



Unmatched Performance and Value — The DisplayNet® DN-300 represents a major breakthrough in performance, versatility, and value for AVoIP applications. Based on the latest SDVoE technology, the DN-300 delivers flawless HDMI video distribution with limitless scalability, zero-frame latency and zero image artifacts. These units support near-seamless switching and distribution of HDMI signals with resolutions of up to 4K/60p (4:4:4) with 8-bit color, or 4K/60p (4:2:2) with 10-bit or 12-bit color. Like other DisplayNet products, the DN-300 provides independent multi-layer routing of HDMI audio and video signals, as well as bidirectional Analog Audio, USB 2.0, IR, RS-232, and 1GbE Ethernet.

Feature Rich — The DN-300 is single unit that provides a host of unique features, such as switchable Transmitter / Receiver operation, PoE+ support, and dual (copper / fiber) network interfaces that enable signal extension distances of up to 100 meters (328 ft.) with CAT-6A twisted pair and up to 30 KM (18.6 miles) with single-mode fiber. The DN-300 includes auxiliary H.264/5 video output streams that provide support for viewing source thumbnails and for remote viewing / recording with resolutions of up to 1080 /30p. Furthermore, the unit provides silent, fanless operation, powerful network security features, and versatile KVM Routing with full-bandwidth USB 2.0. The DN-300 is housed in an ultra-compact, low-profile case that allows up to 4x units to occupy a single 1U of rack space. This makes the unit ideal for high density applications where rack space can be limited. DisplayNet also includes software-defined MultiViewer and advanced Video Wall engines that power a wide range of applications without the expense and complexity of ancillary products.

Limitless Expandability — Unlike traditional matrix switchers, DisplayNet systems have no limits or restrictions on the size or design of an AV distribution system; the matrix array can be as large as the number of non-blocking ports on the network. Stacked switches enable very large systems with several hundreds of ports, at a low marginal cost.

Exceptional Versatility — The DN-300 utilizes DisplayNet Server®, which provides a highly intuitive web-based UI and a powerful API that makes setup and maintenance of these units incredibly fast and easy. Highly advanced features enable effortless integration with third-party controllers as well as full interoperability with other SDVoE products.

Thanks to its ultra-compact, low-profile design, exceptional capabilities and outstanding array of features, the DN-300 enables system designers to develop and implement highly versatile AV signal distribution systems with robust performance and scalability at a very competitive price.

FEATURES

- Silent, Fanless operation
- Switchable Transmitter / Receiver operation
- Includes dual (copper / fiber) 10G network interfaces
- Includes two independent H.264/5 video output streams
- Versatile KVM routing with full-bandwidth USB 2.0 support
- Supports PoE+ (802.3at) over the 10GbE RJ-45 connector
- Long Range – up to 100 meters (328 ft.) using CAT-6A cabling, up to 30KM (18.6 miles) using single-mode optical fiber
- Highly Scalable – supports systems from a few ports to hundreds; only limited by the size of the network switch
- Supports HDMI resolutions up to 4K /60p with 8-bit color (4:4:4) and 4K /60p with 10 or 12-bit color (4:2:2 or 4:2:0); supports HDCP 2.2
- Independent multi-layer routing for HDMI Video, HDMI Audio, bidirectional Analog Audio, USB 2.0, RS-232 and IR
- Ultra-compact case – up to 4x units can be mounted in 1U rack space; horizontal and vertical Rack Mount Kits are available

DVIGear, Inc. is the owner of numerous trademarks, both registered and unregistered, including without limitation, the following marks: DVIGEAR®, DISPLAYNET®, DISPLAYNET SERVER®, DISPLAYNET MANAGER®, N/AV Design®, HYPERLIGHT® and WILDCAT®.

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

SDVoE is a registered trademark of the SDVoE Alliance and used under license. All other third party trademarks used herein are the properties of their respective owners.

RICH CONNECTIVITY IN A SMALL FORM FACTOR

Measuring less than 1 inch tall the DN-300 provides rich connectivity in a very small form factor.



