Nova73 Series

ROUTING TO
THE POWER
OF NOVA

LAWO

COMPELLING
CONFLUENCE
OF STREAMS

# Nova73 HD and compact

JUST WHAT A ROUTER MUST BE.

MORE THAN A SIMPLE TOOL:
LAWO'S COMPELLING ROUTER PHILOSOPHY.

ROUTERS ARE NOT ALL, BUT WITHOUT ROUTERS, ALL IS NOTHING.

Connecting devices and moving data packets from A to B — these are the basic tasks of a router. It sounds rather simple and unspectacular, yet routers fulfill a vital function in everyday broadcasting: they form the central network of your broadcast center. Broadcasts and programs are not possible without them. This is why we have used all our know-how, to bring the standard of routers to an entirely new level, through innovative features and the highest practical suitability. At the same time, our routers prove themselves with absolute reliability. For what applies to every means of transport equally applies to the transfer of audio data: the destination must be reached – efficiently, quickly, and safely.

Lawo's proven quality not only applies to single components. It starts at the first stage of the product development process: the design. This is what makes our routers exceptional; we don't assemble arbitrary components in any old box. We create integrated systems, perfectly tailored to your specific requirements. In short, we provide solutions that distinguish themselves through maximum efficiency and reliability.

And solutions that will give you the reassurance tomorrow that you chose the right system today.
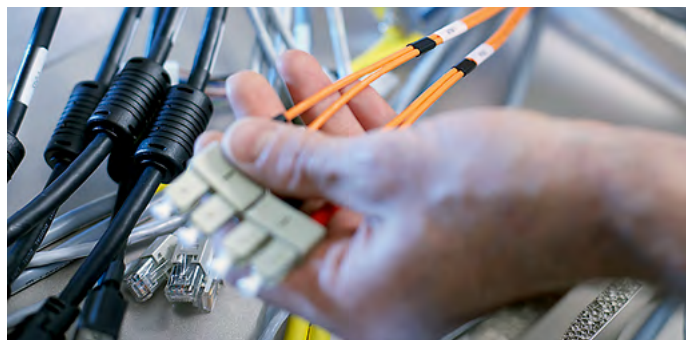
ADVANTAGE 1: SUPERB RELIABILITY.
A routing system's most important features are failure safety and reliability. In addition to the quality of all components, we offer a wide range of redundancy options. Any of a system's central components can be duplicated — from redundant power supplies to a redundant Master card.

ADVANTAGE 2: MAXIMUM FLEXIBILITY.
Lawo's routers will impress you with their superb flexibility, multiple potential upgrades, and a broad portfolio of complementary products. It starts with comprehensive configuration options and their flexible design: with 19" control panels, bundled software applications, complete with intuitive touchscreen control. Everything from small supplementary mixers up to high-performance consoles can be networked. The result is almost infinite scalability.

ADVANTAGE 3: UTTER SERVICEABILITY.
The serviceability of Lawo's routers, guaranteeing high practicality with reliable system diagnosis via a browser, and sophisticated alarm management, is another pro. An important fact: should the replacement of single components become necessary, we guarantee the long-term availability of spare parts. New hardware is continually being developed and compatible with existing systems.

**ADVANTAGE 4: REASSURING SUSTAINABILITY.**
Your needs evolve — and so must your routing system. It can freely evolve through effortless hardware expandability, even at runtime. You can also keep your system fully up-to-date with the latest developments, thanks to free software updates.

This leaves you perfectly equipped for future challenges — a crucial consideration when it comes to value preservation and investment security.

Nova73 HD

JUST WHAT A ROUTER MUST BE.

