

nova



AMPLIFIERS AND CONTROLLING

2018



WORLD CLASS TECHNOLOGY

Führende Technologie auf höchstem Niveau.

Dante® **FIR**

With the highest standards of reliability, sound quality and performance, TX amplifiers and HDC controllers are the first choice.

The integration of Switched-Mode Power Supplies, very high power sonically transparent Class D amplifiers, networked Digital Signal Processing and the associated control software are all non-trivial and are all areas in which we excel. These are the demanding technologies increasingly needed in modern audio systems.

Having world leading technology is not enough. All TX and HDC devices are developed by staff, which has decades of combined experience in design and manufacturing. This has resulted in the adoption of an approach that leads to very high factory gate quality.

FULL-FIR DSP ENGINE

The advanced 96kHz DSP is fully integrated into the TX power amplifiers and provides an array of unique and genuinely useful features, such as „preset-by-channel“. The DANTE® interface allows the TX10DF and TX20DF to work even in complex DANTE® audio networks. The DSP allows Full-FIR filtering with 768 taps per channel at 96 kHz.

Wenn die Ansprüche an Zuverlässigkeit, Klangqualität und Leistung die höchsten sind, dann sind TX Endstufen und HDC Controller die erste Wahl.

Die Integration von Schaltnetzteilen, sehr leistungsfähigen, glasklar klingenden Class-D-Verstärkern, vollnetzter digitaler Signalverarbeitung und der zugehörigen Steuerungssoftware sind allesamt im High-End Bereich angesiedelt. Diese führenden Technologien bieten Alles, was für zukunftsweisende Audiosysteme zunehmend benötigt wird.

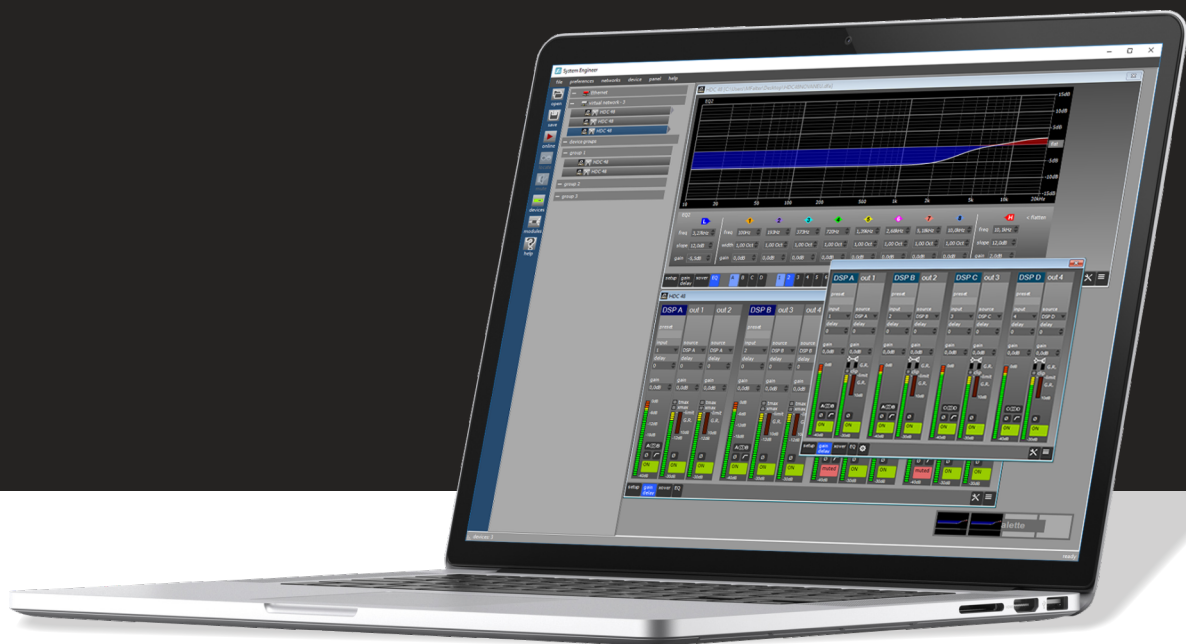
Doch führende Technologien sind nicht genug. Alle TX- und HDC-Geräte werden von Mitarbeitern entwickelt, die über jahrzehntelange Erfahrung in Design und Fertigung verfügen. Dies zeigt sich in einer sehr hohen Qualität und Zuverlässigkeit der Geräte.

FULL-FIR DSP PROZESSOR

Der fortschrittliche 96kHz DSP ist vollständig auch in die TX Endstufen integriert und bietet eine Reihe einzigartiger und nützlicher Funktionen, wie beispielsweise „Preset-pro-Kanal“. Die DANTE®-Schnittstelle ermöglicht die Einbindung selbst in komplexe DANTE®-Audionetzwerke. Der DSP stellt effizientes Full-FIR Filtering mit 768 Taps pro Kanal bei 96 kHz sicher.

NOVA.Net SOFTWARE

Eine Software für alle TX Endstufen und HDC Controller.



Just connect TX amplifiers and HDC controllers via Ethernet - that´s all.

The NOVA.Net „System Engineer“ PC app is much more than just a remote control panel. The PC app and any connected device(s) become intimately intertwined, faithfully duplicating any control adjustments whether they are made in the application or on the front panel of the device itself. Adjust a gain control on the device, and watch the gain value in the app smoothly slide in sympathy. Each input and each output can be named in the application. These names not only appear for the user on the application control panels, but also show when scrolling through the inputs and outputs on the device itself. Even a firmware update can be made easily via the network.

All TX amplifiers and HDC controllers include high speed ethernet communications interfaces that supports DHCP, static-IP and auto-IP and direct connection to a computer without the need for a router or a switch.

All TX and HDC devices include a dual channel AES3 input as standard. A DANTE® audio networking card is available as option.

Einfach TX Endstufen und HDC Controller via Ethernet verbinden - das ist Alles.

Die NOVA.Net „System Engineer“ PC App ist viel mehr als nur eine Fernbedienungssoftware. Die PC App und alle angeschlossenen Geräte werden eng miteinander verflochten. Alle Geräteeinstellungen werden in Echtzeit gespiegelt dargestellt. Dabei spielt es keine Rolle, ob sie in der PC App oder am Frontpanel der Geräte selbst vorgenommen werden. Verändert man beispielsweise an der Endstufe eine Gain-Einstellung, wird dies in Echtzeit in der PC App sofort angezeigt. Jeder Eingang und jeder Ausgang kann in der PC App mit einem Namen versehen werden. Diese Namen werden nicht nur in der PC App angezeigt, sondern auch direkt im Display der jew. Geräte. Auch ein Firmware-Update kann unkompliziert über das Netzwerk in der PC App vorgenommen werden.

Alle TX Endstufen und HDC Controller verfügen über eine Hochgeschwindigkeitskommunikationsschnittstelle auf Ethernet-Basis, welche DHCP, Static-IP sowie Auto-IP unterstützt. Die direkte Verbindung zu einem Computer lässt sich ohne Router oder Switch aufbauen.

Alle TX Endstufen und HDC Controller sind mit einem Dual-Channel AES Digital-Audio Eingang ausgestattet. Die DANTE® Audio Netzwerkkarte ist als Option verfügbar.



