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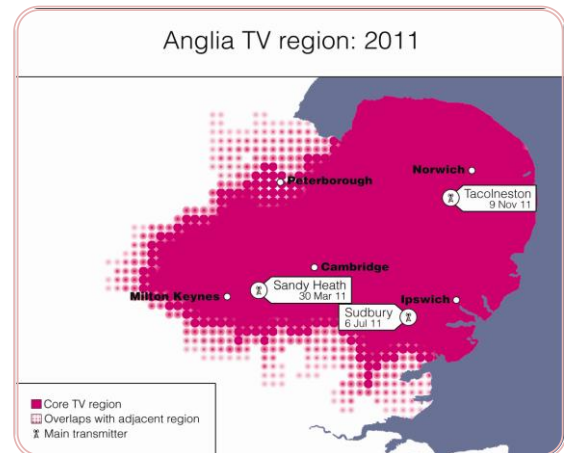
Anglia Aerial Installer Newsletter

2nd Edition – September 2010

The Sudbury and Tacolneston switchovers are less than 10 months away – it's time to prepare!

Welcome to the second newsletter from Digital UK - the independent body leading the UK's digital TV switchover (DSO) - for installers covering homes in the Anglia TV region.

This is one of three newsletters covering switchover for the **Sudbury** and **Tacolneston** transmitter groups. The next will be issued around three months before switchover and a third (and last) will be published around one month before switchover day. There will be an increasing level of detail in each newsletter. This edition focuses on key dates, reception factors and the tools we offer. The second covers common technical issues in detail, while the last will give proposed switchover timings on the day and other important information to help you and your customers to make final preparations for the transition to digital-only TV.



6.7 million homes have now completed switchover with few issues. By October 2010, this will be 26% of UK homes. Retuning of digital equipment is the most common reason for consumer calls, and this is set to remain for homes in the Anglia region. Another key factor will be the number of transmitter overlaps that occur bringing potential for viewers to receive unexpected regional variants of BBC and ITV services. Be sure to prepare your business and retail partners for handling retuning and overlap enquiries.

On 22 September, Digital UK announced to the public that switchover will take place at **Sudbury** and **Tacolneston** transmitter groups in two stages. The relevant dates and those previously announced for Sandy Heath are below.

TV Region	Transmitter Group	Area served	Homes (000s)	Switchover Stage One (DSO1)	Switchover Stage Two (DSO2)	Transition
Anglia	Sandy Heath	Cambridgeshire, Northamptonshire and Bedfordshire	966	30 March 2011	13 April 2011	14 days
Anglia	Sudbury	parts of Suffolk and Essex	523	6 July 2011	20 July 2011	14 days
Anglia	Tacolneston	Norfolk and north Suffolk	408	9 Nov 2011	23 Nov 2011	14 days

New relays at Sudbury and Tacolneston

New relay transmitters will come into operation from switchover at Sudbury and likewise at Tacolneston.

Three at Sudbury: **Burnham on Crouch**, **Clacton** and **Rouncefall**, **Two at Tacolneston:** **Great Yarmouth** and **Lowestoft**
 These will provide an alternative source of signal for households in those areas who find that reception from Sudbury or Tacolneston primary transmitters is not as reliable as they would wish. The coverage of these new relays can be seen by checking the Digital UK Postcode Checker at www.digitaluk.co.uk

North Norfolk relays to provide alternative to Yorkshire (Belmont) regional content

The existing **Kings Lynn**, **Burnham** and **Wells-next-the-Sea** relays will carry the three DTT public service muxes (3PSB) and Anglia regional content. This will offer some North Norfolk homes, which choose to erect a second aerial, an alternative to the existing Yorkshire regional programming they receive from Belmont. Use the postcode checker at www.digitaluk.co.uk to check if the home is served by these relays.

