

PRO X
LIVE ALDIO SYSTEM



 **MIDAS**

MIDAS—40 Years of Legendary Performance

For over four decades, MIDAS has enjoyed a long history of innovation and leadership in the world of audio mixing consoles - a legacy that continues on today.

Formed in 1970 by Jeff Byers and Charlie Brooke, MIDAS originally designed and manufactured musical instruments and amplifiers. Jeff soon became fascinated by the concept of improving and refining professional audio systems, and so MIDAS went on to develop the first fully integrated

modular audio system, comprising consoles, crossovers, amplifiers and speaker systems. Indeed the powered mixers built by Jeff in his flat in West Hampstead, London can be regarded as the very first MIDAS consoles.

A fortuitous collaboration came in about 1972 when MIDAS found new premises near Euston Station in London, which just happened to be next to already-established speaker manufacturer Martin Audio. The two co-located companies

became synonymous in the minds of many live sound customers and the calibrated MIDAS / Martin modular PA systems became a regular fixture on concert tours in the 1970s, with Martin Audio responsible for the loudspeaker cabinets, whilst MIDAS manufactured the electronics.

The first MIDAS console to achieve major success was the modular PRO4 system, which came about through Jeff Byers's time on the road with Supertramp on their 1974 'Crime of the

Century' tour. The PR series, named after the modules available for the consoles, found fame with acts including Billy Joel, Yes, The Beach Boys and on Pink Floyd's 1977 and 1979 world tours.

1980 saw MIDAS supplying the legendary Frank Zappa with a custom PRO5 console. This innovative console changed the way a generation of engineers approached the art of mixing and opened new creative possibilities, and led to the PR 40, generally referred to as the 'PRO40' becoming the console of choice throughout the 1980s.





MIDAS found new success at the start of the 1990s with the XL3 monitor console, which set the scene for the greatest analogue console ever built - the XL4.

The XL4 went on to set the benchmark for live audio performance consoles in the 1990s. Audio engineers were amazed by what they were able to achieve using the XL4's unbeatable combination of audio performance and comprehensive moving-fader automation. Many elements of this legendary console are still available to today's engineers in the current range of MIDAS digital mixing systems.

Always seeking to redefine the boundaries of audio performance and flexibility, the turn of the century saw the launch of the ubiquitous HERITAGE 3000. MIDAS employed the ultimate distillation of design and experience in creating the perfect roadworthy touring console. The HERITAGE 2000 and the theatre-orientated HERITAGE 1000 completed the line-up.

Over the next decade, the HERITAGE 3000 became the touring concert standard and formed the focal point, along with the XL4, for most major tours for the following decade, including acts such as Bon Jovi, Alanis Morissette, AC/DC, Coldplay, Kid Rock, Metallica, Alicia Keys, Foo Fighters, Christina Aguilera, Sir Paul McCartney, Pearl Jam, and more.

Innovation continued into the new millennium with the LEGEND 3000 - the world's first tri-purpose console - as well as the VERONA and SIENA, which revitalised and redefined the market for medium-format consoles.

Then, in 2006, Digital Went MIDAS

When the MIDAS XL8 was launched, it set unprecedented new standards for audio quality, ease of use, power, flexibility, and creative potential.

No other live digital console can compete with

the sample-synchronous audio performance, expandable network topology, and sheer ease of use that XL8 provides. Since its launch, XL8 has become the system of choice for prestigious installations, major touring venues the world over, including many unique international events where compromise is not an option.

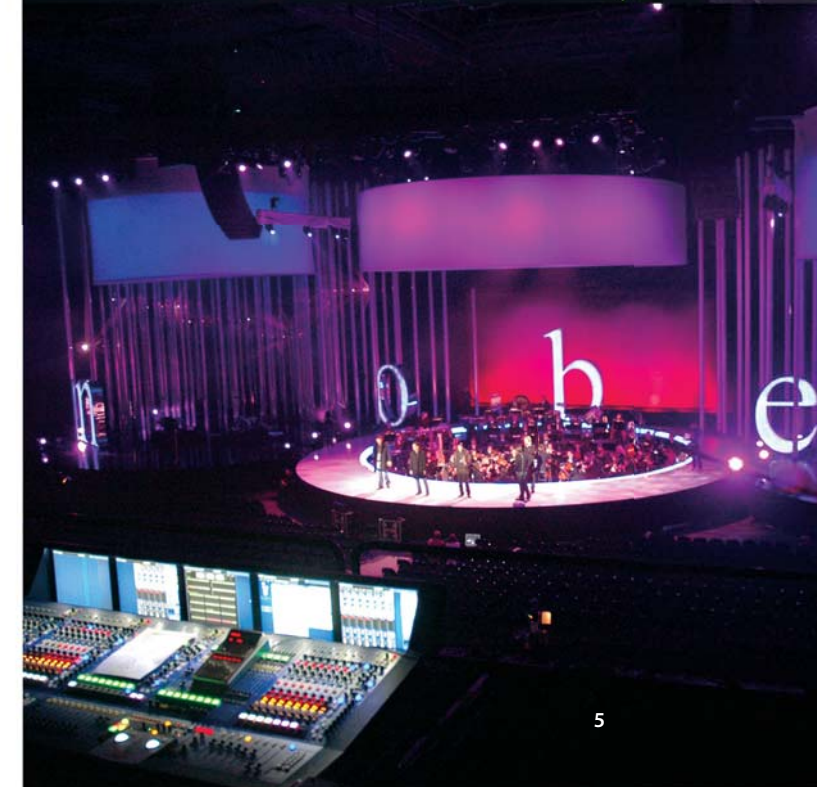
In 2008, MIDAS released the PRO6 console, which strengthened the company's digital production line. PRO6 shares the same sample-synchronous audio performance and extensive networked audio system as the venerable XL8. The PRO6 has become a common sight at the front of house and monitor positions in concert touring as well as global events.

2011 saw the introduction of the PRO2 and PRO2C, offering all the advantages of the large-format PROs in a compact footprint. MIDAS has continued to innovate by introducing the MCA - an advanced navigation system allowing increased speed of workflow. The PRO1 introduced MIDAS's first lightweight all-aluminium chassis.

An Exciting New Era

MIDAS released the mid-format M32 console in 2014, leveraging innovative modern technology and unprecedented manufacturing techniques to introduce legendary MIDAS quality at a previously unheard-of value.

The PRO X continues a 40-year history of excellence and signals an exciting new era for MIDAS.



Introducing the PRO X

The Gold Standard

With their exemplary audio performance and road-proven rugged and reliable construction, the MIDAS PRO Series has become the gold standard in concert touring and installed live sound. Employing technologies developed from the class-leading and visionary flagship MIDAS XL8 console, and offering the same outstanding sample-synchronised and phase-coherent audio performance, interpolated control functions and intuitive navigation, the

PRO3, PRO6 and PRO9 Live Audio Systems have become the industry's go-to choice for live sound reinforcement consoles.

Move Up a Gear

Now the PRO Series family moves up a gear with the PRO X Control Centre and the industry-changing NEUTRON Audio System Engine. Featuring 168 simultaneous input channels and 99 time-aligned and phase-coherent buses with no trade-offs in channel or bus counts, unlike many competitor

With 168 simultaneous inputs, 99 buses and 96 kHz sample rate, the PRO X sets a complete new standard for performance and value.



digital consoles which advertise feature lists which are not representative of actual performance in use.

True and consistent 96 kHz sampling frequency and 40 bit floating point processing provide exemplary quality audio processing, and the oversampled and interpolated digital signal processing algorithms, combined with the fully interpolated and touch sensitive user controls, result in the smooth continuous response and immediacy of working on an analogue console. Parameter adjustment becomes fast and easy, the continuous phase shift of a swept frequency control is heard without the quantisation effects of the discrete steps found in other digital consoles.

The PRO X features the rugged and road-proven KLARK TEKNIK HyperMAC and SuperMAC (AES50-compliant) networking technologies with their ultra-low and deterministic latencies and robust error correction.

Its powerful audio networking offers up to 288 inputs and 294 outputs at the 96 kHz sample frequency.

For enhanced reliability, both the PRO X Control Centre and the NEUTRON Audio System Engine feature a HyperMAC router with 192 bidirectional channels over dual-redundant copper and optical fibre snake connections.

The PRO X Control Centre features dual 15" full colour daylight-viewable TFT displays for use in all environments, both inside and outdoors.

The 10 VCA (variable control association) and eight POPulation groups, combined with the advanced navigation offered by the new output-centric centre section, allows the simultaneous display of 24 mono or stereo mix buses.

All this provides an unparalleled mix experience.



"Nothing Comes Close to MIDAS."

In touring with Metallica since the 1980s, it's always been about the sound, reliability and flexibility.

Life on the road is demanding and the rugged, tough-as-nails construction of MIDAS consoles is built for touring around the world, concert after concert, year after year.

The legendary microphone preamplifiers are the most transparent and pure I have ever heard, but also take on a whole other dimension when driven hard. The EQs are both a fantastic sound-shaping creative tool and as precise as a surgical scalpel.

When Digital went MIDAS, all that analogue spirit of the amazing XL4 console was retained, whilst the XL8 and PRO Series remain without equal with their innovative and unique digital technologies.

Who else has fully interpolated controls and DSP algorithms that sound nothing but spectacular, and synchronised phase and time alignment throughout the console that give you the amazing punch and precision of an analogue console? What you hear on stage is what you hear through the PA system.

PRO X and NEUTRON represent the latest evolution of MIDAS, in an industry that MIDAS has been leading for the past 40 years.

The new PRO X is not only the most powerful console on the market, most importantly it has the incredible MIDAS sound I would never mix without. I can't wait to go on tour with the new PRO X.

When it comes to sound and reliability, nothing comes close to MIDAS.

"Big" Mick Hughes
Live Sound Engineer for Metallica



Concert Sound

Building on the solid foundations of the road-proven MIDAS PRO3, PRO6 and PRO9 digital consoles, PRO X is the touring engineer's dream console. Whilst still familiar to concert professionals, the new centre section offers a step change in console control surface layout presentation. PRO X features multiple methods of channel navigation allowing operators to streamline their workflows, whether it be by the VCA and POPulation groups, the innovative output mix-specific MCA (Mix Control Association) groups, or advanced features such as navigation by input channel fader flip, FX processor and output mix graphic equaliser.

The console of choice for touring monitor engineers, PRO X features 96 mix buses (in addition to the 3 stereo and mono masters) that can be simultaneously displayed as pages of 24 stereo mixes on the console surface.

The high channel counts and routing flexibility offered by the PRO X and its companion NEUTRON super processing engine set a new industry benchmark. The total of 288 network inputs and 294 network outputs can be routed on a point-to-point basis, and this routing can even be changed in each snapshot automation scene. AES50 and HyperMAC audio networking combine deterministic and ultra-low latency performance with true 'Plug and Play' connectivity, minimising system set-up and configuration times, essential when playing in a different city every night.

This network performance, combined with the phase-coherent and time-aligned processing in the NEUTRON engine preserves the sound captured by the on-stage microphones and the legendary MIDAS microphone preamplifiers, so that a true stereo sound image is always maintained in the Front of House mix.

Install Sound

PRO X offers 168 simultaneous input channels and 99 simultaneous output channels on a control surface that is less than 1.5 metres wide. This highly compact form factor is ideal for installations where space is at a premium, but also demand high input and output channel counts.

AES50 digital audio connectivity allows for a total of up to 288 network inputs and 294 network outputs for the PRO X system.

PRO X can be seamlessly integrated into installed IP-compliant third party audio networks such as Audinate Dante* and Cirrus Logic CobraNet* using the KLARK TEKNIK DN9650 Network Bridge.

The dual clock domain isolation offered by the DN9650's industry-leading 64 channel bidirectional asynchronous sample rate converter allows the

PRO X to exist on its own AES50 network, operating independently of the installed network, whilst interfacing directly to it.

This system clock isolation allows a live performance being mixed on the PRO X to continue unaffected in the event of any outages in third party networks.

The standardised MIDAS show file format, common across all MIDAS PRO Series digital consoles allows visiting engineers to prepare shows in advance of arriving at a venue, either using another MIDAS console or the Apple Mac* OS X Offline Editor software, saving valuable time during show set-up.

Show files are forward and backward compatible between console software versions, so that a show created on one MIDAS PRO Series console can be loaded into another MIDAS PRO Series console regardless of the software version of either system.



