



T-NETWORK AVoIP SERIES

1GB 4K60 AVoIP WITH DANTE AV-AD

The T-Network Series represents a revolutionary line of AVoIP (Audio Video over IP) devices that redefine the user experience and enhance flexibility in audiovisual applications. Thoughtfully crafted in Scandinavia, this series features two encoder models and a single decoder model. The TNET-ENC-C211-DA boasts a USB-C input that accommodates video, USB data, and delivers 100W charging power, alongside the traditional HDMI input.

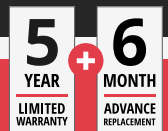
With the power of Dante AV-A technology, the T-Network Series allows for the smooth integration of audio, video, and control signals across network infrastructure. Users have the option to select from three distinct Dante operation modes: No Dante, Only Dante Audio, or Dante Video and Audio. It also boasts advanced security and networking capabilities, including VLAN tagging, 802.1x, HTTPS, and LDAP.

The T-Network series is ideal for a variety of AVoIP applications, whether small or large. This includes applications for places like hotels, universities, and BYOM meeting rooms. It offers support for 4K60 4:4:4 over gigabit networks with minimal latency. Additionally, the series accommodates a virtual USB 2.0 hub for BYOM or interactive use.

Our unique management software, T-COMM, offers sophisticated routing and configuration options, making it easy for users to oversee and manage their AV networks. Additionally, the T-Network products are fully compatible with direct-control API, Dante Controller, Dante director and DDM, providing users with maximum flexibility.

KEY FEATURES

- Supports resolutions up to 4096 x 2160P 60Hz 4:4:4
- Scaling options supported in decoder
- Utilizes 1G LAN network infrastructure
- Dante AV enabled, Dante 2CH audio and 1 stream Video
- Selectable Dante AV-A mode, Video+ Audio, Audio only or No Dante
- 2x2 CH Dante Audio break-in/out
- 2 ms latency using ULL mode
- USB-C, DisplayPort alt mode with USB data and up to 100W PD (TNET-ENC-C211-DA)
- 2 lines OLED display for easy installation and troubleshooting
- PoE/PoE+ pass-through when powered by PoE++
- Supports Audio embedding/de-embedding
- Video Wall up to 16x16 with Mosaic configuration support
- USB 2.0 transport and routing/ Mouse Roaming in Video Wall mode
- Built-in WEB UI for configuration and management
- Open direct-control API
- Compatible with Dante Controller, Dante Director and DDM
- Advanced Routing for Video/Audio/USB and Control
- Proprietary management and mass deployment software, T-COMM.
- 802.1Q, VLAN Tagging support



TIGHT POLICY

Faulty product - minimal down time.

Up until six months after purchase, TIGHT AV will replace your product in advance of return of faulty product.

Your investment - built to last.

All TIGHT AV products come with a five year limited warranty.

TIGHT
AV

SPECIFICATIONS

VIDEO

Digital Video Inputs:	HDMI 2.0b USB-C, 2-Lane DisplayPort Alt Mode, DisplayPort V1.4. (TNET-ENC-C211-DA only)
Digital Video Output:	HDMI 2.0b
Maximum resolution:	4096x2160P 4:4:4 (See supported resolution document)
HDR:	HDR10/HLG/HDR10+/Dolby Vision support
HDCP Support:	HDCP 2.3/1.x
Color Space support:	RGB, YCBCr
Deep Color Support:	<ul style="list-style-type: none"> 1080p and under: 24, 30, 36 bpp 2160p YUV444: 24 bpp 2160p YUV422: 24/30/36 bpp
EDID	Passthrough, Predefined or Custom EDID
Compression Standard:	AGIC3, Visually Lossless Compression
Bandwidth:	4K Peak: 850Mbps +- 20 Mbps 4K Average: 442 Mbps 1080P Average: 187Mbps
Latency Encode-Decode:	<ul style="list-style-type: none"> ULL Mode (Ultra Low Latency): 2160p60Hz: 2ms Normal Mode: 2160p60Hz: 16ms 2160p30Hz: 33ms 1080p60Hz: 16ms 720p60P: 16ms 1080i30Hz: 33ms Scaling will not add additionally latency* *Rotation CW 90 and 270 will introduce 1 extra frame latency.