## RELIABILITY AND AVAILABILITY IN PERFECTION.
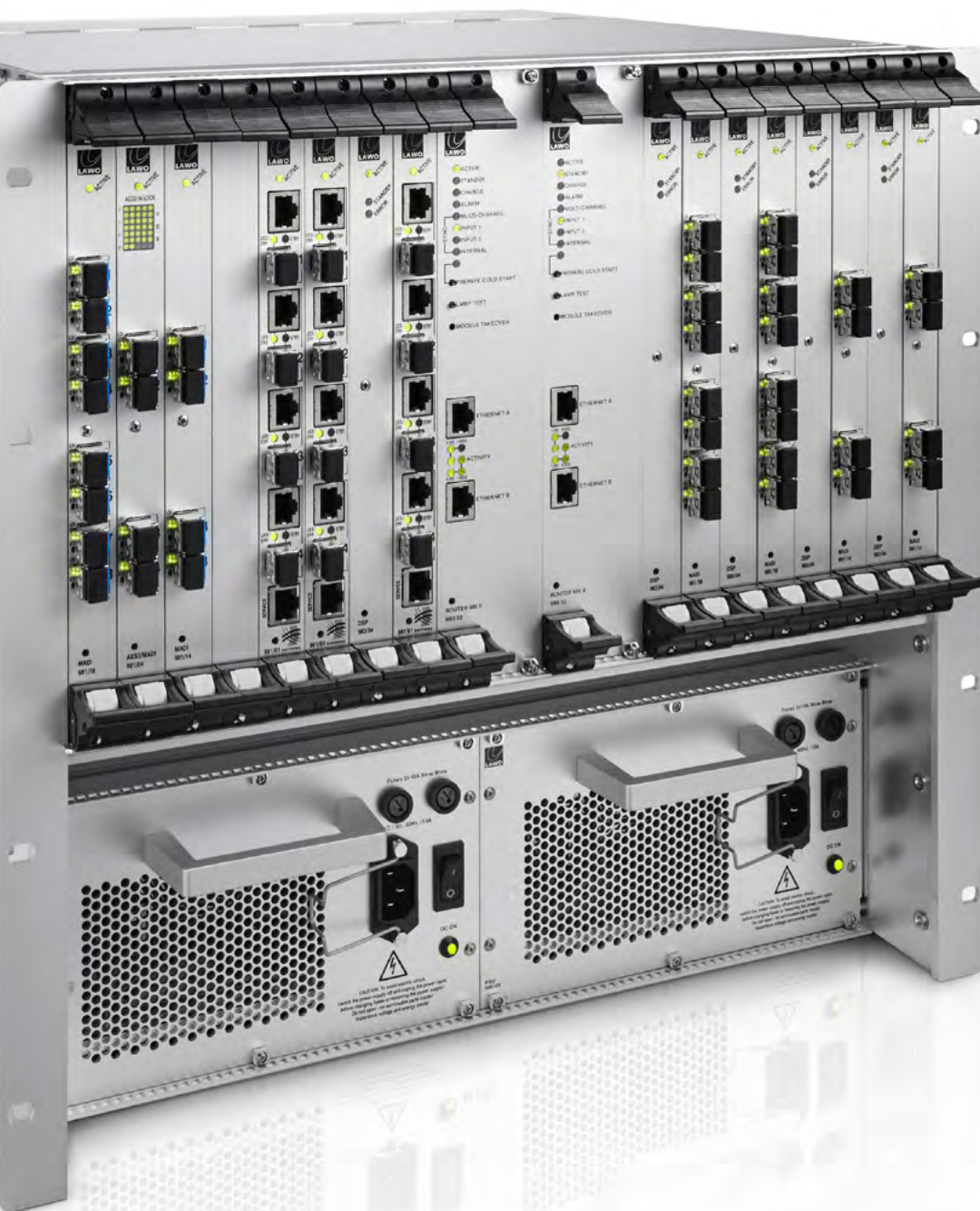
The Nova73 HD was developed as central router for broadcast facilities. For that reason the Nova73 HD will impress you with a scope of performance that adapts to the requirements of any demanding broadcast situation — ranging from standalone systems with the highest security standards to particularly complex installations where the nodes to be networked are located remotely. This is made possible through up to 8192 inputs and outputs, all of which can be switched simultaneously, if required.

COUNT ON IT.

Maximum availability is a prerequisite for large-scale broadcast facilities and critical transfer applications. A requirement that is reliably fulfilled by the Nova 73 HD — and around the clock. You can choose from a number of levels of security, thanks to the modular design. This begins with the internal, star-shaped connection of single modules, guaranteeing complete functionality for elements not affected by the failure of a single component.

