Lightspeed G6 Server

Product Sheet

Transcoding @ Lightspeed

Telestream® G6 Lightspeed™ Server can be added to any Vantage Transcode product or Post Producer to accelerate video processing and H.264 transcoding. Lightspeed Server accelerates video processing with GPUs and multicore CPUs to provide the best image quality in the least amount of time. Housed in an efficient 1 RU chassis, Lightspeed G6 Servers reduce rack space, power and cooling requirements while meeting increased output capacity needs.

Accelerated Video Processing

The G6 Lightspeed is a dual-GPU NVIDIA Pascal-based server that accelerates compute-intensive image processing within Vantage workflows, including scaling, deinterlacing, frame rate conversion, motion vector calculation, and other tasks that require computation and analysis to modify or create new video frames. Faster video preprocessing acceleration benefits the output quality of all video output formats, for both transcoding and automated content assembly.

Deinterlacing

Deinterlacing is required when converting interlaced broadcast content for web and mobile distribution and is also the first step in high-quality frame rate conversion. High-quality deinterlacing produces far sharper and clearer image quality than is possible with simple field blending techniques.

Video Image Scaling

Advanced image scaling is crucial to maintaining high-quality results. Both up-scaling and down-scaling require significant processing to preserve image sharpness. Lightspeed image scaling eliminates banding and ringing artifacts that are associated with video upconversion. This is particularly useful when converting broadcast content into web and mobile formats.

Frame Rate Conversion

Frame rate conversion is increasingly important for internationalization and inverse telecine workflows. Lightspeed accelerates both standards conversion and the conversion of broadcast content to 23.976 film rates, with reliable, high-quality results.

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16-bit YUV Video Processing
Vantage employs Lightspeed technology to efficiently process 16-bit, 4:4:4:4, YUV video, achieving sparkling video quality and color fidelity for any Vantage output format. Lightspeed accelerates sophisticated image processing algorithms that have previously required purpose-built hardware to produce pristine video.

Accelerated x264 Encoding
Lightspeed Server also speeds x264 video encoding. x264 is renowned for producing the best video image quality across the spectrum of bitrates needed for screens of any size. Lightspeed accelerates x264 to produce the best possible H.264 images, at any bitrate, in the shortest possible time.

Accelerated HEVC Encoding
The G6 Lightspeed supports NVENC (NVIDIA's HEVC Encoder) for certain Vantage transcoders, enabling encoding performance that is faster than x264 (but in most cases of lower quality).

G6 Lightspeed Server Technical Specifications

Model: V-LS-G6-WW-SVR

Telestream Lightspeed Servers ship with the following hardware configuration:

- 1RU server with Dual Redundant 750 Watt Power Supplies
- CPU: Dual Intel E5-2690V4
- RAM:128GB
- GPU: Dual NVIDIA Pascal Class GPUs
- OS:
  - Windows Server 2016 Standard Edition 64-bit (installed on SSD partition)
  - Windows Server 2012 R2 Standard Edition available as an option
- OS Drive: 240GB SATA 6Gb/sec SSD
- Media Drive: Dual 1.92TB, SATA, 6Gb/sec SSD
- Ethernet Ports: Four (4) 10GBase-T ports
- Available I/O: *One Half-Height PCIe Slot*, Four (4) USB 3.0 ports
- Expansion Drive Bays: 10 Total, 7 Available
- Physical Dimensions: Height 1.7" (43mm) x Width 17.2" (437mm) x Depth 27.8" (707mm)
- Gross Weight: Approximate 34lbs (15.4 kg)

Telestream Lightspeed Servers are qualified with the following optional hardware:

Fibre Channel Cards:

- ATTO Celerity FC-162E Dual channel 16Gb/s HBA
- ATTO Celerity FC-161E Single channel 16Gb/s HBA
- ATTO Celerity FC-81EN Single-Channel 8Gb/s HBA
- ATTO Celerity FC-82EN Dual-Channel 8Gb/s HBA
- QLogic QLE2560 Single-Channel 8Gb/s HBA
- QLogic QLE2562 Dual-Channel 8Gb/s HBA

Ethernet Network Interface Cards:

- Intel PRO/1000 PT Quad Port Server adapter
- ATTO FastFrame NS-11 Single-Channel SFP+ 10GbE
- ATTO FastFrame NS-12 Dual-Channel SFP+ 10GbE
- MYRICOM 10G-PCIE-8B-S+E 10GbE
- MYRICOM 10G-PCIE2-8B2 Dual Port 10GbE

Power and Temperature requirements:

- Operating Temperature: 10°C to 35°C (50°F to 95°F); Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)
- Power Consumption Idle: Approximate 2.0 Amp / 180 Watts
- Power Consumption Full Load: Approximate 3.5 Amp / 400 Watts

Certifications:

- FCC, CE, UL or CSA, CB, VCCI, Ctick
- Certifications are valid for the following regions: North America, EU, Japan, AUS/NZ

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