



## Radiocommunication Bureau (BR)

Administrative Circular  
**CACE/757**

22 October 2015

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

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

- **Adoption of 2 new ITU-R Questions and their simultaneous approval by correspondence in accordance with § 10.3 of Resolution ITU-R 1-6 (Procedure for the simultaneous adoption and approval by correspondence)**
- **Suppression of 27 ITU-R Questions**

By Administrative Circular CACE/746 dated 14 August 2015, 2 draft new ITU-R Questions were submitted for simultaneous adoption and approval by correspondence (PSAA), following the procedure of Resolution ITU-R 1-6 (§ 10.3). In addition, the Study Group proposed the suppression of 27 ITU-R Questions.

The conditions governing this procedure were met on 14 October 2015.

The texts of the approved Questions are attached for your reference in Annex 1 to 2 and will be published in Revision 8 to [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 Questions are indicated in Annex 3.

François Rancy  
Director

**Annexes: 3**

**Distribution:**

- Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 6
- ITU-R Associates participating in the work of Radiocommunication Study Group 6
- Chairmen and Vice-Chairmen of Radiocommunication Study Groups and the 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

## Annex 1

### QUESTION ITU-R 141/6<sup>1</sup>

#### **Internet delivery of sound and television broadcast originated soundtracks**

(2015)

The ITU Radiocommunication Assembly,

*considering*

- a) that listeners desire sound programmes to be consistent with each other in subjective sound level;
- b) that listeners also desire sound programmes to be intelligible in constrained listening environments i.e. listening environments that have high background noise and/or that require maximum levels to be constrained for hearing conservation or for noise abatement;
- c) that modern digital sound transmission techniques offer an extremely wide intrinsic dynamic range, but constrained listening environments may make the usable dynamic range much smaller;
- d) that in programmes that are predominantly dialogue, one element that is of concern to the audience is the loudness of dialogue, and that this loudness should be consistent in internationally exchanged programmes;
- e) that broadcast programmes are delivered to audiences on an increasing number of delivery platforms, including platforms employing the Internet;
- f) that on platforms employing the Internet, content may be provided from both broadcast and non-broadcast sources, and non-broadcast programme sources may send audio at different loudness levels from broadcast programme sources;
- g) that it would be very desirable if reasonable consistency in sound quality between broadcast programmes, including loudness characteristics, was achieved on these delivery platforms on an international basis;
- h) that Recommendation ITU-R BS.1726 specifies use of either  $-18$  dBFS or  $-20$  dBFS for “alignment level”, but that “alignment level” does not directly correspond to audio loudness;
- i) that Recommendation ITU-R BS.1770 – Algorithms to measure audio programme loudness and true-peak audio level, specifies a method for the measurement of audio programme loudness;
- j) that Recommendation ITU-R BS.1771 – Requirements for loudness and true-peak indicating meters, specifies the requirements for loudness meters that employ the algorithms specified in Recommendation ITU-R BS.1770, thus enabling the worldwide use of loudness meters that behave in a consistent manner and provide a consistent indication of loudness on the same programme, irrespective of programme content,

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<sup>1</sup> This Question should be brought to the attention of ITU-T Study Groups 9 and 16.

*further considering*

- a) that distribution of broadcast sound signals via the Internet have been evolving over the last decade towards achieving interoperability and standardisation;
- b) that interoperability has been achieved across a number of widely applied audio codecs;
- c) that broadcasters using Internet delivery seek to achieve streaming of high-quality audio to the audience of broadcast sound;
- d) that consistency in the sound quality, including loudness characteristics, is yet to be established on a worldwide globally harmonised basis using Internet delivery platforms,

*decides* that the following questions should be studied

- 1 What operational practices can be established on a globally harmonised basis for achieving consistency in the sound quality, including loudness characteristics, on Internet delivery platforms on an international basis?
- 2 What sound parameters, including loudness characteristics should be used to ensure accurate and consistent sound quality, including loudness characteristics across end user devices?
- 3 What considerations should be made by the broadcaster for end user listening conditions in a number of environments?

*further decides*

- 1 that the results of the above studies should be included in one or more Recommendations;
- 2 that the above studies should be completed by 2019.

