International Telecommunication Union

ITU-R

Radiocommunication Sector of ITU

Recommendation ITU-R BT.1201-1

(06/2008)

Extremely high resolution imagery

BT Series

Broadcasting service (television)

International Telecommunication Union

Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

Policy on Intellectual Property Right (IPR)

ITU-R policy on IPR is described in the Common Patent Policy for ITU-T/ITU-R/ISO/IEC referenced in Annex 1 of Resolution ITU-R 1. Forms to be used for the submission of patent statements and licensing declarations by patent holders are available from http://www.itu.int/ITU-R/go/patents/en where the Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the ITU-R patent information database can also be found.

Series of ITU-R Recommendations

(Also available online at http://www.itu.int/publ/R-REC/en)

Series	Title
BO	Satellite delivery
BR	Recording for production, archival and play-out; film for television
BS	Broadcasting service (sound)
BT	**Broadcasting service (television)**
F	Fixed service
M	Mobile, radiodetermination, amateur and related satellite services
P	Radiowave propagation
RA	Radio astronomy
RS	Remote sensing systems
S	Fixed-satellite service
SA	Space applications and meteorology
SF	Frequency sharing and coordination between fixed-satellite and fixed service systems
SM	Spectrum management
SNG	Satellite news gathering
TF	Time signals and frequency standards emissions
V	Vocabulary and related subjects

Note: *This ITU-R Recommendation was approved in English under the procedure detailed in Resolution ITU-R 1.*

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RECOMMENDATION ITU-R BT.1201-1

Extremely high resolution imagery**

(Question ITU-R 40/6)

(1995-2004)

Scope

This Recommendation specifies the general hierarchical relationship with respect to the 1 920 × 1 080 image system specified in Recommendation ITU-R BT.709.

The ITU Radiocommunication Assembly,

considering

a) that extremely high resolution imagery (EHRI) could be used as future imaging systems in various fields, such as computer graphics, printing, medical, industrial, educational, and television for image capture, processing, distribution, satellite and terrestrial broadcasting, and so on;

b) that for constructing such systems, it is necessary to consult with many experts in various related fields;

c) that studies and application experiments on EHRI are being conducted in various parts of the world;

d) that common usage of devices is preferable for economical implementation of the EHRI;

e) that bit-rate reduction technologies take a major role in transmission of the EHRI;

f) that required spatial and temporal resolutions and aspect ratios might differ depending on the applications in the market place;

g) that conversion of spatial and temporal sampling lattices are becoming possible between different formats without introducing artifacts to the converted images,

recommends

1 that common usage of technology and devices among different television applications in EHRI should be facilitated in order to maximize both the use of limited resources and the benefit to those applications;

2 that pixel aspect ratio of electronic picture acquisition devices and picture display devices should be square. Television system image spatial resolution of the electronic devices for acquisition and display should be related to 1 920 pixels in the horizontal and 1 080 pixels in the vertical directions based on Recommendation ITU-R BT.709 by simple integer ratios;

3 that the sampling structure should be harmonized with the constraints of existing video compression standards;

** Recommendation ITU-R BT.1769 provides a description of some LSDI (large screen digital imagery) applications that use the 3 840 × 2 160 and 7 680 × 4 320 image systems, which comply with the hierarchical relationship to the 1 920 × 1 080 image system, as it is specified in this Recommendation.

4 that a television colorimetry schema should be used that adopts reference colorimetry values as specified in Recommendation ITU-R BT.1361, but allows other interoperable colorimetry values to be applied should a particular application require;

5 that a television contrast gradient ("gamma") schema should be used that adopts reference contrast gradient values as specified in Recommendation ITU-R BT.1361, but allows other interoperable contrast gradient values to be applied should a particular application require.