

# 4K/HDR 18GBPS

PRODUCT REFERENCE GUIDE

all  
HDMI<sup>®</sup>  
cables  
are **NOT**  
the same



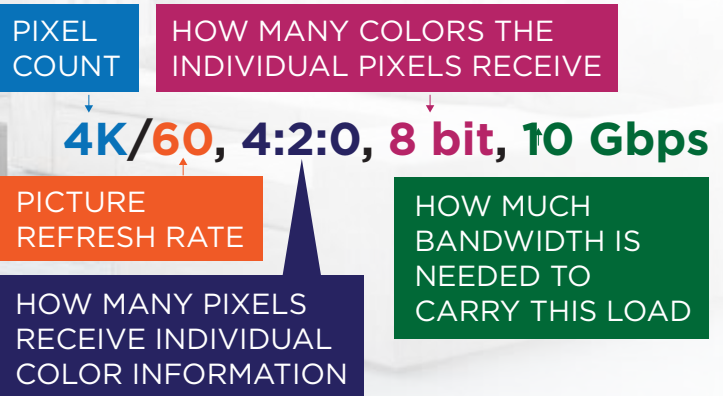
**Metra**<sup>®</sup>  
HOME THEATER GROUP

# LEARN THE TRUTH...

There's a myth that all HDMI® cables are the same, from your \$5 cable to your \$500 cable. Well, that's **NOT** true. HDMI® has changed the way our cable technology must work in order to see true 4K / HDR content at 18Gbps.



If you're investing in a 4K/HDR home theater system, you'll need to also invest in the right 4K cables. Otherwise, you'll never actually experience true 4K or HDR. Which means that even with the most expensive TV or projector, you would never see the same performance as when you saw it in the showroom.



FOR THE **BEST** PICTURE QUALITY, MAKE SURE YOUR CABLES ARE **DPL 4K CERTIFIED**

# DPL LABS™

## **“Integrators Most Important HDMI® Issue is RELIABILITY”**

Although the HDMI® interface was introduced many years ago, the resounding ring by integrators through all those years is why can't we just put an HDMI® cable in a system and “IT WORK EACH and EVERY TIME.” This one question led to the birth of DPL Laboratories!

### **Who is DPL Laboratories?**

- DPL Labs is the industry's premier independent Digital-HD (DHD) technology testing laboratory specializing in digital connectivity solutions - such as HDMI®
- Founded in 2008, Jeffrey Boccaccio is the Industry's foremost expert in High Speed Digital Signaling.
- DPL Labs' tests exceeds all other testing procedure standards improving the Reliability of those products with the DPL Seal of Approval Program.

### **What is the DPL Seal of Approval Program?**

- DPL Labs' engineering team created a custom suite of tests that fully exposes 3 products strengths and weaknesses.
- Through hundreds and hundreds of field case studies, a custom testing “Argumentative Matrixm” was developed that is exclusive to the DPL Labs.
- That suite of testing procedures cover all relevant aspects of the Digital-HD (DHD) product performance and meets and/or exceeds any current testing and certification method.



### **What Does the DPL 4K-18DC Logo Mean?**



A product bearing the DPL Seal of Approval is guaranteed to meet or exceed DPL's standards and assures the highest quality product that will give an HDMI® system years of reliable performance. DPL thoroughly tests the digital products over numerous hours of that rigorous multi-element testing regime that clearly establishes the product's performance capability. This specific logo means that the cable can handle a full 18Gbps of bandwidth and satisfies all other attributes required to meet any features offered under the current HDMI® Rev2.0 specifications. Only top quality products are able to earn that Seal of Approval.

### **Why Should I Buy DPL Seal of Approval Products?**

With so many marketing claims that accompany cable products, it is very difficult to determine what is Real and What is pure Fiction. Rest assured that a product that has passed the DPL Seal of Approval testing regime is stating more than a marketing claim — it's Fact and has been independently tested and verified.

