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ULTRA HD gets a logo in Europe

On September 5, Digital Europe announced a new logo to identify Ultra HD displays, serving as a clear differentiator from HD. Digital Europe is a membership organization that represents the digital technology industry in Europe. The new logo will indicate to consumers that the labelled consumer device is compatible with Ultra HD content suppliers and that it will be able to render Ultra HD content in Ultra HD format.

Positive



Negative



Below are the technical requirements for using Digital Europe's Ultra HD logo:

TECHNICAL REQUIREMENTS

A display device has to cover the following requirements to be awarded the "DIGITAL EUROPE UHD Display" logo:

Display and display engine

- The minimum native resolution of the display (e.g. LCD, PDP, OLED) or display engine (e.g. DLP) is 3840 x 2160 in 16:9 aspect ratio.
- The minimum supported colorimetry shall be according to BT.709
- The display-device shall have at least one end-to-end signal path available to the user that does not render a UHD Input at a frame rate or resolution lower than that received over the UHD Interface from the source.
- The display-device shall have at least one end-to-end signal path available to the user that does not reduce the resolution nor shall it reduce the frame rate of a UHD Input during processing prior to display.

Note #1 Clarification for the avoidance of doubt: This requirement is carefully worded such that it allows for well-known display practices such as quarter screen video display as part of an EPG, where clearly a reduction of resolution will be necessary, but that in normal full screen television viewing mode the device has a user option to at least maintain the resolution and frame rate at each and every stage of its internal processing, from input to rendering. For example, a device which only has the possibility to downscale the resolution to HD resolution after input and later up scales it again to UHD resolution for rendering does not comply with UHD Display logo requirements.

Video Interfaces

- The display device accepts UHD input via HDMI. It shall support HDCP 2.2 Copy Protection.
- UHD capable inputs accept UHD video signals:
 - with a resolution of 3840 x 2160 pixels
 - at frame rates 24p / 25p / 30p / 50p / 60p
 - with a minimum supported bit depth of 8 Bit
 - at a chroma sub-sampling rate of 4:2:0 for 50p/60p and 4:2:2 for 24p/25p/30p
 - with minimum supported colorimetry according to BT.709

Audio

A device that renders audio shall be able to accept and present at minimum a PCM 2.0 stereo signal, delivered at the HDMI connector together with the UHD video signal.

Content Protection

The HDCP2.2 content protection satisfies higher requirement on content protection expressed by some major studios.

For more information, see www.digitaleurope.org.

In the U.S., the Consumer Electronics Association released updated specifications on Ultra HD in late June. Under CEA's expanded characteristics, a TV, monitor or projector may be referred to as Ultra High-Definition if it meets the following minimum performance attributes:

- **Display Resolution** – Has at least eight million active pixels, with at least 3840 horizontally and at least 2160 vertically.
- **Aspect Ratio** – Has a width to height ratio of the display's native resolution of 16:9 or wider.
- **Upconversion** – Is capable of upscaling HD video and displaying it at Ultra High-Definition resolution.
- **Digital Input** – Has one or more HDMI inputs supporting at least 3840x2160 native content resolution at 24p, 30p and 60p frames per second. At least one of the 3840x2160 HDMI inputs shall support HDCP revision 2.2 or equivalent content protection.
- **Colorimetry** – Processes 2160p video inputs encoded according to ITU-R BT.709 color space and may support wider colorimetry standards.
- **Bit Depth** – Has a minimum color bit depth of eight bits.

CEA also defined new characteristics for Connected Ultra High-Definition displays. Under these new characteristics, which complement the updated core UHD attributes, a display system may be referred to as a Connected Ultra HD device if it meets the following minimum performance attributes:

- Ultra High-Definition Capability – Meets all of the requirements of the CEA Ultra High-Definition Display Characteristics V2 (listed above).
- Video Codec – Decodes IP-delivered video of 3840x2160 resolution that has been compressed using HEVC (High Efficiency Video Compression Main Profile, Level 5, Main tier, as defined in ISO/IEC 23008-2 MPEG-H Part 2 or ITU-T H.265, and may support higher profiles, levels or tiers) and may decode video from other standard encoders.
- Audio Codec – Receives and reproduces, and/or outputs multichannel audio.
- IP and Networking – Receives IP-delivered Ultra HD video through a Wi-Fi, Ethernet or other appropriate connection.
- Application Services – Supports IP-delivered Ultra HD video through services or applications on the platform of the manufacturer's choosing.

