

DN9680

8 Port AES50 Extender and Multiplexer
with up to 1000 Metre Range



- ⊗ Multiplexes up to 8 AES50 connections into one optical fibre cable or CAT5 cable
- ⊗ Extends AES50 connections up to 1,000 m with optical fibre or 100 m with CAT5 cable
- ⊗ High channel capacity with 192 bidirectional channels @ 96 kHz
- ⊗ Internal "AES Grade 1" temperature-compensated word clock (1 ppm)
- ⊗ Neutrik etherCON* connectors used for AES50 ports and copper snake connection
- ⊗ Dual-fibre Neutrik opticalCON DUO* connector used for optical fibre snake connection
- ⊗ Internal web server allows browser-based configuration via Ethernet control port
- ⊗ Rugged 1U rackmount chassis for durability in portable applications
- ⊗ Auto-ranging universal switch-mode power supply
- ⊗ 3-Year Warranty Program*
- ⊗ Designed and engineered in England

The DN9680 provides a high channel count solution to the 100 metre limitation that Ethernet and CAT5 cabling imposes on the physical size of AES50 networks. A pair of DN9680 units allow up to eight AES50 connections (192 bidirectional channels) to be extended by up to 1,000 metres via single mode optical fibre or 100 metres via CAT5 copper cable, greatly simplifying long haul cable connections due to the use of a single bidirectional snake cable.



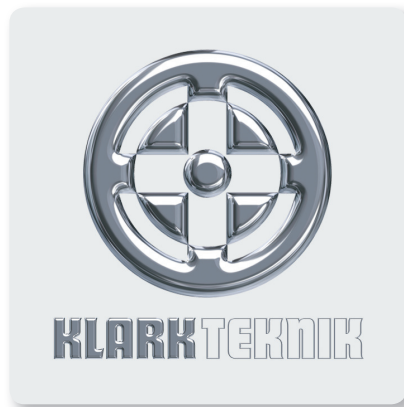
DN9680 acts as a bidirectional multiplexer and demultiplexer, and combines the eight incoming AES50 streams into the outgoing snake connection, and simultaneously also takes the incoming snake connection and unbundles the eight AES50 streams and routes them to the corresponding AES50 ports. A snake system consisting of a pair of DN9680 units routes the incoming AES50 streams to the outgoing streams on a one-to-one port basis, so that the snake is transparent in use, only incurring a small propagation delay of 250 microseconds.

As standard, DN9680 is compatible with single-mode dual fibre cable. As an option, the [DN9680-MM](#) upgrade kit allows conversion for use with multimode dual fibre cable over a 500 metre range.

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Digital Audio Networking

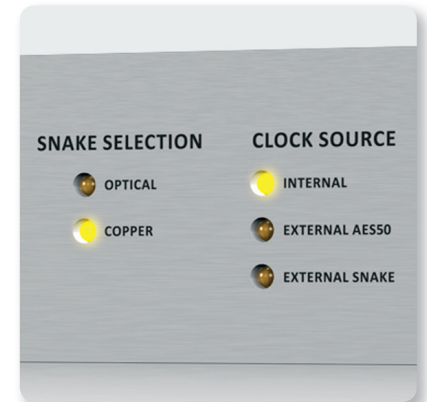
SuperMAC (AES50-Compliant) digital audio networking technology from **KLARK TEKNIK** simultaneously provides high channel counts, ultra low and deterministic latencies, sample-synchronous and phase-aligned networked clock distribution, error detection and correction, network redundancy, and ease of deployment and use – to meet the demanding requirements of live concert touring.

DN9680 is compatible with all **MIDAS PRO Series** and **XL8** digital consoles, audio system engines and digital I/O units, as well as with any other 96 kHz-enabled AES50-equipped devices.

Flexible Synchronisation

DN9680 features a precision “AES Grade 1” reference temperature-compensated clock oscillator with 1 part-per-million (ppm) stability which is used as the internal clock source. This highly accurate clock source can be used as the reference clock for digital audio systems, providing a very defined sound image free of jitter and other digital clocking error artefacts.

