

QUESTION ITU-R 109/6*

In-service monitoring of perceived audiovisual quality for broadcasting and distribution networks

(2003)

The ITU Radiocommunication Assembly,

considering

- a) that digital audiovisual services have rapidly developed in the last few years, based on advances in digital signal compression and communication technologies;
- b) that the digital services are characterized by a multiplicity of signals including video signals, audio signals and programme-related metadata;
- c) that the synchronicity of all components of an audiovisual programme is an important issue;
- d) that broadcasting distribution and networks for digital systems and especially video services are composed of a multiplicity of cascaded links such as satellites, terrestrial radio links, computer networks and wireless broadcasting or cable distribution to the end-user;
- e) that the whole delivery chain is composed of a multiplicity of cascaded processing systems such as converters, encoders, switches, multiplexers, modulators, receivers, etc.;
- f) that different components of an audiovisual programme might be transported over different paths;
- g) that analogue and digital disturbances or errors on the delivery chain introduce different types of impairments;
- h) that some of these disturbances are unperceivable because of error concealment strategies built into the network and do not influence the perceived audiovisual quality;
- j) that state-of-the-art troubleshooting systems are adequate to detect long duration impairments, but have limited efficiency for in-service detection of short breaks which are more frequent on digital services;
- k) that Recommendation ITU-R BS.1387 offers ways to evaluate the perceived audio quality of mono and stereo signals in the presence of a full-bandwidth unimpaired reference signal;
- l) that several methods to evaluate the perceived video quality in the presence of a full-bandwidth unimpaired reference signal have been proposed;
- m) that in-service monitoring in general has no access to the full-bandwidth unimpaired reference signal;
- n) that for some channels a low bit rate side channel is available to be used for service quality monitoring;
- o) that in-service monitoring has the requirements of low computational complexity and simple user interfaces;

* This Question should be brought to the attention of Telecommunication Standardization Study Group 9.

- p) that different proprietary solutions are proposed but needs for a common standard have been expressed;
- q) that commercial contracts impose that network operators must keep the perceived quality of the delivered services within agreed limits;
- r) that quality evaluation in general has been recognized both by ITU-R and ITU-T and they both have set up Questions on studies related to this topic;
- s) that none of these Questions is related to in-service quality monitoring of perceived quality,
decides that the following Question should be studied

1 What are the appropriate methods and techniques for in-service monitoring of perceived audio visual quality for broadcasting and distribution networks?

further decides

- 1** that cooperation with other the ITU-T and other relevant bodies is required to allow the selection of the appropriate methods and techniques;
- 2** that the studies above should result in ITU-R Recommendations;
- 3** that the studies should be completed by 2004.
