

## BASIC DETAILS

**Consultation title:** PLANNING OPTIONS FOR DIGITAL SWITCHOVER

**To (Ofcom contact):** GREGORY BENSBERG - TECHNOLOGY GROUP

**Name of respondent:** THE DIGITAL TV GROUP

**Representing (self or organisation/s):** THE DIGITAL TV INDUSTRY

*For a list of member companies please see: <http://www.dtg.org.uk/dtg/members>*

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**RICHARD LINDSAY-DAVIES - DIRECTOR OF PUBLIC AFFAIRS**

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## Ofcom consultation on Planning Options for Digital Switchover Draft 5 - 15 March 2005

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**Question 1.** Should all three public service multiplexes be required to achieve the same coverage at switchover throughout the United Kingdom? If so, should the coverage obligations being discussed for the commercial public service broadcasters be adopted by the BBC in its digital switchover planning?

*DTG member views expressed:*

- 1.1 All PSB multiplexes should have the same coverage*
- 1.2 As far as is practical, coverage of digital transmissions for the PSB muxes should be the same as the analogue transmissions they replace.*

### **DTG Response to Question 1.**

Clear and simple communication of the practical aspects of DSO is important if the proposed switchover timetable is to be achieved. Variations in multiplex coverage by region will increase the complexity of the industry, trade and consumer (Government, broadcaster and supply chain) messages required. To enable simple and effective communications, the DTG recommends that all three public service multiplexes are transmitted at the same coverage at switchover throughout the UK. These obligations should be applied equally to the commercial broadcasters and the BBC.

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**Question 2.** Ofcom seeks views on what level of coverage and capacity the commercial multiplexes could or should adopt at switchover and the effects this decision may have on the switchover process.

*DTG member views expressed:*

- 2.1 At those transmitter sites that they are present, the commercial multiplexes should transmit at the same mode and power levels as the PSBs.*
- 2.2 Commercial multiplex operators should be strongly encouraged to build out their networks to the 200 sites envisaged as soon as is practicable.*

### **DTG Response to Question 2.**

The strength of the consumer proposition on digital compared to analogue television will determine the level of conversion by choice. The DTG recommends the selection of a solution to achieve the maximum coverage and capacity practical. This will also enable simple and effective communication of the services available.

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**Question 3.** Is it appropriate to amend the DRLs to clarify licensees' obligations as regards DTT coverage?

**DTG Response to Question 3.**

Yes. The strength of the DTT proposition is best served if multiplexes work to the same agreed coverage criteria

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**Question 4.** If so, is it appropriate for Ofcom to seek to increase clarity for DRL licensees about the digital coverage required by describing obligations in terms of key input parameters (ie sites, transmission mode and power), or the achievement of an explicit coverage output, or other criteria? How should these criteria be worded in the DRLs?

*DTG member views expressed:*

*4.1 It is desirable that all multiplexes operate from the same sites, use the same mode and power.*

**DTG Response to Question 4.**

The DTG believes that Ofcom should seek to establish coverage criteria in the DRLs in terms of the key input parameters.

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**Question 5.** Ofcom seeks detailed responses (with appropriate supporting information) from any broadcasters and channel operators which may be affected by such a reduction in the number of services carried on Digital 3&4 due to the adoption of Option 1. Ofcom would be particularly interested in the impact such a change may have on their operating costs and revenues.

**DTG Response to Question 5.**

No DTG response.

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**Question 6.** Ofcom seeks views from respondents more generally about whether the capacity reductions implied by this option outweigh the other benefits. Again, Ofcom would welcome responses supported by detailed background information, including costs, to assist the regulator in assessing the benefits and disadvantages of this option.

*DTG member views expressed:*

*6.1 Data capacity and spectrum efficiency will be important in the future.*

*6.2 Spectrum will be required for High Definition and Mobile TV services in the future.*

**DTG Response to Question 6.**

To maximise the spectrum available for the launch of future services, a 64 QAM option is preferable provided it achieves equivalent coverage to analogue.