The DN9680 can be synchronised to the internal clock source, or the incoming external AES50 or external snake clock signals. Often when two DN9680 units are used together in a larger system, the nominal transmitter of the pair will be synchronised to the incoming external AES50 clock, whilst the nominal receiver will be synchronised to the incoming snake clock. In other system configurations, the nominal transmitter may be used as the reference clock master by selecting the internal 1 ppm oscillator as its clock source.



Dual Media Snakes

DN9680 supports both optical fibre and copper snakes using a Gigabit Ethernet digital audio point-to-point link. A dual-fibre Neutrik opticalCON DUO connector is used for optical fibre snake connection, enabling a bidirectional optical link on one single-mode dual fibre cable. The optional **DN9680-MM** upgrade kit allows conversion for use with multi-mode dual fibre cable.

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Internal Web Server

DN9680 features an on-board web server that allows platform-independent configuration using a web browser application. The need for separate control applications and support for multiple operating system versions is eliminated with this approach, which allows simple user selection of clock source and copper or optical fibre snake operation.



Front Panel Indication

DN9680 features status LED indicators for AES50 and network synchronisation, Ethernet control port activity and the clock source and snake options on the front panel for 'at a glance' status display, even at wide distances and viewing angles. An alphanumeric LCD display allows individual units to be labelled, essential in large network systems where multiple DN9680 units are in use.

Built for the Road

Featuring a rugged steel 1U rackmount enclosure, the DN9680 is designed for the rigours of live concert touring. Premium Neutrik etherCON* and opticalCON DUO* connectors are used to ensure reliable network connections, night after night.



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Auto-Ranging Universal Switch-Mode Power Supply

DN9680 features a universal power supply, which is auto-voltage sensing for use on a worldwide basis.

You Are Covered

We always strive to provide the best possible Customer Experience. Our products are made in our own [MUSIC Group](#) factory using state-of-the-art automation, enhanced production workflows and quality assurance labs with the most sophisticated test equipment available in the world. As a result, we have one of the lowest product failure rates in the industry, and we confidently back it up with a generous [3-Year Warranty program](#).

