

INTERNATIONAL TELECOMMUNICATION UNION



Radiocommunication Bureau

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Administrative Circular
CACE/399

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To Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of the Radiocommunication Study Groups and the Special Committee on Regulatory/Procedural Matters

Subject: Radiocommunication Study Group 6

- **Approval of 2 new ITU-R Questions and 3 revised ITU-R Questions**
- **Suppression of 1 ITU-R Question**

By Administrative Circular CAR/217 of 28 April 2006, 2 draft new and 3 draft revised ITU-R Questions were submitted for approval by correspondence in accordance with Resolution ITU-R 1-4 (§ 3.4). In addition, the Study Group proposed the suppression of 1 ITU-R Question.

The conditions governing these procedures were met on 28 July 2006.

The texts of the approved Questions are attached for your reference (Annexes 1 to 5) and will be published in Addendum 6 to Document 6/1 which contains the ITU-R Questions approved by the 2003 Radiocommunication Assembly and assigned to Radiocommunication Study Group 6. The suppressed ITU-R Question is indicated in Annex 6.

Valery Timofeev
Director, Radiocommunication Bureau

Annexes: 6

Distribution:

- Administrations of Member States and Radiocommunication Sector Members
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and Special Committee on Regulatory/Procedural Matters
- Chairman and Vice-Chairmen of the Conference Preparatory Meeting
- Members of the Radio Regulations Board
- ITU-R Associates in the work of Radiocommunication Study Group 6
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

Annex 1

QUESTION ITU-R 46-1/6*

User requirements for metadata related to digital production, post-production, recording and archiving of sound and television programmes in broadcasting

(2003-2006)

The ITU Radiocommunication Assembly,

considering

- a) that digital broadcasting is bringing fundamental changes to the infrastructure and methods of production, post-production, recording and archiving of audio, video and other electronic media;
- b) that the need to provide essential information on recorded and archived sound and television programmes has been recognized since the introduction of sound and television recording and it has become particularly acute with the introduction of digital technology that allows to produce, post-produce, record and archive all sorts of intellectual products on computer-type supports, which are indifferent to the type of information stored on them;
- c) that such need is particularly felt in the case of digital programme archives, which are one of the main assets of broadcasters and often also represent the permanent memory of a nation, its culture and its lifestyle;
- d) that the use of metadata is clearly the key to providing adequate information on the content of programme recordings, and would be most useful for this purpose, and notably for the purpose of the international exchange of recorded sound and television programmes, if it were universally used and harmonized, e.g. through appropriate ITU Recommendations based on carefully researched user requirements;
- e) that a common terminology, set of formats and usage for metadata may improve the usefulness of metadata and reduce the opportunity for its misinterpretation, misuse, loss or corruption;
- f) that considerable work has been done in this area by many standards development organizations and this work should be considered;
- g) that metadata is fundamental to Media Asset Management systems which are becoming increasingly important in the effective and timely operation of broadcast and other electronic media services,

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

decides that the following Question should be studied

- 1 What are the functions required of metadata, both now and in the foreseeable future?
- 2 What information should be provided in the form of metadata accompanying digital sound and television programmes from production to post-production, recording and archiving?
- 3 Should such information be supplemented with further information in the form of metadata when those programmes are digitally archived?
- 4 How can metadata best be formatted, stored and transferred in production, post-production, recording and archiving environments?
- 5 Is there an optimal data model or set of data models which can be used to uniformly describe and define metadata structure, its components and their properties?
- 6 Is it possible to recommend a subset of information that should always be delivered in the form of metadata when digital sound and television programmes are exchanged internationally?
- 7 What procedures should be adopted in order to ensure that metadata appropriate to digital programme production, post-production, recording and archiving is created and maintained?

further decides

- 1 that cooperation with other ITU and non-ITU bodies would allow the selection of metadata format/s, method/s of metadata storage, method/s of metadata transfer and data model/s which are compatible with the requirements of the various stages in the broadcast chain;
- 2 that Study Group 6 studies on metadata should focus if possible on existing data models, formats, storage and transfer methods;
- 3 that studies should include carriage of the metadata in programme and emission;
- 4 that the results of the studies should be reflected in one or more ITU-R Recommendations;
and
- 5 that the studies should be completed by 2008.