TX SERIES

4-Channel System Amplifiers with on-board DSP, DANTE® plus Ethernet Interfaces and extensive Software.

The NOVA TX10 and TX20 are 4-channel power amplifiers, which offer a unique combination of power and audio performance, seamlessly combined with advanced DSP and network control. The TX10 delivers 2.500 watts per channel or 5.000 watts for a bridged pair. The TX20 delivers 5.000 watts per channel or 10.000 watts for a bridged pair. State of the art components and a finely optimised design results in generous power reserves that ensures pristine sound quality is maintained even under the most extreme conditions.

Die NOVA TX10 und TX20 sind professionelle 4-Kanal Endstufen und bieten eine einzigartige Kombination aus enorm hoher Leistung, hervorragenden elektroakustischen Eigenschaften, fortschrittlichen DSP-Funktionen und umfangreicher Netzwerksteuerung. Die TX10 leistet 2.500 Watt pro Kanal bzw. 5.000 Watt pro Kanalpaar im gebrückten Modus. Die TX20 leistet 5.000 Watt pro Kanal bzw. 10.000 Watt pro Kanalpaar im gebrückten Modus. Moderne, hochwertige Bauteile sowie das ausgereifte Schaltungsdesign sorgen für sehr hohe Leistungsreserven, die auch unter extremen Bedingungen stets höchste Klangqualität sicherstellen.

 Dante® **FIR**



10K 20K

FIR DANTE



The powerful drive module concept allows for abstraction from device centric to speaker based control. The TX10 and TX20 use drive module presets, which are defined as a number of outputs driven from one DSP input. This system allows for better flexibility and greater functionality when loading and storing presets. Drive modules allow for a less processor-centric and more speakerorientated system design. The TX amplifiers allow 50 drive module presets to be stored. Presets are stored permanently inside the amplifiers and so will always be available even if the devices are not being used with the NOVA.Net software.

- ▶ Four channels of sonically pure Class D amplification
- ▶ Precise 96kHz digital signal processing
- ▶ 4th generation SHARC DSP algorithms
- ▶ Over-designed switch mode power supply
- ▶ Up to 20.000 watts RMS total output (4 x 5.000 W RMS)
- ▶ Full front panel user interface
- ▶ Extensive NOVA.Net control software over Ethernet
- ▶ Analog, AES3 and digital network audio inputs
- ▶ Powerful grouping & multi-layer EQ
- ▶ Powerful drive module speaker-centric presets
- ▶ LIR Linear Phase crossovers
- ▶ Multi-stage peak & RMS limiters
- ▶ Virtual Xover limiter for passive systems
- ▶ PEQ & FIR equalisers on all inputs
- ▶ Ultra lightweighted (12.5 kg only)
- ▶ Full-FIR filtering for precisely stable phases with 768 taps per output channel at 96 kHz

Das leistungsstarke „Drive Module“ Konzept erlaubt erstmals einen lautsprecherorientierten Aufbau von Presets. Die TX Endstufen verwenden „Drive-Module“-Presets, welche als eine Anzahl von Ausgängen definiert sind und von einem DSP-Eingang angesteuert werden. Diese neuartige Art des Presetaufbaus ermöglicht eine deutlich höhere Flexibilität und eine verbesserte Funktionalität beim Laden und Speichern. Drive-Module Systemeinheiten sind lautsprecherorientiert aufgebaut und ermöglichen eine effizientere Systemnutzung. Bis zu 50 Drive-Module-Presets können dauerhaft in der Endstufen gespeichert werden und sind somit immer verfügbar, auch wenn die Geräte nicht mit der Remote-Software verwendet werden.

- ▶ Hochwertige Class-D Verstärkertechnologie (4 Kanäle)
- ▶ Präzises 96kHz Digital Signal Processing
- ▶ SHARC DSP-Algorithmen 4. Generation
- ▶ Überdimensioniertes Schaltnetzteil
- ▶ Bis zu 20.000 Watt RMS Gesamtleistung (4 x 5.000 W RMS)
- ▶ Frontpanel-Interface mit vollem Funktionsumfang
- ▶ Umfangreiche Steuerungssoftware via Ethernet
- ▶ Analoge und digitale AES-Eingänge
- ▶ Leistungsstarke Gruppierungsfunktionen & Multilayer-EQ
- ▶ Lautsprecherorientierte Drive-Module Presets
- ▶ LIR Linear Phase Frequenzweichenfunktionen
- ▶ Mehrstufige Peak- und RMS-Limiter
- ▶ Virtual Xover Limiter für passive Systeme
- ▶ PEQ & FIR Equalizer in allen Eingängen
- ▶ Geringes Gewicht (nur 12.5 kg)
- ▶ Full-FIR Filtering für hohe Phasenstabilität mit 768 Taps pro Ausgangskanal bei 96 kHz