House of Worship

Contemporary worship features a wide variety of praise activities, covering spoken word, live music and theatrical performance, often in a single service.

PRO X's advanced snapshot automation and colour-coded POP Group navigation allow operators to create organised workflows and mind maps to make seamless scene changes from a pastor's sermon to a full live band, to a drama performance.

In conjunction with the KLARK TEKNIK DN9650 Network Bridge and the KLARK TEKNIK KT-DANTE64 network module, PRO X can simultaneously record 64 channels of live 96 kHz 24 bit digital audio straight into the Ethernet port on a computer using the Audinate Dante Virtual Sound Card*. Entire worship services can be recorded in pristine quality and shared with the congregation.

Each of the 24 displayed mixes has its own LCD select switch with RGB colour coding and write-on

information and 11-segment LED bar graph metering gives both clear indication of signal levels and direct access to the output mixes and their contributions. When MCA navigation is used, the MCA faders control the contributions only to the currently selected bus. This output-centric approach redefines monitor mix workflows and the control of even the most demanding stage monitoring applications.

The faithful and detailed reproduction of the MIDAS microphone preamplifiers and the time-aligned and phase-coherent mix buses ensure maximum intelligibility in highly reverberant and other acoustically-challenging spaces.

The deterministic ultra-low latency offered by PRO X's AES50 networking allows multichannel digital audio to be distributed throughout worship halls so that speaker systems can be precisely time-aligned to allow every member of the congregation to hear every word.

Theatre

PRO X's 1,000 scene snapshot automation can cope with even the most sophisticated theatrical productions. Hardware automation 'Safe' buttons enable the operator to quickly isolate selected processing areas from recall should this be required during a performance. The store and recall of scenes can be 'scoped' so that only the areas that the operator wants to store or recall are affected.

Channel settings can be edited in advance of recall – across all scenes – from the Show Editor screen, and scenes can be re-ordered, inserted and deleted, simply and quickly, without overwriting their designation.

Scenes can be recalled instantaneously, with no discernible drop in audio, or via complex crossfade

options, including programmable surround-sound panning events.

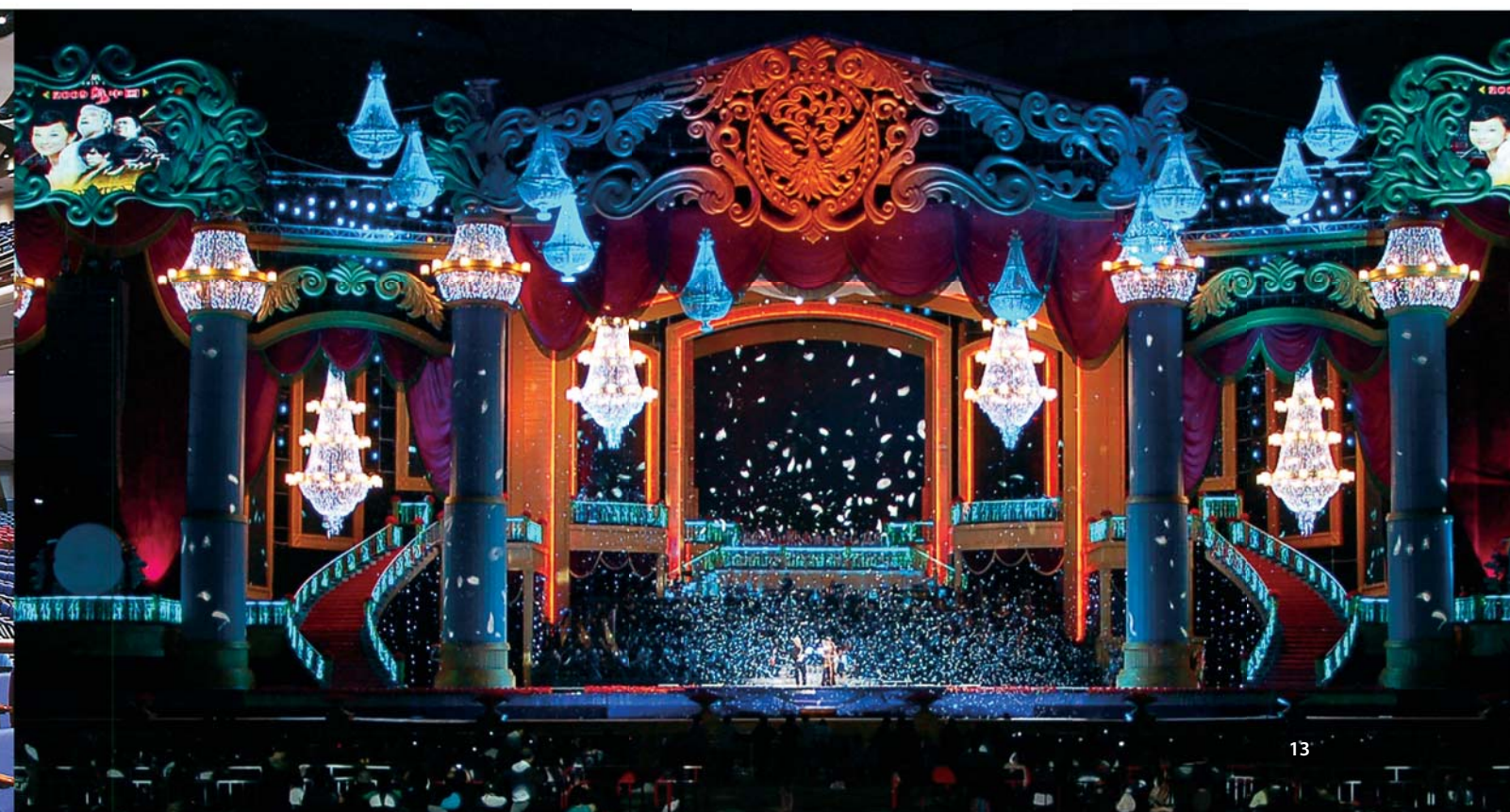
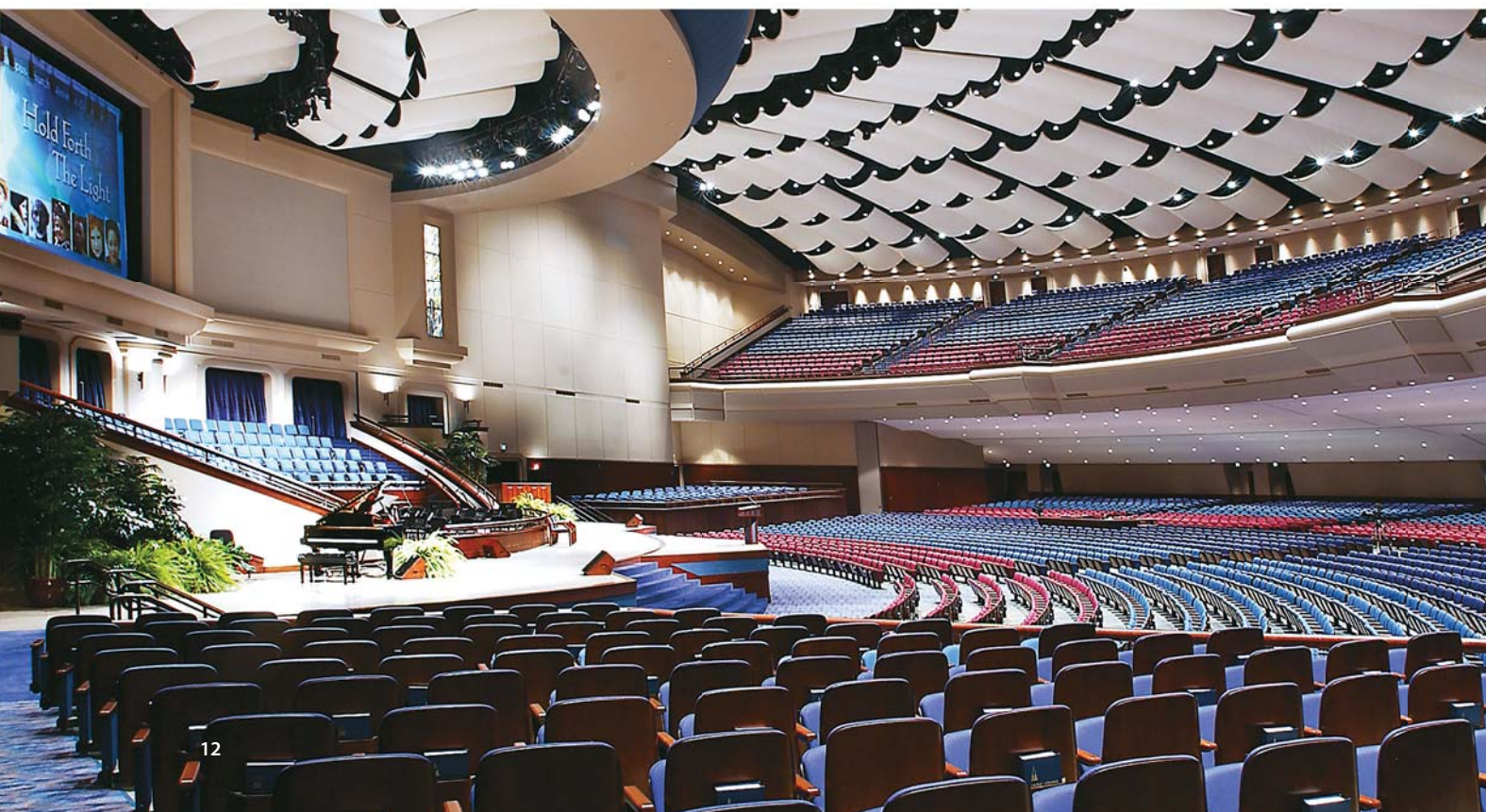
The automation scenes allow MIDI events to be incorporated, so that external MIDI-compatible devices can be controlled as part of a scene change via PRO X's MIDI output. Additionally, console events can be triggered from an external MIDI source via PRO X's MIDI input.

The PRO X control surface's EXPAND feature allows all 26 channel faders to be reassigned to input channels, giving operators the facility to ride multiple input channel faders during a theatrical performance.

This hands-on approach brings the immediacy of an analogue console to a digital control surface.



Queen's Award 1986



NEUTRON

The Most Powerful Audio System Engine

The NEUTRON Audio System Engine is Unbelievably Powerful, Fully Expandable and Can Process up to 800 Audio Paths.

Your System is Future Proof.

The powerhouse at the centre of the PRO X system is the new NEUTRON Audio System Engine. NEUTRON is the result of a three-year research and development program that has seen MIDAS engineers push beyond the envelope with their expertise and knowledge.

100 Gigafllops

Its cutting-edge, latest generation DSPs and high-performance FPGA, couple with snugly-coupled MIMD (Multiple Instruction, Multiple Data) architecture delivers more than 100 gigaflops of real-time audio processing performance.

This means that NEUTRON has the potential to provide more than 800 audio paths. Your system remains absolutely future proof.

More than three times the power of other competitors, it delivers impeccable MIDAS 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.

Automatic Time Alignment

All MIDAS digital console systems have a comprehensive and automatic latency management system and NEUTRON is no exception. This system manages all internal routing and processing latency and also includes compensation for external analogue inserts.

All audio samples are synchronised before summing, resulting in absolute phase coherency at the outputs and completely avoiding the "comb filtering" effects of less carefully designed systems that result in specific frequencies cancelling out completely.

Comprehensive Channel Processing

NEUTRON's channel processing is as comprehensive as you would expect from a world-class professional audio console. Every input channel features delay, high and low pass filters, insert point, gate, compressor and 4-band parametric EQ.

Each output channel features delay, insert, dynamics and 6-band fully-swept parametric EQ and both input and output paths' processing order is easily reconfigurable. It's how the PRO X approaches these facilities that bear closer inspection.

Dual Input Gains

The PRO X boasts two input gains per channel. First is the remote analogue gain for that legendary MIDAS microphone preamplifier, the second is a digital gain.

Set the analogue gain for the desired amount of that famous MIDAS "warmth", then use the digital gain to trim to your preferred gain structure.



