

# CTA Standard

**HDR Static Metadata Extensions**

**CTA-861.3-A**

**(Formerly CEA-861.3)**

**July 2016**

**Consumer  
Technology  
Association**

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(Formulated under the cognizance of the CTA **R4.8 DTV Interface Subcommittee.**)

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**FOREWORD**

This standard was developed by the Consumer Technology Association's R4.8 DTV Interface Subcommittee.

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## HDR Static Metadata Extensions

### 1 Scope

This standard specifies static High Dynamic Range (HDR) metadata extensions using an additional InfoFrame and EDID CTA data block, replacing previously reserved codes in Table 5 and Table 46 of CTA-861-F [1]. Recommendations regarding the usage of static HDR metadata are also provided.

These data structures allow signaling of SMPTE ST 2084 HDR EOTF [2] and SMPTE ST 2086 Mastering Display Metadata [3], while containing provisions for future HDR EOTFs and metadata. It is anticipated that these data structures will be extended to include additional EOTF and HDR metadata capabilities in future versions of CTA-861-F [1].

The requirements of this standard are in addition to and complement CTA-861-F [1]. All devices compliant to CTA-861.3 shall also comply with CTA-861-F [1], except that this standard deprecates and replaces Table 5 and Table 46 of CTA-861-F [1].

### 2 References

#### 2.1 Normative References

The following standards contain provisions that, through reference in this text, constitute normative provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed here.

##### 2.1.1 Normative Reference List

1. CTA-861-F, A DTV Profile for Uncompressed High Speed Digital Interfaces, May 2014
2. SMPTE ST 2084:2014, High Dynamic Range Electro-Optical Transfer Function of Mastering Reference Displays
3. SMPTE ST 2086:2014, Mastering Display Color Volume Metadata Supporting High Luminance and Wide Color Gamut Images

##### 2.1.2 Normative Reference Acquisition

###### ANSI/CTA Standards

- Global Engineering Documents, World Headquarters, 15 Inverness Way East, Englewood, CO USA 80112-5776; Phone 800-854-7179; Fax 303-397-2740; Internet: <http://global.ihs.com>; Email [global@ihs.com](mailto:global@ihs.com)

###### SMPTE Standards

- Society of Motion Picture and Television Engineers, 3 Barker Ave., 5th Floor, White Plains, NY 10601; Phone 914-761-1100; Fax 914-761-3115; Internet: <http://www.smpte.org>

#### 2.2 Informative References

The following references contain provisions that, through reference in this text, constitute informative provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

## 2.2.1 Informative Reference List

4. Blu-ray Disc Association, "System Description Blu-ray Disc Read-Only Format Part 3, Audio Visual Basic Specifications Version 3.1", December 2015

## 2.2.2 Informative Reference Acquisition

Blu-ray Disc Association

- Blu-ray Disc Association, License Office, 4444 Riverside Dr. Suite #103, Burbank, CA 91505, USA. Web Site: <http://www.blu-raydisc.com/en/index.aspx>; E-mail: [license@bdemail.com](mailto:license@bdemail.com); Fax.: +1-818-557-1674.

## 2.3 Definitions

For the purposes of CTA-861.3, the following definitions apply.

**Electro-Optical Transfer Function (EOTF)** - A mathematical function that describes the relationship between the luminance values input to a display device and the values output by the display.

**High Dynamic Range (HDR)**- In a display device, the range of luminance levels that exceed conventional display system capabilities.

**Sink** - A device which receives an uncompressed A/V signal.

**Source** - A device which generates an uncompressed A/V signal.

## 2.4 Compliance Notation

As used in this document, "shall" denotes mandatory provisions of the standard. "Should" denotes a provision that is recommended but not mandatory. "May" denotes a feature whose presence does not preclude compliance and implementation of which is optional. "Optional" denotes items that may or may not be present in a compliant device.

## 2.5 Hexadecimal Notation

The characters 0x preceding numbers or letters A through F designate the following values as hexadecimal notation. All other numerical values are to be assumed decimal.

## 2.6 Bit Naming Conventions

The names of the individual bits of multi-bit data values are composed using a value's mnemonic followed by a bit number. The significance of each bit is indicated by the bit number according to little-endian convention (i.e. bit number 0 is the least significant).

Future bits begin with the mnemonic 'F' followed by a bit number, where bit numbers indicate location - not significance. Future bits shall be set to zero and ignored.

## 2.7 Symbols and Abbreviations

BDA	Blu-ray Disc Association
CTA	Consumer Technology Association
EOTF	Electro-optical Transfer Function
HDR	High Dynamic Range
LSB	Least Significant Byte