TX 10 | TX 10 DF

| | |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of output channels: | Four |
| Total power output, all channels driven: | 10.000 Watts RMS |
| Audio inputs: | 4x Analogue, 2x AES3 and 4x Networked Audio Interface (DANTE [®] card as option) |
| Digital Signal Processing: | High performance 96kHz DSP on all inputs and outputs |
| Control, monitoring and system status alarms: | Ethernet network, volt free relay and contact closure port |
| Power save modes: | Standby after user defined time with fast wake up on audio, deep ECO sleep after user defined time with wake up on command |
| System standby and wakeup: | Front panel switch, network command and audio detection |
| Power specification: | RMS output power per channel, all channels driven with cont. program material & nominal ambient temperature of 40degC / 105degF |
| Crest Factor of 4 (12dB), 2-Ohm nominal load: | 2.500 Watts |
| Crest Factor of 2.8 (9dB), 4-Ohm nominal load: | 2.500 Watts |
| Crest Factor of 2 (6dB), 8-Ohm nominal load: | 1.500 Watts |
| Bridged, per channel pair, 4-Ohm load: | 5.000 Watts |
| 25V line (CV) operation, Crest Factor 4 (12dB): | 885 Watts |
| 70V line (CV) operation, Crest Factor 4 (12dB): | 2.500 Watts |
| 100V line (CV) operation, Crest Factor 4 (12dB): | 2.500 Watts |
| Amplifier topology: | NOVA high performance Class-D |
| Amplifier modulation scheme: | Low feedback, multiple loop, with feed-forward error correction |
| Dynamic range (measured relative to the amp output): | Analogue input, better than 113dBA typical, AES / Networked Audio input, better than 114dBA typical |
| Gain (with all the DSP level controls set to 0dB): | 32dB |
| Frequency response, 4 Ohm load: | <7Hz to >30kHz, 4 Ohms, -2.5dB points |
| Total harmonic distortion, THD: | <0.05% typical, 1kHz signal, AES17 filter, 4 Ohm load |
| Inter-channel crosstalk, worst case combination: | better than -85dB at 1kHz and -75dB at 10kHz |
| Slew rate: | >60V per microsecond typical |
| Damping factor (Ref 8 Ohms): | >800 at amplifier output |
| Maximum analogue input level: | +20dBu |
| Analogue input sensitivity range for full output: | 0dBu to +20dBu, continuously adjustable |
| Analogue input (four channels): | Input 20k Ohm, electronically balanced, link directly connected to input |
| Analogue ground scheme: | AES48 standard compliant |
| AES3 input (two audio channels): | Transformer isolated with unique active cable equalisation for extended range |
| AES3 link (two audio channels): | Active AES3 signal regeneration. Automatic direct bypass to the AES3 input ensuring the audio signal will still flow even when the amplifier is powered down |
| AES3 supported sampling rates: | AES3 supported sampling rates 24kHz to 192kHz (auto locking) |
| Resolution: | 40 bit, NOVA proprietary algorithms |
| Sample rate: | 96kHz throughout |
| Physical inputs to DSP drive modules: | 4x analogue, 2x AES & 4x Dante [®] inputs can be routed to four DSP drive modules |
| Drive module input processing: | Input signal routing, delay, gain, HPF, Phase, Mute, EQ: 2x low shelf, 6x PEQ / band pass and FIR shelving filters |
| Drive module output processing: | Source, delay, gain, Phase, Mute, crossover filters, VX limiters, EQ: low shelf, 8x PEQ / band pass and shelving filters |
| Full-FIR processing: | 768 filter taps / each output channel at 96 kHz (DF version only) |
| Preset management: | 10 snapshots for device wide setup, 50 presets for loudspeaker settings, presets can be recalled to sets of outputs or individual outputs |
| Overlays: | Twelve additional independent overlays of EQ, Delay and Gain, flexible grouping for effective control of amplifier channels in large systems |
| Class Leading VX limiters: | See the 'speaker protection systems' section |
| Hardman crossover filters: | Better out of band rejection than Linkwitz-Riley |
| LIR crossover filters: | Unique Linear Phase alignments without the compromises of FIR filters |
| Topology (main power supply): | NOVA high performance Series Resonant |
| Topology (auxiliary and standby supplies): | Low quiescent Eco-Flyback |
| Internally stored energy: | >600 Joules |
| Nominal mains input voltage range: | 85V to 240V, Power supply automatically detects voltage and configures accordingly |
| Mains input frequency range: | 47Hz to 63Hz |
| Mains inrush current (max for <10ms): | 6A at 115V, 12A at 230V |
| Cooling: | Cooling Dual vari-speed fans, front to back airflow. Washable, tool-less change filter media |
| Analogue IN and LINK: | Analogue IN and LINK 4x female and 4x male Neutrik [™] XLR |
| AES3 dual channel IN and LINK: | AES3 dual channel IN and LINK 1x female and 1x male Neutrik [®] XLR |
| Amplifiers output: | Amplifiers output 4x Neutrik Speakon [™] NL4 connectors |
| Mains input connector: | Mains input connector Neutrik 32A Powercon [®] |
| Dante Primary and Secondary: | Dante Primary and Secondary 2x Shielded RJ45 |
| Relay output & contact closure inputs: | Relay output & contact closure inputs Phoenix [®] pluggable terminal block (mating plug supplied) |
| Front panel display: | Front panel display Backlit, graphical, high contrast, daylight visible |
| Front panel encoders: | Front panel encoders Two, detented, velocity sensitive |
| Front panel push buttons: | Front panel push buttons Large, tactile, illuminated |
| LED indicators: | LED indicators Bright, easily differentiated |
| Enclosure: | Enclosure Standard 19" 2U (88mm), 357mm (14") deep with handles and optional rear support |
| Weight: | 12.5 kg (27.6 lbs) |

TX 20 | TX 20 DF

| | |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of output channels: | Four |
| Total power output, all channels driven: | 20.000 Watts RMS |
| Audio inputs: | 4x Analogue, 2x AES3 and 4x Networked Audio Interface (DANTE [®] card as option) |
| Digital Signal Processing: | High performance 96kHz DSP on all inputs and outputs |
| Control, monitoring and system status alarms: | Ethernet network, volt free relay and contact closure port |
| Power save modes: | Standby after user defined time with fast wake up on audio, deep ECO sleep after user defined time with wake up on command |
| System standby and wakeup: | Front panel switch, network command and audio detection |
| Power specification: | RMS output power per channel, all channels driven with cont. program material @ nominal ambient temperature of 40degC / 105degF |
| Crest Factor of 4 (12dB), 2-Ohm nominal load: | 5.000 Watts |
| Crest Factor of 2.8 (9dB), 4-Ohm nominal load: | 3.000 Watts |
| Crest Factor of 2 (6dB), 8-Ohm nominal load: | 1.500 Watts |
| Bridged, per channel pair, 4-Ohm load: | 10.000 Watts |
| 25V line (CV) operation, Crest Factor 4 (12dB): | 1.250 Watts |
| 70V line (CV) operation, Crest Factor 4 (12dB): | 3.500 Watts |
| 100V line (CV) operation, Crest Factor 4 (12dB): | 5.000 Watts |
| Amplifier topology: | NOVA high performance Class-D |
| Amplifier modulation scheme: | Low feedback, multiple loop, with feed-forward error correction |
| Dynamic range (measured relative to the amp output): | Analogue input, better than 113dBA typical, AES / Networked Audio input, better than 114dBA typical |
| Gain (with all the DSP level controls set to 0dB): | 32dB |
| Frequency response, 4 Ohm load: | <7Hz to >30kHz, 4 Ohms, -2.5dB points |
| Total harmonic distortion, THD: | <0.05% typical, 1kHz signal, AES17 filter, 4 Ohm load |
| Inter-channel crosstalk, worst case combination: | better than -85dBr at 1kHz and -75dBr at 10kHz |
| Slew rate: | >60V per microsecond typical |
| Damping factor (Ref 8 Ohms): | >800 at amplifier output |
| Maximum analogue input level: | +20dBu |
| Analogue input sensitivity range for full output: | 0dBu to +20dBu, continuously adjustable |
| Analogue input (four channels): | Input 20k Ohm, electronically balanced, link directly connected to input |
| Analogue ground scheme: | AES48 standard compliant |
| AES3 input (two audio channels): | Transformer isolated with unique active cable equalisation for extended range |
| AES3 link (two audio channels): | Active AES3 signal regeneration. Automatic direct bypass to the AES3 input ensuring the audio signal will still flow even when the amplifier is powered down |
| AES3 supported sampling rates: | AES3 supported sampling rates 24kHz to 192kHz (auto locking) |
| Resolution: | 40 bit, NOVA proprietary algorithms |
| Sample rate: | 96kHz throughout |
| Physical inputs to DSP drive modules: | 4x analogue, 2x AES & 4x Dante [®] inputs can be routed to four DSP drive modules |
| Drive module input processing: | Input signal routing, delay, gain, HPF, Phase, Mute, EQ: 2x low shelf, 6x PEQ / band pass and FIR shelving filters |
| Drive module output processing: | Source, delay, gain, Phase, Mute, crossover filters, VX limiters, EQ: low shelf, 8x PEQ / band pass and shelving filters |
| Full-FIR processing: | 768 filter taps / each output channel at 96 kHz (DF version only) |
| Preset management: | 10 snapshots for device wide setup, 50 presets for loudspeaker settings, presets can be recalled to sets of outputs or individual outputs |
| Overlays: | Twelve additional independent overlays of EQ, Delay and Gain, flexible grouping for effective control of amplifier channels in large systems |
| Class leading VX limiters: | See the 'speaker protection systems' section |
| Hardman crossover filters: | Better out of band rejection than Linkwitz-Riley |
| LIR crossover filters: | Unique Linear Phase alignments without the compromises of FIR filters |
| Topology (main power supply): | NOVA high performance Series Resonant |
| Topology (auxiliary and standby supplies): | Low quiescent Eco-Flyback |
| Internally stored energy: | >600 Joules |
| Nominal mains input voltage range: | 85V to 240V, Power supply automatically detects voltage and configures accordingly |
| Mains input frequency range: | 47Hz to 63Hz |
| Mains inrush current (max for <10ms): | 6A at 115V, 12A at 230V |
| Cooling: | Cooling Dual vari-speed fans, front to back airflow. Washable, tool-less change filter media |
| Analogue IN and LINK: | Analogue IN and LINK 4x female and 4x male Neutrik [™] XLR |
| AES3 dual channel IN and LINK: | AES3 dual channel IN and LINK 1x female and 1x male Neutrik [™] XLR |
| Amplifiers output: | Amplifiers output 4x Neutrik [™] Speakon [™] NL4 connectors |
| Mains input connector: | Mains input connector Neutrik [™] 32A Powercon [®] |
| Dante Primary and Secondary: | Dante Primary and Secondary 2x Shielded RJ45 |
| Relay output & contact closure inputs: | Relay output & contact closure inputs Phoenix [®] pluggable terminal block (mating plug supplied) |
| Front panel display: | Front panel display Backlit, graphical, high contrast, daylight visible |
| Front panel encoders: | Front panel encoders Two, detented, velocity sensitive |
| Front panel push buttons: | Front panel push buttons Large, tactile, illuminated |
| LED indicators: | LED indicators Bright, easily differentiated |
| Enclosure: | Enclosure Standard 19" 2U (88mm), 357mm (14") deep with handles and optional rear support |
| Weight: | 12.5 kg (27.6 lbs) |