This reliability culminates in a thourough redundancy strategy, providing a superb level of security. The result: having successfully proven its dependability at numerous major international events, the Nova 73 HD is deemed to be one of the most reliable routing systems available today.
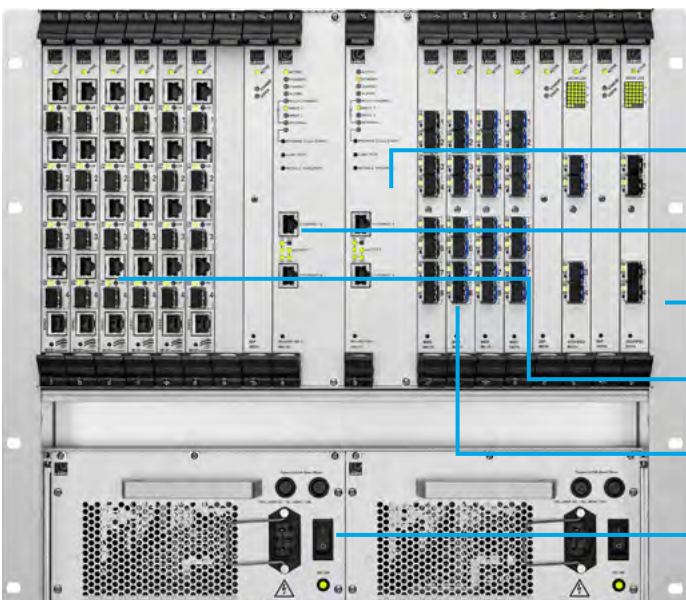
Optional redundant master card

Control via Ethernet TCP / IP

Compact frame, modules can be changed during runtime

Up to 16 I/O boards with AES3 / MADI / DANTE and DSP

Integration of I/O satellite units, i.e.. Lawo DALLIS

Optional redundant power supplies

Nova73 HD

JUST WHAT A ROUTER MUST BE.

INTEGRATED SIGNAL PROCESSING.

All channels feature DSP signal processing, and the Nova73 HD offers level adjustment, silence detect, and balance on each channel. With the installation of an additional DSP card, your router can be upgraded with further sound shaping and system analysis modules. If you want to change the signal paths in your installation, you can do so directly via the audio router, possibly even without additional external equipment.

STANDARD – DSP

- Silence detect
- Phase reverse
- Level
- Balance
- Mono Mixer
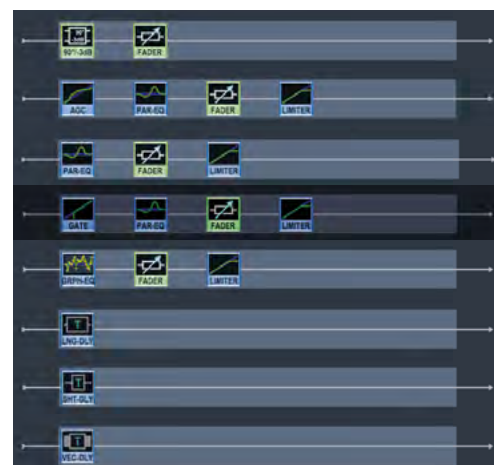- Summing Matrix

ADDITIONAL – DSP (OPTIONAL)

- EQ (parametric / graphic)
- Dynamics
  (AGC, Comp, Gate, Limiter)
- Delay (up to 10 s)
- Summing matrix 64 x 64
- Timed fader
- Signal condition monitoring

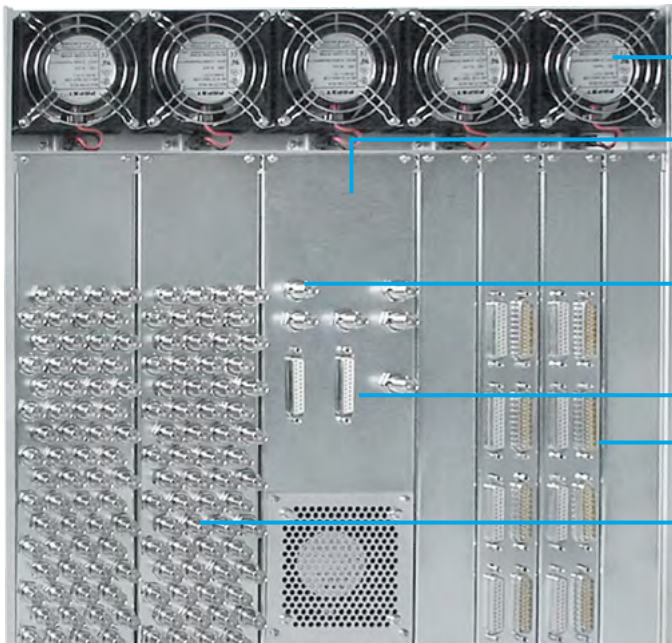The parameters of the optional mxDSP card can be adjusted on a dedicated mxGUI page.