Live Sound! Tin Ear Award 1994

Equalisation

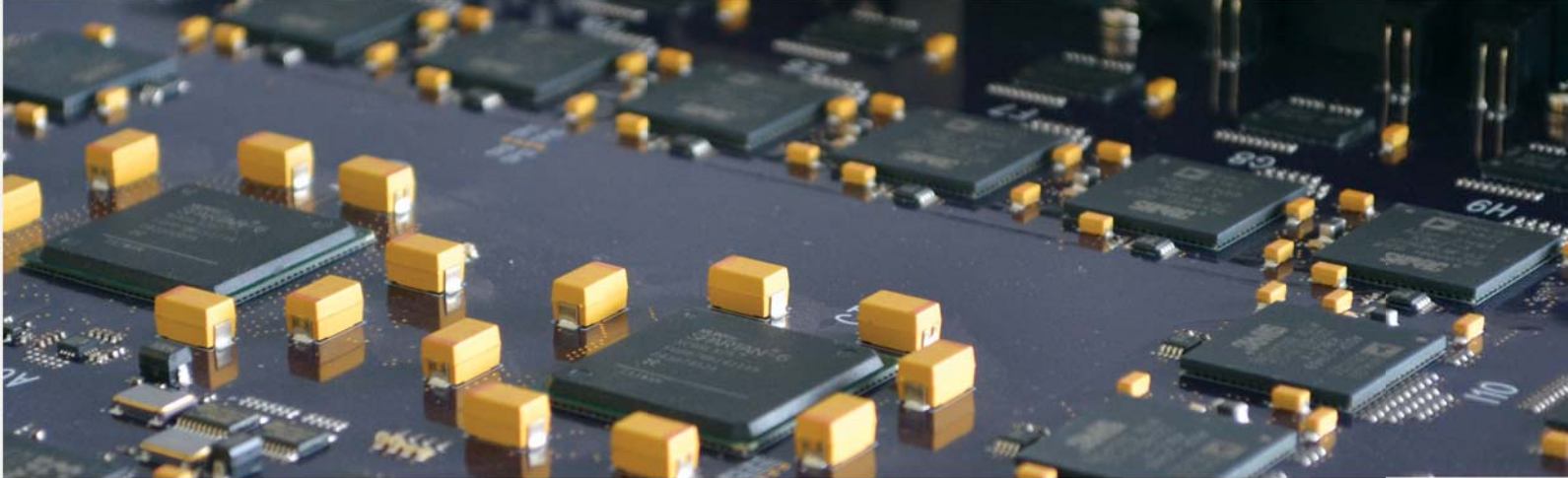
PRO X's digital EQ features fully-interpolated controls, which recreate the original phase shift as experienced when working on the world's best-loved analogue consoles. Each input channel has 4-band parametric EQ, with a choice of 4 different filter types for both the high and low filters. These powerful options can emulate the sound of historic MIDAS consoles in real time or allow advanced digital filter types, free of the limitations of analogue circuitry.



The nucleus of the NEUTRON is a Super Audio Engine that can process up to 800 audio paths.

NEUTRON

The Most Powerful Audio System Engine



Dynamics Processing

The dynamics processing on the PRO X's input channel features a frequency-conscious gate and a choice of five different compressor algorithms. Each algorithm allows further creative expression, as all feature variable knee, internal and external side-chain filtering and colouration artefact options.

Output bus compression offers a choice of five different options, designed to provide the engineer with a broad palette for maximum creative potential, right down to the visual display on the screen changing to support the different styles. More dynamics processing options are available in the FX rack, including multi-band compression and dynamic equalisation.

FX Rack and Graphic EQs

The PRO X can simultaneously process up to 48 Virtual FX algorithms and NEUTRON's 40 bit floating-point audio processing hosts a wide choice of virtual FX devices, which range from dual-mono delay units, stereo modulation and many diverse reverb FX, multiband compression, dynamic EQ and multichannel dual-function dynamics processing.

All FX processors are custom-designed to function within the MIDAS automatic latency compensation system. This ensures a phase-coherent sample-accurate mix regardless of whether the FX devices are used as channel inserts or as a send-and-return.



Delay FX can be individually configured to synchronise to the PRO X's Global Tap-Tempo hardware button, making on-the-fly changes to delay effects child's play.



Up to 36 1/3 octave KLARK TEKNIK DN370 Graphic Equalisers (GEQs) are provided, which can be patched into any output.



Surround Panning

In addition to normal stereo and SIS (Spatial Image System) operation, the console can operate in one of three surround sound modes.

- Quad 4-Channel – L-R front plus L-R rear
- LCRS 4-Channel – L-R-C plus single rear channel
- Quad 6-Channel – L-R-C plus sub plus L-R rear

All three surround modes feature a divergence control to tailor the depth of the surround panning. Dynamic surround panning can be implemented using the console's trackball, or the USB pointing device of your choice.



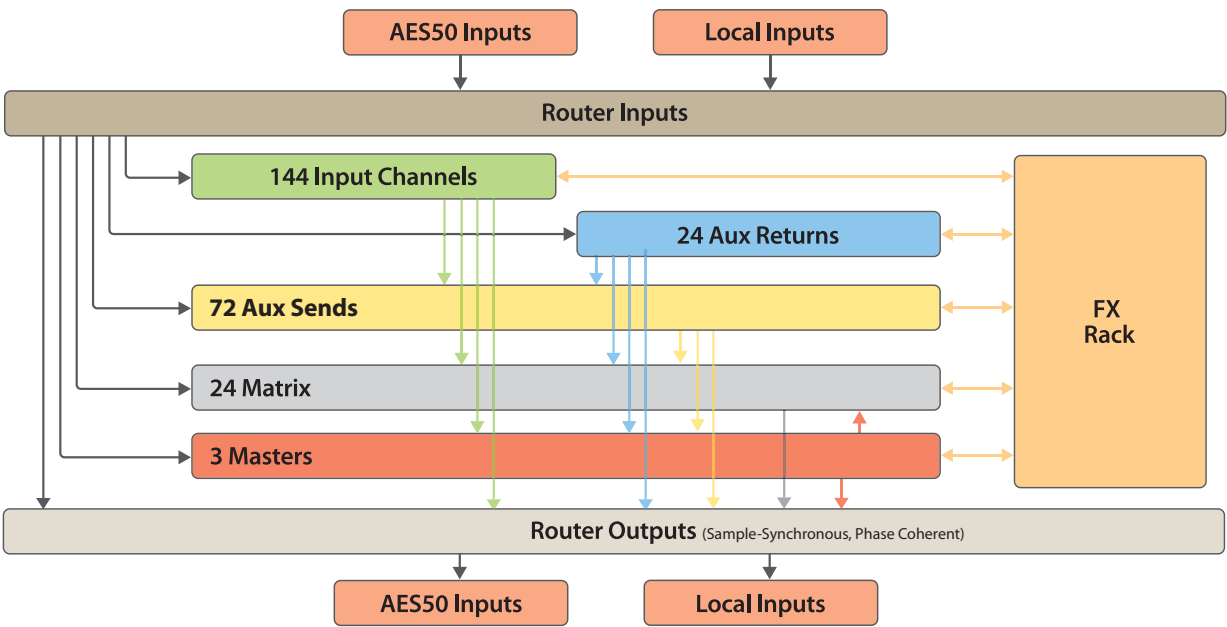
Free-Routing System

PRO X has up to 288 inputs x 294 outputs, with point-to-point routing anywhere within the network. These can be patched and routed on a scene-by-scene basis via the powerful snapshot automation system.

192 Channel Multi-Core

NEUTRON has 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, make the NEUTRON more than just a processing engine, it's the heart of a performance area network of the best in audio technology.



NEUTRON

The Most Powerful Audio System Engine



The Live Award 1993



Triple Redundant Power Supplies

NEUTRON's sleek 7U 19" rack mount unit contains three removable power supplies, only two of which are required for full operation.

These power supplies are auto-voltage sensing, auto-switchover and are fitted with locking AC connectors and are identical to, and therefore interchangeable with, the PSUs in the PRO X control centre.



Triple redundant power supplies for enhanced reliability

PRO X - What You See is What You Get

Console	Inputs	Busess	Masters	Notes
Competitor D	163	90	2	Example configuration. Numbers may not exceed either available processing blocks or bus paths, dependent on chosen proportion of inputs to bus types and not exceeding maximum limit of 255 total paths. Includes set minimums for specific path types and dependent on sample rate selected.
Competitor S	144	46	2	Example configuration. Total path count includes the 25% of capacity without processing, but does not include unprocessed matrix. Channels chosen from predefined types and selected within variable limits of processed/unprocessed channels within each type.
PRO X	168	96	3	What you see is what you get. No 'smoke and mirror' DSP sharing, the PRO X provides full channel count, full bus count and 96 kHz sampling. All the time.



Legendary MIDAS Sound Quality

While the MIDAS PRO X design, styling and construction will surely turn a lot of heads, it's the sound that matters most to engineers and performing artists. And that's where the PRO X shines even brighter - as the latest in a long line of pristine-sounding MIDAS consoles, it descends from a celebrated lineage that literally set the standard in electrical design and sound quality. Ever since MIDAS consoles first found fame 40 years ago with acts like Billy Joel, Yes, The Beach Boys, Pink Floyd and others, the MIDAS legacy has always been

about uncompromising quality and the ultimate in sound reproduction.

Built For Tomorrow

The PRO X is a console built for today and tomorrow - driven by its future-proof 96 kHz open architecture design and industry-leading audiophile Cirrus Logic* multi-channel 192 kHz-capable A/D converters, which boast a 114 dB dynamic range, ensuring impressively low distortion and low noise performance.

Award-Winning MIDAS Mic Preamplifier



NAMM TEC Nominee 2012

The MIDAS microphone preamplifier is considered by leading live sound and recording engineers to be the very essence of the famous MIDAS sound. More than 40 years of design experience, paired with the finest choice of premium-grade components lead to the acclaimed warmth and depth, bring out subtle ambience, maintain spacial positioning, and more effectively capture a precise image. The acclaimed sound of the award-winning MIDAS microphone preamplifier has inspired generations of live sound engineers to their best work, creating sonic landscapes that have captivated audiences worldwide.

Creating Sonic Landscapes

The MIDAS preamplifier design eliminates typical imbalances of gain-setting stages, thereby improving the common-mode rejection ratio (CMRR) and harmonic distortion to an almost immeasurable level. The constant high-frequency bandwidth topology assures excellent stability, RF rejection and noise performance at all gain levels, contributing to its transparent, open and dynamic sound. But it doesn't end there; over the years many mix engineers have found that this robust and overload-tolerant design takes on a whole new dimension of sound when driven hard, the pristine audiophile reproduction giving way to just the right combination of harmonics, a warm and organic sound heard by millions of concert-goers and recorded for posterity on countless live albums over the years.

Since pristine sound always begins with the microphone preamplifier, the first point where your signal enters the console, PRO X features genuine MIDAS microphone preamplifiers which faithfully reproduce every sonic detail, so no part of a performance will ever be missed. Transparent and pristine sound, low noise and high common-mode rejection are all hallmarks of this classic design.

In MIDAS' relentless pursuit for the ultimate in audio performance, the microphone preamplifier used in

MIDAS PRO Series is an enhanced version of the classic design found in the XL4 and HERITAGE series consoles, which many consider to be the greatest analogue live consoles ever built. Over the past decade the XL4 and HERITAGE 3000 have been utilised by countless top artists including Bon Jovi, Alanis Morissette, AC/DC, Coldplay, Kid Rock, Metallica, Alicia Keys, Foo Fighters, Christina Aguilera, Sir Paul McCartney, Pearl Jam and many more.

The PRO X draws from this same legacy to bring you an elite professional level of audio quality and performance.



The PRO X Control Centre

The same engineering expertise that has seen the rugged and roadworthy performance of MIDAS consoles through the bumps and knocks of four decades of world touring ensure that the PRO X control surface is as solid as a rock, night after night.

Daylight Viewable Screens

While some consoles claim daylight visibility, they can easily become difficult or even impossible to operate in high ambient lighting.

PRO X's visual support is engineered to remain exceptional.

Tested in the sweltering glare of the Nevada desert, our daylight viewable screens are peerless when it comes to providing visual, as well as audio clarity.

29 Precision, 100 mm MIDAS PRO Faders

The PRO X employs 29 of our world famous MIDAS PRO Faders, rated for up to 1,000,000 cycles - three times that of other leading manufacturers.

PRO X strikes the perfect balance in every design direction. It mirrors the natural work flow of mix engineers to provide effortless control and crystal clear feedback of system status at all levels, from the highest overview to the finest detail.

