

WHY SPECTRUM MATTERS TO UK AUDIENCES
VLV BACKGROUND PAPER
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VLV continues to be concerned with government spectrum policy and how it impacts on the provision of free to air digital television services. We have made numerous submissions to Ofcom, highlighting the need to ensure that UK citizens who enjoy free to air television should not be disadvantaged by changes to UK spectrum policy which is under pressure from mobile phone operators who are greedy for spectrum to increase data delivery via mobiles.

Prior to the end of 2012 when Digital Switch Over [DSO] was completed the dedicated spectrum for Analogue and Digital Terrestrial TV [DTT] was located between 470 and 862 MHz. Ofcom's spectrum policy since 2012 has been to divide this band into 4 blocks: "500", "600", "700" and "800" MHz bands. Local and international considerations led to the re-allocation of the "800" band to mobile operators for new 4G services which are now operational. To allow this to happen those TV services in the 800 band moved into the lower 500 and 700 bands that remained allocated to DTT. At the same time the "600" band was cleared of all transmissions and left empty. Subsequently Ofcom granted limited life licences to Arqiva in the empty 600 MHz band to provide 2 new HTDV Interim Multiplex signals using newer MPEG-4/DVB-T2 technology.

Further aggressive global demand from the mobile operators since 2012 has led to international agreements that the upper part [above 694 MHz] of the 700 band should also be re-allocated to them so some DTT transmissions will now be moved into the lower bands. After a number of consultations Ofcom have concluded that all but Interim Multiplex DTT services can be fitted into the 500, 600 and Lower 700 spectrum bands [470 to 694MHz]. So Digital Terrestrial TV must now operate in only 224 MHz of bandwidth compared to the original 392. Provision has also been made for PMSE in these bands.

Anticipating that the empty 600MHz band will be used for DTT services, the Interim Multiplexes were moved to the Upper 700 band where the new mobile phone services will be located. This means they are at risk in the future since Ofcom is clearly not able or willing to find room with the other DTT transmissions for them. The loss of these services using more efficient technology will be a major setback for the future evolution of DTT because the number HDTV services will be reduced and the incentive for viewers to acquire new sets equipped with the new technology will also diminish. In light of all this, another major clearance project, to be completed by 2020, has now been planned to remove DTT transmissions from the Upper 700 band. At the very least some viewers will be required to retune their sets as and when their local transmitter, currently operating in the Upper 700 band, is re-engineered. A few viewers may require new aerials and after 2020 some may suffer interference requiring remedial action. During the 800 band clearance interference risk was mitigated by filters which were fitted in the aerial lead and the same solution will be used for 700 clearance. Experience of the 800 clearance suggests that no major unexpected issues will arise and a consultation that closed in July 2017, updated in December, which VLV submitted to has broadly confirmed the planning assumptions. VLV expects that a full viewer support scheme similar to that in place for the 800 clearance will be established.

THE ROLE OF INTERNATIONAL BODIES IN SPECTRUM REGULATION

For many years the regulation and technical co-ordination of international telecommunications services and technology and the radio spectrum they employ has been managed through an agency of the United Nations, specifically the International Telecommunications Union (ITU) based in Geneva. Its remit is very wide-ranging over the complete extent of the radio spectrum from Long Waves (LW) to the high Microwave bands. Its agreements and conclusions are published as the Radio Regulations. The broadcasting spectrum is a very small part of this whole.

National regulators, advised by industry partners, are typically the members of many study groups that continually review the use of spectrum in national and regional jurisdictions. However, every 4 years there is a full plenary assembly – the World Radio Conference (WRC) - lasting about a month where all agencies from around the world meet to review progress and to plan the future use of spectrum, specifically new telecommunications services, systems and technology. In recent years the globalisation of services, in particular mobile ones, has required a greater global co-ordination of standards and spectrum usage than ever before.

The next such plenary (WRC-19) is in Geneva in November 2019. Preparations for this event have been progressing for some time and recently Ofcom consulted on its approach to the WRC. VLV responded, urging Ofcom to protect the interests of audiences and broadcasters by resisting further attempts to reallocate broadcasting spectrum to Mobile Data Services (MDS).

The availability of spectrum is vital for Digital Terrestrial Television (DTT) services, which is the main way universal, free-to-view television is delivered to UK viewers, using the Freeview platform. Availability of this spectrum has been eroded in recent years, due to the demands of the mobile telephone and broadband operators. The agenda for WRC-19 does not include proposals for any further erosion of DTT spectrum in the Ultra High Frequency (UHF) bands, which is a welcome relief. However the issue of the UHF is likely to return for the next WRC in 2023 the agenda for which will be discussed at WRC-19. We and Ofcom must be vigilant that the WRC-19 agenda is not changed and that any scope for UHF reallocation in WRC-23 is removed or at least contained. The health and future prosperity of DTT depends heavily on having enough UHF spectrum to maintain its current and future security and growth and that includes the ability to introduce new technologies at a pace that viewers are able to follow.

