



# INTERNATIONAL TELECOMMUNICATION UNION

*Radiocommunication Bureau*  
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## **Administrative Circular CAR/325**

27 October 2011

### **To Administrations of Member States of the ITU**

**Subject: Radiocommunication Study Group 6 (Broadcasting service)**

- **Proposed approval of 1 draft new ITU-R Question and 3 draft revised ITU-R Questions**
- **Proposed suppression of 1 ITU-R Question**

At the meeting of Radiocommunication Study Group 6 held on 7 October 2011, 1 draft new ITU-R Question and 3 draft revised ITU-R Questions were adopted and it was agreed to apply the procedure of Resolution ITU-R 1-5 (see § 3.4) for approval of Questions in the interval between Radiocommunication Assemblies. Furthermore, the Study Group proposed the suppression of 1 ITU-R Question in accordance with Resolution ITU-R 1-5 (§ 3.7)

Having regard to the provisions of § 3.4 of Resolution ITU-R 1-5, you are requested to inform the Secretariat ([brsgd@itu.int](mailto:brsgd@itu.int)) by 27 January 2012, whether your Administration approves or does not approve the proposals above.

After the above-mentioned deadline, the results of this consultation will be notified in an Administrative Circular. If the Questions are approved, they will have the same status as Questions approved at a Radiocommunication Assembly and will become official texts attributed to Radiocommunication Study Group 6 (see: <http://www.itu.int/ITU-R/go/que-rsg6/en>).

François Rancy  
Director, Radiocommunication Bureau

### **Annexes: 5**

- 1 draft new ITU-R Question and 3 draft revised ITU-R Questions
- Proposed suppression of 1 ITU-R Question

### **Distribution:**

- Administrations of Member States of the ITU
- Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 6
- ITU-R Associates participating in the work of Radiocommunication Study Group 6
- ITU-R Academia

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## **Annex 1**

(Document 6/411)

### **DRAFT NEW QUESTION ITU-R [WBR]/6<sup>1</sup>**

#### **Worldwide broadcasting roaming<sup>2 3</sup>**

The ITU Radiocommunication Assembly,

*considering*

- a) that there is an increasing demand to use portable broadcast receivers worldwide (worldwide roaming);
- b) that the service requirements for digital sound broadcasting systems in different bands have been developed and adopted in ITU-R (Recommendation ITU-R BS.1348 for the bands below 30 MHz; Recommendation ITU-R BS.774 for VHF/UHF bands);
- c) that the requirements for enhanced multimedia services for digital terrestrial broadcasting in VHF bands I and II have been developed and adopted in ITU-R (Recommendation ITU-R BS.1892);
- d) that various digital sound broadcasting systems for fixed and mobile reception and their parameters are described in ITU-R Recommendations and Reports (Recommendations ITU-R BS.1514, ITU-R BS.1615, Reports ITU-R BS.2004, ITU-R BS.2144 for the bands below 30 MHz; Recommendations ITU-R BS.1114, ITU-R BS.1660, Reports ITU-R BS.1203, ITU-R BS.2208, ITU-R BS.2214 for VHF/UHF bands);
- e) that various digital multimedia broadcasting systems for fixed and mobile reception and their parameters are described in ITU-R Recommendations and Reports (Recommendation ITU-R BT.1833, Report ITU-R BT.2049, draft new Recommendation ITU-R BT.[ETMM]);
- f) that various digital terrestrial television broadcasting systems are described in ITU-R Recommendations and Reports (Recommendations ITU-R BT.709, ITU-R BT.1306, ITU-R BT.1877, Reports ITU-R BT.2140, ITU-R BT.2142, ITU-R BT.1543, etc.);
- g) that various digital satellite sound and television broadcasting systems are described in ITU-R Recommendations (Recommendations ITU-R BO.1130, ITU-R BO.1516, ITU-R BO.1724, ITU-R BO.1784);

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<sup>1</sup> This Question should be brought to the attention of ITU-R Study Groups 4, 5 and ITU-T Study Groups 9, 17 as well as to IEC.

<sup>2</sup> The definition of the term “roaming” for IMT-2000 is set in Recommendation ITU-R M.1224: the ability of a user to access wireless telecommunication services in areas other than the one(s) where the user is subscribed.

<sup>3</sup> The term “worldwide broadcasting roaming” is proposed for the reception of TV, sound and multimedia broadcasting universally in the world.

