

QUESTION ITU-R 56-1/6

Characteristics of terrestrial digital sound broadcasting systems for reception by vehicular, portable and fixed receivers

(1993-2006)

The ITU Radiocommunication Assembly,

considering

- a) that there is an increasing requirement by some countries for suitable means of broadcasting high quality stereo/multi-channel sound to vehicular, portable and fixed receivers;
- b) that significant progress has been made in technical studies on digital sound broadcasting systems and that some systems have been demonstrated with success;
- c) that it has been demonstrated that advanced digital sound broadcasting systems can lead to greater spectrum and power efficiency and immunity to multipath compared with conventional analogue sound broadcasting systems;
- d) that digital sound broadcasting systems can be designed to allow common signal processing in receivers for various broadcasting bands;
- e) that digital sound broadcasting systems can provide national, regional and local terrestrial services;
- f) that it would be advantageous for a digital sound broadcasting system if a common receiver, capable of receiving terrestrial and satellite services, could be designed;
- g) that digital sound broadcasting systems may be configured to transmit programmes with lower bit rates in order to trade quality against the number of sound channels;
- h) that new digital sound broadcasting systems will be able to provide additional facilities for programme-related and non programme-related data;
- j) that the World Administrative Radio Conference (Malaga-Torremolinos, 1992) (WARC-92) asked the former CCIR to undertake as a matter of urgency the technical studies associated with terrestrial digital audio broadcasting,

decides that the following Question should be studied

- 1** What are the technical characteristics of digital sound broadcasting systems for reception by vehicular, portable and fixed receivers?
- 2** What are the most suitable VHF/UHF bands, technically, economically and from a sharing and programme capacity point of view, for the implementation of a terrestrial digital sound broadcasting service?
- 3** What are the system and service requirements for a digital sound broadcasting service?

- 4 What are the most appropriate source coding, channel coding, multiplexing and modulation systems for a digital sound broadcasting service?
- 5 What are the effects of normal, abnormal and very abnormal propagation, including multipath on digital sound broadcasting systems?
- 6 What protection ratios are required to prevent mutual interference between different digital sound broadcasting services and other services using the same and adjacent frequency bands?
- 7 What are the necessary planning criteria for national, regional and local area coverage for vehicular, portable and fixed reception?
- 8 What advantages can be obtained by the combined use of satellite and terrestrial services operating in the same frequency band?
- 9 What influence to the increase of the efficiency of utilization of digital broadcasting systems in moving transport can cause the utilization of diversity reception?
- 10 What is the efficiency of utilization of hierarchically modulated signals?

NOTE 1 – See Recommendations ITU-R BS.774 and ITU-R BS.1114,

further decides

- 1 that the results of the above studies should be included in (a) Recommendation(s);
- 2 that the above studies should be completed by 2008.

Category: S1