Example:
mxDSP's "Universal" variant, with several DSP module chains.

154 Channels

Hot-pluggable fans, externally accessible

Passive rear panel design (active units accessible from the front)

Synchronization with wordclock/video/AES3/multi-channel audio (via front panel)

Contacts for alarm

Up to 256 AES3 inputs and outputs via D-Sub (balanced)

Up to 128 AES3 inputs and outputs via BNC (unbalanced)

SEAMLESS INTEGRATION OF ADDITIONAL INTERFACES INTO NOVA73 HD.

WITH THE DALLIS INTERFACE CARDS, A MULTITUDE OF OPTIONS ARE AVAILABLE FOR YOUR BREAKOUT BOXES. (A__LINE STAGEBOXES CAN ALSO BE CONNECTED.)

- Analog MIC/line cards
- Headphone ports
- AES/EBU (AES3), SRC optional
- Serial interfaces (RS232, RS422, MIDI)
- GPI/O (opto coupler, relays, VCA)
- IP codec
- RAVENNA Audio-over-IP option

Nova73 HD

JUST WHAT A ROUTER MUST BE.

OPEN INFRASTRUCTURE FOR MAXIMUM FLEXIBILITY.

Every project is different — and the Nova73 HD has all the qualifications required to handle any situation. Thus, extensive struct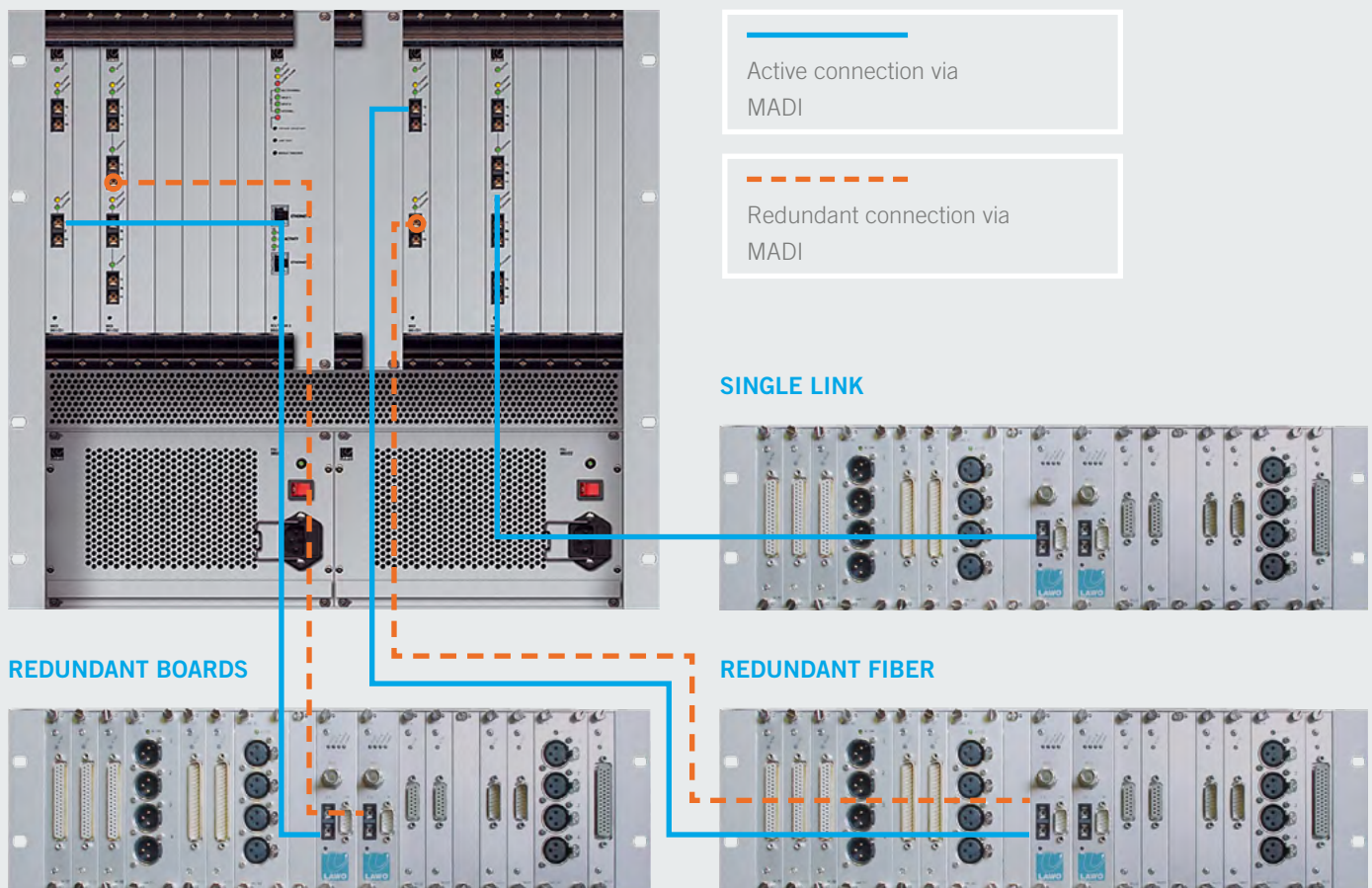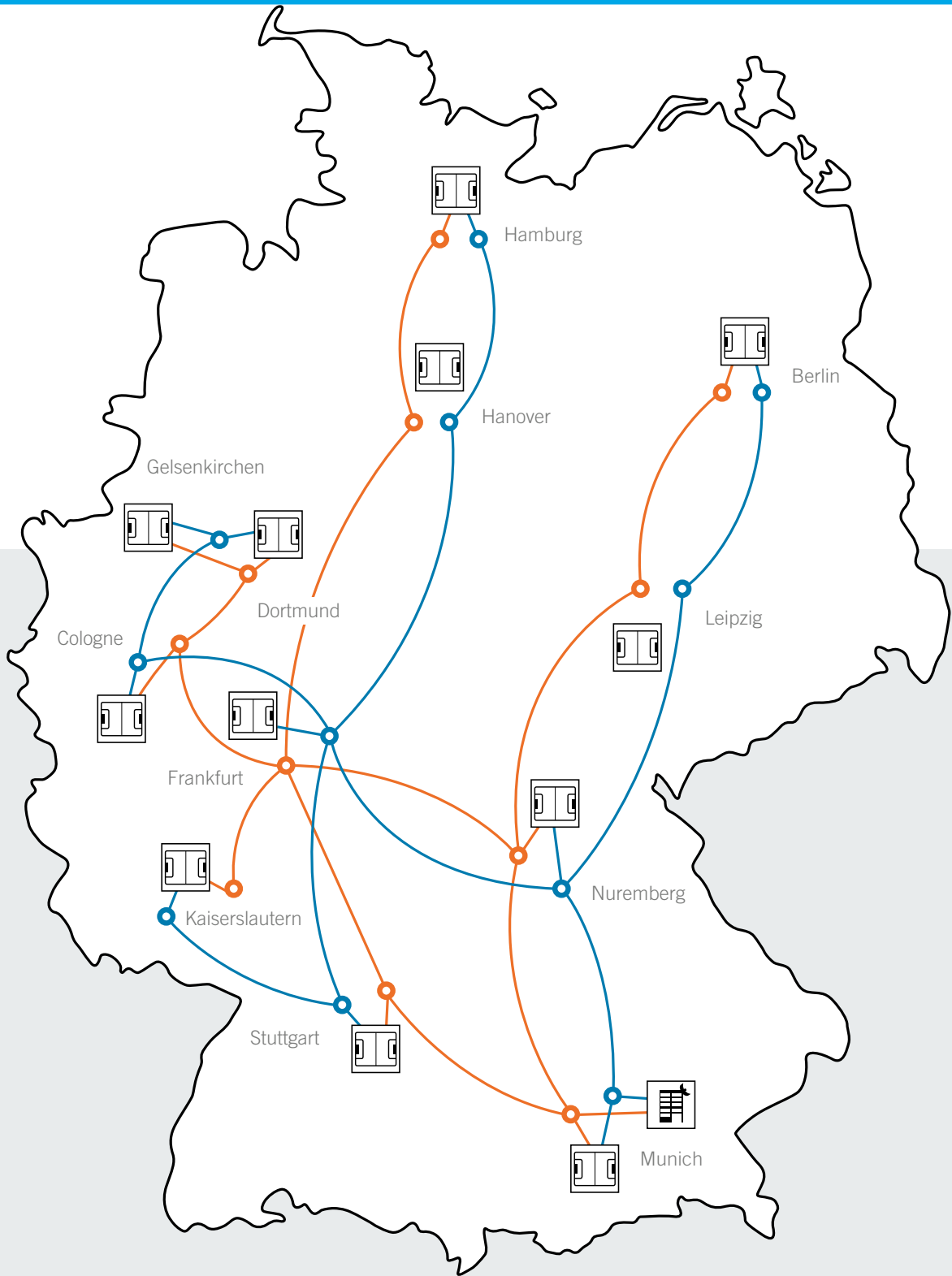ures can be flexibly created, thanks to a decentralized network structure and connection via MADI, DANTE or AES / EBU, even within wide area applications (WAN). Network partners can be other routers or consoles, or even the wide range of Lawo DALLIS audio interfaces, which provide a comprehensive variety of different inputs and outputs. This flexibility is, however, not limited to the nature of the possible connections. It also applies to the number of ways the audio routing system can be integrated with other environments: third-party equipment and software can communicate with the Nova73 HD via the Lawo RemoteMNOPL or Ember+ protocol – both open protocols. This allows access to virtually all of the system's parameters, can be freely implemented, and is already supported by many well-known manufacturers. You therefore benefit from an unprecedented level of integration into your existing infrastructure.

