Electronic Program Guide (EPG)

Features

Electronic Program Guide (EPG) for DAB is designed to offer similar features for the user as television EPG but for radio and associated data services:

- The display of schedules at varying levels of detail for programmes from a range of services.
- The display of schedules, with programmes and events ordered into particular groups.
- Navigation and selection of services and programmes.
- Searching through current and future programme listings.
- Timed recording of individual programmes, or of groups of programmes and themed or similar programming.
- Accurate timed recording of programmes and events using external signalling (DAB PNUM).

EPG on a receiver with storage capabilities can offer a similar service as with Internet Podcast. The user can subscribe to the programs he's interested in and the receiver will automatically record them in his internal memory.

Specifications

EPG service consists of distinct sets of information

- Service information, describes the structure and organisation about a broadcast channel and its associated services.
- Schedule information, describes a schedule and its programmes on one or more services for a defined time period.
- Group information, offers to possibility to put programmes into groups. It is useful for series or theme classification.

The EPG specifications are standardised at ETSI and cover EPG for both DAB and Digital Radio Mondiale (DRM) systems:

- ETSI TS 102 818: Digital Audio Broadcasting (DAB); Digital Radio Mondial (DRM); XML Specification for DAB Electronic Programme Guide (EPG)
- ETSI TS 102 371: Digital Audio Broadcasting (DAB); Digital Radio Mondiale (DRM); Transportation and Binary Encoding Specification for Electronic Programme Guide (EPG)

Transport and signalling

EPG service is carried in the DAB multiplex using the Multimedia Object Transfer (MOT) protocol. This is the same protocol used for slideshow and broadcast website applications. The MOT protocol itself can be transported on a dedicated packet mode subchannel or as associated data (X-PAD) to an audio stream.

The typical subchannel bitrate used for the EPG of an ensemble is from 8 to 32 kbps.
The presence of an EPG service is signalled explicitly in the DAB multiplex.
It must be noted that the EPG service rely on the presence of reference and local time that must be signalled in the multiplex.
Some programs may not start accurately at the time specified in the program guide and so a trigger signal is necessary to signal the effective start of a program. This is handled by the DAB PNUM signal that already exist in the core DAB specification.

Receivers

The transmission of EPG data does not affect receivers that do not implement this feature.
Two profiles have been defined in the standard:

- "Basic", that is a subset of the whole EPG specification and is meant for simple, low-cost receivers that have limited memory and display capabilities.
- "Advanced", including the complete EPG specification.
  The broadcaster can fragment the EPG service into basic and advanced elements in order to provide the service for both types of receivers at the same time. The list of receivers capable of doing EPG is constantly growing.

Links

http://sourceforge.net/projects/java-epg-xml (Open source project for EPG encoding and decoding, experimental)