Switchover will happen in two stages, 14 days apart

At Stage One (DSO1):

- On the first date, analogue BBC Two ceases broadcasting permanently at all masts (primary and relays) in the particular transmitter group.
- At the same time, the existing low power Digital Terrestrial TV (DTT) Multiplex 1 is switched off permanently to leave the other lower powered multiplexes (Mux2,A,B,C and D) on air.
- The new BBC-A mux (replaces Mux1) is launched at high power in 64QAM / 8K COFDM mode at different times. We will notify you of the anticipated times approx one month before DSO for each transmitter group.
- **At this stage, all DTT viewers should install/retune their Freeview equipment (includes Top Up TV & BT Vision).**
- *Note that the general approach above can differ for some masts through planned technical events. We will notify you of any such events in the 'one month switchover' newsletter.*

At Stage Two (DSO2):

- All remaining analogue services and existing low powered Mux 2 and Mux B 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.
- The new (8K COFDM/64QAM) high power D3-4 mux launches digital services at all masts in the group at different times, from the morning onwards. As mentioned on the previous page, we will notify you of the times nearer the actual switchover.
- Existing low powered (2KCOFDM) commercial muxes will remain on air at Sandy Heath. They adopt high power 8K/64QAM based signals in later technical events – dates to be confirmed in subsequent newsletters
- **At this stage, DTT viewers should retune their Freeview equipment (including Top Up TV and BT Vision).**
- *Note that the general approach above can differ for some masts through planned technical events. We will notify you of any such events in the 'one month switchover' newsletter.*

The need to retune

At each switchover, viewers will have to retune their equipment to pick up the new digital services. Further retunes will be required when adjacent transmitters switch and again when new services are introduced or change position.

The close proximity of the Anglia TV region to neighbouring ones means that short-term use of parking channels or later mode and power changes can apply. These require viewers to retune on other dates, either in advance or after those for DSO stage one and stage two dates.

- There are currently **five post-switchover retune events** scheduled for the **Sudbury transmitter group**. However this may change in subsequent revisions to the switchover plan.
- There is **one pre-switchover retune event** scheduled for the **Tacolneston transmitter group**.

We will confirm full details in the final (one month from switchover) newsletters.

Consumers should always run a full (first time installation) retune to receive all of the services available. They should do this from time to time to always have the latest channel line-up and maintain the Freeview equipment's optimum speed and performance.

The retune challenge

Re-tuning is the single most common issue that causes consumers to contact helplines and retailers. Retailers and installers are reminded to have sufficient staff available to handle retuning for their customers not able to manage it themselves.

Other elements proven to work include:

Explain retuning and its importance when you sell equipment.

Offer chargeable "Home Help" retuning options for 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 Call Centre.

Know where other retuning advice is available:

Digital UK retune tools:

To help consumers, Digital UK has created simple retune guides that are being included by manufacturers in their packaging or the user manual. These are also available on the Digital UK website for downloading alongside generic guides ideal for retailers and a manual search helpsheet for the more technical user. There is also 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

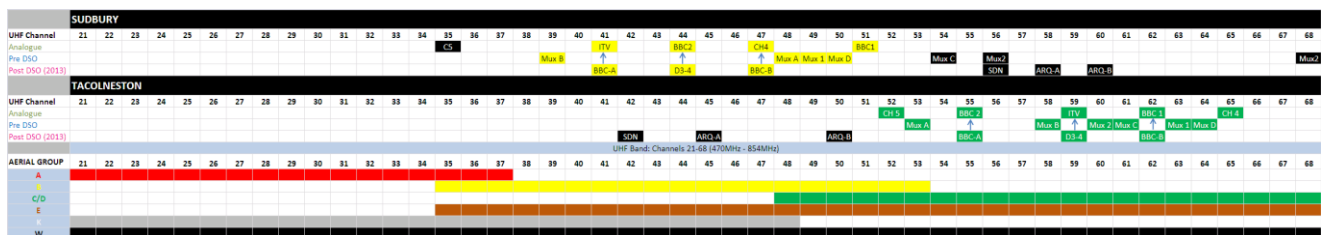
Don't forget the TV Retune website

The website (www.tvretune.co.uk) originally built for the Freeview National Retune of 30 Sept 09 is being maintained. It carries hundreds of dedicated retune guides for many digital boxes, IDTVs and DTRs as well as some generic retune guides produced by manufacturers. There are also many 'full user manuals' for those who need more non-tuning related information.