AUDIO

Input Signal Types:	<ul style="list-style-type: none"> Embedded audio on HDMI or USB-C Dante Audio or TNET Audio Stream Analog Stereo (Balanced or Unbalanced)
Output Signal Types:	<ul style="list-style-type: none"> Analog Stereo (Balanced or Unbalanced) Dante Audio and/or TNET Audio Stream
HDMI Embedded Audio Formats:	LPCM: Up to 7.1/24-bit/192kHz Dolby: Dolby AtmosTM, Dolby TrueHD, Dolby Digital PlusTM, Dolby Digital EX, Dolby Digital 5.1, Dolby Digital 2/0 Surround, Dolby Digital 2/0 DTS: DTS-HD Master Audio TM, DTS-HD, DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, DTS Digital Surround 5.1
Analog Audio Format:	LPCM 2.0, 32kHz -192kHz
Dante Audio Format:	LPCM 2.0
Dante Audio Sample Rate:	44.1, 48, 88.2, 96 kHz

AUDIO PERFORMANCE

Frequency Response:	20 Hz-20kHz +-0.5dB
S/N Ratio:	>90 dB 20 Hz -20 kHz (@0dB gain), A-weighted
THD +N:	< 0.01% @ 1 kHz
Stereo Separation:	> 90 dB
Volume:	- 80 to 0dB
Analog Output Delay:	0-170ms

USB

USB Devices:	2x USB 1.1 Type-A and 2x USB 2.0 Type-A ports (TNET-DEC-H211-DA)
Support:	USB 2.0, Bulk and Isochronous transfer support
USB Virtual Hub:	1 level virtual USB 2.0 hub (maximum 7 USB 2.0 endpoints)

PORTS

Power:	1x 4-pin DC Power Connector
LAN1 PoE+/PoE++:	<ul style="list-style-type: none"> 8-wire RJ45 port 10/100/1000 Mbps 10/100/1000Base-T auto-sensing gigabit Ethernet switch port VLAN tagging
LAN2:	<ul style="list-style-type: none"> 8-wire RJ45 port 10/100/1000 Mbps 10/100/1000Base-T auto-sensing gigabit Ethernet switch port Supports PoE/PoE+ Pass-through if LAN1 is provided PoE++ VLAN tagging
IR IN (front panel):	3-pin terminal Phoenix connector. Provides Infrared (IR) input only and passes signal back to connected decoder (33-60 kHz; typically, 39 kHz)
IR OUT:	2-pin terminal Phoenix connector Provides Infrared (IR) output only (33-60 kHz; typically, 39 kHz).
RS232:	3-pin terminal Phoenix connector. Full duplex communication. Baud rate: 2400, 4800, 9600 (default), 19200, 38400, 57600, 115200

PORTS

AUDIO:	5-pin terminal Phoenix connector which provides user-selectable balanced/unbalanced input or output
HDMI OUT:	HDMI video output (Loop-out from HDMI IN or USB-C IN)
HDMI IN:	HDMI video input
USB-C IN:	USB-C Video and USB Host, locking (TNET-ENC-C211-DA)
USB HOST:	USB 2.0 Type B Host port to be combined with HDMI (Encoders)

POWER

Optional Power Supply:	DC24V 6.5A power adapter
PoE:	POE+ (802.3at), PoE++ (802.3at) for PoE/PoE+ passthrough on LAN2
POE Pass-through (LAN2):	POE (802.3af), POE+ (802.3at). LAN1 will require PoE++ (802.3at)
Max power consumption:	16.9W (Max)
Standby Power Consumption:	6.4W

ENVIRONMENTAL

Operating Temperature	-10°C ~ 55°C
Storage Temperature:	-20°C ~ 70°C
Humidity:	10 - 90% RH (non-condensing)
Heat Dissipation:	26.5 BTU/hr(Typical) 48.7 BTU/hr(Max)
Cooling:	Fan (User Configurable) Auto, Off, Ultra Low, Low, Medium, High, Super high
Noise Level at 1m	Fan Settings <ul style="list-style-type: none"> Off: 3.7 dB Ultra Low (2700 RPM): 9.8 dB Low (3900 RPM): 16.2 dB Medium (5000 RPM): 22.4 dB High (6000 RPM): 27.3 dB Super High (6300 RPM): 29.0 dB

GENERAL

Product Dimensions:	196 x 165 x 25 mm
Product Weight:	805g
Shipping Weight:	1050g

SUBSTREAM MJPEG

Resolution Support:	1280x720, 960x540, 640x360
Frame Rate:	15, 20, 25, 30
Bitrate Range:	Default/target consumed network bandwidth is < 8Mbps
Streaming Protocols:	Motion-JPEG format (MJPEG)

PROTOCOLS

Video Streaming:	RTSP Multicast, RTSP Unicast, IGMPV2 or IGMPV3
Audio Streaming:	AES67, Dante
Addressing:	DHCP or Static IP
Encryption:	AES256
Discovery:	Broadcast, mDNS, node query
Authentication:	IEEE 802.1x
Other Supported Protocols:	SNMP, MQTT, LLDP, LDAP, HTTPS, SSH, SSL/TLS

