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**Ofcom**

3<sup>rd</sup> September 2009

To - Stakeholders in the UK DTT industry

Greg Bensberg  
Principal Advisor - Broadcasting

[REDACTED]

Dear Sirs,

**Enquiry to Ofcom from BBC Free to View Ltd concerning its DTT high definition multiplex licence**

Ofcom has received a letter from BBC Free to View Ltd concerning the terms of its Multiplex licence for the third public service DTT multiplex (PSB3). This is the post-switchover version of Multiplex B which is being prepared to carry high definition services and which will adopt the DVB-T2 and MPEG 4 standards. The technical changes to the multiplex to allow high definition services will first be introduced with broadcasts from the Winter Hill transmitter serving Liverpool, Manchester, Lancashire, Cheshire and north Staffordshire and starting in December 2009.

The BBC has indicated that third party content owners are seeking to ensure that reception equipment will implement the content management (copy protection) arrangements specified in the DTG D-Book. Because the D-Book requirements are not mandatory, representatives of content owners have asked the BBC to take steps to ensure that reception equipment will implement the specified content management arrangements.

It is a requirement of the multiplex and Ofcom's PS-DTPS licences (these are held by the Channel 3 companies and Channel 4 for the broadcasting of a HD version of their existing public service channel) that content on this multiplex is broadcast free to air (i.e. unencrypted). After a review of the options, the BBC has proposed a solution that is understood to be acceptable to content owners. That is to compress the service information (SI) data on the upgraded multiplex using BBC developed look-up tables. The BBC would make the relevant look-up tables available free of charge to any manufacturer that agrees, via a licence agreement, to implement the D-Book content management arrangements.

BBC Free to View Ltd has asked Ofcom if the multiplex licence as currently worded would allow for the compression of the service information text using the BBC's look up tables as described above. This is *Request 1* in the enquiry from BBC Free to View Ltd to Ofcom appended at the bottom of this letter.

In Ofcom's view the Multiplex licence would require amendment to make it clear that the proposed arrangement were allowed. Ofcom can amend the licence in this way provided the licensee has been given a reasonable opportunity to make representations on the proposed amendment. Ofcom is minded to amend the licence by the addition of the following clause:

To add at the end of Condition 6: **"(8) Nothing in this Condition 6 is to be construed as preventing the Licensee from entering into arrangements for the protection of intellectual property rights in High Definition television services where such arrangements have been approved by Ofcom in writing"**.

This would enable a subsequent written agreement between the licensee and Ofcom that would allow the proposed arrangement for compressing text using the BBC's look up tables. Ofcom will take into account representations from the licensee and other interested parties in reaching its final decision. Ofcom will also take into account the overall wellbeing of the DTT platform in making its decision.

Ofcom invites comments on this amendment to the licence. Comments should be received by Ofcom by 16<sup>th</sup> September 2009. Any comments should be directed to:

Andrew Dumbreck  
Ofcom  
3<sup>rd</sup> Floor  
Riverside House  
2a Southwark Bridge Road  
London, SE1 9HA  
UK

[REDACTED]  
[REDACTED]

Ofcom is aware that there has been some discussion around the similar compressing and uncompressing of service information text carried by other multiplexes, for that part of the service information relating to HD services. Ofcom would also welcome comments on this.

The BBC also asked for Ofcom's view on the possibility of encryption of content (pictures and sound) on the high definition multiplex. This enquiry (*Request 2* in the BBC's letter appended below) was made in connection with an alternative proposal for ensuring that content management arrangements are implemented. This is explained in more detail in the letter appended below.

It appears to Ofcom inappropriate to encrypt public service broadcast content on DTT. The current licensing regime requires that content is broadcast free to air. Any proposed change to this would require careful consideration and may involve a lengthy process.

Yours faithfully,

Greg Bensberg  
*Cc DCMS, BIS, BBC Trust*

Appendix - Letter from BBC to Ofcom dated 27<sup>th</sup> August 2009



Greg Bensberg  
Ofcom  
Riverside House  
2a Southwark Bridge Road  
London  
SE1 9HA

27<sup>th</sup> August, 2009

Dear Greg

**HD on DTT content management (copy protection) proposals**

I'm writing to you on behalf of BBC Free-to-View Ltd in relation to the Multiplex B licence and content management proposals for Freeview HD.

**1. Proposal to implement the Huffman Look-up Tables licensing approach to ensuring content management measures are included in DVB-T2 receivers**

**Background**

As you will appreciate, HD content is currently very valuable, owing to its high quality and premium nature. As broadband speeds are increasing, facilitating the unauthorised redistribution of HD content, HD content rights holders have begun to expect a degree of content management on the Freeview HD platform. The PSBs are committed to providing the strongest possible HD content line-up on Freeview HD, but we have to meet content protection obligations for acquired programmes. Whilst no system provides a complete deterrent to determined hackers, content management applied in the receiver after reception helps to prevent mass piracy.

Third party content owners (via the DTLA<sup>1</sup>), made it clear that they would seek to ensure that DVB-T2 receivers would implement the content management arrangements specified in the HD D-Book. However, because the D-Book requirements are not mandatory, the DTLA required the BBC and other broadcasters to take steps to ensure that receivers will implement appropriate content management arrangements. The BBC therefore accelerated detailed conversations with the DTLA from March 2009. Our aim has been to secure the most straightforward approach possible, bearing in mind that - where rights issues and IPR are involved - a degree of legal and contractual procedure is required.