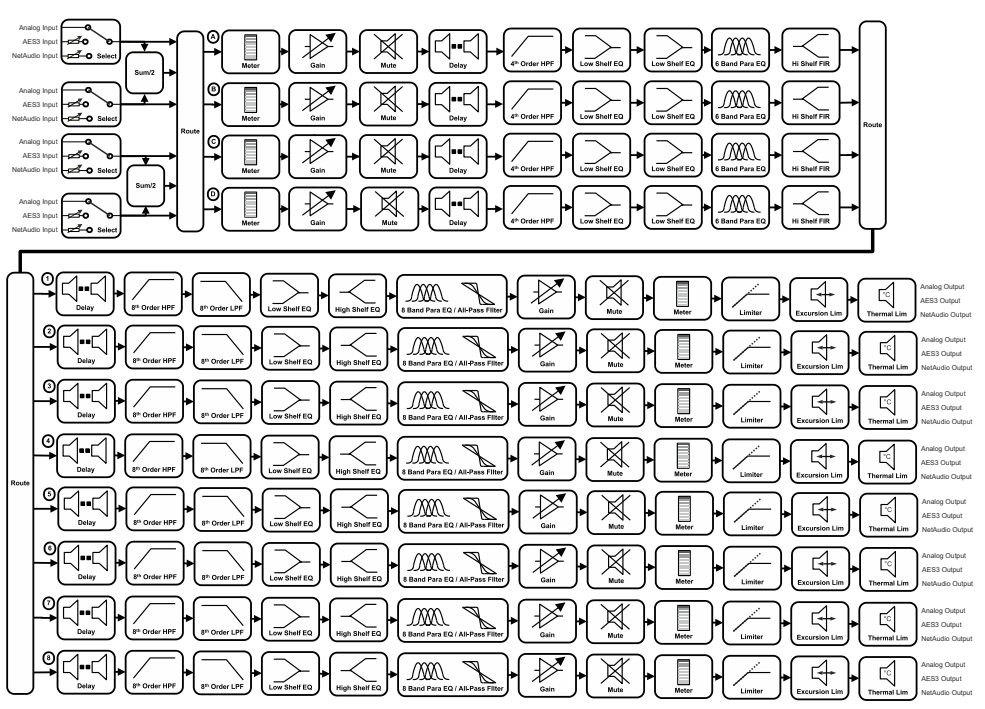


HDC SERIES

4-In/8-Out Audio Controller with Class-Leading Sonic Performance including Ethernet Interface.

The HDC48 takes audio performance to the next level with new audio converters and advanced DSP algorithms that make full use of the processing power offered by the latest 4th generation SHARC DSPs. Unique to the industry on the HDC48 are the revolutionary new LIR Linear Phase crossover filters, and for the ultimate in driver protection with maximum SPL, the new VX Limiters. These are not marketing gimmicks; they are carefully implemented, powerful tools that allow to extract the maximum performance from NOVA sound systems, safely.

Der HDC48 stellt die Performance digitaler Lautsprecherprozessoren auf ein völlig neues Niveau. Der HDC48 Controller ist ausgestattet mit neu entwickelten Audio-Konvertern, erweiterten DSP-Algorithmen sowie der 4. Generation von SHARC-DSPs. Darüber hinaus bietet der HDC48 einzigartige, revolutionäre LIR „Linear-Phase“ Frequenzweichenfilter und neue VX-Limiter für ultimative Lautsprecherschutz bei gleichzeitig maximalem Schalldruck. All diese Features sind jedoch keine Marketing-Gimmicks, sondern leistungsstarke und hochpräzise Werkzeuge, um die maximale Performance von NOVA Sound-Systemen zu erreichen.



HDC 48

DANTE



- ▶ High definition audio controlling next generation
- ▶ Four input & eight output channels
- ▶ AES3 inputs & outputs selected in pairs
- ▶ Networked audio (DANTE® card as option)
- ▶ 96kHz 4th generation SHARC DSP algorithms
- ▶ Powerful drive module speaker-centric presets
- ▶ LIR Linear Phase crossovers
- ▶ Multi-stage peak & RMS limiters
- ▶ Virtual Xover limiter for passive systems
- ▶ PEQ & FIR equalisers on all inputs
- ▶ Easy user grouping & EQ overlays
- ▶ Extensive NOVA.Net control software over Ethernet

- ▶ Hochauflösendes Audio-Controlling neuer Generation
- ▶ Vier Eingangs- und acht Ausgangskanäle
- ▶ AES3 Eingänge & Ausgänge (paarweise schaltbar)
- ▶ Networked Audio (DANTE® Modul optional)
- ▶ 96kHz SHARC DSP-Algorithmen 4. Generation
- ▶ Lautsprecherorientierte „Drive-Module“ Presets
- ▶ LIR Linear Phase Frequenzweichenfunktionen
- ▶ Mehrstufige Peak- und RMS-Limiter
- ▶ Virtual Xover Limiter für passive Systeme
- ▶ PEQ & FIR Equalizer in allen Eingängen
- ▶ Einfache Gruppierungen & EQ-Overlays
- ▶ Umfangreiche Steuerungssoftware via Ethernet

| | |
|----------------------------------------|--------------------------------------------------|
| Inputs: | 4 (analog & digital AES/EBU®) |
| Outputs: | 8 (analog & digital AES/EBU®) |
| Input impedance: | >10k ohm balanced |
| Output impedance: | <100R imp. balanced |
| Max input level: | +20dBu |
| Max output level: | +18dBu into 600R |
| Sample rate: | 96kHz |
| Frequency response: | 10Hz - 40kHz |
| Input dynamic range: | >120dBa (typ.) |
| Output dynamic range: | >118dBa (typ.) |
| THD (20Hz–20kHz): | <0.008% (typ.) |
| Mains required: | 85 - 230 V(AC) / 50 - 60Hz |
| Max. power consumption: | 30 W |
| Input connectors: | 4 x Neutrik® XLR female, electronically balanced |
| Output connectors: | 8 x Neutrik® XLR male, electronically balanced |
| AUX connector: | Phoenix (3-pin) |
| Ethernet connector: | RJ45 (shielded) |
| Dimensions unit (mm) W x H x D: | 482 x 44 x 254, 19" format, 1 RU/RS (HE) |
| Weight (net / gross): | 2.7 kg / 4 kg |