DN-300 – Front View



DN-300 – Rear View

SPECIFICATIONS

Supported AV Signals	
Video	HDMI 4K /60p
HDCP	Supports HDCP 1.4 / HDCP 2.2
Color Space	RGB, YCbCr 4:4:4 / 4:2:2 / 4:2:0
HDR Support	HDR, HDR 10, HDR10+, Dolby Vision, HLG (only in Genlock Mode)
H.264 / H.265 Output Streams	Primary Stream: Supports H.264 / H.265 encoded streaming video in Transmitter Mode with output resolutions up to 1080/30p, also supports 4K/60p downscaling. Adjustable bit rates from 1–20 mbps. Secondary Stream: Supports H.264 / H.265 encoded streaming video in Transmitter Mode with output resolutions up to 540/30p, also supports 4K/60p downscaling. Adjustable bit rates from 128–2048 kbps.
Thumbnails	Supports PNG thumbnails with 180 lines of vertical resolution at 1 frame per second when used in conjunction with DisplayNet Server® (DNS-20)
Embedded Audio	Supports pass-through of embedded HDMI audio including up to 8 channels of LPCM or HBR audio formats such as: Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD, DTS:X
De-Embedded Audio	Supports independent routing of de-embedded HDMI audio: Up to 8 channels of LPCM digital audio with up to 24-bit depth and 192 kHz sampling rate
Downmixed Audio	Supports independent routing of 2-channel de-embedded / downmixed HDMI audio. Requires input signal to be PCM audio format
External Audio	Supports independent bi-directional routing of analog stereo audio converted to PCM with 24-bit depth and a fixed 48 kHz sampling rate
Ethernet	Built-in 1GbE Ethernet switch on all Tx and Rx units supporting 10 Mbps. up to 1 Gbps.
USB Control	Supports switchable High Speed USB 2.0 (480 Mbps.) extension with virtual hub functionality, with up to 7 RX units per TX
IR Control	Supports bidirectional IR switching
RS-232 Control	Supports bidirectional RS-232 switching via UART interface with up to 115,200 baud

SPECIFICATIONS

Connections / Indicators	
10GbE Port ⁽¹⁾	1ea. shielded RJ45 connector with LED indicators, and 1ea. Fiber Optic SFP+ slot (populated with SFP+ module sold separately)
HDMI Input / HDMI Output	2ea. 19-pin Female HDMI connectors
Analog Stereo Audio Input / Output	2ea. 3.5mm Stereo-Mini Jacks
1GbE Port	1ea. shielded RJ45 connector with LED indicators, bridged to 10GbE network
USB 2.0	USB Host: 1ea. USB 2.0 Type B connector USB Devices: 2ea. USB 2.0 Type A connector
RS-232	1ea. 4-pin, 3.5mm pitch, Phoenix connector
IR Control	1ea. IR IN: 3.5mm Stereo Mini-Jack; 1ea. IR OUT: 3.5mm Mini-Jack
DC Power	1ea. 5.5 mm / 2.1 mm female screw-locking connector
Front Panel Controls	1ea. Reset push-button to restore factory default values 1ea. Mode Switch push-button to switch between TX and RX operating modes
Front Panel LEDs	Power, Status, Link, Video, USB, TX Mode, RX Mode
Performance	
Supported Resolutions ⁽²⁾	Up to 4K /60p with 8-bit color (4:4:4) Up to 4K /60p with 10-bit or 12-bit color (4:2:2 or 4:2:0)
Maximum Pixel Clock Frequency	Supports pixel clock rates up to 600 MHz
Maximum Video Bit Rate	Supports digital signal bit rates up to 6.0 Gbps./color, 18.0 Gbps. Total
Switching Layers	Independent switching layers for all connected Video, Embedded Audio, Analog Audio, HDMI and Downmixed Audio, RS-232 and IR
Video Signal Latency ⁽³⁾	Genlock: ≤ 30 μsec. (uncompressed), ≤ 120 μsec. (compressed) ⁽³⁾ Genlock Scaler: 3.0 msec. Fast Switch: 1–2 Frames Video Wall: 1–2 Frames MultiViewer: 1–2 Frames
Supported I/O Switching Array	Size of I/O array is only limited by the size (number of ports) of the 10GbE network switch
Recommended CAT Cable	CAT-6A S/FTP (500 MHz) AWG 23, or CAT-7 (Europe); Compliant with TIA/EIA-568B termination standard
Maximum Cable Distance	Up to 328 ft. (100 meters) using CAT-6A S/FTP (500 MHz) AWG 23 cable Up to 30 KM (18 miles) using SMF SFP+ optical modules
HDMI Input Cable Equalization	Supports DViGear's HR™ Series HDMI with cable lengths up to 10 meters at 4K /60p resolution
Operational Modes ⁽⁴⁾	
Operating Mode	Switchable between TX and RX Operating Modes – either by front panel control or API command
Matrix Switching Mode	Fully non-blocking cross-point routing of nearly any size I/O array – only limited by size of 10GbE switch
Video Wall Mode	Supports Advanced Video Wall displays using integrated scaling engine in the RX. Supports asymmetric walls with crop, scale, and letterbox modes
MultiViewer Mode	Supports customizable MultiViewer displays with up to 32x sources using integrated scaling engine in the TX
Point-to-Point Mode	Supports Point-to-Point Extension up to 328 ft. / 100 meters (CAT6A) or 18 miles / 30 km (single-mode fiber) using recommended cables and SFP+ modules

