



Recommendation ITU-R BT.1886
(03/2011)

**Reference electro-optical transfer function
for flat panel displays used in HDTV
studio production**

BT Series
Broadcasting service
(television)



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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.

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Series	Title
BO	Satellite delivery
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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.1886

Reference electro-optical transfer function for flat panel displays¹ used in HDTV studio production

(2011)

Scope

This Recommendation specifies the reference electro-optical transfer function (EOTF) that the displays used in HDTV programme production should follow in order to facilitate consistent picture presentation². The reference EOTF is specified as a simple equation, with exponent function, based on measured characteristics of the Cathode Ray Tube (CRT).

The ITU Radiocommunication Assembly,

considering

- a) that reference displays play a crucial role in television programme production as they are used as reference for picture presentation;
- b) that the characteristics of reference displays should be unified to ensure consistent picture presentation of programmes produced for use in broadcasting;
- c) that historically, picture presentation characteristics were determined based on Cathode Ray Tube (CRT) characteristics, and the opto-electronic transfer characteristics were implicitly based on the CRT physical characteristics;
- e) that CRT reference displays are no longer available;
- f) that the electro-optical transfer function (EOTF) of CRT displays differs amongst manufacturers, amongst models, and amongst regions, as well as varying with the settings of contrast and brightness;
- g) that for the consistency of picture presentation, it is desirable that newly introduced display technologies have an EOTF that closely matches that of the CRT;
- h) that the reference EOTF for a non-CRT display has not been defined in any ITU-R Recommendation;
- j) that Recommendation ITU-R BT.709, provides specifications for the opto-electronic transfer characteristics at the source, and a common electro-optical transfer function should be employed to display signals mastered to this format,

recommends

- 1** that the reference EOTF for displays used in HDTV production and programme interchange should be the one specified in Annex 1;

¹ May also include projectors and other display devices.

² The term picture presentation is intended to indicate the monitoring of picture characteristics to ensure that image characteristics do not vary between different signal sources, and different programme segments.