

INTERNATIONAL TELECOMMUNICATION UNION



Radiocommunication Bureau

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**Administrative Circular
CACE/557**

8 February 2012

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

Subject: Radiocommunication Study Group 6

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

By Administrative Circular CAR/325 of 27 October 2011, 1 draft new ITU-R Question and 3 draft revised ITU-R Questions were submitted for approval by correspondence in accordance with Resolution ITU-R 1-6 (§ 3.1.2). In addition, the Study Group proposed the suppression of 1 ITU-R Question.

The conditions governing this procedure were met on 27 January 2012.

The texts of the approved Questions are attached for your reference (Annexes 1 to 4) and will be published in [Document 6/1](#) which contains the ITU-R Questions approved by the 2012 Radiocommunication Assembly and assigned to Radiocommunication Study Group 6. The suppressed ITU-R Question is indicated in Annex 5.

François Rancy
Director, Radiocommunication Bureau

Annexes: 5

Distribution:

- Administrations of Member States and Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 6
- ITU-R Associates in the work of Radiocommunication Study Group 6
- ITU-R Academia
- 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
- Secretary-General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

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Annex 1

QUESTION ITU-R 136/6¹

Worldwide broadcasting roaming^{2 3}

(2012)

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);

¹ 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.

² 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.

³ 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

QUESTION ITU-R 12-3/6*

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

(1993-1997-2001-2002-2009-2012)

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;

* 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

- 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;
- e) that lossless¹ or perceptually lossless² 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 Electronic news gathering (ENG)/ Satellite news gathering (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

¹ 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)”.

² 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

QUESTION ITU-R 45-4/6*

Broadcasting of multimedia and data applications

(2003-2005-2009-2010-2012)

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?
- 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

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

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

QUESTION ITU-R 130-1/6

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

(2009-2012)

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

Question proposed for suppression

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