International Telecommunication Union

ITU-R

Radiocommunication Sector of ITU

Recommendation ITU-R BT.2025
(08/2012)

1 280 × 720 digital image systems for the production and international exchange of 3DTV programmes for broadcasting

BT Series

Broadcasting service (television)

ITU 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.2025

1 280 × 720 digital image systems for the production[1] and international exchange of 3DTV[2] programmes for broadcasting

(2012)

Scope

This Recommendation specifies the digital image systems that should be used worldwide for the production and international exchange of 3DTV programmes for broadcasting.

This Recommendation does not define image acquisition parameters such as camera shutter angle or camera image synchronization.

The ITU Radiocommunication Assembly,

considering

a) that since programme producers and broadcasters are producing 3DTV programmes for domestic broadcasting and for international programme exchange, there is a need to develop a set of ITU-R Recommendations to be used worldwide in the production of 3DTV programmes for broadcasting, in order to facilitate their international exchange;

b) that 3DTV broadcasters, programme producers and distributors need to preserve the value and quality of their programmes for television broadcast use and therefore they have an interest in protecting their programmes from technical obsolescence;

c) that, consequently, the 3DTV image systems to be used worldwide, now and in the foreseeable future, for the production and international exchange of 3DTV programmes for broadcasting should provide the best technical and perceptual picture quality that current systems already widely implemented in the world can achieve;

d) that the 1 280 × 720 systems specified in Recommendation ITU-R BT.1543 – 1 280 × 720, 16:9 progressively-captured image format for production and international programme exchange in the 60 Hz environment and Recommendation ITU-R BT.1847 – 1 280 × 720, 16:9 progressively-captured image format for production and international programme exchange in the 50 Hz environment are television systems that provide high picture quality,

recommends

1 that, for the production and international exchange of 3DTV programmes, the 1 280 × 720 systems specified in Recommendations ITU-R BT.1543 and BT.1847 should be used;

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[1] This Recommendation uses the term “production” in the same way as Recommendation ITU-R BT.1662, which indicates that the production section of the total television broadcasting chain includes the functions of acquisition and post-production and ends with the finished programme master.

[2] In the context of this Recommendation the term 3DTV is used to convey a stereoscopic image or image pair.

2 that the sampling lattice normally used for the 3DTV programme master for broadcasting should be 4:2:2, and the sampling lattice of 4:4:4 (R.G.B.) may be used during the production process involving complex processing;

3 that the preferred bit depth used for 3DTV should be 10 bits/sample[3];

4 that the Le[4] and Re images of a 3DTV image pair should be internationally exchanged as two full-resolution 1 280 × 720 images having the same pixel structure and picture repetition rate[5];

5 that the relative timing between the Le and Re images at the point of exchange needs to be sufficiently accurate to allow downstream devices to resynchronize the frames for display;

6 that the choice of the image parameter values among those specified in this Recommendation should be included in the metadata that accompanies the images.

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[3] In some cases, 8 bits may be used.

[4] Le and Re are abbreviations for Left eye, and Right eye, respectively.

[5] In some particular circumstances, a broadcaster may choose to depart from the provisions in this *recommends*.