

DSP/Routers

PRO SERIES NEUTRON

High Performance Audio System Engine with
192 Bidirectional Channels and
96 kHz Sample Rate

- ⊗ Audio System Engine with industry leading 108 Gigaflops digital signal processing performance
- ⊗ HyperMAC Router with 192 bidirectional channels over copper and optical fibre
- ⊗ 40 bit floating point processing with 96 kHz sample rate
- ⊗ Dual redundant connection to control centre for enhanced reliability
- ⊗ Snake connections up to 500 m with optical fibre or 100 m with CAT5/5e cable
- ⊗ Fitted with 4 DSP cards as standard for N+1 redundant operation
- ⊗ Expansion card slot for additional connectivity options
- ⊗ Features Neutrik etherCON* AES50 and Ethernet control network ports
- ⊗ Dual-fibre Neutrik opticalCON DUO* connector used for optical fibre snake connection
- ⊗ Rugged 7U rackmount chassis for durability in portable applications
- ⊗ Three bay auto-ranging universal switch-mode power supply with N+1 redundancy
- ⊗ 3-Year Warranty Program**
- ⊗ Designed and engineered in England



The powerhouse at the centre of the PRO X system is the new NEUTRON High Performance Audio System Engine. With 192 bidirectional channels and a 96 kHz sample rate, NEUTRON is the result of a three-year research and development program that pushed MIDAS engineers well beyond their considerable expertise and knowledge. Powerful, fully expandable and capable of routing up to 800 audio paths – the NEUTRON DSP Engine is state-of-the-industry.

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**Warranty details can be found at music-group.com.

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100 Gigafllops

NEUTRON's cutting-edge, latest generation DSPs and high-performance FPGA (Field-Programmable Gate Array) coupled with MIMD (Multiple Instruction, Multiple Data) architecture delivers more than 100 Gigafllops of real-time audio processing. More than three times the power of other competitors, NEUTRON delivers impeccable sonic performance and functionality.

But it's not just about raw, number crunching power and high channel counts, NEUTRON is also about finesse. Adding I/O boxes with the best converters and custom processing algorithms that draw upon over 40 years of listening experience at the top of the industry, NEUTRON takes the audio quality of those channels to another level.

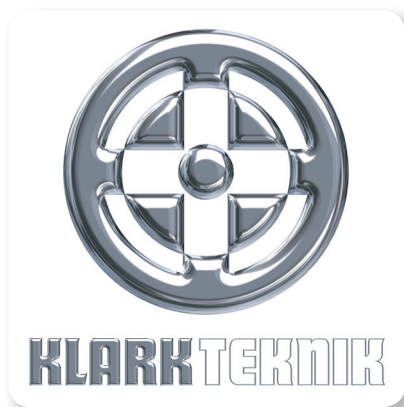


HyperMAC and SuperMAC Digital Audio Interconnections

HyperMAC and SuperMAC (AES50-Compliant) from **KLARK TEKNIK** simultaneously provide high channel counts, ultra low deterministic latencies, accurate phase-aligned networked clock distribution, error detection, network redundancy and ease of deployment and use – to meet the needs of the live performance concert sound industry.

This unique combination is also ideal for managing applications such as studio recording and post-production, outside broadcast and audio routing infrastructure.

- Single cable duplex interconnection for audio and sample clocks
- Ethernet physical layer audio data transmission
- High channel count and ultra-low deterministic latency
- Accurate phase-aligned clock distribution
- Comprehensive error detection and management
- Provision for redundant networking
- Minimal configuration – total ease of deployment and use
- Ethernet TCP/IP protocol-compatible auxiliary data channel
- OEM modules available from developer partners
- SuperMAC offers:
 - 24 bidirectional audio channels over Cat 5/Cat 5e cable (96 kHz)
- HyperMAC offers:
 - 192 bidirectional audio channels over Cat 5e/Cat 6 cable, or
 - 50/125 μ m multimode optical fibre (96 kHz)



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192 Channel Multi-Core

NEUTRON features dual-redundant HyperMAC ports (both Cat5e and Optical), which provides the digital equivalent of a 192 in / 192 out multi-core between the stage and Front of House.

Eight AES50 ports facilitate connections to the DL Series stage boxes and other AES50 I/O hardware, such as the [KLARK TEKNIK DN9620 AES50 Extender](#) and [DN9650 Network Bridge](#). This makes the NEUTRON more than just a processing engine, it's the very heart of a performance area network.



Total Redundancy

The control centre has an N+1 redundant processing card for the ultimate in reliability. NEUTRON's sleek 7U 19" rack mount unit also contains three removable power supplies, only two of which are required for full operation. The power supplies, which are interchangeable with the PSUs in the PRO X control centre, are auto-voltage sensing and auto-standby. No other audio engine goes further at setting your mind at ease. This means that during a show the user can focus on what is most important – and treat the audience to a flawless sonic experience.

FOH Connectivity

The NEUTRON Engine also has dual-redundant HyperMAC ports (both Cat 5e and Optical), which provide the digital equivalent of a 384-way (192 in + 192 out) multi-core between the stage and FOH, up to 500m.



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Automatic Time Alignment

Just like all PRO Series systems, NEUTRON features comprehensive, automatic latency management, which manages all internal routing and processing latency. All audio samples are synchronised before summing, resulting in absolute phase coherence at the outputs, without the “comb filtering” effects of competing products that often result in specific frequencies being cancelled out completely.

Future-Ready Performance

Powerful, fully expandable and capable of routing up to 800 audio paths, the NEUTRON Audio System Engine is not only state-of-the-industry – it is light-years ahead of the competition.



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](#).

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