

# Digital TV and access to it

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# *Digital Television*

offers inclusion via “*Access Services*”

Subtitling

Audio description

Signing

*and*

opportunities for improving *Useability*

# Access services

## Subtitling

- *DVB Subtitling has been available in the UK on Digital Terrestrial Television since its launch in 1998 and on the UK “freesat” platform since May 2008.*
- *Subtitling has been available on Sky Digital Satellite since its launch in 1998.*

### Notes :

- 1 *In the UK subtitling is predominantly in English*
- 2 *BBC Services for Digital Cable are typically remultiplexed from DTT or DSAT and so have the appropriate access services.*

# Access services

## Audio description

- *Audio description has been available on Sky's Digital Satellite and on Digital Terrestrial since 1999 and on the UK freesat platform since May 2008.*
- *Subtitling and audio description are now also available on the BBC iPlayer.*

## Signing

- *Signing is also provided in-vision on a proportion of programmes.*

# Access services

During the first six months of 2009, the BBC

- *subtitled > 99.8% of programme output on each of 7 linear TV channels,*
  - *audio described over 12 %\* of output*
- &
- *signed over 5% \* of output.*

*\* depending on channel*

# *Access services*

During 2008/09 we delivered an estimated

- *52744 hours of subtitling,*
- *5621 hours of audio description*
- &
- *2321 hours of signed content.*

# Access services

- 18 regional variants of BBC ONE \*
- 4 regional variants of BBC TWO \*
- 2 day-time children's channels (CBBC & CBeebies)
- 2 mixed-genre channels (BBC THREE & BBC FOUR)
- A 24hr live news channel (BBC NEWS)
- Parliamentary coverage (BBC Parliament)
- An HD channel (BBC HD)

\* "Reactive" channels with a mix of live and pre-recorded content.

# Access services

To achieve this level of delivery we have worked with our partners (RedBEE Media and Siemens) to refine many elements of the “end-to-end” system

- *Scheduling and workflow improvements*
- *Asset management*
- *Resilient systems for play-out and delivery (coding and multiplexing)*
- *Use of latest technology commensurate with service requirements (eg. HD)*

# DVB Subtitling

Image quality to maximise legibility

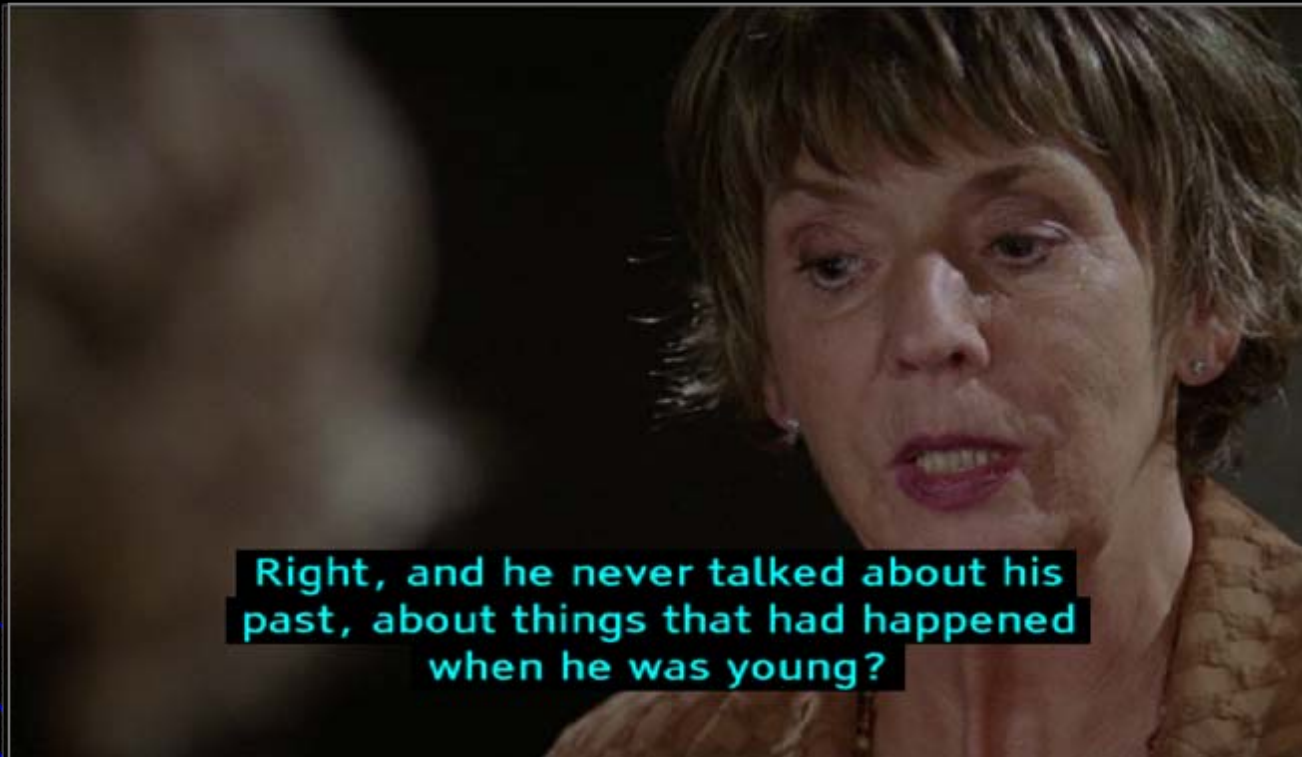
- *Font style and font size*
- *Antialiased letterforms*
- *Proportional letter-spacing and word-spacing*
- *Colour, contrast*
- *Supports symbols and scripted languages*
- *Supports multiple languages*