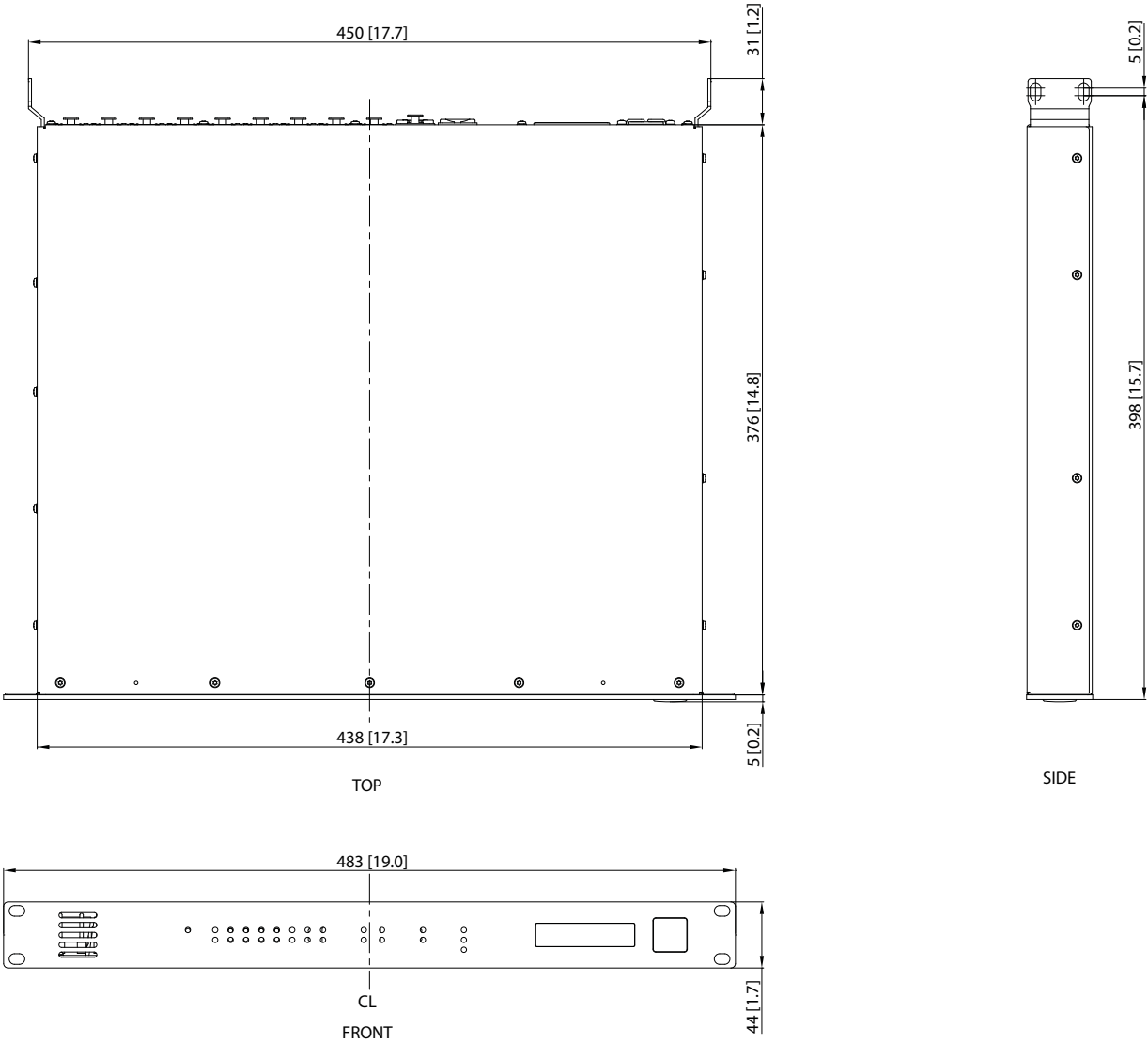


Mixer Accessories

DN9680

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Dimensions



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Technical Specifications

AES50 Ports

Type	Neutrik etherCON with LED status indication
Sample rate	96 kHz

Ethernet Control Port

Type	Neutrik etherCON with LED status indication
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Copper Snake Port

Type	Neutrik etherCON
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Optical Snake Port

Type	Neutrik opticalCON DUO
Optical fibre	Single-mode dual fibre

Onboard Clock

Type	Temperature-controlled crystal oscillator (TCXO) with 1 part-per-million (1 ppm) stability
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Clock Source

Options	Internal clock External AES50 clock External snake clock
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Other Terminations

Power	3-pin IEC
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Power Requirements

Voltage	100 to 240 VAC, 50 to 60 Hz
Consumption	<50 W

Dimensions

Width	483 mm (19.0")
Depth	412 mm (16.2")
Height	44 mm (1.7") (1U High)

Weight

Net	5.1 kg (11.2 lbs)
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Options

DN9680-MM	Multi-mode optical fibre module for DN9680 with 500 metre range
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Architecture & Engineering Specifications

The network extender shall provide the functions of multiplexing, demultiplexing and format conversion to extend eight network connections beyond the 100 metre limitation of CAT5 cable using a single dual fibre optical cable or a single CAT5 copper cable using a proprietary 1 Gigabit Ethernet frame-based digital audio point-to-point link.

The network extender shall be capable of extending the network connections by up to 1,000 metres via the single dual fibre optical cable or 100 metres via the single CAT5 copper cable.

The network extender shall support a 100 Megabit Ethernet frame-based digital audio network compliant with the Audio Engineering Society AES50-2011 standard.