Follow the link to DPL website to view more of their DPL Approved Products.  
<http://www.dpllabs.com/page/dpl-member-metra-home-theater-group-ethereal>

# THE LINE OF INNOVATION: DOES YOUR SUPPLIER CROSS IT?

TYPE	RESOLUTION	FRAME RATE (FPS)	COLOR COMPRESSION	DEEP COLOR BIT DEPTH	HDR	WIDE COLOR GAMUT (BT2020)	HDMI VERSION	DATA RATE	AUHD SERIES	444 SERIES	UHD SERIES
HD	1920 X 1080	24	4:2:2	8 BIT	NO	NO	1.4	2.23 GBPS	YES	YES	YES
HD	1920 X 1080	60	4:2:2	8 BIT	NO	NO	1.4	4.45 GBPS	YES	YES	YES
HD	1920 X 1080	60	4:4:4	16 BIT	NO	NO	1.4	5.91 GBPS	YES	YES	YES
UHD	3840 X 2160	24	4:2:0	8 BIT	NO	NO	1.4	8.91 GBPS	YES	YES	YES
UHD	3840 X 2160	24	4:4:4	8 BIT	NO	NO	1.4	8.91 GBPS	YES	YES	YES
4K	4096 X 2160	24	4:4:4	8 BIT	NO	NO	1.4	8.91 GBPS	YES	YES	YES
UHD OR 4K	3840 X 2160	60	4:2:0	8 BIT	NO	NO	1.4/2.0	8.91 GBPS	YES	YES	YES
<b>LINE OF INNOVATION</b>											
UHD OR 4K	3840 X 2160	24	4:2:0	10 BIT	YES	YES	2.0(A/B)	8.91 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	24	4:2:2	12 BIT	YES	YES	2.0(A/B)	11.14 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	24	4:4:4	10 BIT	YES	YES	2.0(A/B)	11.14 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	24	4:4:4	12 BIT	YES	YES	2.0(A/B)	13.37 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	60	4:2:0	10 BIT	YES	YES	2.0(A/B)	13.37 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	60	4:2:0	12 BIT	YES	YES	2.0(A/B)	13.37 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	60	4:2:2	12 BIT	YES	YES	2.0(A/B)	17.82 GBPS	YES	YES	NO
UHD OR 4K	3840 X 2160	60	4:4:4	8 BIT	YES	YES	2.0(A/B)	17.82 GBPS	YES	YES	NO





### VELOX PASSIVE PREMIUM HDMI® CABLE

A newly designed HDMI® transmission cable with advanced features in metallurgy, topology, dielectric, and shielding. This new microwave RF design allows for up to 4dB less insertion loss over long distances by establishing a near linear response performance increase specifically for HDMI®'s TMDS High Speed Signaling. No speed cap from integrated electronics as compared to active cables. Offers the highest bandwidth performance of any passive cable available.

18Gbps	10.2Gbps
<b>EHV-HDP1</b> ..... 1M	<b>EHV-HDP10</b> ..... 10M
<b>EHV-HDP2</b> ..... 2M	<b>EHV-HDP12</b> ..... 12M
<b>EHV-HDP3</b> ..... 3M	<b>EHV-HDP15</b> ..... 15M
<b>EHV-HDP4</b> ..... 4M	<b>EHV-HDP18</b> ..... 18M
<b>EHV-HDP5</b> ..... 5M	<b>EHV-HDP20</b> ..... 20M
<b>EHV-HDP6</b> ..... 6M	<b>EHV-HDP21</b> ..... 21M
<b>EHV-HDP8</b> ..... 8M	<b>EHV-HDP22</b> ..... 22M