# DVB Subtitling

Technologies are stable and standardised

- *Image quality inc. font, size, spacing etc. is determined by the broadcaster.*
- *Fully standardised (and HD capable)      EN 300 743 v1.3.1*
- *Most Eu-wide receiver manufacturers (of stbs and iDTVs) have delivered product supporting DVB Subtitles over a number of years.*
- *Test regimes for receivers are available.*
- *Head-end equipment has been available from various manufacturers for a number of years. It includes transcoding from teletext so can make use of legacy authoring processes and archive material.*

# DVB Subtitling



# DVB Subtitling



# DVB Subtitling



# Audio Description

Technologies are stable and standardised for SDTV

- *Choice of “broadcast-mix” (DSAT) or “receiver-mix” (DTT).*
- *Fully standardised.*
- *A number of receiver manufacturers (inc. big-name iDTV manufacturers) have delivered AD-capable product over recent years. This includes low-end as well as “big brand name” products.*
- *Test regimes for receivers are available.*
- *Head-end equipment has been available from various manufacturers for a number of years.*

# Access services

## Current challenges for the provider

- *Accuracy of live-subtitling*
- *Timing of live-subtitling*
- *Authoring for multiple platforms*
- *Audio description for multi-channel audio*
- *Signing in HD*
- *Capture and editing of live-subs for archive/rebroadcast*