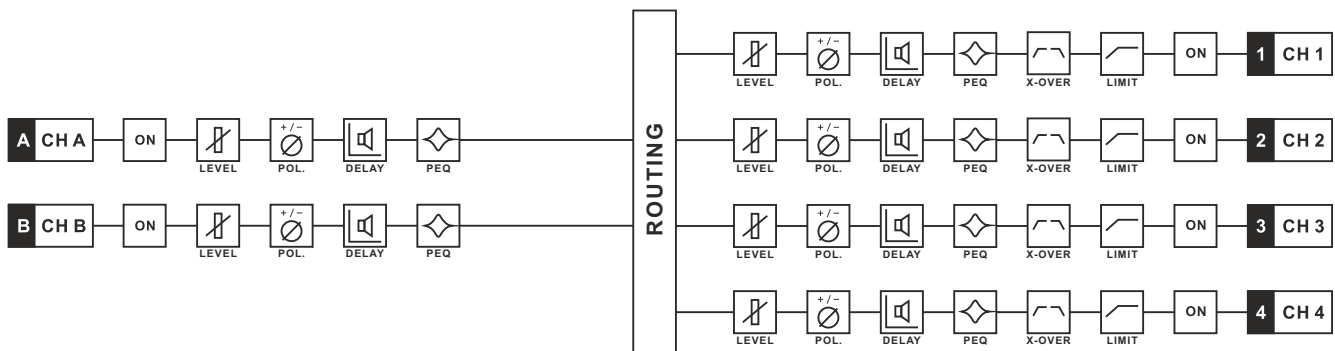
DC 4000

2-In/4-Out Audio Controller including USB and RS-485 Interface.



The DC4000 is a digital 2-in / 4-out speaker management matrix system with an internal resolution of 32 bit and 96 kHz sampling rate. The DC4000 is equipped with 2 analog inputs, 4 analog outputs and two remote-connectors (USB and Rs485). The use of modern and fast DSPs enables a latency (analog to analog) of 0,625 ms only. Each input channel includes 6 equalizers (with low-shelf, high-shelf and parametric function), and a delay function. Each output channel includes 6 equalizers (with low-shelf, high-shelf and parametric function) and a delay function. The HPF (high-pass filter) and the LPF (low-pass filter) is part of each output channel. Both offer three different operation modes: Linkwitz-Riley, Butterworth and Bessel (up to 48 dB/Oct). Each output channel includes a high performance limiter. The DC4000 offers space for 30 presets.

Der DC4000 ist ein digitaler 2- in 4-Wege Systemcontroller mit einer internen Auflösung von 32 Bit und 96 kHz Sampling Rate. Der DC4000 verfügt über 2 analoge Eingänge, 4 analoge Ausgänge und zwei Remoteschnittstellen (USB und RS485). Alle Eingänge verfügen über 6 Equalizer (Low-Shelf, High-Shelf und Parametric EQ) und eine Delay-Funktion. Jeder Ausgang verfügt über 6 Equalizer (Low-Shelf, High Shelf und Parametric EQ) und eine Delay-Funktion. Sowohl die HPF (High-Pass Filter) als auch LPF (Low-Pass Filter) können in den Betriebsmodi Linkwitz-Riley, Butterworth und Bessel bei einer einstellbaren Flankensteilheit von bis zu 48 dB/Oct. betrieben werden. Jeder Ausgangskanal verfügt über einen einstellbaren Limiter, der die angeschlossene Peripherie schützt. Der DC4000 bietet Platz für 30 frei konfigurierbare Programme (Presets).



- ▶ 2 inputs and 4 outputs with free routing
- ▶ 6 equalizers p. input channel
- ▶ 6 equalizers p. output channel
- ▶ Symmetric inputs and outputs
- ▶ RS485 & USB connectors
- ▶ High performance 32-bit DSP (digital sound processor)
- ▶ 96 kHz AD/DA converters (Burr Brown)
- ▶ PC print function „DATA VIEW“
- ▶ Dynamic range >112 dB

- ▶ 2 Ein- und 4 Ausgänge mit frei wählbarem Routing
- ▶ 6 Equalizer pro Eingangskanal
- ▶ 6 Equalizer pro Ausgangskanal
- ▶ Elektronisch symmetrische Ein- und Ausgänge
- ▶ RS485 & USB Interface
- ▶ Leistungsstarker 32-Bit DSP
- ▶ 96 kHz AD/DA Wandler (Burr Brown)
- ▶ PC-Druckfunktion "DATA VIEW" zur Archivierung
- ▶ Hoher Dynamikumfang von >112 dB

DC 4000



| | |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Inputs: | 2 (analog) |
| Outputs: | 4 (analog) |
| Frequency crossovers: | 6 dB/Oct, 12 dB/Oct, 18 dB/Oct, 24 dB/Oct, 48 dB/Oct. (slope), Linkwitz-Riley, Butterworth und Bessel |
| Filters: | 36 parametric EQs, 36 shelving EQs (high shelf or low shelf), 4 low cut filters, 4 high cut filters, 4 limiters |
| Delay: | 2 master delays (0 ms - 987 ms) 4 channel delays (0 ms - 984 ms) |
| Converting & processing: | Burr Brown® AD/DA converters, 96 kHz sampling rate (internal), 32-Bit processor (DSP), 128-times over sampling |
| Input connectors: | 2 x Neutrik® XLR female, electronically balanced |
| Input voltage: | 1.55 V / + 6 dBu (nominal) |
| Max. input voltage: | 24.5 V / + 30 dBu |
| Input impedance: | 20 kohms |
| Common mode rejection: | > 70 dB / 1 kHz |
| Output connectors: | 4 x Neutrik® XLR male, electronically balanced |
| Output voltage: | 1.55 V / + 6 dBu (nominal) |
| Max. output voltage: | 8.7 V / + 21 dBu |
| Output impedance: | > 100 ohms |
| Minimum load impedance: | 600 ohms |
| Frequency response: | 20 Hz - 20 kHz (-0.5 dB) |
| S/N ratio: | 112 dB (typical) |
| Distortion: | < 0.01% |
| Display: | 2 x 20 character LCD display with LED background lighting |
| Mains voltage / power consumption: | 90 - 250 V (AC) @ 50 - 60 Hz / 20 W |
| Latency: | 0.625 ms |
| Maximum power consumption: | 15 W |
| Dimensions unit (mm) W x H x D: | 483 x 43,6 x 225, 19" format, 1 RU/RS (HE) |
| Weight (net / gross): | 3.5 kg / 5 kg |
| Optional Accessories: | URC2: Converter USB / RS485 (# 20065) |