**1-8 METERS, 18Gbps**  
**10-22 METERS, 18Gbps\***  
 \* with use of the HDM-GA1 (sold separately)



### VELOX ULTRA HIGH SPEED ACTIVE HDMI® CABLE

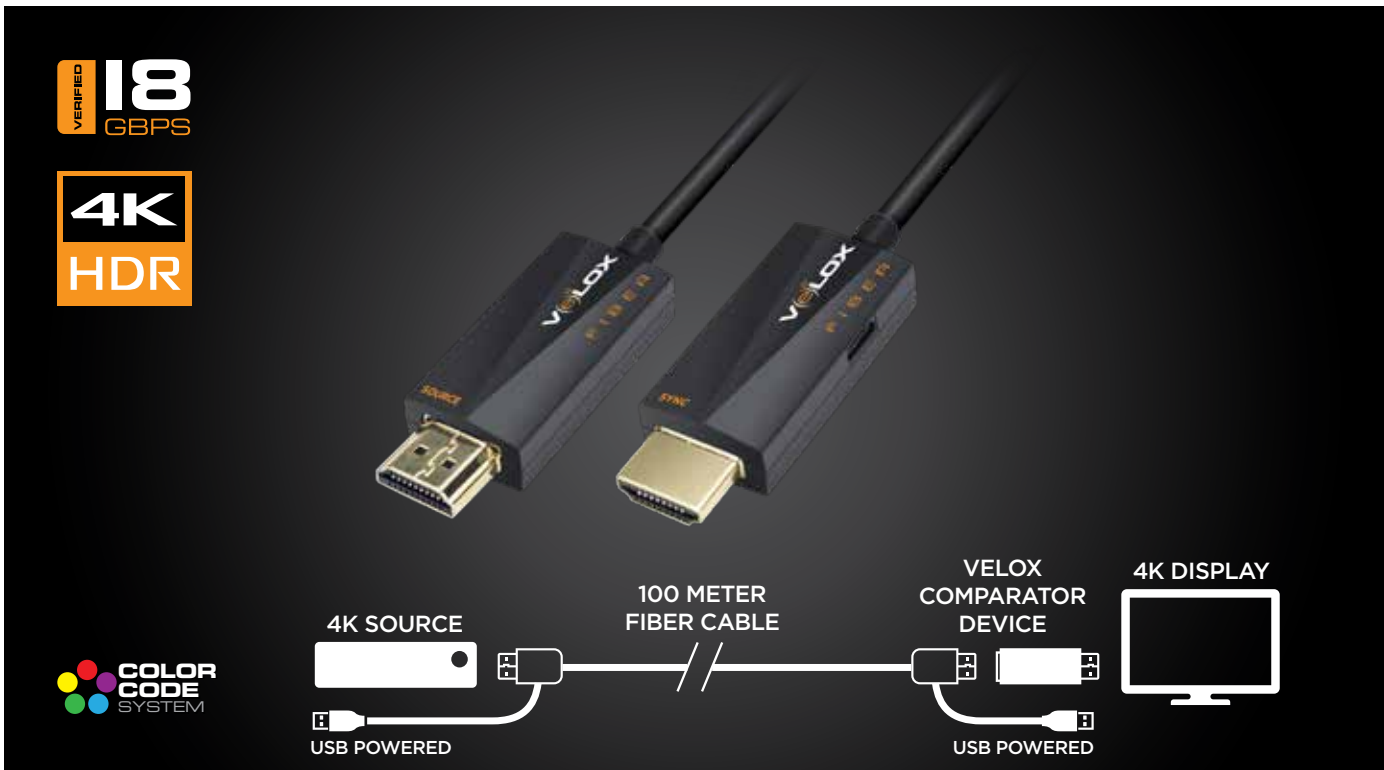
VELOX Active cables combine evolutionary design and engineering techniques to support the new generation of 4K/HDR video applications. VELOX Active cables deliver a verified 18Gbps HD signal for higher resolutions, frame rates and colors over HD digital interconnects thanks to the patented Titan Chip.

VELOX Active cables OPERATE WITH THE ENTIRE 18Gbps envelope. They incorporate an innovative new version of our symmetrical HDCP and EDID rise time accelerator for both the data and clock lines on the I2C bus (the Display Data Channel). This eliminates EDID errors and, because this repair is bidirectional, ensures that the HDCP handshaking occurs reliably.

<b>EHV-HDT10</b> ..... 10M
<b>EHV-HDT12</b> ..... 12M
<b>EHV-HDT15</b> ..... 15M
<b>EHV-HDT20</b> ..... 20M
<b>EHV-HDT25</b> ..... 25M
<b>EHV-HDT30</b> ..... 30M



**10-30 METERS, 18Gbps**



*The new Velox Fiber System answers the long distance 18 Gbps transmission question Loud and Clear.* Unlike installing with the other Fiber products that are currently available, there is no need for the integrator to worry about “whether or not” the system is going to work. In order to assure the most reliable and robust Fiber system available to the integrator, Metra Home Theater has taken a close look at all of the Fiber products out there and we have determined what it takes to not only carry the full 18 Gbps of bandwidth, but to also ensure compatibility between the source and display.

**How do we accomplish this?**

Built into every Velox Fiber System are the same EDID repair tools that we have been using for over 10 years in our HDM-DAD & HDM-JR HDMI<sup>®</sup> products. Research has proven that many accessory devices are still being built with older DDC components which in some cases will not communicate with other devices. To correct this, we’ve added technology to combat any voltage shift errors that may occur over the DDC (EDID) lane by automatically shifting the required voltage levels in a smooth and seamless fashion to adapt these older systems with the more state of the art DDC electronics.

