

Ofcom fact sheet on coverage No. 3

Why will some people receive more digital TV channels than others?

Summary

- 1.1 Almost everyone will be able to receive the UK's public service television channels on DTT after switchover. This PSB service currently offers roughly 17 channels, including channels from the BBC, ITV and Channel 4. Other, purely commercial channels, will be less widely available.

Coverage and services on digital television

- 1.2 Digital switchover is the process of converting the UK's television services from analogue to fully digital. Switchover will take place on a region by region basis starting in 2008 and ending in 2012. To continue receiving television after switchover, consumers who have not already done so will need to upgrade their existing TV equipment to receive digital signals.
- 1.3 There are a number of different ways to receive digital television, one of which is via an aerial. This is known as Digital Terrestrial Television or DTT and services are provided by a consortium of broadcasters known as Freeview. Other ways to receive digital television include: satellite (either paid for or free), cable, broadband, as well as additional pay services on DTT. Each of these provides consumers with different packages of channels. The number of channels received will therefore vary greatly depending on the option chosen.
- 1.4 For viewers opting to receive services through their aerial, DTT is made up of six bundles of channels known as multiplexes. Three of these are **public service** multiplexes and three are **commercial** multiplexes.
- 1.5 When digital switchover takes place, the three public service multiplexes will be as widely available as analogue television is now. This will be achieved by converting every one of the existing 1,154 transmitters used to carry analogue television¹, so that these transmitters carry the public service multiplexes. The public service multiplexes will have spent many hundreds of millions of pounds in capital expenditure to roll out public service multiplexes to these 1,154 transmitters. This will make the services carried on the public service multiplexes available to 98.5% of the population.
- 1.6 The services that will be available on these three public service multiplexes will include all the main public service channels presently available on analogue

¹ A small number of these may not be required for DTT use as they rectify analogue coverage problems that are not replicated in DTT

television – BBC ONE, BBC TWO, ITV 1, Channel Four, S4C in Wales, and Five. But they will also include additional services, such as BBC THREE, BBC FOUR, ITV 2, ITV 3, E4, and More 4, as well as many radio and text services. We expect further services to become available on the public service multiplexes during digital switchover – such as four channels in High Definition by 2012².

- 1.7 The digital services currently available to viewers on the three public service multiplexes are listed in the table below. The number of channels and especially the services available on them can vary as broadcasters modify their service offerings. There are also differences across regions. Throughout DSO the coverage of the three PSB multiplexes will increase and the range of channels and services available on them evolve.

Services currently available on analogue and DTT

Current analogue services	Current DTT services available on the three PSB multiplexes*
BBC ONE BBC TWO ITV 1 Channel Four (not Wales) S4C (Wales) Five (c80% of population) Some text services	Approximately 17 TV channels in Standard Definition: BBC ONE BBC TWO BBC THREE / CBBC BBC News 24 BBC FOUR / Cbeebies BBC Parliament 3 channels carry BBCi (red button services) and Community ITV 1 ITV 2 ITV 3 ITV 4 Channel 4 E4 More 4 C4 +1 Around 12 radio and 3 text services such as Teletext Ofcom expects that Five will be available throughout the UK from switchover and that S4C Digidol will be available throughout Wales

*estimate based on latest available information. Coverage will reach 98.5% of population when DSO is complete. A single channel can carry more than one service. For example BBC THREE shares a channel with CBBC – they are not available at the same time and thus are shown side by side in the list.

² You will need the right equipment to view these, including an HD ready TV and HD DTT receiver. We expect all the equipment needed to be available on the market from 2009/10.

- 1.8 The other three multiplexes are commercial services, which do not have to carry public service content. It is a commercial matter for the operators of those multiplexes to decide which services to carry, and where in the country to transmit. The operators of these multiplexes are SDN (a subsidiary of ITV plc), and National Grid Wireless. As multiplex operators, these companies are subject only to limited regulation by Ofcom.
- 1.9 The three commercial multiplexes presently carry approximately 20 TV channels, as well as some radio and text services. The identity of these channels is subject to frequent change. At present, it includes TV services such as Dave, E4+1 (the E4 channel shown one hour later), ITV2+1 (ITV2 shown one hour later), Virgin 1, The Hits, The Music Factory and Five US, as well as some radio and text services.
- 1.10 These commercial multiplexes are presently available to around 73% of the UK population. Ofcom regulations mean that they cannot reduce their coverage at digital switchover, but it is a matter for them to decide how far to extend their coverage. They have decided to build a transmission network that will allow them to cover around 90% of the UK population from digital switchover. They have concluded that they cannot justify the very substantial investment in additional DTT transmission capacity to reach the final 10 per cent of the UK population.
- 1.11 However, most viewers who cannot receive these commercial services via Freeview will have other options for receiving a wider range of channels, such as satellite services (including subscription-free services, available both from Sky and from Freesat), cable and broadband.