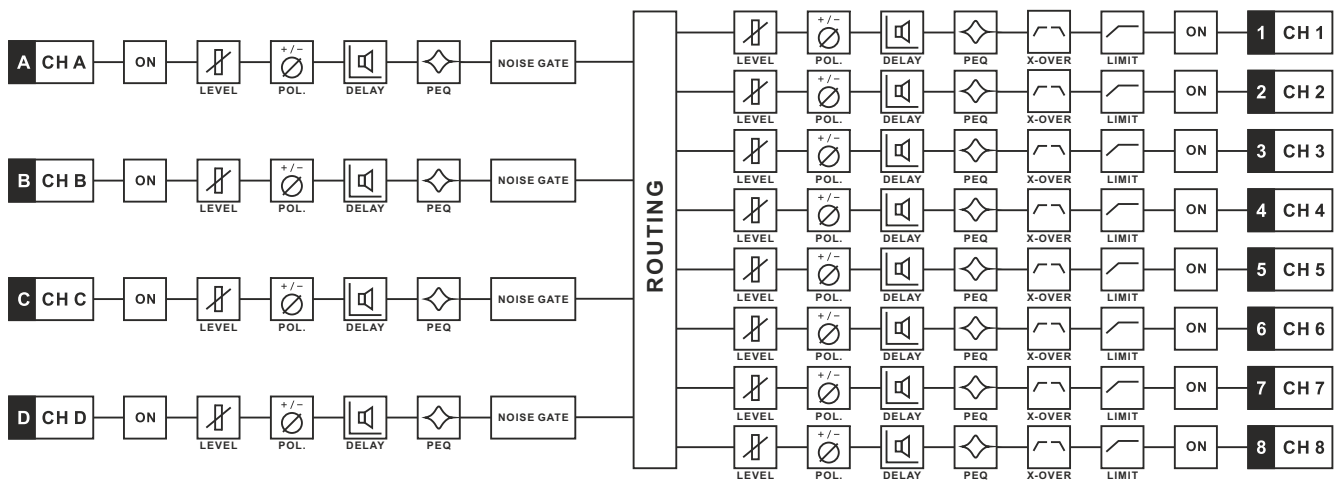
DC 8000

4-In/8-Out Audio Controller including RS-485 Interface.

96 kHz
DSP **HD**
SOUND
RS485NET
HIGH DEFINITION
32 BIT HIGH PERFORMANCE DSP

The DC8000 is a digital 4-in / 8-out speaker management matrix system with an internal resolution of 32 bit and 96 kHz sampling rate. The DC8000 is equipped with 4 analog and digital (AES/EBU format) inputs, 8 analog outputs and two RS485 remote-connectors. Each input channel includes 8 equalizers (with low-shelf, high-shelf and parametric function), a delay function and a noise gate. Each output channel includes 6 equalizers (with low-shelf, high-shelf and parametric function) and a delay function. The HPF (high-pass filter) and the LPF (low-pass filter) is part of each output channel. Both offer three different operation modes: Linkwitz-Riley, Butterworth and Bessel (up to 48 dB/Oct). Each output channel includes a high performance limiter. The integrated flash memory chip offers space for 30 presets.

Der DC8000 ist ein digitaler 4- in 8-Wege Systemcontroller mit einer internen Auflösung von 32 Bit und 96 kHz Sampling Rate in den Eingängen sowie in den Ausgängen. Der DC8000 verfügt über 4 analoge und digitale (AES/EBU© Format) Eingänge. Die 8 Ausgänge geben ein analoge Signale aus. Der DC8000 verfügt über eine Remoteschnittstelle im RS485 Format. Jeder Eingang bietet 8 Equalizer (Low-Shelf, High-Shelf und Parametric EQ), eine Delay-Funktion. Jeder Ausgang verfügt über 6 Equalizer (Low-Shelf, High Shelf und Parametric EQ), eine Delay-Funktion. Sowohl die High-Pass Filter als auch Low-Pass Filter können in den Betriebsmodi Linkwitz-Riley, Butterworth und Bessel (bis zu 48 dB/Oct.) betrieben werden. Jeder Ausgangskanal verfügt über einen einstellbaren Limiter, der die angeschlossene Peripherie schützt.



- ▶ 4 inputs and 8 outputs with free routing
- ▶ 8 equalizers per input channel
- ▶ 6 equalizers per output channel
- ▶ Symmetric inputs and outputs
- ▶ Analog and digital (AES/EBU) inputs
- ▶ RS485 connectors at the rear-panel
- ▶ High performance 32-bit DSP (digital sound processor)
- ▶ 96 kHz AD/DA converters (Burr Brown)
- ▶ PC print function „DATA VIEW“
- ▶ Dynamic range >114 dB

- ▶ 4 Ein- und 8 Ausgänge mit frei wählbarem Routing
- ▶ 8 Equalizer pro Eingangskanal
- ▶ 6 Equalizer pro Ausgangskanal
- ▶ Elektronisch symmetrische Ein- und Ausgänge
- ▶ Analoge und digitale (AES/EBU) Eingänge
- ▶ RS485 Anschluss rückseitig
- ▶ Leistungsstarker 32-Bit DSP
- ▶ 96 kHz AD/DA Wandler (Burr Brown)
- ▶ PC-Druckfunktion "DATA VIEW" zur Archivierung
- ▶ Hoher Dynamikumfang von >114 dB

DC 8000



| | |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Inputs: | 4 (analog & digital AES/EBU®) |
| Outputs: | 8 (analog) |
| Frequency crossovers: | 6 dB/Oct., 12 dB/Oct., 18 dB/Oct., 24 dB/Oct., 48 dB/Oct. (slope), Linkwitz-Riley, Butterworth und Bessel |
| Filters: | 80 parametric EQs, 80 shelving EQs (high shelf or low shelf), 8 low cut filters, 8 high cut filters, 8 limiters / compressors with peak limiter |
| Delay: | 4 master delays (0 ms - 990 ms) 8 channel delays (0 ms - 990 ms) |
| Converting & processing: | Burr Brown® AD/DA converters, 96 kHz sampling rate (internal), 32-Bit processor (DSP), 128-times over sampling |
| Input connectors: | 4 x Neutrik® XLR female, electronically balanced |
| Input voltage: | 1.55 V / + 6 dBu (nominal) |
| Max. input voltage: | 24.5 V / + 30 dBu |
| Input impedance: | 20 kohms |
| Common mode rejection: | > 70 dB / 1 kHz |
| Output connectors: | 8 x Neutrik® XLR male, electronically balanced |
| Output voltage: | 1.55 V / + 6 dBu (nominal) |
| Max. output voltage: | 8.7 V / + 21 dBu |
| Output impedance: | > 100 ohms |
| Minimum load impedance: | 600 ohms |
| Frequency response: | 20 Hz - 20 kHz (-0.5 dB) |
| S/N ratio: | 114 dB (typical) |
| Distortion: | < 0.01% |
| Display: | 4 x 20 character LCD display with LED background lighting |
| Mains voltage / power consumption: | 90 - 250 V (AC) @ 50 - 60 Hz / 20 W |
| Latency: | 0.625 ms |
| Maximum power consumption: | 20 W |
| Dimensions unit (mm) W x H x D: | 472 x 44 x 277, 19" format, 1 RU/RS (HE) |
| Weight (net / gross): | 3.5 kg / 5 kg |
| Optional Accessories: | URC2: Converter USB / RS485 (# 20065) |



HX SERIES

4 Models of 2-Channel Power Amplifiers with Class-H Technology.



The HX Series models are affordable, reliable and quality power amplifiers. The amplifiers suit for musicians, DJs, and entertainers as well as houses of worship, cinemas, clubs, and pubs. The four models are HX900, HX1500, HX2000 and HX4000. Features include XLR inputs, user selectable input sensitivity of 0.755V or 1.4V, Speakon and binding post outputs, stereo / parallel / bridge-mono modes, LED indicators and forced-air cooling. All models include protection against shorts, no-load, on/off thumps and radio-frequency interference.