LCD Channel Displays With Colour Coding

Live sound engineers have typically used colour when navigating mixing consoles by applying different-coloured adhesive tape and swapping coloured fader knobs to help make console navigation faster and more intuitive.

MIDAS have taken this established principle of channel recognition and applied it to the control surface. Channels and VCA/POP groups are easily identified with assignable LED colour coding and digital write-on buttons.

New Output Section

The PRO X control surface features an entirely new output section that makes handling the potentially huge number of buses a breeze. A page of 24 of the possible 96 bus masters is displayed across three rows of eight, each position easily identified by the same kind of select switch as the channel bay.

The digital write-on name and RGB backlight colour means 'can't miss' selection. Pressing 'to faders' on any row drops the master fader for those buses onto the mix bay.

All of the buses can be scrolled through, in pages of 24, and when an output is added to a POP group, it will unfold to the dedicated output section, making it even easier to organise your workflow.

Legendary Sound

PRO X feels, as well as sounds superb. All the variable controls on the console are genuine analogue high precision potentiometers, not mechanical encoders.

These access NEUTRON through precision instrumentation A-D converters and MIDAS's custom interpolation algorithms. This means that as well as all audio, all operator input is fully interpolated to ensure a linear, analogue-style, silky smooth 'feel' to your mix.

VCAs, POP Groups and Channel Navigation

At the heart of MIDAS console navigation are the VCA and POPulation groups, which provide primary access to multiple channels (typically grouped into related clusters by mix engineers).

To access all the channels belonging to any of the VCA or POP groups, merely press the select switch and those channels unfold to the control surface.

If you think of the VCA faders as if they were each containers for all the channels they control then finding channels becomes a natural and easy task.

This method is further expanded through the provision of user customised POP (POPulation) groups, which can contain any combination of channels that you want to access instantly, at the press of a switch.

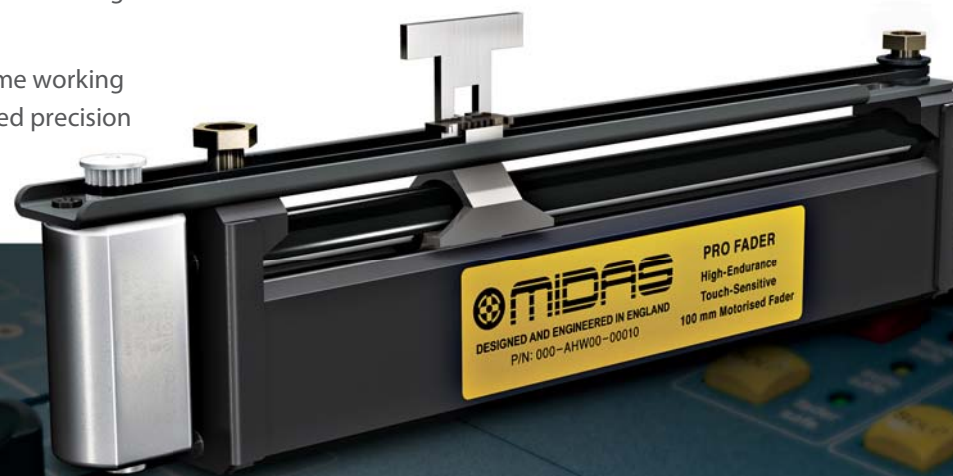


The MIDAS PRO Fader-Rated for 1 Million Life Cycles

In our pursuit to lead the industry in every possible aspect, we decided to design the world's most reliable motor fader. We dove deep into materials science, employing semi-precious metals that offered the durability we desired. We took painstaking care to design a motorised fader that would provide continuous performance night after night, year after year.

After spending a great deal of time working with metal vendors, we developed precision

components that offer high linearity, robustness, and smooth feel during operation. We needed ultra-straight high-grade steel rods with smooth polished surfaces - and we got them. We worked closely with our manufacturing partners to maintain the tolerance of our parts, always choosing the most



LCD Scribble Strips



Live Sound! Tin Ear Award 1995

suitable materials and controlling the process to ensure consistent moulding quality and eliminating the warping and deformation caused by shrinking as the parts cool.

True, none of this was easy - we spent many long hours developing the MIDAS PRO Fader design. However the results speak for themselves.

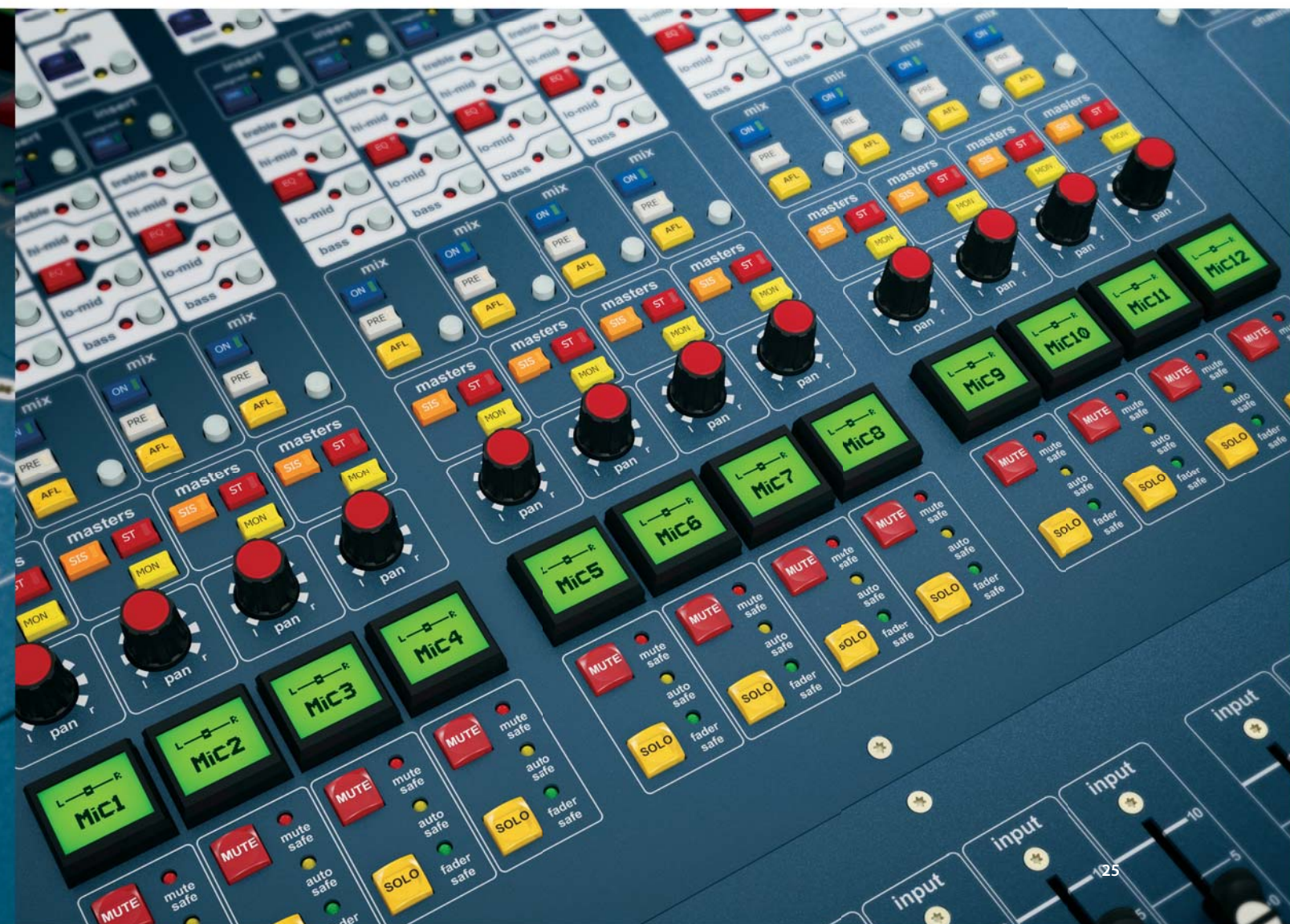
MIDAS PRO Faders are rated for up to 1,000,000 cycles - three times that of other leading manufacturers.

Total Visibility - Total Control

A total of 58 programmable LCD Scribble Strips offer channel/bus identification that mirrors what is being controlled.

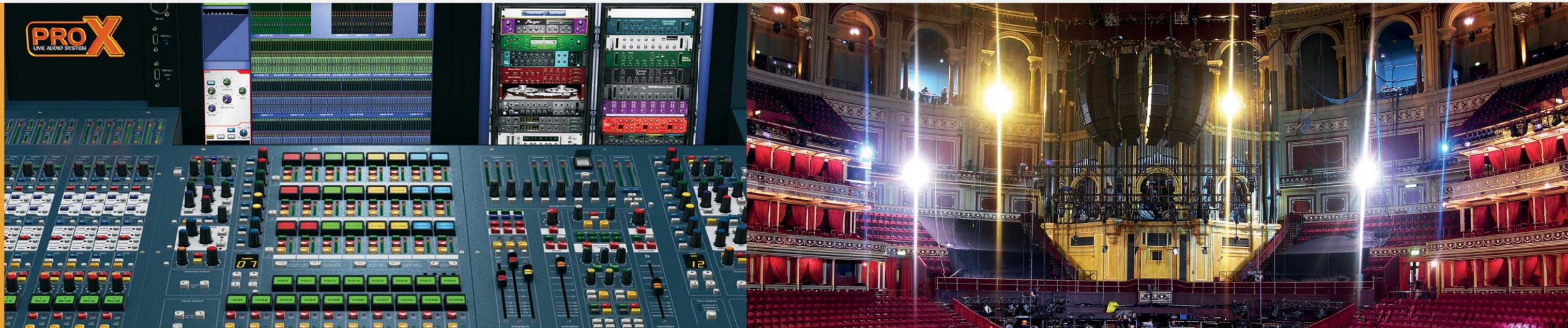
Use them to enter input/output tags, then assign colours to create visual groups for immediate, on-the-fly recognition of similar inputs.

Simple, elegant and effective - plus you'll never need masking tape again.



The PRO X Control Centre

PRO X has the ability to make working with the console as simple as requirements dictate, or as deep and complex as your creativity demands.



MCAs

MCA groups (Mix Control Association groups), operate similarly to VCA groups, but are specific to the selected mix. When the PRO X is in Advanced Navigation mode, and MCA Navigation is engaged, the MCA faders control the contributions of their members only to the currently selected bus. This is a unique and powerful mixing tool, which puts the PRO X in a class of its own for innovation and usability.

Advanced Navigation

The four modes of channel and mix bay navigation, FLIP Navigation, FX Navigation, GEQ Navigation, and MCA Navigation, allow an engineer to easily and efficiently mix a large number of inputs on a compact control surface. By obeying a simple set of rules, this intelligent user interface helps to focus the control surface on just the controls you need, when you need them.

FLIP Navigation

Selecting an output flips the input faders to become the input channel send levels to the selected output.

The console will only populate with the input channels that are assigned to the selected output.

FX Navigation

Selecting an output patched to an internal FX processor will deploy that FX processor on the display screen and map the Assignable Controls to the FX processor. If Fader Flip is also engaged, the input channel faders will become the contributions to the FX processor.

If Collapsed Flip is selected, the operator will only be presented with input channels that are sending to that FX processor.

GEQ Navigation

Selecting an output which has a GEQ assigned will present the GEQ on the VCA faders. Scrolling the VCA faders left and right will provide access to all 31 GEQ faders. If Fader Flip is also engaged, the input channel faders will become the contributions to the selected mix.

If Collapsed Flip is selected, the operator will only be presented with input channels which are sending to that mix.

MCA Navigation

When an output (mix) is selected, the MCA faders for that output will be deployed on the VCA fader bank. The MCA faders control the contributions of their members only to the currently selected bus. This is a unique and powerful mixing tool, which puts PRO X in a class of its own for innovation and usability.

Dual Operation, Areas A and B

MIDAS's digital control surfaces can be divided into two areas, Area A and Area B facilitating dual operator use. The four-input channel area on the far right of the PRO X surface can be designated as Area B by selecting the Area B button located below the scroll buttons in the 'input select' area. The input control channels on the right-hand side of the Control Centre can now be used independently of those on the left.