SPECIFICATIONS (CONTINUED)

Power	
Typical Power Consumption	13.5 watts
External AC Power Adapter	Input: 100–240VAC, 50–60Hz / Output: +12VDC @ 2.5A
Power-over-Ethernet	Supports PoE+ (802.3at) over the 10GbE RJ-45 connector. Unit may be used with either optical or fiber network connectivity with PoE+ power source
DC Power Output	2.5 watts – 5VDC @ 500 ma on HDMI pin 18
Mechanical	
Construction	Heavy-duty steel enclosure with jet black finish
Dimensions (H x W x D)	Each Unit: 0.85" x 8.1" x 5.3" (21.7 mm x 204.4 mm x 134.5 mm)
Weight	Each Unit: 1.53 lbs. (692 g)
Environmental	
Operating Temperature Range	+32° to +104° F (0° to +40° C)
Maximum Case Temperature	TX Mode: Top Case: 110° F (43° C) / Bottom Case: 117° F (47° C) RX Mode: Top Case: 110° F (43° C) / Bottom Case: 134° F (57° C)
Storage Temperature Range	-2° to +140° F (-20° to +60° C)
Operating / Storage Humidity	10% to 90% (non-condensing)
Regulatory Approvals	
TX / RX Units	FCC, CE, RoHS, REACH
External AC Power Adapter	CE, GS, UL, cUL, DOFT, CCC, TUV, PSE, KCC, CB, RoHS, REACH, WEEE
Warranty	
Limited Warranty	3 Years Parts and Labor
Model Numbers	
DN-300	DisplayNet® SDVoE Transmitter / Receiver
DNS-20	DisplayNet Server® Rack-mountable Linux Server with DisplayNet API and DisplayNet Manager® Software
Accessories Included	Optional Accessories
1x External AC Power Adapter (per unit) 2x Mounting Brackets with Screws (per unit) 1x 4-pin RS-232 Phoenix Connector (per unit) 1x IR Transmitter 1x IR Receiver	DisplayNet Server® (model DNS-20) ⁽⁵⁾ External AC Power Adapter with USA, Euro, UK, or Australia Plugs Power Distribution Unit, 8x 12VDC (DVI-7520-PDU) IR Transmitter (DVI-7360-IR-TX), IR Receiver (DVI-7362-IR-RX) 19" Rack Mount Kit (DN-300-RMK) DVI-I Female to HDMI Male Adapter Cable (DVI-8511c)

Note 1: The 10GbE port is designed to connect to compatible DVIgear products and 10GbE network switches only. Do not connect any device to the 10GbE port of this product unless you are sure it is compatible.

Note 2: Video signals will be transported uncompressed unless the bandwidth exceeds the limits of 10GbE. For video signals that exceed 10Gbps. of bandwidth, light compression is employed. For the maximum resolutions shown above, the DN-300 Series employs a compression ratio of about 1.4:1.

Note 3: DN-300 Series uses lightweight compression for some high bit rate formats (e.g. 4K /60p), which adds a few extra lines of latency. For Fast Switch, Video Wall, and MultiViewer modes, a maximum of 2 frames of latency translates to not more than 33.3 msec. @ 60Hz and not more than 67.7 msec @ 30Hz.

Note 4: A system may operate concurrently in Matrix Switching, Video Wall, and MultiViewer modes.

Note 5: The DisplayNet Server® required for the majority of system configurations.

All specifications are subject to change without notice.