be re-tuned at DSO Stage1 and DSO Stage2. Channelised (fixed) and filtered systems will need to be upgraded or replaced. The power changes at Preseli may require channelised systems to be adjusted at each switchover event.

3 and 6-mux Coverage

After switchover, the **Preseli** transmitter will carry 6 multiplexes (muxes) offering around 40 TV channels. **Ferryside** will continue to carry 4 muxes after DSO. All other relays in the group will carry the new 3 public service muxes providing around 20 channels. (This is a permanent and not a short-term position.) The increased transmission powers will mean more viewers may be able to get 6 muxes from the **Preseli** mast if they chose to re-align or replace with a suitable aerial.

Transmitter groups adjacent to the Preseli transmitter group

Households in south-west Wales are most likely to be watching the Preseli transmitter group. However, they could be watching the Llanddona, Blaenplwyf, Carmel, Kilvey Hill or Wenvoe transmitter groups and could switch on different dates, as shown in the map opposite. They are unlikely to be watching the Storeton Wales, Moel y Parc or Long Mountain transmitter groups.

8K transmission mode and impact on 2K-only equipment

The move to 8K for all multiplexes is now agreed by Ofcom for the whole UK DSO programme. Any homes already receiving signals from Preseli and using legacy 2K-only equipment, (including old ONdigital and some very early Freeview equipment without the digital tick logo) will find that it will stop working when Preseli transmitter group commences switchover on 19 August 2009.

- **IMPORTANT:** At the Preseli DSO Stage1 on 19 August, those with 2K-only equipment will only lose the BBC channels served by Mux 1 as it closes and the new BBC-A mux starts at 8K.
- Muxes A, C and D move to the new replacement SDN, Arqiva A and Arqiva B 8K services on the 16 September 2009 and it is then 2K-only receivers will no longer deliver any services.
- Digital boxes will need to be replaced. 2K IDTVs can be upgraded by adding of any current digital box or digital TV recorder carrying the digital tick logo.

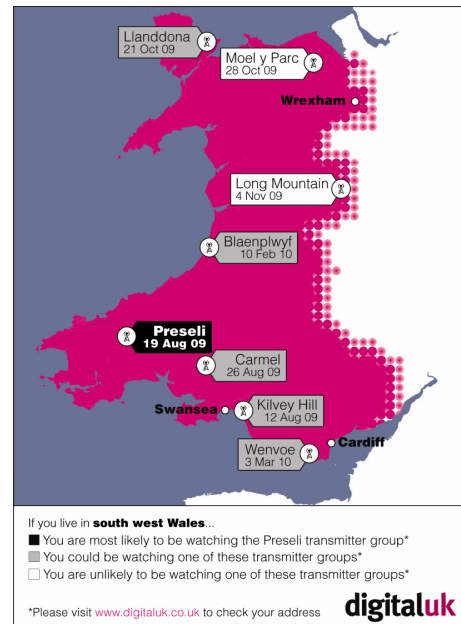
See www.digitaluk.co.uk/2kequipment for the latest list of affected models. Retailers and installers should prepare their helplines for calls from consumers that are affected. Homes receiving from other transmitter groups will face the same issues when their serving mast makes the switchover.

Split NIT will re-emerge as an issue

Installers and retailers may receive calls about other old products (without the “digital tick” logo) that stop working. Some were affected by the Freeview/broadcasters’ “Split NIT” network changes completed in August 2008. Some owners of the related products have yet to re-tune these models. When they do on 12 August 2009 their equipment will cease to function. See: www.freeview.co.uk/freeview/Resolutions/About-Freeview-availability/Coverageissues/Why-has-my-Freeview-equipment-stopped-working or www.freeview.co.uk/freeview/Resolutions/BBC-and-ITV-channels-missing or contact Freeview on 08701 111 270 for more info.

Over-air download: Vestel T810 DTRs

The Selkirk and Caldbeck switchovers both revealed some Vestel DTRs produced in 2006-2007 under various brands* that stopped working because they couldn’t handle 8K transmissions when a negative UHF channel offset was applied. This issue will also appear at the Preseli transmitter group switchover. Negative offsets are being applied to all three of the commercial muxes (SDN, Arqiva A and Arqiva B) at the **Preseli** mast (only). A software fix broadcast in November 2008 is being re-run regularly on Mux 1 (BBC-A) nationally on various dates. See the download schedule at http://www.dtg.org.uk/retailer/download_schedule.pl.



* **T810 versions only** – (check for label on bottom of product). Includes Digihome, Dual, Durabrand, Goodmans, Grundig, Hitachi, Sharp, Techwood - Call 08456 50 50 50 for full model numbers

Transmission Powers

Transmission power and reach increases radically at switchover. For the Preseli main transmitter, the powers of the 3PSB muxes will increase between ten and twenty times to their final levels at switchover. The 3COM mux powers will increase between five and ten times when they run at their final powers. The table below gives pre and post DSO transmission powers for the Preseli main mast.

* Effective Radiated Power											Preseli					
Current *ERP	Public Service Muxes			Commercial Muxes			Post DSO *ERP	Public Service Muxes			Commercial Muxes					
	Mux 1	Mux 2	Mux B	Mux A	Mux C	Mux D		BBC-A	D3 & 4	BBC-B	SDN	Arqiva-A	Arqiva-B			
	1kW	1kW	2kW	2kW	1kW	1kW		20kW	20kW	20kW	10kW	10kW	10kW			

The following table gives transmission powers for all other relays in the Caradon Hill transmitter group from switchover.

