

FAQ



What is superMHL?

The superMHL™ specification is the next-generation of MHL® technology for CE and mobile devices. superMHL delivers significant mobile advancements such as higher resolution, faster frame rates, 40W of power charging, and support of the USB Type-C connector. It also broadens MHL's reach in home theater connectivity by supporting 8K video resolution, deep color, expanded color gamut, high dynamic range, faster frame rates, home theater control, expanded audio formats, and the new superMHL connector.

superMHL Features:

- 8K 120fps video
- Deep Color support up to 48-bit color depths
- Wider color gamut to view content the way filmmakers intended via BT.2020
- High-Dynamic Range (HDR) support to strike the perfect balance of bright spectral highlights along with shadow details
- Enhanced audio for immersive surround sound including Dolby Atmos®, DTS:X, 3D audio, and an audio-only mode
- Single remote control for multiple MHL devices (TV, AVR, Blu-ray player, STB)
- Up to 40W of power charging
- Content on multiple displays when connecting a single device
- Backward compatible with MHL 1, 2 and 3 specifications
- MHL Alt Mode for the USB Type-C specification support
- Reversible, superMHL connector

Is superMHL backwards compatible with previous MHL specifications?

Yes, superMHL is backwards compatible with MHL 1, 2 and 3 specifications.

Why is the name of the specification superMHL versus MHL 4?

With the introduction of an MHL defined connector and inclusion of a significant number of new features for mobile and consumer electronics products an exciting brand extension, superMHL, was created to highlight the "experience beyond resolution," which superMHL provides.

Tell me more about the superMHL connector.

MHL has introduced the superMHL connector to carry concurrent video, data and power charging all in a slim, reversible, consumer-friendly form factor. It has 32 pins that support 6 high-speed data lanes, 3A of current for power charging, and designed to be scalable to support future advancements of the superMHL specification. A reversible design means that consumers only have to insert it once without worrying about the plug's orientation, which eliminates frustration and offers a high level of flexibility.

What connectors are supported with superMHL?

Connectors supported in superMHL specification include:

- Micro-USB (Source)
- USB Type-C (Source)
- Proprietary connectors (Source)
- HDMI Type-A (Sinks)
- superMHL connector (Sources and Sinks)

When was the superMHL specification released?

The superMHL specification was released at the end of January 2015 to all MHL adopters.

When do you expect the first products to come out with superMHL?

Specifications are released ahead of products and product releases are up to manufacturer discretion.

How does superMHL support the new Ultra HD specification from the Blu-ray Disc Association (BDA)?

The new superMHL specification supports the features announced by the BDA for the Ultra HD Blu-ray specification. These features include higher resolution and frame rates 3,820x2,160 at 60 frames per second, increased color gamut with BT.2020, high dynamic range, 10-bit color and object audio. The Ultra HD Blu-ray specification improves the video quality beyond 4K and BDA has formed a liaison with MHL to ensure MHL can transport Ultra HD Blu-ray content from Blu-ray players to TVs.

What are the differences between superMHL and the other MHL specifications?

Features	superMHL	MHL 3	MHL 2	MHL 1
Maximum Resolution	8K120	4K30	1080p60	1080p60
High Dynamic Range/BT.2020/ Deep Color (10, 12, 16-bit)	✓			
Up to 8 Channel Audio	✓	✓	✓	✓
Blu-ray Audio (Dolby TrueHD, DTS-HD)	✓	✓		
Dolby Atmos, DTS:X, 3D Audio, Audio Only Mode	✓			
MHL Control (RCP) – Single Remote	✓ (Including mobile, TV, AVR, STB, BDP)	✓	✓	✓
Power Charging	40W	10W	7.5W	2.5W
Content Protection	HDCP 2.2	HDCP 2.2	HDCP 1.4	HDCP 1.4
Multi-Display Support	Up to 32 displays	Up to 4 displays		
Connectors	superMHL USB Type-C Micro-USB HDMI Type A Proprietary	Connector Agnostic	Connector Agnostic	Connector Agnostic

What are the differences between superMHL, DisplayPort 1.3 and HDMI 2.0?

Features	superMHL	DisplayPort 1.3	HDMI 2.0
Maximum Resolution	8K@120fps: 7680x4320 120fps, 4:2:0 36-bit color	8K@60fps: 7680x4320 60fps, 4:2:0 24-bit color (w/ reduced blanking)	4K@60fps: 3480x2160 60fps, 4:4:4, 24-bit color
High Dynamic Range	✓		
Deep Color	48-bit	48-bit	48-bit
Expanded Color Gamut	✓	✓	✓
Object Audio	✓		
Reversible Connector	✓		
Multi-Stream	✓	✓	
Remote Control Protocol	✓		✓
Power Charging	✓	✓	
Content Protection	HDCP 2.2	HDCP 2.2	HDCP 2.2

For more information, please go to: www.mhltech.org

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