NOVA73 HD — DIFFERENT WAYS OF CONNECTING BREAKOUT-BOXES.

Active connection via MADI

Redundant connection via MADI

SINGLE LINK

REDUNDANT BOARDS

REDUNDANT FIBER

Hamburg

Berlin

Hanover

Gelsenkirchen

Dortmund

Leipzig

Cologne

Frankfurt

Nuremberg

Kaiserslautern

Stuttgart

Munich

Stadium

International Broadcast Centre

Fiber connection
Redundant fiber connection

Nova73 HD

COMPELLING EASE-OF-USE.

When it comes to such a powerful and highly accessible router, simple operation and easy maintenance are of particular importance. Here too, the Nova73 HD offers convincing features. The router is set up via the AdminHD software's graphic interface. It is even possible to connect to a router while broadcasting, and carry out adjustments and system upgrades during runtime.

AdminHD also enables system diagnosis to be carried out conveniently via a web interface using a regular browser, while the router is in use. In addition, the simple integration of a superordinate error management system is possible via SNMP.
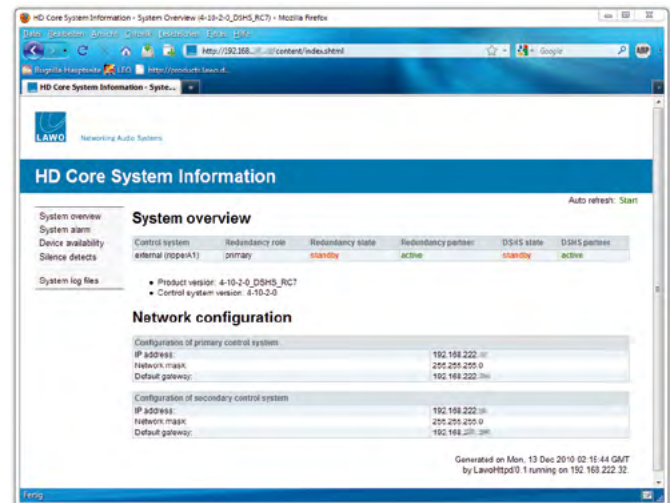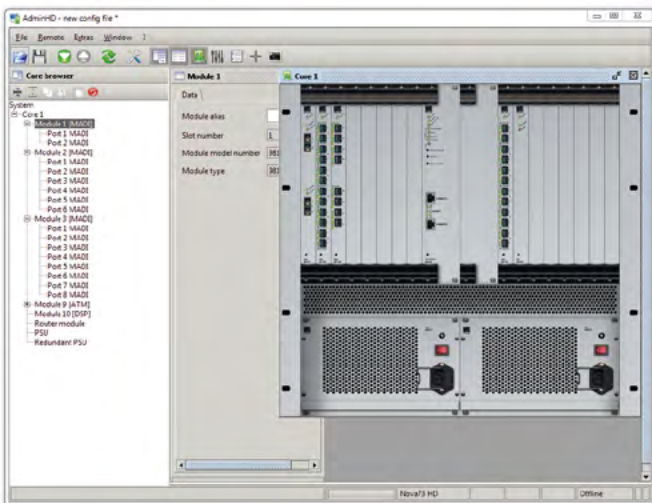
PROTOCOL CONTROL OF THE NOVA73 HD

