



**teletext**

## **Enhancing Interactive & Text Services**

A joint response submitted by BBCi and Teletext.

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### **Introduction**

This response is submitted jointly by BBCi and Teletext.

By 2009/10, the UK will be well on its way to becoming fully digital as digital switchover is rolled out across the country. The loss of the analogue television signal will result in many UK viewers losing their access to analogue text services such as Teletext and Ceefax. Although plans are already in place to migrate analogue text services across to digital, there are still many barriers to providing the optimum service on the DTT platform.

The adaptation of Multiplex B to the DVB-T2 and MPEG4 technologies, offers an opportunity to dramatically enhance the supporting interactive and text services for the channels on that multiplex. Such enhancements would not only improve the presentation capability of interactive and text services to match HD video programmes, but also, through some of the possible technological changes, they would require significantly reduced capacity compared to the amounts required for current text services on the DTT platform.

Potential enhancements for interactive services on the adapted Multiplex can be grouped into 4 areas:

- MHEG HD Enhancements,
- Receiver Memory,
- MHEG PVR Extensions, and
- Internet Integration

These are outlined below:

#### **1. MHEG HD Enhancements**

The specification of HD enhancements for MHEG is currently being finalised through the Digital Television Group (DTG), with full support of the industry. The additional features supported would then allow interactive services to deliver a superior viewer experience, including:

- a richer graphical experience over the standard SD application due to it being intelligently rendered onto the HD (On-Screen-Display); making full use of the higher resolution and allowing a greater use of colours and graphics.
- support for HD 14:3 resolution screens (the spec also introduces a coordinate system for HD applications allowing the application to be targeted at a single shape of screen which enables it to optimally display content in high resolution).

These enhancements, contained within a formal DTG specification, should, we believe be made part of the receiver specification for devices supporting the DVB-T2 and MPEG-4 technologies.

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### **2. Receiver Memory**

As recognised in the Ofcom consultation, the proposed technology upgrades to DVB-T2 and MPEG-4 will require a new receiver specification and new devices in the market (including support for HD interfaces such as HDMI and DVI).

We believe that these specifications should include a minimum amount of memory for MHEG services. This is not currently done and causes existing text services to suffer variable and often poor loading speeds of access, creating a major barrier to analogue viewers migrating to digital text services. The amount of memory specified should be sufficient to cache all the text and interactive services on the DTT platform enabling any text or interactive service to run at their optimum speed and not dramatically slow down to constantly retrieve data off the broadcast carousel.

It is recognised that one of the major contributing factors to Freeview's success is the affordability of receivers. Setting a minimum amount of memory to be supported in receivers would not affect this, as the amount required (est. 4-5MB) is now easily supported by current, updated, chip technology and would not impact the price point of the new receivers.

This allocation of memory would be a negligible cost to manufacturers. To date, despite now having hardware that would allow them to allocate sufficient memory they have not done so through a lack of awareness and a lack of enthusiasm/commercial rationale for supporting text services.

### **3. MHEG PVR Extensions**

The depth and type of content delivered by interactive and text services would be dramatically extended through the specific use of hard disk based receivers (PVRs); where the content could be persistently stored (e.g. after an overnight over-air download, or in the background) on the hard disk.

The majority of the elements that make up interactive and text content are relatively static (presentation icons, templates, weather maps, entertainment listings etc.) and these can all be stored in advance on a PVR.

This could dramatically improve the speed of the interactive and text services, an area which is presently deterring viewers from fully migrating from analogue to digital text services.

Such capability would not preclude the use of new basic, non-recording, receivers as the usage of PVR storage could be used purely

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for additional high-capacity content, not currently supported, such as greater levels of local “directory style” information which would allow an enhanced content offering, complementing current interactive and text services.

The MHEG extensions to support this functionality are already proven as part of the BBC VOD trial; however, these would need to be ratified by the DTG as formal MHEG extensions.

We believe that formal specification would easily be achieved within the timescales proposed in the Ofcom consultation, in time for manufacturers to include it in the necessary MHEG middleware. We believe, therefore, that these MHEG extensions, when ratified by the DTG, should be included in the receiver specification (for PVRs).

There is a need to consider other initiatives which intend to make use of over-air download such as Push Video on Demand. This proposition intends to use some over-air capacity to send promotional clips and other content that cannot be recorded off air to the PVR. The amount of content has not yet been agreed.

### **4. Internet Integration**

The use of an Internet Return Path (IRP) for Freeview, where interactive broadcast services are integrated with home broadband is one which would provide real benefit to the viewer and ensure that the Freeview platform remains valid in a constantly changing technology environment.

We believe the necessary hardware interfaces for its future introduction should be specified now (as a manufacturer model option) to make its future introduction more universal and not require viewers to purchase more replacement receivers than necessary.