

QUESTION ITU-R 12-2/6*

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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, EDTV, HDTV LSDI 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 UHDTV 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;
- e) that lossless¹ or perceptually lossless² bit-rate reduction coding may be desired particularly for studio applications;

* 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
EDTV: Enhanced definition television
HDTV: High definition television
LSDI: Large screen digital imagery
UHDTV: Ultra-high definition television

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.



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 2011.

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