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**Question 7.** Ofcom seeks views from respondents about Option 2 in general and in particular their assessment of the scale of the proposed additional power and site adoption costs for Option 2 including whether this additional expenditure would generate net costs to the DTT broadcasters, the potential for increased risk to fulfilling the 2012 timetable and whether disadvantages related to this option are outweighed by the benefits that may arise due to the retention of public service multiplex capacity.

*DTG member views expressed:*

*7.1 Equal coverage for the three PSB multiplexes is desirable.*

*7.2 Option 2 does not maximise the available data rate on the PSB multiplexes.*

**DTG Response to Question 7.**

This proposal satisfies the DTG objective of providing equal coverage between the three public service multiplexes. However, this incurs a significant loss of capacity on the 16QAM multiplexes, which we believe will impede the introduction of HD services on terrestrial and thus condemn DTT to becoming a second-class service.

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## **Question 8.** Ofcom seeks respondents' views in general on Option 3.

*DTG member views expressed:*

*8.1 An option which achieves maximum and common coverage is desirable.*

### **DTG Response to Question 8.**

The option recommended by the DTG is option 3. Spectrum allocation should be flexible enough to allow for future, as yet unknown, development of digital services. These services may well provide future social and economic benefit to these areas

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**Question 9.** Ofcom would also welcome comments (especially supported by background information) in particular on: (a) the proposal under this option to increase further the power levels of some transmitters (see paras. 5.7 and 6.16) in order to enable the DTT coverage to match that of analogue; (b) the potential risk to achieving DSO by 31 December 2012 that may be associated with the adoption of Option 3; and (c) whether adoption of this option may give any inappropriate advantage to the DTT platform.

*DTG member views expressed:*

*9.1 Power increases from -7 to -4 dB could be implemented after switchover to phase the work and minimise the risk to DSO.*

*9.2 Advances in receiver CCI performance may reduce or eliminate the need for increases above -7dB but only if they are accepted by CE manufacturers and the tighter performance limits incorporated in the DTG D-Book.*

### **DTG Response to Question 9.**

There are real risks to the switchover timetable in operating at power levels above those recommended by the RRC. The DTG believes that further study is needed to explore alternatives

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**Question 10.** Ofcom seeks opinions on Option 4 generally, and in particular views on the impact that the loss of full coverage of the terrestrial services outlined in Option 4 would have on the households affected and what factors should be considered in their adoption of alternative platforms. It also seeks views from respondents about whether the coverage disadvantages discussed could be outweighed by the benefits that may arise due to the retention of the current level of public service multiplex capacity and lower costs for the broadcasters compared with the higher cost options.

*DTG member views expressed:*

*10.1 The PSB multiplexes should operate at the same mode and powers and should achieve equivalent coverage to analogue as far as is practical.*

*10.2 Any deficiency in digital coverage should be made up by additional relay stations*

## **DTG Response to Question 10.**

The DTG is of the view that loss of terrestrial service to identifiable populations as a result of switchover may give critical adverse publicity. We believe that coverage should be maintained or improved in the switchover process.

The DTG does not favour Option 4.

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**Question 11.** Ofcom seeks views on Option 5 in general, and in particular on the impact that the loss of full coverage of the terrestrial services outlined in Option 5 would have on the households affected and what factors should be considered in their adoption of alternative platforms. It also seeks views from respondents about whether the coverage disadvantages could be outweighed by the benefits that may arise due to the higher PSB capacity (compared with Option 1) and reduction in costs for the broadcasters (compared with Options 2, 3 and 4).

*DTG member views expressed:*

*11.1 Mixed mode at -10 dB perpetuates reception differences and does not achieve the same coverage as analogue.*

## **DTG Response to Question 11.**

Option 5 would reduce the strength of the consumer proposition on digital television compared to analogue and is likely to result in a reduction in the level of conversion by choice. It will also result in more complex trade and consumer communications. The DTG, therefore, does not recommend the implementation of Option 5.

**Question 12.** Taking into account the coverage objectives, capacity considerations, relative power and infrastructure costs, the requirement to begin switchover as soon as is practicable and to complete the DSO process by 2012, the need for appropriate technological neutrality in achieving DSO, and all other relevant facts and circumstances, which DTT planning option should be adopted by the UK and Ofcom for switchover?