The CEA specifications are quite similar, although not identical, to the Digital Europe logo requirements. A companion voluntary logo program is expected to be launched by CEA later this year. For more information on the CEA definitions, [look here](#).

2015 NAB Broadcast Engineering Conference Topics

The NAB Broadcast Engineering Conference Planning Committee met on September 4 to discuss industry trends and to develop topics for the 2015 conference. The Broadcast Engineering Conference takes place at the NAB Show April 11-16, 2015 in Las Vegas, Nev.



2015 NAB BROADCAST ENGINEERING CONFERENCE COMMITTEE Shown l-r: Front row: Kim Sacks, CBT, Engineer, CBS Radio; Milford Smith, VP, Radio Engineering, Greater Media; Larry Oaks (Committee Chairman), VP Technology, Meredith Corporation; Robert Russell, Director of Engineering, Journal Broadcast Group; Alan Jurison, Sr. Operations Engineer, Engineering and Systems Integration, Clear Channel Media and Entertainment; Sam Matheny, EVP and CTO, NAB. Back row: James Liefer, Director of Engineering & IT, Clear Channel; Clyde Smith, Sr. VP, New Technology, FOX Network Engineering; John Poray, Executive Director, SBE.

Conference attendees include broadcast engineers and technicians, engineering consultants, contract engineers, broadcast equipment manufacturers, distributors, R&D engineers plus anyone specifically interested in the latest broadcast technologies.

The following topics are considered by the committee to be key areas that are currently of interest to broadcast engineers:

For Radio:

- AM Radio Boot Camp
- Hybrid Radio and Streaming Technology
- Creating the Radio Artist Experience
- IT Issues for Radio
- Radio Connectivity Inside and Outside the Plant
- Software Tutorial for Broadcast Engineers
- Digital Radio Best Practices
- Measuring and Maintaining Audio in the Radio Facility
- Advanced Test Equipment for Radio
- Disaster Preparedness and Recovery
- Technical Regulatory Update

For Television:

- ATSC 3.0 Tutorial
- Next Generation Video Encoding and Compression
- UHD 4K and 8K
- LTE and Broadcast
- Big Data Tools for Broadcasting
- The New Newsroom
- Multiplatform for Television
- IT Infrastructure Essentials
- Disaster Preparedness and Recovery
- Technical Regulatory Update

Additional topics will also be considered for the 2015 conference. Technical papers on advanced technology applications and solutions along with real-world case studies are welcome. Technical paper proposals may be submitted [here](#) and are being accepted until October 17, 2014.

NABEF Hosts Engineering Webcast Delivered by Technology Apprenticeship Program Participants

Wondering what the future holds for broadcasting? Are you prepared to seize opportunities that new technologies will present? On Monday, September 15, join participants from the National Association of Broadcasters Education Foundation's (NABEF) Technology Apprenticeship Program (TAP) for a free webcast on how technology advancements are impacting the future of broadcast engineering. These webcasts will complete the final assignment of the TAP participants' six-month apprenticeship. Topics covered will be:

- **Radio:** The Evolution of Car Radio: From Now and to the Future...
- **TV:** The Integration of the Cloud, Entertainment & Advertising with Connected Car Technology

Time: 9:30 – 10 a.m. ET (Radio) and 10:30 – 11 a.m. ET (TV). [Click here to register for free!](#)

To learn more about TAP, [click here](#).

Important Dates and Upcoming Events

[137th International AES Convention](#)

October 9 - October 12, 2014

Los Angeles, CA

[2014 IEEE Broadcast Symposium](#)

October 15 - October 17, 2014

San Antonio, TX

[SMPTE Annual Technical Conference and Exhibition](#)

October 20 - October 23, 2014

Hollywood, CA