- h) that a set of ITU-R Recommendations invite the ITU membership and radio receiver manufacturers to study the possibility of the development of multiband, multistandard radio receivers (Recommendations ITU-R BS.774, ITU-R BS.1114, ITU-R BS.1348);
- j) that the implementation of various versions of interactivity in TV and radio broadcasting systems including use of Internet are described in ITU-R Recommendations (Recommendations ITU-R BT.1508, ITU-R BT.1564, ITU-R BT.1667, ITU-R BT.1832, etc.);
- k) that software-defined radio (SDR) is under study in ITU;
- l) that modern digital broadcasting receivers are increasingly based on loaded software or firmware that may be subject to updating;
- m) that modern broadcast receivers are often equipped with an interface that allows the additional connection to the Internet (for, e.g., interactivity and downloads);
- n) that worldwide broadcasting roaming may facilitate the regional, national and international harmonization of broadcasting;
- o) that worldwide broadcasting roaming offers the possibility of intersystem interoperability for information services in disaster and emergency situations, navigation, safety, etc.,

*decides* that the following Questions should be studied

- 1 What are the service requirements and features for worldwide broadcasting roaming?
- 2 What are the system requirements (basic characteristics and performances) that need to be fulfilled in order to realise worldwide broadcasting roaming?
- 3 What are the technical characteristics of broadcast receivers including elements of SDR and its enhancements that may be used for implementation of worldwide broadcasting roaming?

*further decides*

- 1 that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);
- 2 that the above studies should be completed by 2015.

Category: S2

## **Annex 2**

(Document 6/405)

### **DRAFT REVISION OF QUESTION ITU-R 12-2/6\***

#### **Generic bit-rate reduction coding of digital video signals for production, for contribution, for primary and secondary distribution, for emission and for related applications**

(1993-1997-2001-2002-2009)

The ITU Radiocommunication Assembly,

*considering*

- a) that rapid progress has been made in bit-rate reduction coding techniques;
- b) that bit-rate reduction coding of digital video signals (e.g. LDTV, SDTV, HDTV, LSDI, 3DTV and UHDTV\*\*) finds wide applications for production, for emission by terrestrial means and by satellite, for contribution, for both primary and secondary distribution by telecommunication and by CATV networks;
- c) that the large channel capacity required for the digital transmission and recording of extremely high resolution or multi-view video signals may introduce problems that are both technical and economic, and it is desirable to reduce the bit-rate required by these signals to a minimum consistent with the necessary performance objectives;
- d) that the encoding methods adopted for digital video should have as many common characteristics as possible so as to simplify conversion between standards and also permit operating economies;

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\* This Question should be brought to the attention of the ISO, the IEC and the relevant ITU-T Study Groups (9 and 16).

\*\* LDTV: Low definition television  
SDTV: Standard definition television  
HDTV: High definition television  
LSDI: Large screen digital imagery  
3DTV: Three-dimensional television  
UHDTV: Ultra-high definition television

- e) that lossless<sup>4</sup> or perceptually lossless<sup>5</sup> bit-rate reduction coding may be desired particularly for studio applications;
- f) that there are advantages in having a generic bit-rate reduction coding in the various applications;
- g) that a number of compression families have been used for various television applications,

*decides* that the following Question should be studied

What are the appropriate bit-rate reduction methods for use in production, in contribution, in emission, both terrestrial and by satellite, for distribution, both primary and secondary by telecommunication networks, for the recording media and for related applications such as ENG/SNG?

*further decides*

- 1** that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);
- 2** that the above studies should be completed by 2016.

Category: S2

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<sup>4</sup> The ITU terminology database defines “lossless bit-rate reduction” as “a bit-rate reduction *process* that fully preserves the information content of the original bit stream, which can be reconstructed with bit-to-bit accuracy (e.g. exploiting the bit-stream statistics)”.

<sup>5</sup> Perceptually lossless as used in the context of this Question means a lossy compression scheme with compression artefacts that are not subjectively visible during the production process.