*DTG member views expressed:*

*12.1 Common coverage of the three PSB multiplexes is desirable.*

*12.2 Digital coverage equivalent to the existing analogue coverage is desirable.*

12.3 The PSB multiplexes should operate at the maximum data rate compatible with the coverage requirement in order to enhance the platform with high definition or additional services.

12.4 The strongest and simplest consumer proposition will produce the maximum level of consumer conversation to digital TV by choice.

## DTG Response to Question 12.

The option recommended by the DTG is Option 3.

**Question 13.** It is proposed that the broadcasters should adopt the 8k variant at switchover to enable the adoption of single frequency networks at switchover. Should this be done on a nationwide or regionalised basis and over what timetable?

Tests have recently been carried out on a number of modern receivers and the mean results are reproduced below:

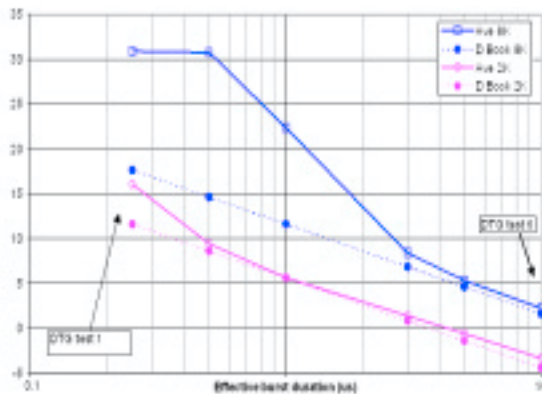


Figure 12a Impulse Signal Power for Failure (dBc) 64QAM rate 2/3

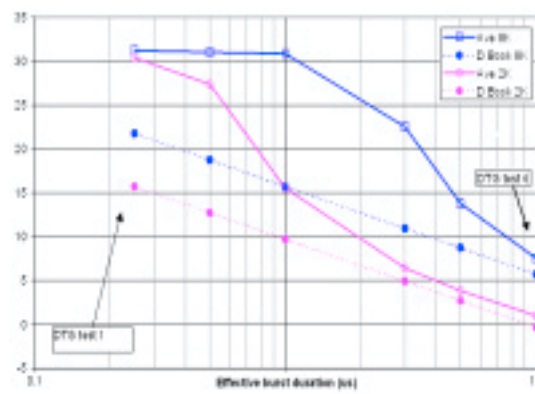


Figure 12b Impulse Signal Power for Failure (dBc) 16QAM rate \_

Results confirm that, at the longer impulse durations (DTG test 6), receivers tend towards the theoretical 6dB improvement of 8K over 2K. At shorter impulse durations, clipping in the receiver limits the disruptive power of impulses. Hence, in practice, 8K transmissions will have more than 6dB greater robustness than 2K transmissions.

The effect is particularly marked at 64QAM. There is a strong argument that 8K should be adopted wherever 64QAM is used. It should be noted that the major source of impulse noise causing reception defects reported in UK transmissions are generated within the home (eg thermostats and switches). Portable reception is likely to be prone to these defects.

DTG member views expressed:

13.1 Manufacturers would accept the migration to an 8K system.

13.2 The benefits of the 8K system out way the disadvantage that a small number of legacy receivers still in use at the time of switchover in each region, will need to be replaced.

### **DTG Response to Question 13.**

Adoption of the 8k variant of DVB-T is supported by the DTG and the change should be implemented at the time of switchover, region by region, to minimise the number of and impact to current users of 2k only equipment. The DTG also urges Ofcom to ensure that clear communication, and adequate assistance and compensation is provided for these consumers.

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**Question 14.** How should the current coverage deficiencies be managed after digital switchover? Should the current system of self help licensing be continued or should these communities be encouraged to adopt alternative platforms such as digital satellite? Ofcom is keen to hear respondents' views about the relative costs and benefits for each of these approaches.

### **DTG Response to Question 14.**

Current coverage deficiencies should be minimised and clearly communicated to the industry and consumers. Government, Ofcom and SwitchCo must ensure the continuity of PSB services, regardless of platform, to all consumer premises.

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