The network extender shall be designed to be used in pairs to create a digital snake, and the pair shall have a combined propagation delay of 250 microseconds including the copper or optical fibre snake.

The network extender shall have one Ethernet control port for the purposes of remote configuration from a computer web browser interface and updating the internal software.

The network extender shall be capable of deriving its clock source from the internal clock oscillator, the incoming external AES50 clock, or the incoming external snake clock.

The network extender shall have a precision clock reference provided by a temperature-controlled crystal oscillator (TCXO) with 1 part-per-million (1 ppm) stability.

The network extender shall have an option for an upgrade kit for multi-mode optical fibre operation.

The network extender shall be housed in a standard 1U 19" rackmount chassis, and shall be 483 mm wide x 412 mm deep x 44 mm high (19.0" x 16.2" x 1.7"), with nominal weight 5.1 kg (11.2 lbs). The network extender shall be installed in a rack frame or road case capable of safely supporting its weight. Input, output, and power connections shall be made at the rear panel of the network extender. Installers shall allow adequate space at the rear for connection and disconnection of input, output, and power connections. The power requirements shall be 100 to 240 VAC, 50 to 60 Hz.

The network extender shall be the KLARK TEKNIK DN9680 and no other alternative shall be acceptable.

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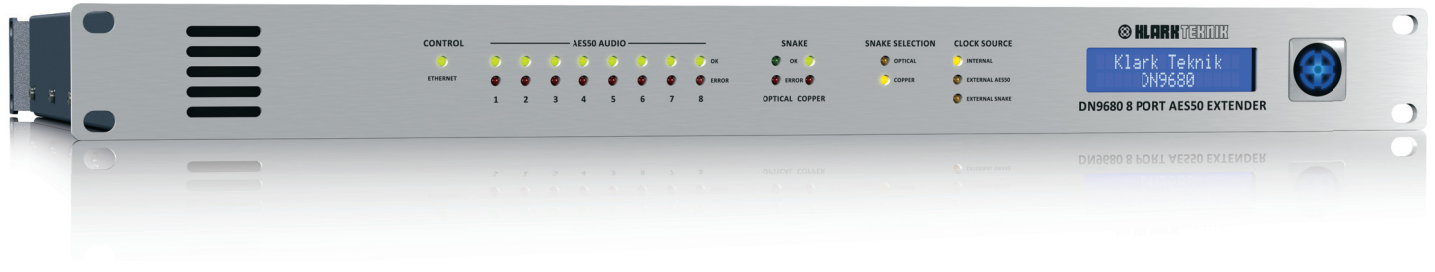
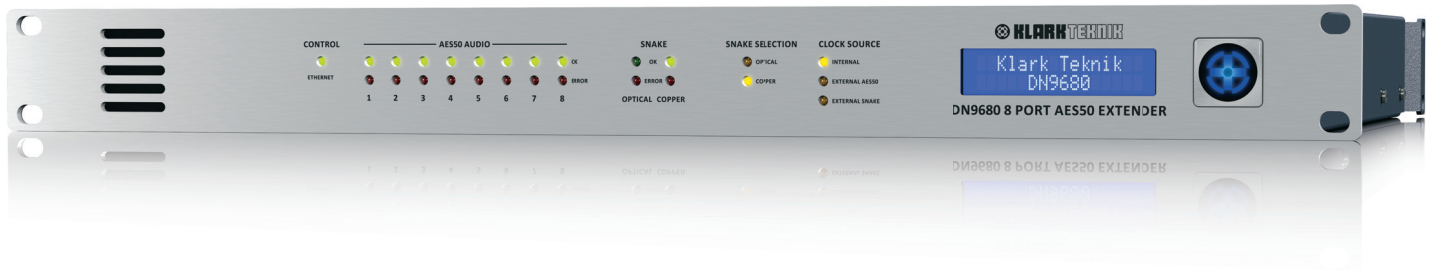
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