DIGITAL RADIO

The UK completed its complete transition to digital television by the end of 2012. For most VLV members the change from analogue to digital television TV reception happened a few years ago.

However digital transmission and reception is not static. With analogue our reception remained the same for decades. Unfortunately we must be prepared to retune our TV sets regularly as digital transmission is moved around the spectrum. Some receivers will do this automatically.

DIGITAL RADIO

Much like the digital television switchover in 2012, the digital radio switchover will see a change in the source of radio entertainment from an analogue platform (FM and AM, for example) to a digital one. As such, in order to listen to radio stations that are broadcast digitally, you will need to own a device that can pick up a digital signal.

The government proposes to make Digital Audio Broadcast, commonly known as DAB, the main broadcast platform for national radio stations, so you will no longer be able to receive these stations via your old FM/AM radio, but certain criteria must be met before a switchover can take place.

There are currently three national digital multiplexes (the platforms that hold stations), one for the BBC and two commercial, the latest of which launched in March 2016. FM will likely still be used for local and community radio stations, although Ofcom has been trialling small-scale digital radio multiplexes in an attempt to bring these to DAB, too.

What is digital radio?

Much like analogue radio isn't only FM, digital radio isn't only DAB. 'Digital radio' is a blanket term to include broadcasts on the internet and listening to the radio on a TV, as well as on a DAB radio.

Internet radio offers more stations than DAB - including local radio stations that aren't in the area you're in and international radio stations. Some DAB/FM radios are also capable of streaming internet radio, so you can enjoy 'listen again' programmes and overseas internet radio stations without having to switch on a computer.

Could the digital radio switchover happen in 2019 or 2020?

The government has said that once a switchover is announced a further two years at least will pass before the actual switchover takes place.

FM will be around for a while yet – there is currently no fixed date to announce a switchover to digital radio. The government has set certain criteria before the switchover can even be scheduled.

These criteria are:

1. Digital listening must reach 50% of all radio listening – this includes listening through TV and the internet as well as DAB. The latest figures show that this target has now been met.
2. National DAB coverage is comparable to FM.

Figures for digital listening are now at a record 52.4%, up from 47.2% the year before. Although the 50% mark has now been passed, the government will carry out a review to decide how to progress so the switchover is unlikely to happen within the next two years.

The benefits of DAB radio

More stations – The FM spectrum is crowded. Digital platforms provide space for more stations which, from a consumer perspective, should mean a greater choice of stations to listen to.

No dual transmission costs – Currently, broadcasters are paying dual transmission fees for broadcasting the same stations on FM and DAB. Moving to one platform will reduce costs for industry.

Blue-sky thinking – Digital radio offers more features and possibilities for manufacturers to develop radio content as a source of entertainment and information than analogue radio does, including greater interactivity with broadcasts. Additional functions such as scrolling text information about the show or music you're listening to are available on DAB and some DAB radios are capable of pausing, rewinding and recording live radio too.

The downsides of DAB radio

Radios are more expensive – DAB radios are more expensive than analogue radios because the components are more expensive to produce. Currently, a decent sounding DAB radio starts at around £40.

Reception is far from perfect – DAB reception is patchy across the country. If you're listening to a DAB radio station and reception is poor, the sound may cut out and stutter - rather than going a bit fuzzy the way FM does - making DAB very unpleasant to listen to.

In-car listening – Although 87% of new cars are fitted with DAB radios, millions remain on the road without them. DAB adaptors allow cars with analogue radios to pick up digital transmissions. Efforts have also been made to increase DAB coverage of major road networks and, consequently, last year saw a 45% increase in digital in-car listening.

VLV's concerns

VLV believes that radio switchover should only take place when people are ready and that no one should be left unable to receive national radio in the event of a switchover.

"Radio is a vital element in the lives of many citizens of the nations and regions of the UK. The switch from analogue to digital will be a major change for the medium. The switchover should only happen when listeners have sufficient confidence in the change. Implicit should be the evidence that consumers have adopted the new technology in the numbers similar to those that had converted to digital television when switchover began. This figure must be for listeners, not households. A plan using 50% as the trigger is too fast and will risk alienating all strata of society, whilst putting at risk a well trusted media that is vital to many of the most vulnerable and isolated of our fellow citizens." (VLV evidence to House of Lords Communications Select Committee 2010).