Die HX Serie von NOVA steht für erschwingliche, zuverlässige und qualitativ hochwertige Leistungsverstärkung. Alle vier Modelle sind gemacht für Musiker, DJs und Entertainer sowie für Kinos, Discotheken und Pubs. Die Serie umfasst die vier Modelle HX900, HX1500, HX2000 und HX4000. Zu den Merkmalen gehören XLR Eingänge, wählbare Eingangsempfindlichkeit (0.755 V oder 1.4 V), Speakon- und Klemmanschluss-Ausgänge, Stereo / Parallel / Bridge-Mono-Modus und Statusanzeigen an der Frontseite. Alle Modelle beinhalten ein umfangreiches Paket an Schutzschaltungen für einen sicheren Betrieb.



HX AMPS



HX 900

HX 1500

HX 2000

HX 4000

| | HX 900 | HX 1500 | HX 2000 | HX 4000 |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| Rated Power 1 kHz with 0.5% THD | | | | |
| at 4 ohms stereo: | 2 x 450 W | 2 x 750 W | 2 x 1.000 W | 2 x 2.000 W |
| at 8 ohms stereo: | 2 x 350 W | 2 x 500 W | 2 x 700 W | 2 x 1.400 W |
| at 8 ohms mono: | 900 W | 1.500 W | 2.000 W | 4.000 W |
| Frequency response at 1 Watt: | 20 Hz - 20 kHz, +0/-1 dB | 20 Hz - 20 kHz, +0/-1 dB | 20 Hz - 20 kHz, +0/-1 dB | 20 Hz - 20 kHz, +0/-1 dB |
| Total harmonic distortion (THD): | <0.5%, 20 Hz - 20 kHz | <0.5%, 20 Hz - 20 kHz | <0.5%, 20 Hz - 20 kHz | <0.5%, 20 Hz - 20 kHz |
| Intermod. dist. 60 Hz & 7 kHz at 4:1 (full to -30 dB): | =/ < 0.35% | =/ < 0.35% | =/ < 0.35% | =/ < 0.35% |
| Slew rate: | >10V/us | >10V/us | >10V/us | >10V/us |
| Voltage gain: | 31 dB | 33 dB | 34 dB | 37 dB |
| Damping factor (8 ohms) 10 Hz - 400 Hz: | >200 | >200 | >200 | >200 |
| S/N ratio (< rat. power, 20 Hz to 20 kHz, A-weighted): | >100 dB | >100 dB | >100 dB | >100 dB |
| Crosstalk (beL. rat. power) at 1 kHz: | -75 dB | -75 dB | -75 dB | -75 dB |
| Crosstalk (beL. rat. power) at 20 kHz: | -58 dB | -58 dB | -58 dB | -58 dB |
| Input sensitivity for full rat. power at 8 ohms: | 0.775 V / 1.4 V | 0.775 V / 1.4 V | 0.775 V / 1.4 V | 0.775 V / 1.4 V |
| Input impedance (nom.) balanced: | 20 k ohms | 20 k ohms | 20 k ohms | 20 k ohms |
| Input impedance (nom.) unbalanced: | 10 k ohms | 10 k ohms | 10 k ohms | 10 k ohms |
| Protection: | Protection against short circuits, no-load, on/off muting, RF interference | | | |
| Ventilation: | Flow-through ventilation from front to back | | | |
| Cooling: | Internal heat sinks with forced air. Fan cooled, speed regulated, thermal protection | | | |
| Dimensions unit (mm) W x H x D: | 482 x 88 x 227 mm | 482 x 88 x 227 mm | 482 x 88 x 227 mm | 482 x 88 x 294 mm |
| Weight (net): | 12.7 kg | 13.5 kg | 14.5 kg | 20.6 kg |

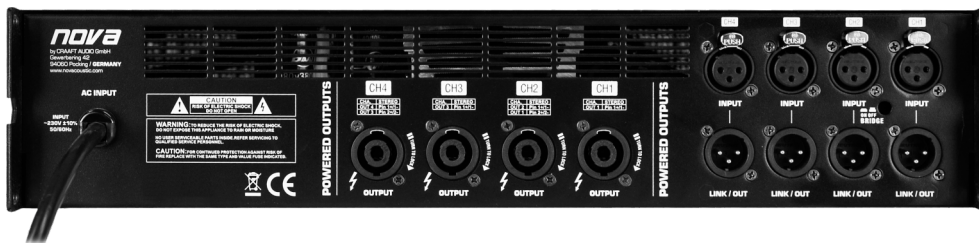
- ▶ Stereo / parallel / bridge-mono mode
- ▶ Professional audio quality and robust processing
- ▶ User selectable input sensitivity -0.775V and 1.4V
- ▶ Electronically balanced inputs
- ▶ Binding post and Speakon outputs
- ▶ Efficient forced-air cooling
- ▶ Two level controls, power switch, LED info display
- ▶ Extensive package of safety circuits for safe operation

- ▶ Stereo / Parallel / Bridge-Mono Modi
- ▶ Professionelle Audioqualität und robuste Verarbeitung
- ▶ Wählbare Eingangsempfindlichkeit (-0.775V und 1.4V)
- ▶ Elektronisch symmetrierte Eingänge
- ▶ Ausgänge mit Klemmanschlüssen & Speakonbuchsen
- ▶ Effizientes Kühlungssystem
- ▶ Zwei Level-Regler, Netzschalter, LED Info-Display
- ▶ Umfangreiches Paket an Schutzschaltungen



MX 3.2 K4

Light-weighted 4-Channel Class-D Switch Mode Power Amplifier with 4 x 800 W (RMS).



| | |
|-----------------------------------------------------|-------------------------------------|
| 8 ohms per channel (watt): | 400 (x 4) |
| 4 ohms per channel (watt): | 800 (x 4) |
| THD+N at 1 kHz @ 8 ohms, 3 dB below rated power: | <0.05 % |
| IMD at 60 Hz+7kHz @ 8 ohms, 3 dB below rated power: | < 0.05 % |
| Slew rate: | 30 V / us |
| Damping factor: | > 300 |
| Signal/noise rate: | > 105 dB |
| Channel separation at 1 kHz: | > 60 dB |
| Input Impedance: | 10 k ohms bal. (+/- 1%) |
| Common mode rejection: | > 70 dB |
| Gain controls: | 4 |
| Clip / protect indicators: | LEDS |
| Output headroom indicators: | LEDS |
| Input connectors: | 4 x XLR female (NEUTRIK®) |
| Link connectors: | 4 x XLR male (NEUTRIK®) |
| Dynamic limiter: | full automatic |
| Cooling: | air draft (fan with stepless speed) |
| Output connectors: | 4 x SPEAKON NL4 (NEUTRIK®) |
| Operation voltage: | 220 - 245 volts |
| Soft start: | Yes (5 sec.) |
| Switch mode power supply (SMPS) | Yes |
| Maximum power consumption: | 10 A / 230 V (2.300 W max.) |
| Dimensions unit (mm) W x H x D: | 483 x 89 x 365 |
| Dimensions packing (mm) W x H x D: | 544 x 123 x 500 |
| Weight (net / gross): | 8 kg / 10 kg |

MX 3.2K4



The NOVA MX3.2K4 is a 4-channel power amplifier, which offers a power rating of 4 x 800 watts RMS. The front panel shows 4 gain controls for easy access and the main switch.

