

QUESTION ITU-R 23/6 *

Characteristics of systems in the broadcasting-satellite service (sound) for individual reception by means of portable and vehicular receivers

(1990-1993-2000-2002)

The ITU Radiocommunication Assembly,

considering

- a) that there is an interest shown by some countries, in a sound-broadcasting service covering a fairly large area with the same programme, and giving adequate quality at all times when using portable and vehicular receivers;
- b) that such a service cannot always be provided economically by terrestrial networks but might be feasible by satellite systems;
- c) that because of the levels of power flux-density required for reception by portable and vehicular receivers sharing with terrestrial services could be difficult;
- d) that advanced digital modulation and coding systems with low power flux-density requirements and improved sharing capabilities have been successfully demonstrated;
- e) that different source coding rates can be used for broadcasting-satellite service (BSS) (sound) systems depending on the sound quality needed;
- f) that the World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (Málaga-Torremolinos, 1992) (WARC-92) allocated frequencies to the BSS (sound) and to complementary terrestrial broadcasting in the bands 1 452-1 492 MHz, 2 310-2 360 MHz, and 2 535-2 655 MHz for digital sound broadcasting to portable and vehicular receivers;
- g) that Resolution 528 (WARC-92) resolved that a competent conference be convened by the ITU preferably not later than 1998 for the planning of BSS (sound) in the bands allocated for this service and calls upon the Radiocommunication Study Groups to conduct the necessary preparatory studies,

decides that the following Question should be studied

- 1** What are the service objectives and what are the different service concepts using satellites that can meet these objectives?
- 2** What are the propagation impairments likely to be encountered in various receiving environments for the bands allocated to the service?
- 3** What mitigation techniques are available for overcoming the anticipated propagation impairments?
- 4** What are the types and characteristics of the most suitable source coding algorithms and channel coding modulation techniques?

* Studies related to this Question should be brought to the attention of the International Electrotechnical Commission (IEC).

- 5 What are the characteristics to be specified for the receivers, and in particular for the receiving antennas of transportable, portable and/or mobile receivers?
- 6 What are the characteristics to be specified for the satellites, in particular as regards the choice of the orbit, the transmission power and the coverage, taking into account the possibility of mixed satellite/terrestrial systems?
- 7 What are the bandwidth requirements for the feeder links?
- 8 What frequency allocations to the fixed-satellite service are most suitable for the feeder links?
- 9 What are the estimated costs of the transmission delivery system and the portable and vehicular receivers?
- 10 What are the optimal sharing arrangements with the complementary terrestrial digital sound-broadcasting service?
- 11 What are the test procedures and measurement methods that should be used for overall performance evaluation of digital sound-broadcasting systems?

NOTE 1 – See Report ITU-R BO.2006, the ITU-R Handbook on Digital Sound Broadcasting, Geneva 2002, and Recommendations ITU-R BO.789 and ITU-R BO.1130.

NOTE 2 – The frequency sharing and service implementation issues are raised in Question ITU-R 57/6,

further decides

- 1 the result of the above studies should be included in (a) Recommendation(s);
- 2 the above studies should be completed by 2006.