**The Huffman Look-Up Tables licensing proposal**

It became clear that, in order to implement a logical approach related to the technical specification already signed off by the industry, the BBC could use its algorithmic tables (the Huffman Look-up Tables) which had been prepared to compress the broadcast SI data.

It's worth stressing that the core Huffman compression algorithm is freely available in the DTG D-Book. The Huffman tables direct the algorithm how to work by telling the algorithm how individual characters should be mapped. It is the tables themselves that are planned to be used as part of the

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<sup>1</sup> Digital Transmission Licensing Administrator - the licensing body for the industry standard DTCP technology, protecting content on home networks.



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licensing regime. The BBC developed the tables through an analysis of 3 months of UK EPG data for all channels and owns the IPR for the tables.

A proposal was made to the DTG's working groups and Council, to enable access to these tables to be granted by a licence, and a condition of that licence is that licensees adhere to the DTG's Content Management specification. The advantages of this approach were that:

- BBC copyright and database rights reside in the Huffman Tables, which the BBC is entitled to protect by licence.
- The Huffman Tables approach requires minimal adjustment to the existing T2 technical specification.
- The DTLA accepts this approach as an adequate protection for its rights holders' content, when backed up by the incentive for compliant manufacturers subsequently to be listed on the DTG's approved product list (which informs retailers' stock purchase) and to be able to use the Freeview HD logo.
- It would be further reinforced by the proposal to compress the "cross-carried" SI data for HD services on the DVB-T multiplexes.

#### **Request 1**

***We request Ofcom's view on whether it is necessary to amend the Multiplex B licence to accommodate the compression of SI data.***

## **2. Alternative content management proposal**

### **Background**

In the course of our discussions in the DTG's technical working groups, one manufacturer has proposed an alternative to the Huffman Table licensing proposal: that content could be encrypted on the multiplex using proprietary encryption technology. We had previously explored similar alternatives, and we have also reviewed this current proposal in terms both of policy and of practical implications.

### **Public policy and regulation**

We believe that an encryption or 'scrambling' approach to Freeview HD content management would compromise fundamental PSB free-to-air principles.

In terms of regulation and licensing, our interpretation is that it is inappropriate to allow the encryption of public service broadcast content on the DTT platform. In the context of the Multiplex B licence issued by Ofcom on 3 June 2009 (version 9), as referenced in clause 7a, part 2: "... *such digital capacity that is available on the frequencies operated in the High Capacity Transmission Mode which is sufficient for the broadcasting of one high definition television service for each day throughout the High Capacity Coverage Area so as to be available for reception by members of the public on a free to air basis ...*".

### **Practical issues**

For a move from free-to-air to free-to-view, we believe that the following challenges would arise:

- A technical proposal would need to be developed by the multiplex operator, the other PSBs and the DTG's working groups in order to incorporate it into the HD D-Book. This process could take many months.
- The technology could not simply be implemented 'off the shelf' and that manufacturers would have to invest significantly in purchasing and tailoring additional functionality (apart from any who were already using it, who could then be seen to have an unfair market advantage). This could also take several months.

- The BBC would have to invest significantly in additional encryption and key management equipment, which would require additional financial approval from the BBC Executive and BBC Trust. This due process could take several months.
- The BBC would need to ensure that any IPR associated with the technology or the key management could be linked to a requirement to incorporate content management functionality (in a similar way to the Huffman licensing technique).
- The testing regime would have to be updated to incorporate relevant tests for the encryption functionality.

#### **Consequences of adopting a different approach from the Huffman Look-up Tables**

Even assuming that the practical issues could be resolved partly in parallel (following consultation), the consequences of pursuing an encryption approach rather than a Huffman Tables licensing approach could be a delay of up to a year in launching the Freeview HD platform. This would result in:

- Major consumer disadvantage, not least the loss of the World Cup on Freeview HD (even if a consultation on encryption were launched in September 2009, and it were to result in a change to the multiplex licence, the technology could not be deployed in receivers for launch by June 2010).
- Significant financial loss by manufacturers who are ready to move to prototype testing from September and whose business plans from 2010 incorporate income from T2 products.
- Harm to the strategic future of the terrestrial platform.

There would need to be a commitment from all manufacturers to support any product using this technique in case the system is compromised by providing guaranteed future software upgrades. (This might prove impossible for some manufacturers). So potentially we could create receivers which may in future have to have their HD services removed if the encryption system needs updating.

Furthermore the proposal uses a different algorithm to the DVB Common Scrambling Algorithm. Aside from the regulatory uncertainty of this we are not aware of any broadcast head-end equipment available now which implements it. We would need to commission the design of suitable equipment.

#### **Request 2**

***We request Ofcom to comment on the possibility of encrypting PSB content on the DTT platform.***

#### **3. Summary**

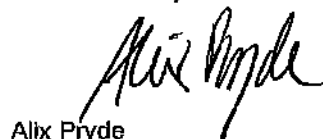
In conclusion, I am writing with two requests - for Ofcom's:

- view on whether it is necessary to amend the multiplex licences and if so whether Ofcom is minded to amend the Multiplex B licence to accommodate the BBC content management proposal; and
- comment on the possibility of encrypting PSB content on the DTT platform.

In view of the industry's desire for clarity on this final element of the latest HD D-Book, I would very much welcome a response by the end of September.

With thanks and best wishes.

Yours sincerely



Alix Pryde  
Controller, BBC Distribution