Via Lawo's RemoteMNOPL protocol, third-party devices and external software can control practically all the Nova73 HD parameters. Numerous well-known manufacturers already support this protocol, which allows the seamless integration of a Nova73 HD into complex broadcast installations. The Ember+ protocol is also supported.

This also includes scheduled switching, additional audio and video equipment, external hardware etc. Operation can be handled via individually customized control surfaces using software or hardware panels. This example shows a VSM control system (Virtual Studio Manager) in use.

OPEN INFRASTRUCTURE FOR MAXIMUM FLEXIBILITY.

mxGUI — FOR AN OUTSTANDING OVERVIEW

During day-to-day operations, the control of crosspoints and recall of snapshots, etc. takes place via the "mxGUI" standalone software that enables both online control and offline production preparation.

The controls for complex systems need to be transparent; mxGUI, Nova73 HD's user interface, guarantees just that. Having proved itself in use with the mc²-series consoles, this trusted application offers simple and intuitive user guidance.

Want to set up your production in advance, prepare crosspoints, and label signals? No problem — with the mxGUI, all these steps can be carried out faster than you might ever expect. Thanks to a search function, plus a graphic representation of the router, signals can be located quickly and, using the innovative "Container" feature, the bidirectional, flexible switching of signal groups — in the past an extremely time-consuming process — is achieved far easier and safer than ever before.

Once set up, current crosspoints can be saved in a snapshot, and retrieved at a later date, either separately or in a snapshot sequence. In short, your operators will benefit from less stress during those high-pressure moments as a result of improved procedures and flawless preparation.
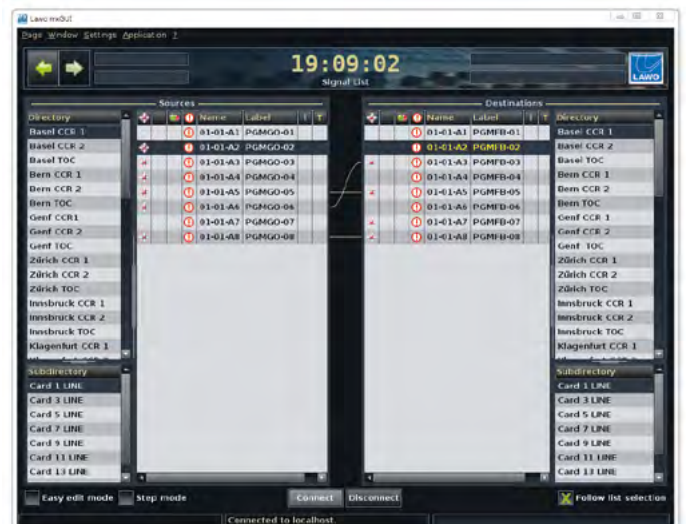
Nova73 HD

SPECIFICATIONS

MECHANICS

- 19" 10 U frame
- 16 slots for I/O modules (MADI, AES/EBU, RAVENNA, DANTE, DSP)
- DALLIS breakout boxes for decentralized structures and additional interfaces
- Active ventilation, temperature surveillance
- Integrated power supply 85~265V AC / 47~63 Hz
- Active modules are hot-pluggable and accessible from the front
- Weight: 21 kg (incl. red. PSU)

AVAILABLE INTERFACES

- Router: 8192×8192, mono
- Analog Mic/Line (transformer or electronically balanced)
- Headphones (including VCA interface)
- AES/EBU (AES3), optional sample rate converter (SRC)
- MADI (AES10)
- DANTE™ with SRC
- Serial data transfer (RS422, RS232, MIDI)
- GPI/O (opto-couplers, relays, VCA)
- IP codec
- RAVENNA / AES67 Audio-over-IP option

SIGNAL TRANSFER

- Transparent transfer (Dolby® E compatible)