Existing aerials will be fine for digital – in most cases

Some customers may need new aerials for DTT if their old one is not in good condition. However, in most cases their existing aerial will be fine for digital from switchover. As shown by the table below, for both the **Sudbury and Tacolneston primary transmitters**, after switchover the three commercial muxes (3COM) will remain outside of the analogue group (Sudbury: Group B, Tacolneston: Group C/D). However most homes served by these masts may already have the required aerial because:

- Analogue Channel Five (introduced in 1997) was outside of the existing analogue group for the other four services and a wideband aerial was needed to watch it.
- Since the introduction of analogue Channel Five, weather damaged aerials have largely been replaced by wideband models, as industry has focused on manufacturing and fitting these models. (A 2008 survey of the CAI, aerial manufacturers and distributors showed that over 85% of aerials sold and fitted are wideband models.)
- As more than 89% of homes in regions yet to switch have already adopted digital TV on their main sets, those with Freeview would have needed a wideband aerial to do so.
- **At Sudbury**, those who still use a grouped (Group B) aerial – will still receive the three public service muxes (3PSB) to include all those provided under the TV licence fee and the new HD mux. They would only need to change to a wideband model if wanting to receive the commercial services.
- **At Tacolneston** the new post-DSO channels are in Group B, below the analogue group of C/D, so existing aerials will probably work in most cases.
- **For all Sudbury relays** at switchover, all muxes will be within the analogue aerial group. The **same applies for Tacolneston relays except for the Creake and Wells next the sea relays**, where muxes move above the existing analogue aerial groups and new aerials may be required. **NB: Some changes to the Anglia plan may occur in October and we will let you know then if there is any impact to the above.**



- Between 5 and 10% of UK homes may need to change their aerials, as predicted by Ofcom in 2006; in the recent G-Tech Report commissioned by the Department of Business, Innovation and Skills (BIS); and substantiated at all switchovers to date.
- Around half of existing indoor set-top aerials should be adequate for receiving DTT after switchover. A substantial

Don't forget post-switchover transmission power increases

DSO provides for substantial DTT power increases at all UK transmitters when analogue services end, to enable Ofcom's condition of matching the 98.5% UK analogue coverage figure. Power increases for individual muxes vary. The average is a ten-fold increase that provides a further 10dB gain into the Freeview receiver. We will notify you of the transmission power increases for **Sudbury** and **Tacolneston** and their relay transmitters in future newsletters.

Amplifiers

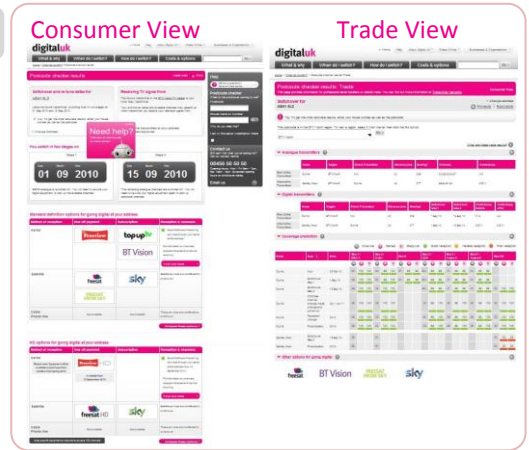
When transmission powers increase, homes with aerial amplifiers could experience service loss or picture and sound disturbance due to the DTT receiver's tuner being overloaded. Old aerial amplifiers with poor filtering could cause video/audio synchronisation problems where the receiver trying to read noise as a DTT signal. Removing the amplifiers should rectify both issues.