VCA and POPulation groups can be pre-selected to populate either Area A or B. This means a group of inputs can populate different areas of the surface. The engineer brings the required inputs to their

local work surface, where they are quickly and easily identified and changes implemented.

There are two independent stereo solo buses available. Any input or output channel can be assigned to either monitor bus. Allowing two operators to work simultaneously or for stage monitor and in ear monitor systems to be separated.

Three-Way KVM switch

The PRO X control surface incorporates a KVM switch (Keyboard – Video – Mouse). This switch allows one screen on the control surface plus the keyboard and trackball to be switched to one of three external computer connectors.

This is a great way of reducing 'clutter' at the control surface position. A control surface screen, keyboard and trackball can be used to control up to three other systems where the computers are placed out of harm's way. These external systems, such as ProTools*, Waves* Multi-Rack, Shure* UHF-R radio mics and Dolby Lake* System Controllers, then appear on the PRO X control surface screen and are controlled by the surface keyboard and trackball.

Automation

All software versions, including stored shows on a USB stick, are both forward and backward compatible, a show created on a PRO-Series console can be loaded into another MIDAS console regardless of the software version on either system.



1,000 Scene Automation System

The PRO X's automation system can store and recall up to 1,000 snapshot scenes. These contain the audio parameter values for every control on the console as well as the network routing, configuration of the FX rack, and the format of the mixer itself, all of which is scene-specific.

Scope

Hardware automation 'safe' buttons are provided to enable the operator to quickly isolate selected processing areas from recall should this be required during a performance. In addition to these isolation functions, the store and recall of scenes can be 'scoped' such that only the areas that the operator

wants to store or recall are affected (all other controls remaining in their current state).

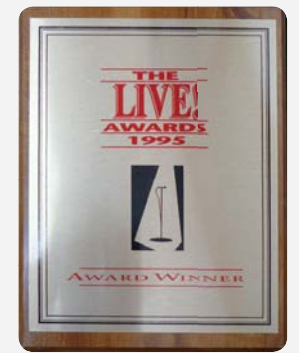
Routing Reassignment

NEUTRON's comprehensive routing system can be placed entirely under the control of the automation system, enabling scene-by-scene changes of input sources, output destinations, inserts and virtual effects.

GPIO And MIDI Events Per Scene With Time-Offsets

MIDI input and outputs are provided, for control of external MIDI devices, or for recalling console events from an external MIDI source.

Virtual Effects Racks



The Live! Award 1995

MIDI messages and GPIO (contact closure) signals can be sent and received by the MIDAS Console Automation System to local I/O at the console position and remotely to MIDAS I/O devices which can be 500 m away.

Show-Wide Edits Via The Show Editor

Channel settings can be edited in advance of recall – across any or all scenes – from the Show Editor, and scenes can be re-ordered, inserted and deleted, simply and quickly, without overwriting their designation. Scenes can be recalled instantaneously, with no discernible drop in audio, or via complex crossfade options, including programmable surround-sound panning events.

Effects Algorithms

The PRO X includes an extensive array of onboard effects, rendering outboard processing racks a thing of the past.

The cutting-edge, 40-bit, floating-point DSP processing hosts a wide choice of virtual FX devices, which range from dual-stereo delay units, stereo modulation and many diverse reverb FX, to multiband compression, dynamic EQ and multichannel dual-function dynamics processing.

This gives the PRO X the capability of providing up to 24 simultaneous real-time effects engines which are available without compromising any other audio functionality. Custom-designed and physically modelled after some of the most iconic and sought-after processors, all effects run inside the low-latency environment of the PRO X mix engine, ensuring flawless performance, flexible routing and the end of cable faults forever.



Flanger

Flanging is an audio effect produced by mixing two identical signals together, one signal delayed by a small and gradually changing period. This effect imitates a traditional flanger effects unit with variable Low Frequency Oscillator shape, 'Thru-Zero' which emulates real tape flanging, and also has adjustable damping parameters.



Phaser

A phaser is an electronic sound processor used to filter a signal by creating a series of peaks and troughs in the frequency spectrum. Our phaser is loosely modelled after the Mu-Tron Bi-Phase, and features variable shape sweep, variable stages and stereo effects.



Dual Stereo Chorus

The chorus effect is achieved when individual sounds with similar, though not identical timbres or frequencies are combined. This effect is modelled after the Boss Dimension C, its four presets are based on the original, the Dual Stereo Chorus has been modified to provide stereo width control and it is a true stereo device.

Virtual Effects Racks



Live Sound! Tin Ear Award 1995



Pitch Shifter

Pitch shifting is a well-used sound recording technique in which the original pitch of a sound is changed either up or down for creative purposes. The Stereo/Dual Pitch Shifter performs this function perfectly, and also works particularly well at thickening up monophonic instruments.



Variable Phase

The Variable Phase effect allows the user to alter the phase of a signal by a variable amount. The unit has eight variable phase inputs, each with a mono signal with its own set of parameters, and the ability to stereo link between each pair.

The effect works using two all-pass filters in series, and controlling the centre frequency of the filters to change the phase shift. The all-pass structure allows for a flat magnitude-frequency response, however the filters delay different frequencies by different amounts resulting in a frequency-dependent phase shift.

Additional features have been added to this fundamental design by allowing control over the frequency range of the centre frequencies. The Phase Frequency Range allows a greater range of frequencies to be covered by the control. The user can also switch between a 90° or 180° phase shift by using the 180° / 90° Phase Shift button.



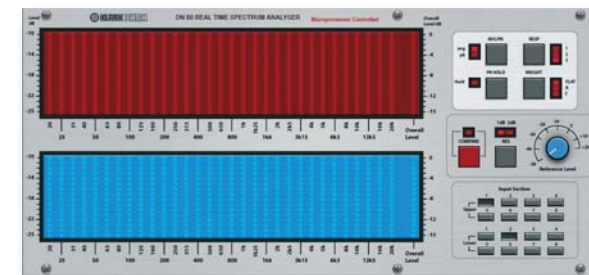
Sub Monster

The Sub Monster is a sub-harmonic synthesiser effect which boosts the low frequencies of an audio signal by generating an additional signal an octave below a given frequency range. The aim of this effect is to add low end to a signal which may have weaker low frequency content, or to generally increase the bass frequencies.

The Sub Monster works particularly well on drum tracks, especially bass drums, and when applied to an overall mix. When placed on individual instruments it can create a sub-octave doubling effect, which works well when applied to monophonic sounds.

The effect has five tunable bands of sub-octave synthesis, each with its own gain control. The frequencies on which the bands are centred are controlled using the tune parameter, which controls all five bands' centre frequencies to reduce overlap.

The tune parameter ranges from 10 Hz to 30 Hz which corresponds to the frequency of the lowest generated sub-harmonic band, with each subsequent band having a minimum and maximum frequency of 1.5x the previous band's minimum and maximum frequency. This gives a total range of sub-harmonic synthesis between 10 Hz and 150 Hz.



DN60 Spectrum Analyser

The function of an audio spectrum analyser is to separate the components of any audio signal into defined frequency bands, and to indicate the level of energy present in each of those bands. The Spectrum Analyser effect provides this functionality across 31 discreet bands, and can also be used for multichannel processing by allowing for switchable inputs for complete flexibility. The display has two banks of meter graphs, each with a set of eight input switches, allowing any of the eight inputs to be routed to either graph in any combination.

Also included are three frequency weighting curves, which can be selected using the Weight parameter. Weighting curves are a set of factors that are used to weigh measured values to a certain frequency response. The main reason for this is to allow for the response of human hearing. Recent research into the response of the human ear has revealed a flatter response in the higher frequencies at high sound pressure levels. Therefore this parameter can be switched between Flat, the traditional weighting A, and the more recently developed weighting C.

The Compare mode allows the user to select any two signals and display a comparison of the frequency spectrum across the two graphs. Essentially the two displays become one, with the top display showing positive differences between the comparison signals, and the lower display inverted to show negative differences. The scale on the display will also change to compensate.



Tape Saturation

As its name suggests, the Tape Saturation effect emulates analogue tape saturation; when the amount of magnetised particles required to fully record and reproduce an audio signal exceeds the amount available. This can be heard as analogue 'warmth', and similar effects can be achieved in the digital domain by emulating various analogue tape artefacts.

An example of this is tape's tendency to compress the high frequencies in 'transients', or peaks in the audio signal, and while this is a side-effect of using analogue tape, it can also be desirable when trying to achieve a vintage tape sound. This effect can be altered by use of the Transient Smoothing control.

Another way to achieve that nostalgic tape sound is by the creative use of biasing; most professional tape machines are set up to compensate for this, in other words, to be slightly overbiased. The Overbias control is used to emulate this by reducing the amount of tape distortion at the expense of the high frequencies and transients. The limit of the high frequency response is also controlled by the overall frequency response of the tape process, and this in turn is affected mainly by utilising different tape speeds. Slower tape speeds (3.1 / 4 / 7.5 ips) have less high frequency definition and a boost at low and mid frequencies, whereas higher speeds (15 / 30 ips) have better high frequency representation and less extreme lower ends resulting in more accurate audio reproduction.

Virtual Effects Racks



Live! Gold Award 1996



Dual Stereo Delay

The big brother of the digital delay, the dual stereo delay houses two independent stereo delays with nudge control, BPM/time control and flexible damping filters.



KLARK TEKNIK SQ1 Dynamics

Eight channels of dual-mode compression/gating with ITS hysteresis and highly flexible channel linking. The compressor features RMS or "Vintage" peak sensing with hard and soft knee responses, and the side chain band pass filter allows both frequency-conscious compression and gating.



Ambience Reverb

The Ambience effect provides a three dimensional room sound to closely-miked or direct-injected (DI) sources, and its strong early reflections create a spacious sound field with depth and warmth, without colouration of the original signals.

The Ambience effect increases the perceived depth in the sound field whilst maintaining the perceived position in the stereo field. It is modelled on the Lexicon PCM91* Ambience effect.



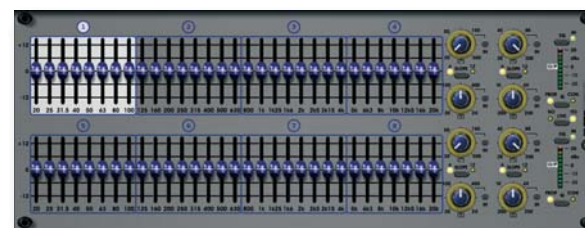
Vintage Room Reverb

Feeling nostalgic? The Vintage Room Reverb is ideal for mixes or sub-groups as it adds space to complex signals - highly valued in classical music and broadcast environments. And while the sound might take you straight back to the 70s, the streamlined user interface has been designed to be instantly accessible and user friendly, with all the controls on one panel.



Hall Reverb / Plate Reverb

Two classic reverb algorithms inspired by the gold standard of digital reverb, the Lexicon 480L*.



Stereo Graphic EQ

This Stereo Graphic EQ is a stereo version of the KLARK TEKNIK DN370 GEQ algorithm used on PRO X's output buses.

On its release in 2004, the KLARK TEKNIK DN370 was the latest evolutionary step in a process of design refinement that goes back over 40 years.

With DN370, KLARK TEKNIK started from the ground up and produced a unit that was totally without compromise, and still considered one of the finest professional graphic equalisers in the world.



KLARK TEKNIK DN780

Lovingly modelled after the original renowned KLARK TEKNIK device, the DN780 reverb features the original presets (Hall, Plate, Room, Chamber, ALIVE!, Non-linear, Reverse, Infinite room).



Delay

First achieved by studio pioneers using loops of audio tape, the delay is now a much more refined affair. The PRO X Delay is a tempo or time-based emulation of a 'Bucket-Brigade' analogue delay with normal/cross feedback, delay time and high-frequency damping modulation.



Dynamic EQ

EQ has been around since before electronic amplification, and originally used to compensate for the uneven frequencies on telephone lines. Then it fell into the hands of studio and live engineers

where it became a must-have tool for achieving that perfect pitch.

Modelled after the industry standard, the Dynamic EQ features 4 stereo bands with lightning fast filter updates and almost instantaneous reaction to changing source material.



Stereo 3 Band Compressor

Traditional dynamic range compression reduces the volume of loud sounds and amplifies quiet sounds by narrowing an audio signal's dynamic range. Our stereo 3-band compressor is an extremely transparent multi-band compressor that can also be adjusted over three frequency ranges to fine-tune the output signal to perfection.