Category: S1/AP

Annex 2

QUESTION ITU-R 123/6

Approaches in programme production intended to improve the perceived image quality of broadcast digital SDTV and HDTV programmes

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that several broadcasters around the world desire to deliver programmes of enhanced perceived picture quality to their audiences without the need to introduce changes in the specifications of the delivered video signal;
- b) that in particular, the current implementation of HDTV broadcasting in several countries, and the availability of prerecorded programmes of HDTV picture quality, in the form of HD capable DVDs for consumer use, contribute to the broadcasters' desire to increase the perceived picture quality of the SDTV programmes they deliver to their audiences, while retaining compatibility with existing SDTV receivers;
- c) that the perceived picture quality of programmes delivered to the public can be improved by signal processing within the receiver, to reduce, for instance, the line structure visibility and the flicker;
- d) that the perceived picture quality can also be improved in a compatible way by an appropriate choice of studio equipment and of signal processing in the studio, aimed to enhance the perceived resolution of the image,

decides that the following Question should be studied

- 1** Which technical approaches and operating practices should be recommended, to enhance the perceived picture quality of broadcast SDTV programmes?
- 2** How can similar technical approaches and operating practices be applied to programmes intended for emission in HDTV, in order to further enhance their perceived picture quality?
- 3** Which technical approaches and operating practices should be recommended for the international exchange of SDTV and HDTV programmes so enhanced?

further decides

- 1** that the results of the above studies should be included in a Recommendation or in a Report;
- 2** that the above studies should be completed by 2008.

Category: S1/AP

Annex 3

QUESTION ITU-R 96-1/6

User requirements in the area of media asset management and transfer protocols for television programme production, recording and archiving

(1997-1999-2006)

The ITU Radiocommunication Assembly,

considering

- a) that programme content can be transferred either as a continuous stream or in the form of discontinuous files between different production and storage devices;
- b) that such data can be transferred through local and wide area networks;
- c) that all transfers require a number of operations to identify the source and destination of the file or stream;
- d) that issues of file management, transfer protocols and data interconnection must therefore be considered in television programme production, recording and archiving;
- e) that common machine control interfaces are required to enable users to switch easily between production and storage devices of different suppliers,

decides that the following Question should be studied

1 Which user requirements apply to the file formats required for guaranteed and bounded (see Note 1) quality transfer?

2 Which user requirements apply to the link protocols employed (protocols for different classes of service, transfer mode commands, transfer initiation commands, transfer phase commands, the format of data being interchanged, number of bits per element, type of encoding scheme, synchronization information)?

3 Which user requirements apply to methods used to enable flow control (flow of data between two devices, avoidance of overflow of storage at the recorder, etc.):

- to error detection and control;
- to inter-layer commands;
- to machine controls; and
- to platform independent command sets for file management?

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.

NOTE 1 – The term “Bounded quality” is used for a transfer method that is designed to move the payload from source to destination(s) but without the absolute certainty of true guaranteed delivery. Traditional analog video is moved with bounded quality in an “asset play” method today. Also, payload data that is moved over the serial digital interface specified in Recommendation ITU-R BT.656 is moved in a bounded quality way. Usually, bounded-quality links are used to transport streamed, real-time content. “Guaranteed delivery” indicates that the entire payload will reach the destination without bit errors, barring a failure of the physical link.

Category: S2

Annex 4

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

Annex 5

QUESTION ITU-R 124/6¹

Measurement methods for the verification and validation of digital television and sound broadcasting planning procedures

(2006)

The ITU Radiocommunication Assembly,

considering

- a) that the use of digital television and sound broadcasting is growing around the world, and there are established methods for radio frequency (RF) monitoring of these signals;
- b) that planning procedures are being developed to facilitate the introduction of these new systems in the existing radio frequency environment;
- c) that these planning procedures are based on the use of propagation prediction methods and empirically derived protection ratios;
- d) that administrations and/or broadcasters need to verify and validate the results from the process of planning of digital television and sound broadcasting networks;
- e) that test and measurement methodologies and equipment for the verification and validation of digital television and sound broadcasting is at an early stage of development,

noting

- a) that several ITU Recommendations specify parameters, measurement methods and field survey methodologies,

decides that the following Question should be studied

- 1** What radio-frequency verification methods are appropriate for the verification and validation of the digital television and sound broadcasting planning processes?

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

¹ This Question should be brought to the attention of Study Group 1.

Annex 6

Suppressed ITU-R Question

Question ITU-R	Title
117/6	User requirements for Metadata related to digital recording and archiving of sound and television programmes