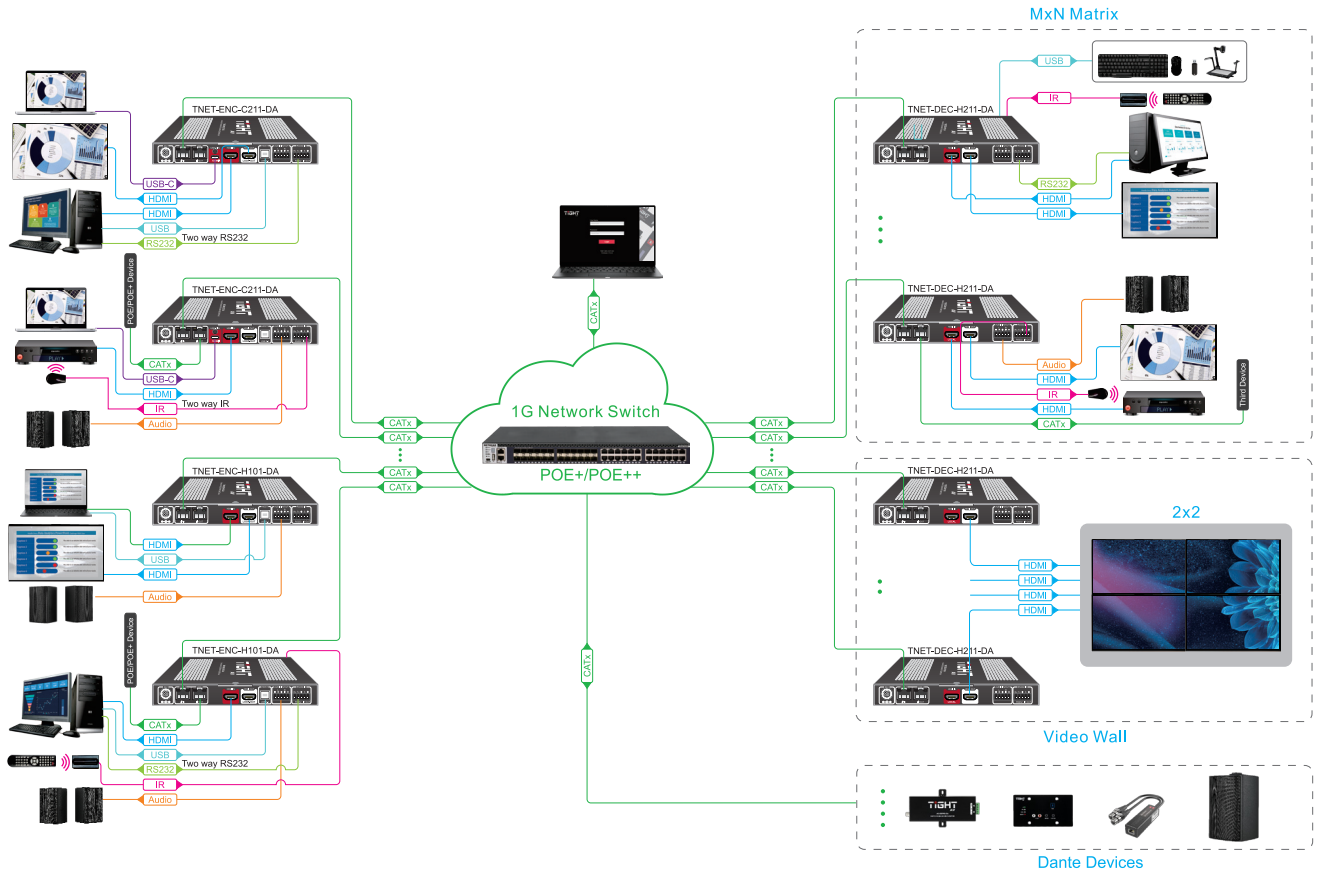
INDICATORS AND CONTROL

POWER:	Blinking red when booting up; illuminates red when power off, illuminates blue when power on.
SIGNAL:	Illuminates green when there is a valid video signal; Illuminates yellow when streaming with no source image (No valid signal).
HDMI:	Illuminates green when the corresponding source is selected.
USB-C:	Illuminates green when the corresponding source is selected.
SELECT:	Press and hold 3s to toggle between manual and auto switching modes. Short press to switch input source: USB-C/HDMI
ID-Button	Multi-purpose button, refer to manual
RESET:	Factory reset
Control:	WEB UI, Open API via Ethernet or RS-232, Dante Controller, DDM, Dante Director, Front panel

WARRANTY

Warranty:	<ul style="list-style-type: none"> 5 years limited warranty 6-month advanced replacement policy
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SYSTEM DESIGN EXAMPLE



PRODUCT IMAGES

TNET-DEC-H211-DA

Front



Back

TNET-ENC-C211-DA

Front



Back

TNET-ENC-H101-DA

Front



Back

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