UHF channel changes and impact to communal Aerials

When planning communal aerial system installations or upgrades, installers should take account of UHF channel allocations changing at some point in the UK switchover process, and possibly later if other interleaved DTT services are introduced. Installers may need to revisit flats and other shared accommodation sites to retune head-end equipment or to remove or replace filters. Some installers continue to adopt lower cost fixed UHF channel systems and will have to contemplate having to replace these in the next couple of years with further UHF channel changes that will occur. Go to the Digital UK Postcode Checker and use the "Trade View" to see which UHF channels are reassigned between now and 2013. Those fitting cluster levellers or other filters should ensure that products used offer easy full UHF band access. Previously unused channel slots will be used post-switchover, when some UHF channels are reassigned for new services. See www.ofcom.org.uk/radiocomms/dds

The Digital UK Postcode Checker: the accurate tool

The Digital UK Postcode Checker is an important predictive tool to provide consumers and trade with all relevant and accurate switchover information. It lists the transmitter a home is likely to be using and all available platforms to a home before, during and after switchover. The postcode checker also shows all known DTT retune events for the home and when Freeview HD services are available to the given postcode. Importantly, unlike other third party checker sites, the DTT predictions are the same as those being used to design the transmitter network. The Digital UK postcode checker uses actual transmitting antenna patterns and takes account of UK and continental interference. Check it out on the front page at www.digitaluk.co.uk.



Digital switchover trade support

In addition to the Postcode checker, Digital UK offers other important web-tools and a dedicated trade helpline:

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.

Calls are free for BT customers within a calling plan. Call charges from other providers may vary. The standard 60 second call rate for Digital UK's contact centre is payable from Monday to Friday and varies by time of day. Opening hours are the standard working week.

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Freeview service variations

The range of available DTT channels to homes depends on which transmitter they receive signals from. (The channel line-up is always subject to change)

- Virtually all households will be able to receive around 15 of the most-watched standard definition (SD) Freeview channels via their aerial. Many households will be able to receive more than 40 (SD) channels.
- Homes served from a primary main transmitter (i.e. one that has delivered Freeview since 2002) will receive five multiplexes that deliver all Freeview (SD) channels, plus optional Top Up TV and ESPN subscription services. A sixth mux will deliver HD services.
- The remaining relays will broadcast the three public service broadcast multiplexes and served homes will receive around 15 of the most watched Freeview (SD) channels and text services from the BBC, ITV, Ch4, and Five.
- From their respective DSO stage two date, homes covered by **Sudbury** and **Tacolneston and their relays** will be served 'Freeview HD' signals too. These can be viewed with a compatible 'Freeview HD' receiver and HD ready TV connected via an HDMI interface or by a 'Freeview HD' TV.

Ofcom sets minimum coverage levels for public service channels at 98.5%. However, due to limited availability of frequencies and high cost for updating transmitter sites, commercial channels and pay TV providers are not subject to the same coverage requirements. At switchover they have to transmit from the current list of 80 primary transmitter sites - which with efficiencies from switching off analogue and increasing power will provide commercial DTT coverage to around 90% of UK households. An Ofcom fact sheet can be found at: www.ofcom.org.uk/research/tv/reports/dsoind/factsheets/no3factsheet.pdf.

Prepare for increasing cases of overlapping signals

Installers should be ready for more cases of homes receiving signals from more than one mast. **The geography of the Anglia region and close proximity to the Central region means this is particularly relevant.**

Factors that cause overlaps include:

- Freeview broadcasts commencing from relays
- Antennas being raised further up primary transmitters
- A move to high power transmissions at primary transmitters
- Large-scale use of wideband aerials

These factors raise the potential for homes getting unexpected results. This is particularly relevant where relays use UHF channels lower in the band and the home's aerial is only able to receive enough broadcast data to identify the

Post DSO: High Power DTT



- Use of wideband aerials – increases potential to receive from adjacent masts

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TV service in onscreen menus but not display pictures and sound. Experience from previous switchover regions has shown that some receivers simply store the first received signals and do not compare with a stronger desired alternative. Viewers may need help in resetting their preferred line-up or using the favourite channels facility. Until new products appear that offer easier intelligent handling and storing of duplicated or different regional channels, there are four main ways to set up products to display only the desired services:

1. **The manual tune procedure - you need to know the UHF Channels for each mux.**
2. **Running a tuning search with aerial plug removed and then inserting just before the process gets to the wanted UHF channels – impractical when different regional services from neighbouring masts are interleaved and use adjacent UHF channels.**
3. **Add an attenuator – to knock-out unwanted weak UHF channels. If removing the attenuator afterwards to maximise signals, remember it will need to be added again for future retunes.**
4. **Alternatively, for most products the favourite channel or channel-sort settings can be used to reorganise services to the household'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. For more detail see www.ofcom.org.uk/radiocomms/ddr

Digital UK manual retune widget

The Digital UK website now includes a tool to help guide viewers to successfully complete a manual retune. On entering a postcode at www.digitaluk.co.uk/postcodechecker/manual_retuning a page is created that highlights the overlaps issue. It lists all available DTT muxes for the address and the UHF channels each mux uses, on that date, and at subsequent DSO and other retune events. The user can then print a handy PDF page with all the details.

Freeview HD: The need for the right equipment

Freeview HD content will be broadcast from all primary and relay masts using the new DVB-T2 standard. Viewers will require a DVB-T2 (32KCOFDM-256QAM- MPEG4) based set top box or recorder connected via an HDMI cable to an 'HD ready' TV or alternatively use an integrated DVB-T2 television to receive and watch any of the 'Freeview HD' services. Existing integrated TVs such as those with MPEG4-chips alone, early Freesat satellite TVs and others with HD logos will not display the aerial based HD services. Look for boxes or TVs with the 'Freeview HD' logo and recorders with the 'Freeview+HD' logo.



A move to 8K COFDM and 64 QAM only transmissions = 2K only products stop working

Post-switchover DTT will be based on the 8K COFDM* transmission system only. This greatly improves signal robustness, while 64 QAM* can enable more services to be carried. However, such a move means that **old ITV Digital/On Digital and other 2K only set top boxes** will not work after switchover. **2K only IDTVs** can be updated with any current Freeview digital box or DTR. Check the latest list of affected models on the Digital UK website: www.digitaluk.co.uk/2kequipment

- *To protect neighbouring transmissions, the 3COM muxes at Sudbury will continue to run at 2K and low power until a post switchover technical event in 2012 in a date to be confirmed. Full details will appear in future newsletters.*

Split-NIT cases could still appear

In the summer 2008, Freeview and the Digital Multiplex Operators (DMOL) updated transmissions to enable more TV and radio services to run on DTT. This meant that the broadcasted Network Information Table (NIT) needed to be split and caused some models without the 'digital tick' (different to 2K cases) to fail with a retune. The majority of 'Split NIT' models are expected to have been revealed through the Freeview National Retune on 30 September 2009. However, some may still emerge through such as consumers inheriting product from family or buying second-hand models. See: www.digitaluk.co.uk/splitnit for more information on models affected.

Other equipment issues

In addition 2K and Split NIT factors there are other equipment issues that appear at each switchover. These include:

- Early Vestel T810 DTRs not working with 8K/ negative offsets
- Extended NIT handling
- Memory shortfall on old IDTVs
- RF connected equipment

More information on each of these and any other equipment factors that emerge will be provided in the next newsletter. In the meantime for more information go to the "find help" section on the homepage at www.digitaluk.co.uk, type the topic in the search box and press 'enter.'

Don't forget recorders

After switchover, viewers who want to record one channel while recording another will need to convert their VCR or analogue DVD recorder to digital too. For the majority, moving to a twin-tuner digital TV recorder (DTR) is the most practical way – providing one box to convert both their TV and recorder.

Only those DTRs with the standard 7-8 day EPG will work with any transmitter in the UK. Those models with a proprietary 14-day EPG that relies on data broadcast from one of the commercial multiplexes will not work fully in homes served by relay masts.