Matrix Mixer

Need additional functionality to route multiple input audio signals to multiple outputs? Then look no further than this 8-input / 8-output Matrix Mixer, which features delays on both input and output channels and a 4-band parametric EQ on each output.

In a live environment, it is perfect for optimising the blend of sounds going to various locations within the performance space.

Connectivity and I/O

With a wide range of modular and fixed I/O units, the number and configurations can easily be expanded for complex applications or simply streamlined for less demanding duties.



DL151 Audio System I/O

24 Input Stage Box with 24 MIDAS Microphone Preamplifiers

- 24 award-winning MIDAS microphone preamplifiers with switchable +48 V phantom power
- Remote operation up to 100 m via CAT5/5e cable
- 24 bit audio operation with 96 kHz sample rate
- Open architecture allows for future 48 kHz operation
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front pane
- Supports dual redundant AES50 networks
- Features Neutrik etherCON* AES50 network ports
- Rugged 2U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England



DL152 Audio System I/O

24-Output Stagebox

- 24 electronically balanced low impedance line level outputs
- Remote operation up to 100 m via CAT5/5e cable
- 24 bit audio operation with 96 kHz sample rate
- Open architecture allows for future 48 kHz operation
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- Supports dual redundant AES50 networks
- Features Neutrik etherCON* AES50 network ports
- Rugged 2U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England



DL153 Audio System I/O

16 Input, 8 Output Stage Box with 16 MIDAS Microphone Preamplifiers

- 16 award-winning MIDAS microphone preamplifiers with switchable +48 V phantom power
- 8 electronically balanced low impedance line level outputs
- Remote operation up to 100 m via CAT5/5e cable
- 24 bit audio operation with 96 kHz sample rate
- Open architecture allows for future 48 kHz operation
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- Supports dual redundant AES50 networks
- Features Neutrik etherCON* AES50 network ports
- Rugged 2U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England



DL154 Audio System I/O

8 Input, 16 Output Stage Box with 16 MIDAS Microphone Preamplifiers

- 6 award-winning MIDAS microphone preamplifiers with switchable +48 V phantom power
- 8 electronically balanced low impedance line level outputs
- Remote operation up to 100 m via CAT5/5e cable
- 24 bit audio operation with 96 kHz sample rate
- Open architecture allows for future 48 kHz operation
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- Supports dual redundant AES50 networks
- Features Neutrik etherCON* AES50 network ports
- Rugged 2U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England

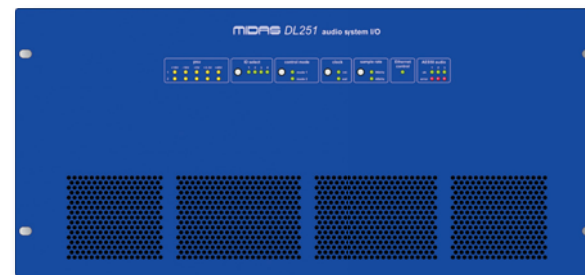
Connectivity and I/O



DL155 Audio System I/O

16 Input, 16 Output Stage Box with 8 MIDAS Microphone Preamplifiers and AES3 Digital Interface

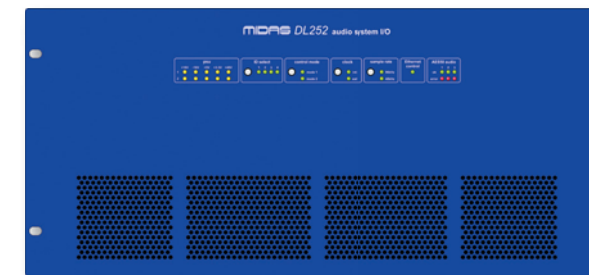
- 8 award-winning MIDAS microphone preamplifiers with switchable +48 V phantom power
- 8 AES3 (AES/EBU) digital inputs and outputs
- 8 electronically balanced low impedance line level outputs
- Remote operation up to 100 m via CAT5/5e cable
- 24 bit audio operation with 96 kHz sample rate
- Open architecture allows for future 48 kHz operation
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- Supports dual redundant AES50 networks
- Features Neutrik etherCON* AES50 network ports
- Rugged 2U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England



DL251 Audio System I/O

48 Input, 16 Output Stage Box with 48 MIDAS Microphone Preamplifiers

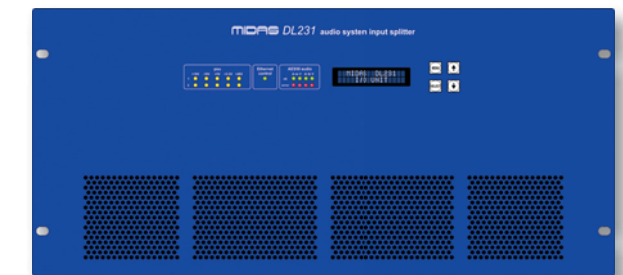
- 48 award-winning MIDAS microphone preamplifiers with switchable +48 V phantom power
- 16 actively balanced low impedance line level outputs
- Selectable 96 kHz or 48 kHz sample rate operation
- Remote operation up to 100 m via CAT5/5e cable
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration switches on front panel
- 3 AES50 network ports for redundant connections
- Features Neutrik etherCON* AES50 network ports
- Rugged 5U rackmount chassis for durability in portable applications
- Dual redundant auto-ranging universal switch-mode power supplies
- 3-Year Warranty Program**
- Designed and engineered in England



DL252 Audio System I/O

16 Input, 48 Output Stage Box with 16 MIDAS Microphone Preamplifiers

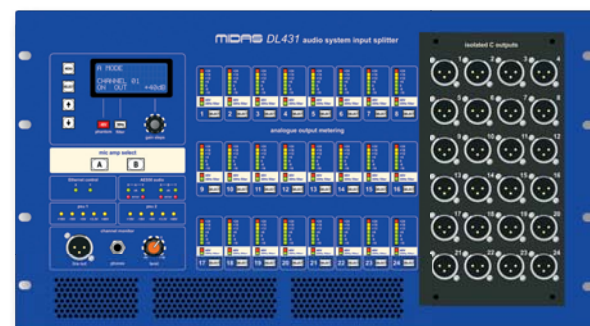
- 16 award-winning MIDAS microphone preamplifiers with switchable +48 V phantom power
- 48 actively balanced low impedance line level outputs
- Selectable 96 kHz or 48 kHz sample rate operation
- Remote operation up to 100 m via CAT5/5e cable
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration switches on front panel
- 3 AES50 network ports for redundant connections
- Features Neutrik etherCON* AES50 network ports
- Rugged 5U rackmount chassis for durability in portable applications
- Dual redundant auto-ranging universal switch-mode power supplies



DL231 Audio System Input Splitter

24 Input, 24 Output Active Microphone Splitter with 2 Independent MIDAS Microphone Preamplifiers

- 2 award-winning MIDAS microphone preamplifiers per channel with switchable +48 V phantom power
- 2 dual redundant AES50 network ports with independent phase-locked loop synchronisation
- 24 electronically balanced output channels can be sourced from microphone preamplifiers or AES50 ports
- Remote operation up to 100 m via CAT5/5e cable
- 24 bit audio operation with 96 kHz sample rate
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- Features Neutrik etherCON* AES50 network ports
- Rugged 5U rackmount chassis for durability in portable applications
- Dual redundant auto-ranging universal switch-mode power supplies

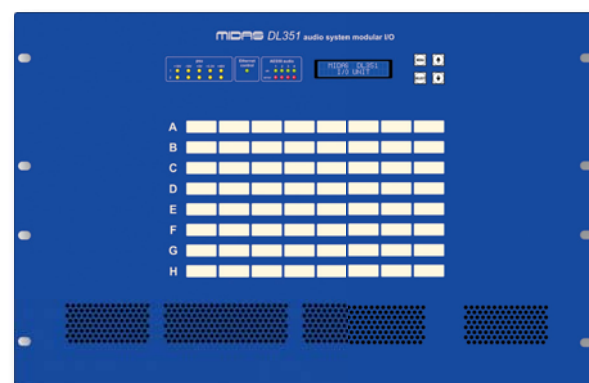


DL431 Audio System Input Splitter

24 Input, 72 Output Active Microphone Splitter with Independent MIDAS Microphone Preamplifiers

- 24 channel microphone splitter with 2 electronically and 1 transformer balanced outputs per channel
- 2 award-winning MIDAS microphone preamplifiers per channel with switchable +48 V phantom power
- 2 independent dual redundant AES50 (X and Y) network ports
- Local channel monitoring with integrated headphone amplifier
- 24 bit audio operation with 96 kHz sample rate
- Remote operation up to 80 m via CAT5/5e cable
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel

- Features Neutrik etherCON* AES50 network ports
- Rugged 6U rackmount chassis for durability in portable applications
- Dual redundant auto-ranging universal switch-mode power supplies
- 3-Year Warranty Program**
- Designed and engineered in England



DL351 Audio System Modular I/O

Modular Stage Box with 8 Card Slots and up to 64 Inputs and 64 Outputs

- Modular stage box accepts 8 DL4 series I/O cards
- Up to 64 audio inputs and 64 audio outputs
- 24 bit audio operation with 96 kHz sample rate

- Remote operation up to 100 m via CAT5/5e cable
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- 4 AES50 network ports for redundant connections
- Two GPIO 25-pin D-type opto-isolated connectors for external device control
- MIDI In, Out and Thru connectors
- Features Neutrik etherCON* AES50 network ports
- Rugged 7U rackmount chassis for durability in portable applications
- Dual redundant auto-ranging universal switch-mode power supplies
- 3-Year Warranty Program**
- Designed and engineered in England



DL451 Audio System Modular I/O

Modular Stage Box with 3 Card Slots and up to 24 Inputs and 24 Outputs

- Modular stage box accepts 3 DL4 series I/O cards
- Up to 24 audio inputs and 24 audio outputs
- 24 bit audio operation with 96 kHz sample rate
- Remote operation up to 80 m via CAT5/5e cable
- All settings programmable from front panel controls or console
- PSU status indicator LEDs and configuration LCD display on front panel
- Supports dual redundant AES50 (X and Y) networks
- Two GPIO 25-pin D-type opto-isolated connectors for external device control
- MIDI In, Out and Thru connectors
- Features Neutrik etherCON* AES50 network ports
- Rugged 3U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England

Neutrik Quality



For more than four decades MIDAS and KLARK TEKNIK has designed and built the industry's finest products.

In our relentless drive to build the world's best pro audio products, we have decided to only employ Neutrik connectors known for their impeccable quality and reliability of their products.



HyperMAC Snake

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

Redundancy

You can depend on PRO X. The control centre has dual-redundant control computers, the snake has dual-redundant CAT5e connections, NEUTRON carries a redundant processing card and both PRO X and NEUTRON have N+1 redundant power supplies.

No other console goes further to setting your mind at ease. This means that during a show you might not be able to relax completely, but you can concentrate on what's most important and give your full attention to the matter at hand; treating the audience to a flawless sonic experience without missing a beat.

Local I/O

The rear panel of the PRO X houses three user-configurable I/O modules. As standard, the control surface is fitted with eight mic/line inputs, eight line out XLRs and four pairs of AES/EBU digital I/O.

Ethernet Tunnel

The HyperMAC digital snakes feature additional bandwidth for third party data transfer. Protocols supported include standard Ethernet traffic, MIDI messages and GPIO (General Purpose Input and Output signalling).

This third party support offers great advantages because it avoids extra cables, extends the range of MIDI a long way beyond normal limits and provides an Ethernet tunnel between the stage and the mix position.

The Ethernet tunnel provides a 10 Mbit/sec standard Ethernet connection from an etherCON* RJ-45 connector on the control surface to a similar connector on NEUTRON for use by third parties.