INTEGRATED SIGNAL PROCESSING

- Integrated signal processing (DSP) with gain/phase, balance, mono mixing and silence detect. Optionally also with:
  - EQ (parametric or graphic)
  - Dynamics (Gate, AGC, Compressor, Limiter)
  - Delays (up to 10 s)
  - Mixing matrix (64 x 64 channels)
  - Timed fader
  - Signal condition monitoring

SYNCHRONIZATION

- Sample rates: 48/44.1kHz and 96/88.2kHz
- Synchronization via Wordclock, AES3, Video, MADI, DANTE or internal generator
- Precision Time Protocol (PTP)
- Control via Ethernet TCP/IP
- Basic operation and configuration software included
- Integral web server and SNMP for system diagnosis
- Remote maintenance via VPN (ISDN as an option)
- Optional redundant Master module
- Optional redundant power supply

Nova73 compact

NOVA73 COMPACT: THE LITTLE BIG ROUTER
SQUEEZES A LARGE CAPACITY INTO 7RU.

PUSH-BUTTON PERFORMANCE

Less space, lower costs, but a broad performance spectrum nonetheless. The Nova73 compact uses the same interface cards and offers the same redundancy as the Nova73 HD and the mc² series, but takes up only 7 RU in a rack. No less convincing than its performance is its handling simplicity — especially in day-to-day operation. As the youngest member of the Lawo family, the Nova73 compact features cutting-edge technology and can be used either as a stand-alone router or in combination with mixing consoles from the mc² series.

SIMPLE YET VERSATILE

Up to ten I/O slots can be armed with MADI, DANTE or RAVENNA interface cards. Alternatively, the same slots can be assigned to two AES3 cards. These in turn can make up to 64 AES channels directly available to the Nova73 compact. Better still, in combination with an mc² series mixing console, a Nova73 compact fully equipped with five DSP cards puts over 600 DSP channels at your disposal.

SMALL BUT LAWO

A high degree of redundancy is a feature of all Lawo systems and one of their great advantages. The Nova73 compact is no exception, with a redundant power supply fitted as standard and the option of adding a further redundant router module.

FLEXIBLE AND SECURE

For its interface technology, the Nova73 compact relies on the tried-and-tested DALLIS I/O system with its wide variety of interfaces. DALLIS offers you an extensive choice of interface cards for your breakout boxes. The sheer diversity of these interface cards guarantees flexibility, allowing the modular system to integrate not only every conceivable type of audio signal but also everything from GPI/O to control data (RS-422) as well as special SDI and intercom cards.

THE NOVA73 COMPACT HIGHLIGHTS AT A GLANCE

- 5120 x 5120 routing capacity (mono channels)
- Up to 600 fully equipped DSP channels in Broadcast Mode
- 10 slots for I/O and DSP modules (RAVENNA, MADI, DANTE, AES, DSP)
- Integrated AES3 connections via D-Sub (DB-25)
- 19"/7RU installation frame
- Redundant implementation of router and power supply
- Full card and port redundancy
- Operates as a stand-alone router or a core for mixing consoles of the mc² series

Nova73 compact

The Nova73 compact and the new mc²56 fuse to form a compact unit — one to which the future belongs. The modern package comprises two power tools that make day-to-day work considerably more efficient, more comfortable and simpler. Work can be fun.

Nova73 compact

SPECIFICATIONS

MECHANICS
- 19" 7 U frame
- 10 slots for I/O modules
  (RAVENNA, MADI, DANTE, AES/EBU, DSP)
- DALLIS breakout boxes for decentralized structures and additional interfaces
- Active ventilation, temperature surveillance
- Integrated power supply 85~265V AC / 47~63 Hz
- Active modules are hot-pluggable and accessible from the front

AVAILABLE INTERFACES
- Router: 5120×5120, mono
- Analog MIC/Line (transformer or electronically balanced)
- Headphones (including VCA interface)
- AES/EBU (AES3), optional sample rate converter (SRC)
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SYNCHRONIZATION
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- Precision Time Protocol (PTP)
- Control via Ethernet TCP/IP
- Control and configuration software included
- Integrated web server and SNMP for system diagnosis
- Remote maintenance via VPN (ISDN available as option)
- Optional redundant router card
- Optional redundant power supply

Nova73 Series

ROUTING TO
THE POWER
OF NOVA

HEADQUARTERS

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