


## 48G USB VOLTAGE INSERTER



8K/60 Ultra  
HDMI – Are  
You Ready?

In the spirit of the true cinephile, Gordon J Gow Technologies, Inc. developed Tributaries 48G UHD HDMI cables, the most advanced line of Ultra High Definition HDMI cables available today. Designed by film lovers for film lovers, Tributaries ULTRA HDMI cables were developed using meticulous electronic engineering designed to exceed HDMI specifications by a minimum 20% providing headroom to overcome possible system inadequacies.

### 48G Ultra HDMI Performance Capabilities

The Tributaries 48G HDMI cables are fully compliant with HDMI 2.1 specifications - transport HDMI data rates up to 48Gbps, with resolutions of up to 8K and 10K, frame rates up to 120fps, color depths up to 16-bit color and color sampling p to 4:4:4. Then other features in v2.1 are: Dynamic HDR and eARC, Quick Media Switching (QMS) for delay-free source switching; for gaming - Auto Low Latency Mode (ALLM), Variable Refresh Rate (VRR) and Quick Framer Transport (QFT).

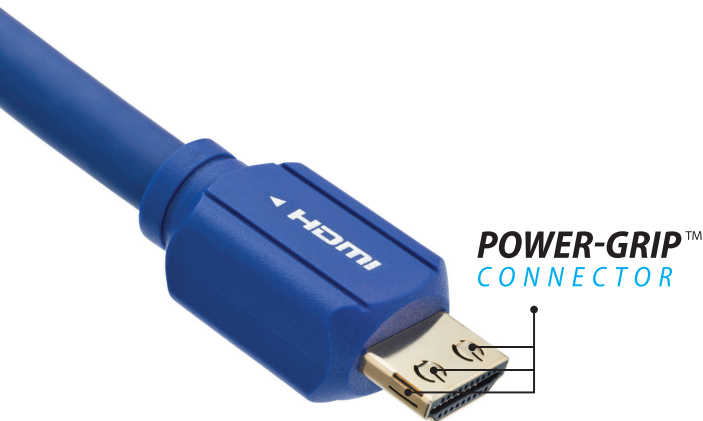
### Focus on eARC & Dynamic HDR

**eARC** is a much more robust audio delivery system than the original ARC. eARC supports 5.1 and 7.1 systems as well as 32 channels of audio and eight channels of 192 kHz, 24-bit uncompressed 38Mbps data streams. It also supports DTS-HD Master Audio, DTS:X, Dolby TrueHD, and Dolby Atmos, eARC can deliver a substantially improved surround sound experience with more immersive and nuanced audio.

**Dynamic HDR** provides enhanced video images for deeper blacks and brighter whites with greater detail in both the dark and bright parts in the same image. While Standard Dynamic Range (SDR) provides an average level of black to white contrast for an entire movie, Dynamic HDR presents a black to white contrast for each frame of a movie bringing scenes closer to realism

### Power Grip:

The UHDM MAXIMUM cable has the patented Power-Grip™ connector. Multi-locational raised elements provide proper tension top-to-bottom and side-to-side. We guarantee our connector will not shift in the electronics causing signal drop outs.



### Testing 48G HDMI Cables

At Tributaries, testing cables is taken very seriously. We are the only cable company in the industry that tests every HDMI cable after it arrives from the factory using the Murideo Fresco Six-G/A HDMI 2.1 and HDCP 2.2 generator. This portable hand held UHD generator and analyzer will process an HDMI 2.1, 40Gbps signal of 8K/60Hz with 10-bit color and 4:2:2 color sampling. In addition, the Fresco Six-G/A also tests the recessed pin #19: Hot Plug Detect. We confirm HDMI 2.1 and HDCP 2.2 compliance of every cable.

**Tributaries: Totally Tested, Tried and Trusted!**



### DPL Labs 48G Seal of Approval

Tributaries UHDM Maximum models have passed rigorous True Image Testing™ by DPL Labs and earned the 48G 8K Reference Standard Certification. Tributaries is proud to be the first cable company to receive this prestigious 48Gbps 8K certification. To learn more about DPL Labs go to: [www.dpllabs.com](http://www.dpllabs.com)

# 48G USB VOLTAGE INSERTER

The Tributaries USB-VI, HDMI Voltage Inserter was designed to solve the problem of signal drop-out due to insufficient current from the HDMI source component.

The HDMI Specification requires a source to provide a stable 5VDC with a minimum output current of 55mA. Voltage from the source turns on microcontrollers in the sink device and allows the sink to return the 5VDC via the Hot Plug Detect line. The DDC communicates the EDID information and then the HDCP handshake takes place. This handshake is the gatekeeper for the entire HDMI signal. Not only is this required on start-up, but authentication is repeated continuously; if there is an error in this communication the system will not operate properly. These errors will cause flashing images from a HDCP errors, distorted video related to EDID or even complete loss of the image caused by HPD failure.

What causes 5-volt line instability? A source may have been poorly designed with insufficient voltage, or an HDMI cable is too thin causing excessive losses on the 5-volt line. The addition of bus-powered accessories like extenders and active HDMI cables that harvest power from the 5-volt line to power their on-board circuitry will also draw down the 5-volt line. HDMI was never designed to support bus-powered accessories.



## 48G SERIES USB VOLTAGE INSERTER

### MODEL: USB-VI

Designed to solve the problem of signal drop-out due to insufficient power

To eliminate the possibility of a low voltage failure, Tributaries USB-VI features a Low-Voltage Protection (LVP) circuit. The circuit automatically activates if the source component's output voltage falls below HDMI's minimum operational voltage. Additionally, LVP will block reverse current flow that could potentially damage the source.

The USB-VI Voltage Inserter is stocked in each and includes a 5VDC power supply



#### Model USB-VI Highlights

Made in China. Designed, tested and packaged in Orlando Florida, USA

Support 48Gbps and Resolutions of 4K/120Hz, 8K/60Hz, 10K/24Hz

Maintains stable voltage at 5VDC / 2A power

Low Voltage Protection (LVP) blocks reverse current flow from damaging the source equipment

ESD Supply Line Protection is 8KV

USB power cable length is ½ meter (20 inches)

Tight fit connectors with Boss elements stay in place