## **Annex 3**

(Document 6/407)

### **DRAFT REVISION OF QUESTION ITU-R 45-3/6\***

### **Broadcasting of multimedia and data applications**

(2003-2005-2009-2010)

The ITU Radiocommunication Assembly,

*considering*

- a) that digital television and sound broadcasting systems have been implemented in many countries;
- b) that multimedia and data broadcasting services have been introduced in many countries;
- c) that mobile radiocommunication systems with advanced information technologies have been implemented in many countries;
- d) that reception of digital broadcasting services is possible both inside and outside the home with fixed receivers such as TV sets in the living room, as well as handheld/portable/vehicular receivers;
- e) that the characteristics of mobile reception and stationary reception are quite different;
- f) that the display sizes and receiver capabilities may be different between handheld / portable / vehicular receivers and fixed receivers;
- g) that the format of the transmitted information should be such that the content can be displayed intelligibly on as many types of terminals as possible;
- h) the need for interoperability between the telecommunication services and interactive digital broadcasting services;
- j) the need to harmonize technical methods used to implement content protection and conditional access;
- k) that digital multimedia video information systems for presentation of various kinds of multimedia information applicable to programmes such as dramas, plays, sporting events, concerts, cultural events, etc. are widespread, and those systems are being installed for collective viewing,

*decides* that the following Questions should be studied

- 1** What are the user requirements for broadcasting of multimedia and data applications:
- for mobile reception;
  - for stationary reception?

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\* This Question should be brought to the attention of ITU-R Study Group 5 and ITU-T Study Group 16.

- 2** What are the user requirements for digital multimedia video information systems on the basis of standard definition television (SDTV), high definition television (HDTV), ultra high definition television (UHDTV), three-dimensional television (3DTV), large screen digital imagery (LSDI) and extremely high resolution imagery (EHRI) for collective indoor and outdoor viewing?
- 3** What characteristics are required for service assembly and access for broadcasting of multimedia and data applications for mobile reception and for stationary reception?
- 4** What characteristics are required for service assembly and access for the digital multimedia video information systems for collective indoor and outdoor viewing?
- 5** What data transport protocol(s) is (are) most suited to deliver broadcast multimedia and data contents to handheld, portable and vehicular receivers and to fixed receivers?
- 6** What solutions can be adopted to ensure the interoperability between the telecommunication services and interactive digital broadcasting services?

*further decides*

- 1** that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);
- 2** that the above studies should be completed by 2016.

Category: S2

## Annex 4

(Document 6/406)

### DRAFT REVISION OF QUESTION ITU-R 130/6

#### **Digital interfaces for production and post-production applications in broadcasting systems**

(2009)

The ITU Radiocommunication Assembly,

*considering*

- a) that the practical implementation of television and sound production requires definition of the details of various studio interfaces and the data streams traversing them;
- b) that ITU-R has established Recommendations on digital interfaces for SDTV and HDTV, in parallel and serial forms, for electrical and optical cables;
- c) that ITU-R has also established Recommendations on digital audio interfaces;
- d) that ITU-R has been studying video formats with higher definition than HDTV, three-dimensional television (3DTV) and multichannel sound systems, which require higher data rate interfaces;
- e) that programme content and related data can be transferred either as a continuous stream or in the form of packets;
- f) that increased performance of IP networks has made it possible for broadcasters to introduce networked broadcasting systems for production and post-production inside and between broadcasting stations;
- g) that networked production and post-production systems should be constructed from interoperable pieces of equipment having standardized common interfaces and control protocols;
- h) that the transport mechanism should operate independently of the type of payload;
- j) that specifications should cover the possibility of conveying sound or any other ancillary signals through the interface, taking into account the original source timing;
- k) that for operational and economic reasons it is desirable to investigate whether the specification should also cover the possibility to use the same interface to transport the various image formats given in ITU-R Recommendations;
- l) that digital television and sound signals produced by these interfaces may be a potential source of interference to other services and due notice must be taken of No. **4.22** of the Radio Regulations,



*decides* that the following Questions should be studied

- 1 What parameters are necessary to define specified digital interfaces for the signal sets covered by ITU-R Recommendations?
- 2 What parameters are necessary to define compatible optical fibre digital interfaces?
- 3 What transport and control protocols are necessary to define interfaces for networked production and post-production systems?
- 4 What ancillary signals are required to be carried across the interfaces with the video signals, and what are the parameters necessary to define specifications for these signals?
- 5 What provisions are required for the associated digital sound channels?
- 6 What are the parameters that should be specified to use the same interface to also transport the various payloads given in ITU-R Recommendations?

*further decides*

- 1 that the results of the above studies should be included in (a) Report(s) and/or Recommendation(s);
- 2 that the above studies should be completed by 2016.

Category: S2

## **Annex 5**

(Document 6/395)

### **Question proposed for suppression**

<b>Question ITU-R</b>	<b>Title</b>
2/6	Audio metering characteristics suitable for use in digital sound production

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