Why is the coverage of commercial multiplexes lower than for public service multiplexes?

- 1.12 There are two important reasons why the coverage of commercial multiplexes is lower than the public service multiplexes.
- 1.13 First, it is very expensive to build a transmission network that covers 98.5% of population. The public service multiplexes will broadcast from over 1,150 transmitters and will have spent many hundreds of millions of pounds to upgrade the network. The commercial networks can achieve coverage of around 90% at lower cost, by using only 80 major transmitter sites. It is particularly expensive to build networks that fully cover hilly and mountainous areas, as these need proportionally many more transmitters to cover the terrain effectively than is required in other parts of the country.
- 1.14 It is a commercial matter for SDN and National Grid Wireless to decide how much further to roll out their networks, balancing the costs of doing so against the extra coverage that could be achieved.
- 1.15 Second, there are important international constraints on coverage, particularly in areas that face our international neighbours, Ireland, France, Belgium, and the Netherlands.
- 1.16 These constraints arise because television signals cross borders, so they need to be planned internationally. There are simply not enough frequencies available to allow all the multiplexes to be available across the whole UK – we have to accept limitations in some areas, as do other countries.

1.17 These constraints particularly affect west Wales, Northern Ireland, and coastal districts in East Anglia and the south coast (e.g. Kent & Sussex).

Can you give more detail on the likely coverage of multiplexes in different parts of the UK?

1.18 The transmitters not adopted by the commercial operators are all relay stations, installed to supplement the coverage from the main transmitters located across the UK. These relays are often required in remote or mountainous regions (as well as some localised urban areas where buildings or topography (hills or valleys) obstruct the signal from the main transmitters. Generally speaking, there is a very strong correlation between sparsely populated areas and their reliance on relay stations. These relay stations typically serve small population areas.

1.19 The table below shows the estimates available for the coverage of public service and commercial multiplexes in England, Scotland, Wales and Northern Ireland.

1.20 The figures reflect the factors identified above. Coverage is lower in hilly and mountainous regions and where networks are much more expensive to build and population density is much lower. Coverage is also lower in areas that are more exposed to international constraints. These factors mean that coverage is lower than average in some parts of England. For example, in the Meridian and Anglia regions, the coverage of the three commercial multiplexes is predicted to be approximately 80% after switchover. This compares with projected coverage of 88% for Scotland, 75% for Northern Ireland and 73% for Wales.

Predicted coverage - percentage of addresses (January 2008 figures)				
	England	Scotland	Wales	Northern Ireland
Coverage of PSB multiplexes				
Pre-switchover analogue coverage	98.7%	97.2%	96.7%	97.6%
Post-switchover Public-Service multiplexes	98.9%	98.8%	97.8%	97.5%
Coverage of all six multiplexes				
Pre-switchover DTT coverage (for all 6 multiplexes)	73%	82%	57%	58%
Post-switchover DTT coverage (for all 6 multiplexes)	93%	88%	73%	75%
Six multiplex percentage increase from pre-switchover DTT coverage	20%	6%	16%	17%

How will people be able to find out what services they will be able to receive?

1.21 Digital UK is the body responsible for leading the implementation of switchover and for informing consumers of what their choices are at switchover, including what channel line-ups will be available in different areas, so that consumers can make informed decisions about which service best suits their requirements. Digital UK is a separate body from Ofcom.

- 1.22 Viewers who wish check their predicted reception options leading up to and after switchover should contact Digital UK. Digital UK can give advice based on address or postcode by phone on 08456 50 50 50 or by visiting their website at www.digitaluk.co.uk
- 1.23 Viewers will also be able to check with Digital UK if they could receive more services by opting to use a different transmitter from the one they are currently using. However, this option may require an aerial upgrade for some.
- 1.24 On the basis of the advice received from Digital UK, people can decide whether to convert to DTT, or to choose an alternative platform, such as satellite (free or pay), cable or broadband. On these alternative platforms, there will be a wider range of channels available than on the service provided through the three public service DTT multiplexes.

Will the commercial multiplex operators increase their coverage following switchover?

- 1.25 Ofcom would welcome further roll-out by the commercial operators, and we stand ready to assist in facilitating this, for example through our detailed work on planning the use of spectrum by broadcast networks. Further roll-out must, however, be a commercial matter for the operators to decide.

Ofcom March 2008