# Access services

## Near-future \* technological advances

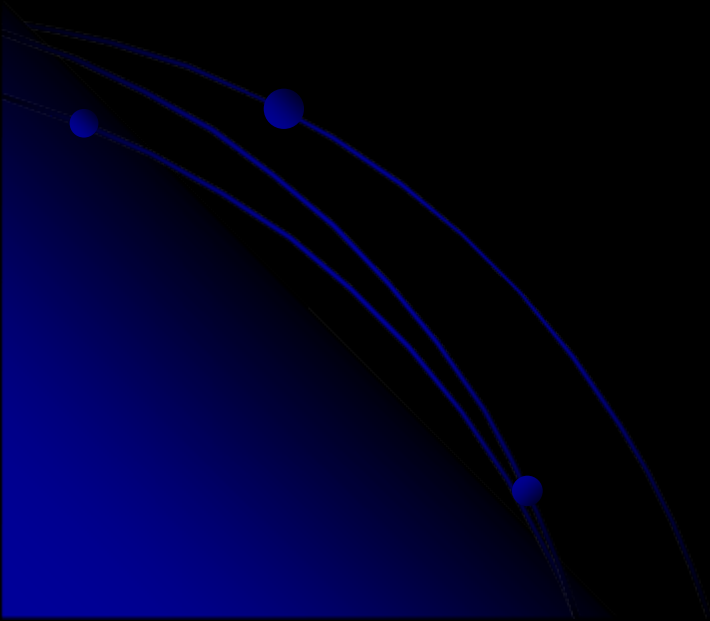
- *Further workflow improvements (including integration with News Room scripting tools)*
- *Improvements in Voice Recognition*
- *Language tools to improve semantic accuracy in live subtitles and to filter inappropriate language*
- *Real-time monitoring of play-out and delivery errors*
- *Hybrid delivery (eg. signing via IP)*
- *New file-formats (eg. DFXP)*

\* *In next 3-5 years*

# *Access services*

## Near-future advances (2)

- *Tools to manage loudness of music and effects in production*



# Accessibility

## Key lessons learned

- *Have a clear definition of the service requirements that is owned by **all** users (and providers).*
- *Keep faith with the principles of the agreed definition over time (“don’t keep asking for more bells and whistles”).*
- *Try to manage user expectations (e.g. live subtitles will have errors).*

# Accessibility

## Lessons learned (2)

- *Aim for a practicable and sustainable solution **not** for “absolute perfection”.*
- *Aim for consistency of user experience across platforms.*
- *Adapt the delivery solution to the platform as needed (eg. B-mix vs Rx-mix AD).*
- *Ensure the delivery solution is standards based (eg. Eu or wider).*
- *Economy of content production leads to more hours of accessible TV (author once, deliver many).*

# Accessibility

## Lessons learned (3)

- *Put as much technical sophistication as is appropriate at the sending end rather than at the receiver.*
- *Ensure that any “personalisation” is a function of the receiver (e.g. size of subtitles).*
- *Ensure a suitable compliance test regime for consumer equipment.*
- *Challenge any CE manufacturers who say “it’s too hard”, “the market is small” etc..*

# Service definitions

- *A specification of your requirements (rather than of the preferred implementation).*
- *Aim for independence of technology (now and over time).*

e.g. **“Subtitling provides a simultaneous textual representation of the commentary or dialogue of any audio-visual content”.**

# *Accessibility and useability*

*accessibility*  
*provision of*  
*assistive services*

The diagram consists of two overlapping yellow ovals. The left oval is labeled 'accessibility' and contains the text 'provision of assistive services'. The right oval is labeled 'useability' and contains the text 'ease of use and ease of access'. The two ovals overlap in the center. In the bottom-left corner of the slide, there are three blue dots connected by curved lines, forming a decorative graphic element.

*useability*  
*ease of use and*  
*ease of access*

# Useability

- *is about common-sense and ease-of-use rather than product branding or minimising cost ;*
- *is about providing accurate, timely and relevant user information about those access services available with a particular programme or channel ;*
- *is about good practice in designing user interfaces with clear, simple and uncluttered screens and with appropriate user-feedback (beeps and icons) ;*
- *is about maintaining user preferences across channel changes and power cycling (eg. subtitles/language/AD selected) &*
- *is about user-friendly service discovery (eg. assisted retuning).*

# Useability

- *is about ergonomic remote controls (e.g. one-touch subtitles, one-touch audio description etc.) ;*
- *is about keeping it as simple as possible whilst delivering all the benefits that digital TV offers ;*
- *but it is **not** about personalisation at the cost of added complexity.*



# Useability

## Near future technological advances

- *Talking menus and talking programme guides.*
- *Receiver signal processing to tailor audio reproduction to the needs of listener & room.*

*And finally*

.... *thanks for your attention*

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