- HDMI<sup>®</sup> 2.0a compliant
- HDCP 2.2 compliant
- Bandwidth: 18Gbps
- Cable Type: Active Optical Fiber Cable
- CL Listed for in-wall installations
- Connector Type: HDMI<sup>®</sup> Type Male/A
- Power: 3’ Micro USB Cables
- Input Impedance: 100 ohms
- Supports resolutions up to: 4K@60,  
All Color Sub-sampling Supported (4:4:4, 4:2:2, 4:2:0),  
Deep Color, and HDR
- Lengths: Available in 25, 30, 50, 75 and 100 meters

- EHV-HDAOC25..... 25M**
- EHV-HDAOC30 ..... 30M**
- EHV-HDAOC50 ..... 50M**
- EHV-HDAOC75..... 75M**
- EHV-HDAOC100 ..... 100M**



**25-100 METERS, 18GBPS**



**ETHEREAL MHY HDMI® HIGH SPEED WITH ETHERNET**

- Supports 4K@60Hz HDR
- 24K Gold plated Grip-Lox connector for securing cable to source and display devices
- Increased tensil pull tension without the risk of damaging connected equipment
- Multi-layer shielding
- Audio return channel (ARC)

<b>MHY-LHDME-5</b>	<b>0.5M</b>
<b>MHY-LHDME1</b>	<b>1M</b>
<b>MHY-LHDME1-5</b>	<b>1.5M</b>
<b>MHY-LHDME2</b>	<b>2M</b>
<b>MHY-LHDME3</b>	<b>3M</b>
<b>MHY-LHDME4</b>	<b>4M</b>
<b>MHY-LHDME5</b>	<b>5M</b>
<b>MHY-LHDME6</b>	<b>6M</b>
<b>MHY-LHDMER7</b>	<b>7M</b>
<b>MHY-LHDMER8</b>	<b>8M</b>
<b>MHY-LHDMER10</b>	<b>10M</b>
<b>MHY-LHDMER12</b>	<b>12M</b>
<b>MHY-LHDMER15</b>	<b>15M</b>



0.5-10 METERS, 18Gbps  
12-15 METERS, 10.2Gbps



**ETHEREAL MHX HDMI® HIGH SPEED WITH ETHERNET**

- Supports 4K@60Hz HDR
- 24K Gold plated Grip-Lox connector for securing cable to source and display devices
- Increased tensil pull tension without the risk of damaging connected equipment
- Multi-layer shielding
- Audio return channel (ARC)

<b>MHX-LHDME-5</b>	<b>0.5M</b>
<b>MHX-LHDME1</b>	<b>1M</b>
<b>MHX-LHDME2</b>	<b>2M</b>
<b>MHX-LHDME3</b>	<b>3M</b>
<b>MHX-LHDME4</b>	<b>4M</b>
<b>MHX-LHDME5</b>	<b>5M</b>
<b>MHX-LHDME6</b>	<b>6M</b>
<b>MHX-LHDME7</b>	<b>7M</b>
<b>MHX-LHDME7-5</b>	<b>7.5M</b>
<b>MHX-LHDME8</b>	<b>8M</b>
<b>MHX-LHDME10</b>	<b>10M</b>
<b>MHX-LHDME12</b>	<b>12M</b>
<b>MHX-LHDME15</b>	<b>15M</b>
<b>MHX-LHDM17</b>	<b>17M</b>



0.5-7.5 METERS, 18Gbps  
8-12 METERS, 10.2Gbps  
15-17 METERS, 6.75Gbps  
8-17 METERS, 18Gbps\*

\*with use of the HDM-GA1 (sold separately)



**HDM-GA1  
HDMI® ACCELERATOR**

The HDM-GA1 is designed to be used with passive 24 gauge HDMI® cables at a distance of up to 15 meters and is intended to be installed at the display side of the system.