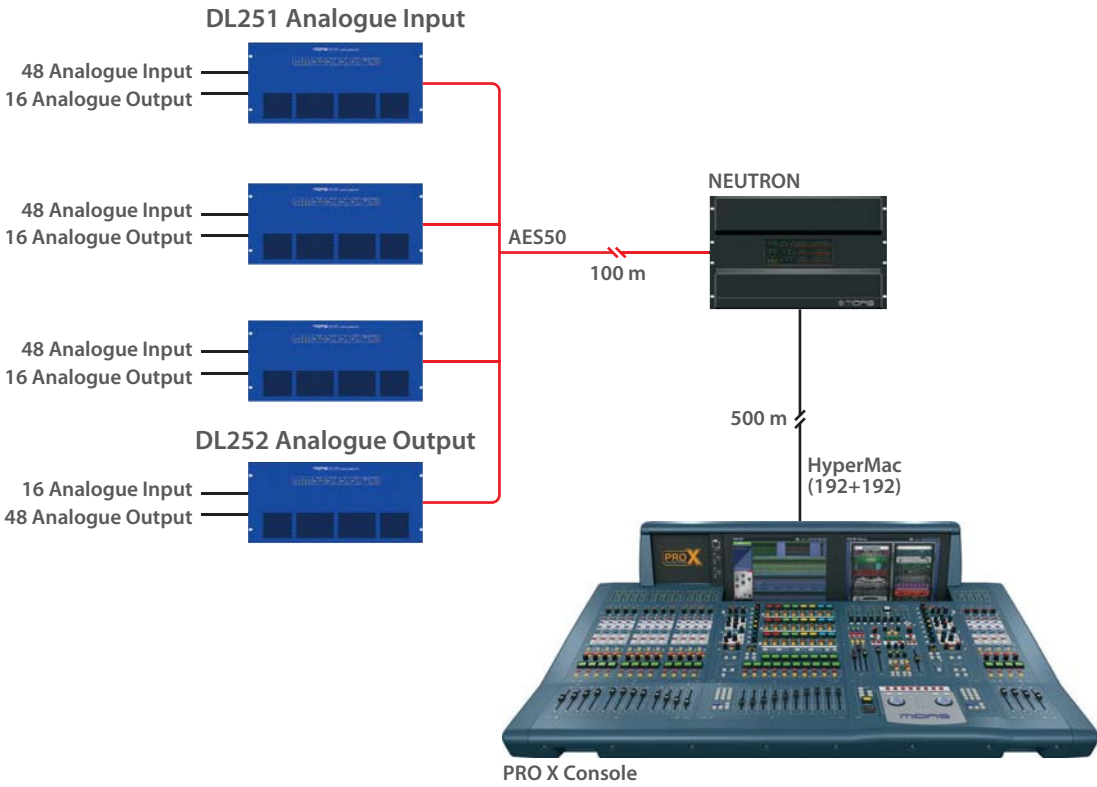
Applications include carrying control signals from any network-equipped computer at FOH to a radio mic receiver rack on stage and similarly, control signals from a computer to a system controller on stage.

External standard Ethernet network hubs can be used to connect many different systems together via the MIDAS HyperMAC snake, which also provides redundancy in case of cable damage.

PRO X Versatility Single Console

The most cost-effective way to connect a single console is to use four DL251 analogue input boxes and one DL252 analogue output box connected to NEUTRON.

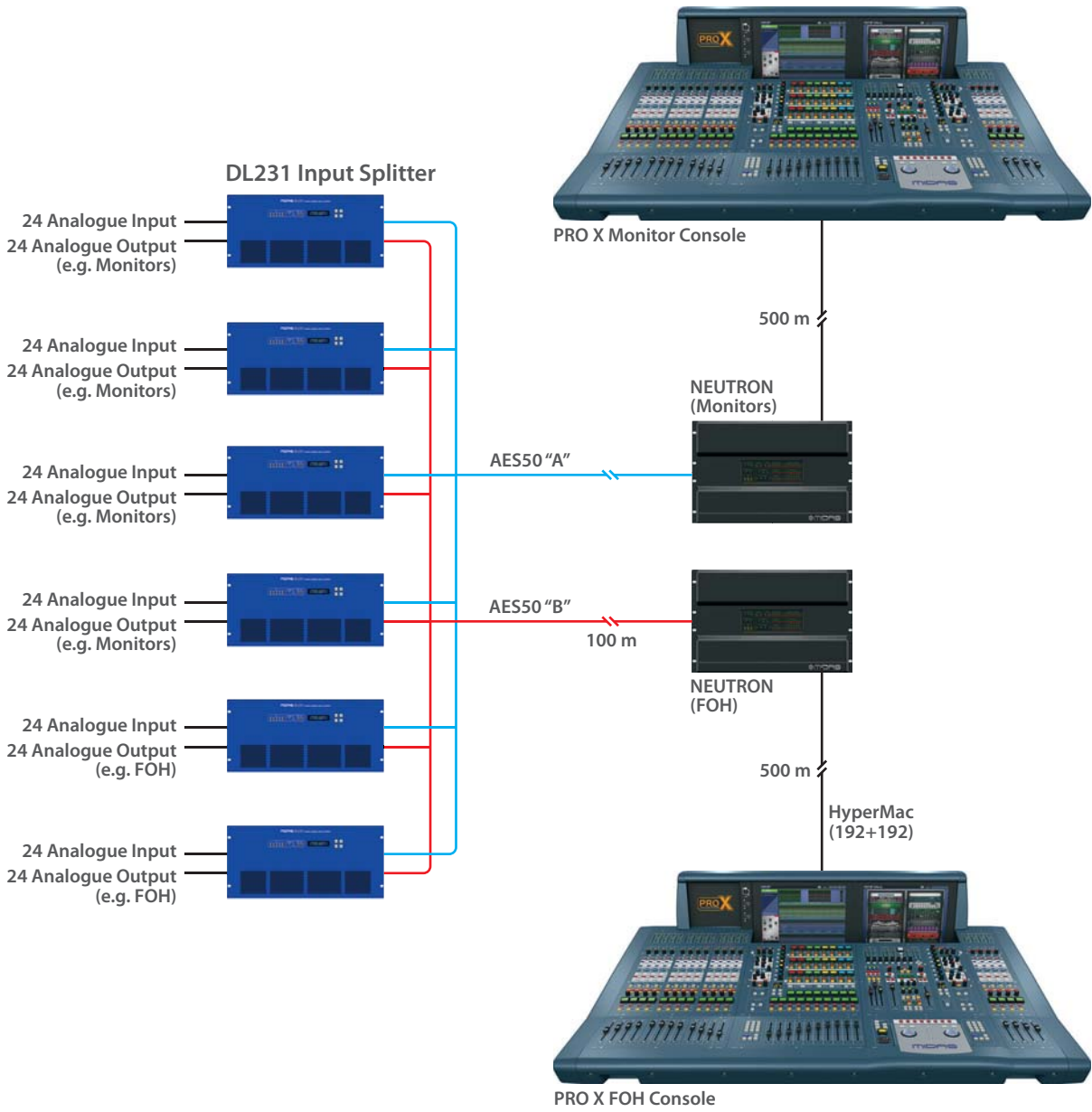
This gives a total of 160 analogue inputs and 96 analogue outputs on stage, and the modular local I/O at FOH (eight mic/line inputs, eight line outputs and four pairs of AES/EBU as standard).



PRO X Versatility Multi-Console

When two PRO X systems are used in a FOH/monitor set up, the most cost-effective I/O configuration is to use six DL231 input splitters, which gives 144

analogue inputs, 144 analogue outputs shared between the two systems, with independent analogue mic amp gain control for each system.



SOS Award Winner 2014

PRO X Versatility Extended System



The Readers' Choice Award 2014

KLARK TEKNIK

Legendary pro audio brand and sister company KLARK TEKNIK's HyperMAC and AES50-compatible SuperMAC technologies provide the networking backbone for MIDAS' digital console systems. A range of products are offered that expands the scope and functionality of MIDAS' already impressive networked digital console systems.

AES50 Repeaters and Extenders

The 100 metre limit of CAT5/5e cable is addressed by the DN9610 AES50 Repeater which can extend two AES50 connections up to a further 100 metres over CAT5/5e cable, and the DN9620 Dual Port AES50 Extender and DN9680 8 Port AES50 Extender can both extend AES50 connections up to 100 metres over CAT5/5e cable, or up to 500 metres and 1,000 metres respectively over optical fibre.



DN9610 AES50 Repeater

Dual Port AES50 Repeater with up to 100 Metre Range

- Extends two independent AES50 connections by up to 100 m with CAT5 cable
- High channel capacity - 48 channels @ 96 kHz or 96 channels @ 48 kHz bidirectional operation
- Supports dual-redundant AES50 networks (X and Y connections)
- Rugged locking Neutrik* etherCON connectors used for AES50 connections



- Status indicator LEDs on front panel for each AES50 port
- Dual-redundant power supply inputs with locking Switchcraft* connectors
- External auto-ranging universal switch-mode power supply adapter
- Aluminium extrusion casing with stackable protective silicone rubber sleeve
- Compact and rugged design
- 3-Year Warranty Program**
- Designed and engineered in England



DN9620 Dual Port AES50 Extender

Dual Port AES50 Extender and Multiplexer with up to 500 Metre Range (Pair)

- Pair of DN9620 Dual Port AES50 Extenders and 19" rackmount adapter bracket
- Extends two AES50 connections by 500 m with optical fibre or 100 m with Cat5 cable
- High channel capacity - 48 channels @ 96 kHz or 96 channels @ 48 kHz bidirectional operation
- Supports dual-redundant AES50 networks (X and Y connections)
- Neutrik etherCON* connectors used for AES50 ports and copper snake connection
- Dual-fibre Neutrik opticalCON DUO* connector used for optical fibre snake connection
- Comprehensive clock source options with front panel push button selection and LED indication
- Status indicator LEDs on front panel for each AES50 port and optical and copper snake connections
- Rugged half-width 1U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England



DN9680 8 Port AES50 Extender

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)
- Supports dual-redundant AES50 networks (X and Y connections)
- 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

PRO X Versatility Extended System



Network Bridges

The DN9650 and DN9652 Network Bridges provide a unique solution to a common problem: How to interface otherwise incompatible audio network protocols? At the heart of these units is a massive 64 channel bidirectional asynchronous sample rate converter (ASRC), which is a proprietary KLARK TEKNIK technology, and facilitates two completely separate clock domains which can operate at different sample rates and bit lengths.

The DN9650 Network Bridge provides an interface between three AES50 connections and other network standards including as MADI, Audinate Dante*, and Cirrus CobraNet* using network modules compatible with the Cirrus CM-1* form factor, whilst the DN9652 Dual Network Bridge offers the ability to interface two such modules.



DN9650 Network Bridge

AES50 Network Bridge Format Converter with up to 64 Bidirectional Channels and Asynchronous Sample Rate Conversion

- Converts between AES50 and MADI, Audinate Dante*, Cirrus Logic CobraNet* and Digigram EtherSound*
- Asynchronous sample rate conversion on every channel with bypass facility
- Bidirectional output audio clock inhibit feature for redundant network systems
- 24 bit audio operation with 96 kHz and 48 kHz sample rates

- Video synchronisation in PAL/SECAM/NTSC formats in standard and high definition
- Internal "AES Grade 1" temperature-compensated word clock (1 ppm)
- Internal web server allows browser-based configuration via Ethernet control port
- Status indicator LEDs and LCD display on front panel
- Features Neutrik etherCON* network ports
- 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



DN9652 Dual Network Bridge

Dual Network Bridge Format Converter with up to 64 Bidirectional Channels and Asynchronous Sample Rate Conversion

- Converts between MADI, Audinate Dante*, Cirrus Logic CobraNet* and Digigram EtherSound*
- Bidirectional Asynchronous Sample Rate Conversion on every channel with bypass facility
- Bidirectional output audio clock inhibit feature for redundant network systems
- 24 bit audio operation with 96 kHz and 48 kHz sample rates

- Video Synchronisation in PAL/SECAM/NTSC formats in standard and high definition
- Internal "AES Grade 1" temperature-compensated word clock (1 ppm)
- Internal web server allows browser-based configuration via Ethernet control port
- Status indicator LEDs and LCD display on front panel
- Features Neutrik etherCON* network ports
- 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

Graphic Controller

The DN9331 Helix Rapide Graphic Controller brings the familiarity and immediacy of classic KLARK TEKNIK analogue graphic equalisers such as DN27, DN360 and DN370 to the digital world. Instant recall of fader positions is made possible by the use of 31 console-quality 100 mm long travel high resolution motorised faders.