Transmitter	Effective Radiated Powers (ERP) all 3PSB Muxes															
	100 W	25 W	24 W	22 W	20 W	16 W	15.2W	10 W	8 W	7 W	5 W	4 W	3.2 W	3 W	2.6 W	2 W
Haverfordwest, Trefin	✓															
Ferryside, Fishguard		✓														
Croeserw VP, Mynydd Pencarreg			✓													
Llandyfriog				✓												
Rheola					✓											
St Davids						✓										
Llandysul							✓									
Newport Bay, Ystumtuen								✓								
Broad Haven, Llangrannog									✓							
Llwyn Onn										✓						
Pembroke Dock											✓					
Dolgellau												✓				
Bronnant													✓			
St Dogmaels, Tregaron														✓		
Llangybi															✓	
Abergwynfi, Croeserw HP, Cynwyl Elfed, Duffryn, Glynnacorwg, Pencader																✓

Amplifiers may need to be removed

With the transmission powers increases above, homes with aerial amplifiers could experience service loss or picture and sound disturbances due to their DTT receiver's tuner being overloaded. Those using old aerial amplifiers with poor filtering could experience video/ audio synchronisation problems caused by the receiver trying to read noise as a DTT signal. Simply removing the amplifiers in both cases usually rectifies the situation.

Prepare for increasing cases of overlapping signals

Installers should prepare for some cases of homes receiving signals from more than one mast, because DTT broadcasts from relays for the first time and the move to higher power transmissions. The widespread use of wideband aerials could also produce overlaps. This is particularly relevant where relays use UHF channels lower in the band than the main Preseli mast. The aerial may only be able to receive enough broadcast data to identify the channel in info banners but not display video and audio services. Until new products appear that offer assisted or auto re-tuning to allow users to handle storing of duplicated or different regional channels simply, there are three main ways to set up products to display only the desired services:

- The manual tune procedure - you need to know the UHF Channels for each mux.
- Running a tuning search with aerial plug removed and then inserting just before the process gets to the wanted UHF channels.
- Add an attenuator – to knock-out unwanted weak UHF channels. If removing the attenuator afterwards to maximise signals, remember it will be needed again for future re-tunes.

Alternatively, for many products “favourite” channel or “edit channels” settings can be used to reorganise services to the user's preferred order.

The re-tune challenge

At each stage of switchover, viewers will have to re-tune their equipment to pick up the new digital services. Further re-tunes will be required when adjacent transmitters switch and again when new channels are introduced or change position as per S4C. This is the single most common issue that causes viewers to contact helplines and retailers. **Installers and their retailer partners are reminded to have sufficient staff available and plan to handle re-tuning for customers not able to manage it themselves.**

Some suggestions include:

- Explain re-tuning and its importance when you sell equipment.
- Offer chargeable “Home Help” options around switchover and ongoing.
- Have dedicated (temporary) staff to run an in-store “re-tune 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 Call Centre.
- Know where other re-tuning advice is available:

Digital UK Re-tune Tools: To help consumers, Digital UK has created simple re-tune guides that are being included by manufacturers in their UK DTT model packaging. These are also available on the Digital UK website for downloading alongside generic guides ideal for retailers. There is also a manual search helpsheet for the more technical user, a webvideo 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.

Freeview Autumn Re-tune (Date to be confirmed)

Details are emerging of a UK wide Autumn 2009 re-tune event led by Freeview and the public service broadcasters. **As it is not a switchover**, this event does not involve a move to 8K based high power transmissions. **Every UK home with a Freeview TV or box (including BT Vision and Top Up TV recorders) will need to re-tune to continue to receive Channel Five and other services** that will move from their current multiplex location to another. The retune will also pave the way for Five to become as widely available as the other terrestrial channels at digital television switchover. Freeview homes that have already completed switchover will need to re-tune **including those served by the Preseli transmitter group. At the same time, services will vacate the BBC-B mux to help prepare for the future launch of Freeview HD.**

The date is still to be confirmed.

Look out for RF-connected equipment

Recent switchovers have revealed a significant number of cases where digital TV systems have been connected through RF (radio frequency) modulators and coax cabling, rather than SCART AV inputs. Some viewers find that they miss some services on a re-tune, because the recorder or Sky box is tuned in to the TV on the same / adjacent UHF channel, to that for a digital multiplex.

Key tools on the Digital UK website.

The **Digital UK postcode checker** provides all relevant and accurate switchover information. It lists the transmitter a home is likely to be using, aerial groups and UHF allocations pre and post DSO and services that can be received and all available platforms to a home before, during and after switchover. Go to www.digitaluk.co.uk.

Digital UK planned engineering work web pages carry information on planned switchover related transmitter work at www.digitaluk.co.uk/engineering_works. If you do not have Internet access when on the road, you can get the same information by calling the Digital UK contact centre on **08456 50 50 50**. One of our agents will check the postcode checker or engineering work pages for you.

Trade Helpline

Digital UK is now piloting a trade helpline. It is designed to address switchover based transmission enquiries that the Postcode Checker and engineering pages do not resolve. Having first checked these tools, Installers can call **0845 270 1708** and subject to answering a few status checks and accepting terms and conditions, a trade case number will be allocated. You will then be transferred to the trade helpline. Usage is monitored and if the service is abused, we will review whether we continue provision of this service.

Checklist

Important things to remind your customers about include:

- Getting every TV and recorder in their home ready for switchover.
- Relays will not all switch at the same time.
- The need to re-tune digital equipment when new multiplexes or services are introduced.
 - Be prepared for the four re-tunes required between 9 September and 30 September 2009.

Contact 08456 50 50 50 for any further guidance or assistance.