- 18 Gigabit accelerator for passive HDMI® cables
- Works with cables up to 15 meters
- Powered by USB
- Small, easy to install
- Installation of the HDM-GA1

**HDMI® SURGE  
PROTECTOR**

- TMDS Lines
- EDID Lines
- 5 Volt Line
- Hot Plug Detect Line

**HDM-SP2**



**HDMI® EDID REGENERATOR**

The Junior+ (HDM-JRPLUS), resolves two common failures that occur within the Low Speed EDID communication bus, voltage swing issues and acceleration of the data speed, in a single compact unit that connects in-line with HDMI® cables for a quick, easy to install solution. With the HDM-JRPLUS, users can fully operate within the 18Gbps domain without loss of signal integrity. The HDM-JRPLUS increases compatibility between devices that have different data tolerances to minimize failures, as well as between multiple brands of HDMI®-enables electronics.

**HDM-JRPLUS**



**HDMI® DIGITAL  
ANALYSIS DEVICE**

The tool for EDID diagnostics and monitoring. Check your HDMI® system for correct: 5V, hot plug detect, clock and data. Status of the data tested is shown by LED indicators.

**HDM-DAD**







## HDMI® EDID BLOCKER

The HDM-EDIDB EDID Blocker from Metra Home Theater Group allows most computers (PC's) and Security DVR/ NVR to send an HDMI® signal, both audio and video, to multiple displays simultaneously, making it ideal for schools, churches, recreational buildings and more. The EDID blocker connects to the HDMI® port of a PC or Security DVR/NVR to block to block the EDID communication between the source and multiple displays to eliminate failure.

**HDM-EDIDB**

## HDMI® INJECTOR

- 5 Volt
- Hot Plug Detect Injector
- Hot Plug Voltage Interrupter

**HDM-VI2**



## VOLTAGE CONTROL TRIGGER

The HDM-VCT is a compact HDMI® device that connects to a relay or digital I/O on a control system to break the signal between the 5-volt trigger and hot plug signal to create an EDID reset. In addition, the HDM-VCT, with supplemental TMDS voltage, adds 100ms delay to the hot return to ensure that the source is prepared to accept the signal.

**HDM-VCT**

## HDM ALL-IN-ONE CORRECTION TOOL

The HDM All-in-One (HDM-AIO) is the ultimate EDID problem-solving solution. The digital analysis component can correct audio and video timing issues found in HDMI® components, including audio drop outs. Additionally, the HDM-AIO includes a voltage control trigger used to break the signal between the 5-volt and hot plug signal to create an EDID reset and provide a hot return delay of 100ms.

**HDM-AIO**



## ACTIVE CABLE VOLTAGE STABILIZER

The Active Cable Voltage Stabilizer supplies sufficient voltage and current to televisions to keep all sources, such as matrices and active cables, functioning. Some new displays do not provide enough power and result in a power failure once active cables are connected. The HDM-ACVS is designed to supply the correct voltage and current needed to keep sources and active cables functioning - especially at longer lengths.

**HDM-ACVS**



### HDBASET 2.0 HDMI® EXTENDER 70M

- Supports HDMI® 2.0 & HDCP 2.2
- Resolutions supported: up to 4k @ 60Hz HDR
- Compatible with CAT5e/CAT6/CAT6A
- Transmission distance: up to 70m/229ft over CAT6
- Supports Bidirectional IR pass back 20-60Hz with included IR receiver & emitter
- Supports Bidirectional RS232
- Wall mountable

**CS-HDBTLPOE2-70**

### HDBASET 2.0 HDMI® EXTENDER 100M

- Supports HDMI® 2.0 & HDCP 2.2
- Resolutions supported: up to 4k @ 60Hz HDR
- Compatible with CAT5e/CAT6/CAT6A
- Transmission distance: up to 100m/328ft over CAT6
- Supports Bidirectional IR pass back 20-60Hz with included IR receiver & emitter
- Supports Bidirectional RS232
- Wall mountable

**CS-HDBTPOE2-100**



# True **4K/HDR 18Gbps** HDMI® Cables that Go the Distance

**4K**  
**HDR**

VERIFIED **18**  
GBPS



Metra Home Theater has your 4K/HDR 18Gbps HDMI® needs covered no matter the distance. Our tried and true Ethereal® cables are perfect for those lighter projects - and now come with GripLox™ connectors for a tight fit. While the innovative Velox® line carries HDR signals up to 330 feet! Best of all, these cables just plain work - every install, every time!



[MetraHomeTruth.com](http://MetraHomeTruth.com) 866.839.9187





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MHTG4K-18



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