

ANSI/CTA Standard

**Common Interconnection for
Portable Media Players**

ANSI/CTA-2017-A R2016

(Formerly ANSI/CEA-2017-A)

February 2010



**Consumer
Technology
Association™**

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(Formulated under the cognizance of the CTA **R6 Portable, Handheld and In-Vehicle Electronics Committee.**)

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FOREWORD

This standard was developed by the Consumer Technology Association (CTA) R6 Mobile Electronics Committee.

CTA-2017-A includes significant changes from *ANSI/CTA-2017*. Connectors and devices implemented using *CTA-2017-A* may not be compatible with those that use *ANSI/CTA-2017*.

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COMMON INTERCONNECTION FOR PORTABLE MEDIA PLAYERS

1 Scope

This standard defines electrical and mechanical properties for a connector that will pass audio, high definition video, high speed/superspeed Universal Serial Bus (USB) and associated metadata signals, control signals, and power between portable electronic devices and in-home and in-vehicle audio/video systems.

CTA-2017-A may not be backward compatible with CTA-2017.

2 References

2.1 Normative References

The following references contain provisions that, through reference in this text, constitute normative provisions of this standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below.

2.1.1 Normative Reference List

CEA-CPEB-6-A, *Preferred Voltage and Impedance Values for the Interconnection of Audio Products* (reaffirmed January, 2004)

Directive 2002/95/EC of the European Parliament and of the Council (January 27, 2003)

EIA/ECA-364-1000.01, *Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Controlled Environment Applications*

High-Definition Multimedia Interface (HDMI) Specification Version 1.3a (November 10, 2006)
Supplement 1, Consumer Electronics Control (CEC)

UL-94, *Tests for Flammability of Plastic Materials for Parts in Devices and Appliances* (5th Edition, June 2009)

USB-IF Media Transfer Protocol Specification

Universal Serial Bus 3.0 Specification, Revision 1.0 (November 12, 2008)

Universal Serial Bus Specification, USB On-The-Go Supplement, Revision 1.0a

VESA DisplayPort Standard, Version 1, Revision 1a (January 11, 2008)

VESA DisplayPort Interoperability Guideline, Version 1.1a (February 5, 2009)

2.1.2 Normative Reference Acquisition

CEA, EIA/ECA and UL 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

European Parliament Directives:

European Parliament, rue Wiertz, Wiertzstraat, B-1047 Bruxelles, B-1047 Brussels; Phone +32 / (0) 2 28 4 21 11; Fax +32 / (0) 2 284 69 74; Internet <http://www.europarl.europa.eu/>

HDMI Specification with CEC Specification Supplement

HDMI Licensing, LLC
1060 E. Arques Avenue, Suite 100
Sunnyvale, CA 94085
USA
<http://www.hdmi.org>

Universal Serial Bus Specifications:

USB Implementers Forum, Inc.
5440 SW Westgate Drive, Suite 217
Portland, OR 97221
<http://www.usb.org>

DisplayPort Specifications

VESA (Video Electronics Standards Association)
860 Hillview Ct., Suite 150
Milpitas, CA 95035
<http://www.vesa.org>

2.2 Definitions

Accessory	A device that attaches to a media player via the common interconnection.
Universal Serial Bus	A serial bus supported by the USB Implementers Forum, and the primary means for transferring data to a portable media player in this standard.
USB On-The-Go	A protocol that allows USB devices to communicate directly with each other without the need for a PC.

2.3 Symbols, Abbreviations and Acronyms

A	Amperes
Au	Gold
CEA	Consumer Electronics Association
DGND	Digital Ground
GND	Ground
HC GND	High Current Ground
Hz	Hertz
ITU	International Telecommunications Union
kHz	Kilohertz
mA	Milliamperes
Mb/sec	Megabits per second
mΩ	Milliohms
MΩ	Megaohms
μm	Micrometers
N	Newton
Ni	Nickel
Pd	Palladium
R/C	Remote Control

SMPTE	Society of Motion Picture and Television Engineers
SPDIF	Sony/Philips Digital Interface Format
UL	Underwriters Laboratories
USB	Universal Serial Bus
USB IF	USB Implementers Forum
USB OTG	USB On-The-Go
V	Volts
VDC	DC voltage
V _p	Peak voltage
V _{rms}	RMS voltage
HC	High Current
CEC	Consumer Electronic Control
HPD	Hot Plug Detect
C	Celsius
RoHS	Restriction of Hazardous Substances
mm	Millimeter
HDCP	High-bandwidth Digital Content Protection
AUX	Auxiliary
ML	Main Line
dB	Decibel
I ² C	Inter-Integrated Circuit
EDID	Extended Display Identification Data
HDMI	High Definition Multimedia Interface

2.4 Compliance Notation

As used in this document “shall” and “must” denote 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.

3 Standard Connector – Mechanical Description

The connector shall have dimensions as described in Figure 1 through Figure 11: Pin Assignment, Sequence and Wiping Length. It shall also comply with the requirements described in