



HDMI Feeds and Speeds

Cable Spec Versions:

Currently HDMI, LLC prohibits the use of the specification numbers when relating to cables. In the old days we'd ask for 1.2 cables or 1.3 cables. Some uninformed still try to use the numbers but this can cause confusion. The reason why is that all current cables are 1.4 now. Just some only support certain features.

1. Top of the Line is High Speed HDMI® with Ethernet
 - a. This supports all HDMI features, resolutions, audio and control features. 4Kx2K, 3D, Deep Color, CEC, ARC, and Ethernet.
 - b. Official test is 10.2 Gbps.
 - c. Liberty series E-HDSEM-M, E-MHDM-M, P-HDM-M-08 and shorter.
2. Next down is High Speed HDMI®
 - a. This does not support Ethernet but depending on construction can support the Audio Return Channel (ARC).
 - b. Official test is 10.2 Gbps.
 - c. Liberty series Z100HD*, DLX-HDSM, P-HDM-M-15 and longer
3. Third is Standard HDMI® with Ethernet
 - a. This supports all HDMI features, resolutions up to 1080p24 8-bit color, audio and control features. CEC and ARC
 - b. Official test is 2.25 Gbps.
 - c. Liberty series E-HDM-M, P-HDM-M-10 and -12
4. Third is Standard HDMI®
 - a. This does not support Ethernet but depending on construction can support the Audio Return Channel (ARC).
 - b. Official test is 2.25 Gbps.
 - c. We don't carry a line for this level, use E-HDM-M in lieu of this.

What about Refresh?

The refresh is not part of the cable standard nor should you worry about it when speaking cables. Many TV's take a Blu-Ray input (1080p24 for example) and clock it in the TV higher. Example a TV that clocks 5 cycles per input cycle would be a 120 Hz TV. 10x would be a 240 Hz TV. The cable is still only delivering 24 Hz. The cable standard will permit two 60 Hz channels at once, 120 Hz net refresh, for a 3D or maybe some as yet to be marketed high refresh gaming system.



What are Gbps?

Digital signals are not measured in frequency (Hertz abbreviated Hz) but are measure in bit throughput. Gbps is Gigabits per second. HDMI maximum throughput is 10.2 Gbps at this writing.

Liberty tests our Standard HDMI® cables at 5.0 Gbps, over twice the required frequency. This means we can warrant our Standard HDMI® cables can support 1080p60 or 1080p24 Deep Color. They would also support 24 or 30 frame 3D video.

Our High Speed HDMI® cables are tested at 10.2 Gbps. This means the cables will support all HDMI applications. This rating can support resolutions up to 4Kx2K, 3D, Deep Color, high refresh and all other functions of HDMI including the audio formats.

Quick Reference of Link Speed per Video Signal

Video Signal & Color Depth	H lines	V lines	Frames	Color in bits/pixel	Color bit Mode	TMDS rate (Gbps)	Single Link Rate (Gbps)	Comment
480p60 8-bit	858	480	60	24	1	0.25	0.74	HDMI Standard Speed
720p60 8-bit	1650	750	60	24	1	0.74	2.23	HDMI Standard Speed
1080i30 8-bit	2200	1125	30	24	1	0.74	2.23	HDMI Standard Speed
1080p60 8-bit	2200	1125	60	24	1	1.49	4.46	HDMI High Speed
1080p24 8-bit	2200	1125	24	24	1	0.59	1.78	HDMI Standard Speed
1080p24 10-bit	2200	1125	24	30	1.25	0.74	2.23	HDMI Standard Speed
1080p60 10-bit	2200	1125	60	30	1.25	1.86	5.57	HDMI High Speed
1080p24 12-bit	2200	1125	24	36	1.5	0.89	2.67	HDMI High Speed
1080p60 12-bit	2200	1125	60	36	1.5	2.23	6.68	HDMI High Speed
1080p24 16-bit	2200	1125	24	48	2	1.19	3.56	HDMI High Speed
1080p60 16-bit	2200	1125	60	48	2	2.97	8.91	HDMI High Speed