Those who want to record from a digital box connected to their existing recorder by SCART must remember to select the AV channel (E1; L1) on their recorder and the desired service on the digital box. After switchover, VIDEO Plus+ can still be used to set start and finish times for recording but users will need to manually select the "AV output" on their recorder and ensure that their DTV or box is switched to the channel to be recorded. PDC functionality will cease working at DSO.

Get an ALmanac – the installer handbook from Digital UK

Digital UK recognises that when you are on the road you may be without Internet access and unable to find core technical information. To address this we have produced the ALmanac - a hardwearing, handy manual. It carries useful information on digital switchover transmission, services and products including maps, charts and other official data from Digital UK, Ofcom and others who are directly associated with the switchover planning process. Note the ALmanac should always be viewed in conjunction with the dedicated broadcast microsite at www.digitaluk.co.uk/transmitternetwork where the latest and most detailed information will be. To make sure that the information in your ALmanac is the most current, relevant pages can be downloaded from the link above. If you are on our database you will be notified when new updates are available on the website. **The ALmanac is available free of charge (one per installer). If you have not already got your contact installers@digitaluk.co.uk to obtain a registration form.**



The 'digital tick' logo – a registered certified mark

The 'digital tick' logo is owned by the Department for Business, Innovation and Skills (BIS). It formally became a registered certification mark on 28 March 2008 and was developed to give consumers confidence in the products they are buying, by identifying equipment and services designed to continue working after switchover. The 'digital tick' logo is now recognised by 8 in 10 people in the UK as the way to find reliable information and services for the digital TV switchover.



The Registered Digital Installers Scheme

As required by BIS, Digital UK's marketing focuses on promoting those installers who have committed to become Registered Digital Installers (RDI's). **Only installers with full RDI status (exclude ARDIs), can use the 'digital tick installer' certified logo and Aeri-AI (robot) image** consistent with the usage rules at http://www.digitallogo.co.uk/dosandonts_Aug10.pdf **All RDI installers must include their membership number beneath the 'digital tick' logo in any advertising/marketing they plan for their services.**



This includes media such as the Yellow Pages and Thomson listing directories. Both have updated their sales systems to require agents to obtain and check RDI member numbers before allowing the use of any 'digital tick' logos and Digit-AI images in adverts. **RDI Installers are supplied photo ID cards which they are required always to carry and show to customers. The RDI website www.rdi-lb.tv includes a postcode checker to help people find qualified installers serving their area.** Full RDI installers are listed separately to Associate (ARDI) members yet to complete their NVQ qualification and all with their membership number. **The checker also carries ID photos for listed members** allowing users to confirm the person at their door is the same. Under the dedicated INSTALLER area of the site, **anyone can report installers that are misusing the 'digital tick' logo and can attach pictures - (up to 200kb) as necessary evidence.**

This may be used by the **enforcement officer** employed by the RDI, who will work closely with key organisations including Trading Standards, the Advertising Standards Agency and the Police.

Latest initiatives include the introduction of a new '**name and shame**' area of the RDI website, where companies misusing the logo or operating bad practices will be listed. This may include those with lapsed membership and ARDIs who have failed to complete the required NVQ training within the agreed time frame.

Digital UK's communications drive consumers to look for a membership number and to ask the installer for their photo ID card to match with it. It also advises consumers not to have work done by cold-callers and as per the advert opposite to double check those claiming to be RDI installers adverts in listings directories and other publications by using the RDI website or helpline. For more on the RDI please visit www.rdi-lb.tv or call **01353 644040**.

Need a new aerial?

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

digital 
Registered installer
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

The Switchover Help Scheme

The Switchover Help Scheme is run by the BBC, under an agreement with Government, to offer practical help at switchover to older and disabled people who may find it difficult to switch to digital TV. It offers eligible people everything they need to switch one TV to digital, including equipment, installation, a demonstration, a new aerial or dish if necessary and aftercare for a year. It is delivered by Eaga Plc on behalf of DSHS Ltd. For more information see the [Help Scheme leaflet](#) or visit www.helpscheme.co.uk. Please send any feedback to jim.mcgrann@bbc.co.uk



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.

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