Category: S2

## Annex 2

### QUESTION ITU-R 142/6

#### High dynamic range television systems for broadcasting

(2015)

The ITU Radiocommunication Assembly,

*considering*

- a) that television broadcasting systems for SDTV, HDTV, and UHD TV have been specified by the ITU-R in Recommendations ITU-R BT.601, BT.709 and BT.2020;
- b) that modern television displays are capable of reproducing images at a higher luminance, and with a greater contrast ratio and wider colour gamut (WCG) than is employed in conventional programme production;
- c) that although UHD TV offers higher spatial resolution, wider colour gamut, and the option of a higher frame rate, it remains limited in the image dynamic range in a similar way to HDTV and SDTV;
- d) that high dynamic range television (HDR-TV) systems are intended to be capable of reproducing images at a significantly higher luminance and greater contrast ratio;
- e) that HDR-TV has been shown to increase viewer enjoyment of television pictures;
- f) that many television programmes will continue to be produced, exchanged, and viewed in the standard image dynamic range of SDTV, HDTV and UHD TV;
- g) that it is desirable that an HDR-TV system should have, where appropriate, a degree of compatibility with existing workflows and broadcaster infrastructure,

*decides* that the following questions should be studied

- 1 what are the appropriate parameter values for HDR-TV systems for production and international programme exchange?
- 2 which methods for production and formatting for delivery to consumers would enable degrees of compatibility with viewing on most television sets currently used in the homes of television audiences?
- 3 what range of viewing conditions should be assumed, for consumer viewing of HDR-TV programmes?
- 4 what scientifically assessed relationship exists, in home viewing environments, between the amount of image dynamic range extension and the consumer viewing appreciation?
- 5 which operational practices should be recommended in order that the television home audience does not perceive annoying jumps in the television image appearance at transitions from HDR-TV programmes and standard dynamic range television programmes or back?

- 6 what is the envisaged future migration path from current television services to future HDR-TV services?
- 7 which methods should be used for the subjective assessment of HDR-TV picture quality?  
*further decides*
- 1 that the results of the above studies should be included in one or more Recommendations or Reports;
- 2 that the above studies should be completed by 2017.

Category: S1

## Annex 3

### List of suppressed ITU-R Questions

Question ITU-R	Title
<a href="#">4-2/6</a>	Planning parameters for digital television broadcasting using terrestrial channels
<a href="#">14/6</a>	Digital and analogue-digital TV receivers and receiving antenna characteristics required for the terrestrial TV broadcasting frequency planning
<a href="#">15-2/6</a>	Large screen digital imagery (LSDI)
<a href="#">16-2/6</a>	Digital interactive broadcasting
<a href="#">27/6</a>	Receivers for sound broadcasting below 30 MHz
<a href="#">29/6</a>	Transmission of supplementary information with a single transmitter in frequency-modulation sound broadcasting
<a href="#">46-1/6</a>	User requirements for metadata related to digital production, post production, recording and archiving of sound and television programmes in broadcasting
<a href="#">48/6</a>	In-service monitoring of perceived audio quality for distribution and broadcasting networks
<a href="#">51/6</a>	Sky-wave reception in LF, MF and HF broadcasting
<a href="#">53/6</a>	Standards for the transmission of several sound signals in one television channel in terrestrial or satellite broadcasting, including high-definition and enhanced definition television systems
<a href="#">55/6</a>	Subjective assessment of sound quality in broadcasting using digital techniques
<a href="#">59-1/6</a>	Archival of sound programmes in broadcasting
<a href="#">60/6</a>	Digital broadcasting at frequencies below 30 MHz
<a href="#">64-1/6</a>	Planning parameters for digital broadcasting at frequencies below 30 MHz
<a href="#">88/6</a>	Subjective assessment of stereoscopic television pictures
<a href="#">89-1/6</a>	User requirements for electronic news gathering
<a href="#">93/6</a>	Frequency requirements for electronic news gathering
<a href="#">95/6</a>	Use of computer technology in television broadcasting applications
<a href="#">96-1/6</a>	User requirements in the area of media asset management and transfer protocols for television programme production, recording and archiving
<a href="#">99/6</a>	Relationship between quality, quality evaluation methodology, and type of application, in a multimedia environment
<a href="#">100/6</a>	Television and multimedia images quality levels
<a href="#">108/6</a>	Digital sound broadcasting in band 7 (HF) in the Tropical Zone
<a href="#">112-1/6</a>	Guidelines on functionalities of facilities based on the use of digital servers in broadcast programme recording, archiving and playout
<a href="#">113/6</a>	Delivery of interactive information to and from large screen digital imagery venues through broadcasting systems
<a href="#">121/6</a>	Spectrum usage and user requirements for wireless microphones
<a href="#">122/6</a>	Objective perceptual audio quality measurement methods
<a href="#">123/6</a>	Approaches in programme production intended to improve the perceived image quality of broadcast digital SDTV and HDTV programmes