The LED display informs about the condition of the amplifier channels. The rear side shows 4 input-connectors (XLR female), 4 link-connectors (XLR male) and 4 output-connectors (SPEAKON NL4). The input sensitivity (gain) is 32 dB for each channel. The MX3.2K4 can be used also in half-bridged mode (1 x 1.600 W RMS / 8 ohms + 2 x 800 W RMS / 4 ohms). The amplifier is equipped with a switch-on delay to protect the connected speakers.

- ▶ **3.200 watts RMS total output (4 x 800 W RMS)**
- ▶ **Class-D technology for high efficiency**
- ▶ **Modern switch mode power supply**
- ▶ **Comprehensive package of safety circuits**
- ▶ **Ultra lightweighted (8 kg only)**

Der MX3.2K4 ist ein 4-Kanal Verstärker auf einer Bauhöhe von kompakten 2 HE (Höheneinheiten), der eine Leistung von 4 x 800 Watt RMS bietet. An der Frontseite befinden sich 4 Level-Potentiometer sowie der Netzschalter. Das leicht ablesbare LED Display informiert über den Betriebszustand der Endstufenkanäle. An der Rückseite befinden sich 4 Eingangsbuchsen (XLR Female), 4 Linkbuchsen (XLR Male) sowie 4 Ausgangsbuchsen (SPEAKON NL4). Das Gain der Endstufenkanäle beträgt jeweils 32 dB. Im teilgebrückten Modus leistet die MX3.2K4 insgesamt 1 x 1.600 Watt (8 Ohm) plus 2 x 800 Watt RMS (4 Ohm). Die MX3.2K4 verfügt über eine Einschaltverzögerung mittels Relais, welche das Ansprechen von Netzsicherungen verhindern. Ebenso werden die Leistungsausgänge verzögert zugeschaltet.

- ▶ **3.200 Watt RMS Gesamtleistung (4 x 800 W RMS)**
- ▶ **Class-D Technologie für hohe Effizienz**
- ▶ **Modernes Schaltnetzteil**
- ▶ **Umfangreiches Paket an Schutzschaltungen**
- ▶ **Sehr leichte Konstruktion (nur 8 kg)**



MX 3.2 K4

Light-weighted 4-Channel Class-D Switch Mode Power Amplifier with 4 x 800 W (RMS).



| | |
|--------------------------------------------|-------------------------------------|
| 8 ohms per channel (watt): | 130 (x 8) |
| 4 ohms per channel (watt): | 200 (x 8) |
| 8 ohms bridged (watt): | 400 (x 2 max. in bridge mode) |
| THD+N at 1 kHz half power @ 4 ohms: | <0.5 % |
| Damping factor: | 600 |
| Channel separation at 10 kHz: | <60 dB |
| Input Impedance: | 40 k ohms bal. / 20 k ohms bal. |
| Common mode rejection: | 70 dB |
| Gain controls: | 8 |
| Clip / protect indicators: | LEDS |
| Output headroom indicators: | LEDS |
| Input connectors: | Euroblock |
| Link connectors: | n/a |
| Mode switch: | Stereo / bridge / parallel |
| Limit switch: | n/a |
| Output connectors: | Barrier Strip (connectors included) |
| Operation voltage: | 220 - 242 volts |
| Soft start: | Yes |
| Switch mode power supply (SMPS) | Yes |
| Maximum power consumption: | 1.300 W |
| Dimensions unit (mm) W x H x D: | 483 x 89 x 431 |
| Dimensions packing (mm) W x H x D: | 544 x 123 x 544 |
| Weight (net / gross): | 8 kg / 10 kg |

DXI 8200



The DXI8200 is a 8-channel power amplifier at a compact size of 2 HU (rack spaces). The front panel shows 8 gain controls for easy access, 8 mute-switches and the main switch. The LED display informs about the condition of the amplifiers. The rear side shows 8 input-connectors and 8 output-connectors. The input sensitivity (gain) is 32 dB each channel. The outputs offer barrier strip connectors. The DXI8200 can be used also in half-bridged mode (2 x 400 watts plus 4 x 200 watts RMS / 4 ohms). The DXI8200 can be switched into three different operation modes: stereo, parallel and bridge mode. The independent limiters can be switched on or off. All models are equipped with a switch-on delay to protect the connected speakers.

- ▶ **1.600 watts RMS total output (8 x 200 W RMS)**
- ▶ **Class-D technology for high efficiency**
- ▶ **Modern switch mode power supply**
- ▶ **Comprehensive package of safety circuits**
- ▶ **Ultra lightweighted (8 kg only)**

Die DXI8200 ist ein 8-Kanal Verstärker auf einer Bauhöhe von 2 HE. An der Frontseite befinden sich 8 versenkte Level-Potentiometer, 8 Mute-Schalter sowie der Netzschalter. Das leicht ablesbare LED Display informiert über den Betriebszustand der Endstufen. An der Rückseite befinden sich 8 Eingangsbuchsen und 8 Ausgangsbuchsen. Die Eingangsempfindlichkeit der DXI8200 beträgt 32 dB. Die Leistungsausgänge aller Kanäle sind in Barrier Strip Variante ausgeführt. Im teilgebrückten Modus leistet die DXI8200 insgesamt 2 x 400 Watt (8 Ohm) plus 4 x 200 Watt RMS (4 Ohm). Die Betriebsmodi Stereo, Parallel und Bridge können über vier Schalter an der Geräterückseite ausgewählt werden. Die DXI8200 verfügt über eine Einschaltverzögerung mittels Relais, welche das Ansprechen von Netzsicherungen verhindern. Ebenso werden die Leistungsausgänge verzögert zugeschaltet.

- ▶ **1.600 Watt RMS Gesamtleistung (8 x 200 W RMS)**
- ▶ **Class-D Technologie für hohe Effizienz**
- ▶ **Modernes Schaltnetzteil**
- ▶ **Umfangreiches Paket an Schutzschaltungen**
- ▶ **Sehr leichte Konstruktion (nur 8 kg)**

INNOVATED

IN GERMANY



NOVA

www.novacoustic.com

CRAAFTAUDIO GmbH

Gewerbering 42 • 94060 Pocking / Germany • Phone: +49 (0) 85 31 - 31 71 - 0 • Fax: +49 (0) 85 31 - 31 71 - 25

Mail us: info@novacoustic.de

Limited liability on contents. Subjects to change without prior notice. All rights reserved. Printed in Germany 2018. Dante™ and Dante® are trademarks of Audinate Pty Ltd.
We continually engage in research related to product improvement. Materials, production methods and design refinements are introduced into existing products.
Any current NOVA product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise stated.