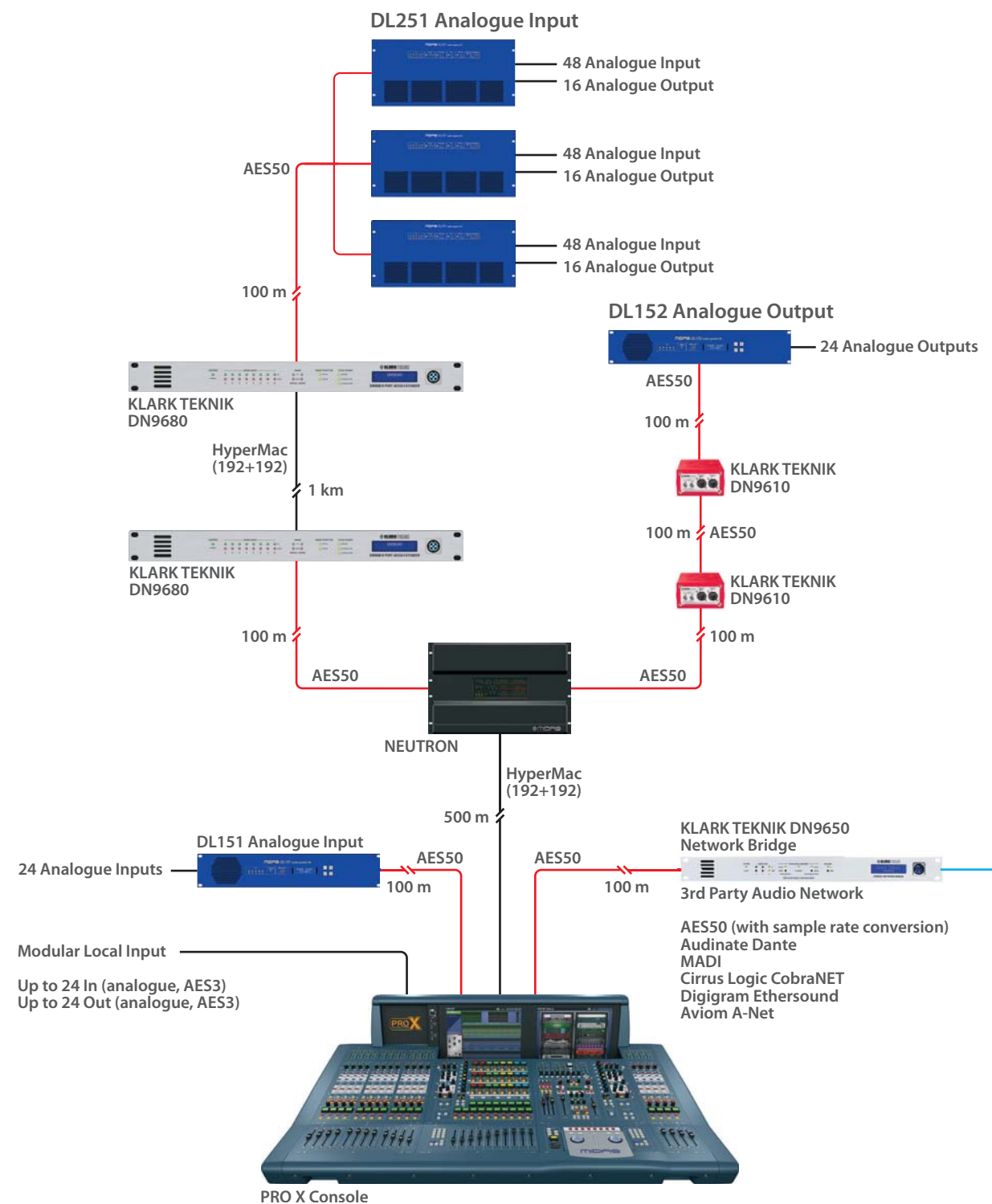
DN9331 Helix Rapide Graphic Controller

31 Band Motorised Fader Graphic Controller

- Rapid response 100 mm motorised faders provide instant recall of channel EQ settings
- Compatible with MIDAS XL8 and all PRO Series digital consoles
- 4 banks with 32 channel selections – allows control of up to 128 EQ channels
- 4 EQ group assignments with global "Select All" group
- MIDAS Solo Tracking System for automatic recall of channel EQ curves
- Simultaneous control of MIDAS graphic EQs and KLARK TEKNIK HELIX equalisers
- Integrated 8-port Ethernet hub with Neutrik etherCON* connectors
- Rugged 6U rackmount chassis for durability in portable applications
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program**
- Designed and engineered in England

PRO X Versatility Extended System

Remote Control



MIXTENDER 2 (iPad*)

Delivering an unprecedented range of control and mobility, the MIXTENDER 2 App has been completely re-imagined with input from the very engineers who know MIDAS mixers best.

Combining control of most key functions with responsive system metering, engineers can take control of any PRO Series or XL8 console using an iPad. Support for multiple simultaneous iPad devices allows FOH and monitor engineers to work collaboratively from any location in the venue.

MIXTENDER 2's new features include full-screen EQ editing which allows accurate tweaks of individual channel signals.

With the new VCA and POP group unfolding and member editing function, managing these unique console functions becomes a simple and easy task. Plus, using the quick navigation page with comprehensive level metering, engineers can track all signals while away from the console.

All that's needed to unleash the power and versatility of remote mixing is a wireless network and the free download. Comprehensive on-the-go control is just a touch away.

Key Features

- Supports multiple simultaneous iPad connections
- Quick navigation page featuring all level metering
- Mix view for all channel types includes meters, fader, mute and solo
- Flip mode to control bus contributions
- VCA flip mode provides control of MCAs
- Channel detail area for precise parameter control
- KT DN370 GEQ control
- Demo mode for previewing app and console features
- Pan and delay controls
- Bus mix mode display and editing
- Parametric EQ with safety locks
- Full screen EQ editing
- In-place output GEQ editing
- Channel naming & colour selection
- VCA and POP group unfolding and member editing
- GEQ rack view
- GEQ full-screen zoom view
- GEQ copy and paste
- GEQ reset
- Solo B indicator on channel strip

Remote Control



PALMMIX (iPhone*)

MIDAS PALMMIX is a personal monitoring iPhone application, which provides users with wireless remote control for key functions of the PRO X.

The MIDAS PALMMIX application provides simple, direct and fast control over the signal sends that matter most to the on-stage performer.

Key Features

- Offers targeted control over one mix bus
- Four fader strips for controlling important channel sends and MCAs
- Support for stereo sends and linked channels
- Pop-out bus master fader
- Displays VCA and mute group membership of selected channels
- Input, compressor and gate meters for displayed channels
- Multiple iPhone and iPad devices can be used simultaneously



Offline Editor (Mac*)

The MIDAS Offline Editor allows you to create, edit and view show files for the PRO X on any Intel-based Apple Macintosh* computer running OS X 10.8 or later. Prepare shows ahead of time, learn the console operation, migrate your PRO Series or XL8 shows or vice versa – all from the comfort of your room without access to a console.

The Offline Editor allows full control of all parameters – including creation of show files, management of pre-set libraries, system setup and patching and so on: anything you can do on the console you can do on the Offline Editor, without learning any new operational methods.

The MIDAS Offline Editor runs in exactly the same manner as the console software, you load and save your show to and from a USB key and import onto your control centre in the normal way.

Specifications



Live Sound! Tin Ear Award 1996

Frequency Response

Input	Output	Gain	20 Hz	20 kHz
Surface I/O	Surface I/O	0 dB	0 dB to -1.0 dB	0 dB to -1.0 dB
Surface I/O	Surface I/O	40 dB	0 dB to -1.0 dB	0 dB to -1.0 dB

Gain Error @ 1 kHz

Input	Output	Gain	Max	Min
Surface I/O	Surface I/O	0 dB	+1.0 dB	-1.0 dB
Surface I/O	Surface I/O	40 dB	+1.0 dB	-1.0 dB

Input CMRR

Input	Output	Gain	100 Hz	1 kHz
Surface I/O	Surface I/O	0 dB	60 dB	60 dB
Surface I/O	Surface I/O	40 dB	90 dB	90 dB

Distortion @ 0 dBu

Input	Output	Gain	1 kHz	10 kHz
Surface I/O	Surface I/O	0 dB	0.01%	0.01%
Surface I/O	Surface I/O	40 dB	0.03%	0.03%

Distortion @ +20 dBu

Input	Output	Gain	1 kHz	10 kHz
Surface I/O	Surface I/O	0 dB	0.03%	0.03%
Surface I/O	Surface I/O	40 dB	0.03%	0.03%

Mixing Noise (all bus types) 22-22 kHz, Unweighted

No of Inputs	Gain	Fader Pos	Pan	Output Noise
12	0 dB	-infin	Central	-91 dBu
12	0 dB	0 dB	Central	-78 dBu
24	0 dB	-infin	Central	-91 dBu
24	0 dB	0 dB	Central	-75 dBu
48	0 dB	-infin	Central	-91 dBu
48	0 dB	0 dB	Central	-72 dBu

Signal Path Noise 22-22 kHz, Unweighted (inputs 150 Ω terminated)

Input	Output	Gain	Output Noise	EIN
Surface I/O	Surface I/O	0 dB	-85 dBu	-85 dBu
Surface I/O	Surface I/O	45 dB	-82 dBu	-127 dBu

Dynamic Range 22-22 kHz, Unweighted

Input	Output	Gain	Max Output	Dynamic Range
Surface I/O	Surface I/O	0 dB	+21 dBu	106 dB
Surface I/O	Surface I/O	45 dB	+21 dBu	103 dB

Specifications



System Specifications

Sampling Frequency	96 kHz
Latency Delay	< 2mS, Input to Master (no compensation)
Dynamic Range	106 dB, 22 Hz – 22 kHz (no pre emphasis)
Maximum Voltage Gain	80 dB, Inputs to Sub Groups and Masters 86 dB, Inputs to Aux and Matrix
Crosstalk @ 1 kHz	-100 dB, physically adjacent input channels
Crosstalk @ 10 kHz	-90 dB, physically adjacent input channels
Fader/Pan cut off @ 1 kHz	-100 dB
Fader/Pan cut off @ 10 kHz	-100 dB
Power Requirements	100-240 V a.c. \pm 10% 50-60 Hz
Operating Temperature Range	+5 to +45 degrees C
Storage Temperature Range	-20 to +60 degrees C

System Inputs and Outputs

Control Surface Inputs Connector	3 pin XLR balanced
AD Converter	24 bit, 96 kHz and 128 X oversampling
Control Surface Analogue Outputs Connector	3 pin XLR balanced
DA Converter	24 bit, 96 kHz and 128 X oversampling
MIDI Connector	In, Out and Thru on 5 pin DIN

Control Surface Digital System Inputs and Outputs

System Connector	3 X AES50 (24 channels of bidirectional digital audio)
Word Clock IN Connector	BNC
Word Clock OUT Connector	BNC
AES3 Sync IN Connector	3 pin XLR
AES3 Sync OUT Connector	3 pin XLR

Control Surface Analogue Audio System Inputs

Connector	3 pin XLR balanced
AD Converter	24 bit, 96 kHz and 128 times over sampling
Talkback Connector	3 pin XLR balanced line
Talk Connector	3 pin XLR balanced mic with 48 V phantom

Control Surface Analogue Audio System Outputs

Connector	3 pin XLR balanced
DA Converter	24 bit, 96 kHz and 128 times over sampling
Monitor Connector	3 pin XLR balanced line
Talk Connector	3 in XLR balanced line
Headphone Connector	¼ inch Jack (stereo)

Control Surface Digital Audio System Inputs and Outputs

Input Connector	AES3 (two channels of digital audio) on 3-pin XLR
Sample Rates	48 kHz, 96 kHz or auto tracking to inputs
Bypass	Sample rate converter can be bypassed
Word Length	16, 20 or 24 bit
Output Connector	AES3 (two channels of digital audio) on 3-pin XLR

Control Surface Control Data System Inputs and Outputs

System Connector	Ethercon XLR
------------------	--------------

Control Surface Misc Inputs and Outputs

Monitor Output Connector	3 row 15 pin D TYPE – analogue VGA
USB Host Connection	USB 2.0 full speed (12.0 Mbs) 5 V, 1A max load
Lamp Connector	3 pin XLR

Analogue Input Characteristics

Input Type	Load Z	Gain	Max. Level	Connector
Surface I/O	10 k Ω	-22.5 dB to +65 dB	+21 dBu	XLR
Talk Mic	600 Ω	+15 dB to +60 dB	+6 dBu	XLR
Monitor	10 k Ω	0 dB	+21 dBu	XLR

Specifications



Analogue Output Characteristics

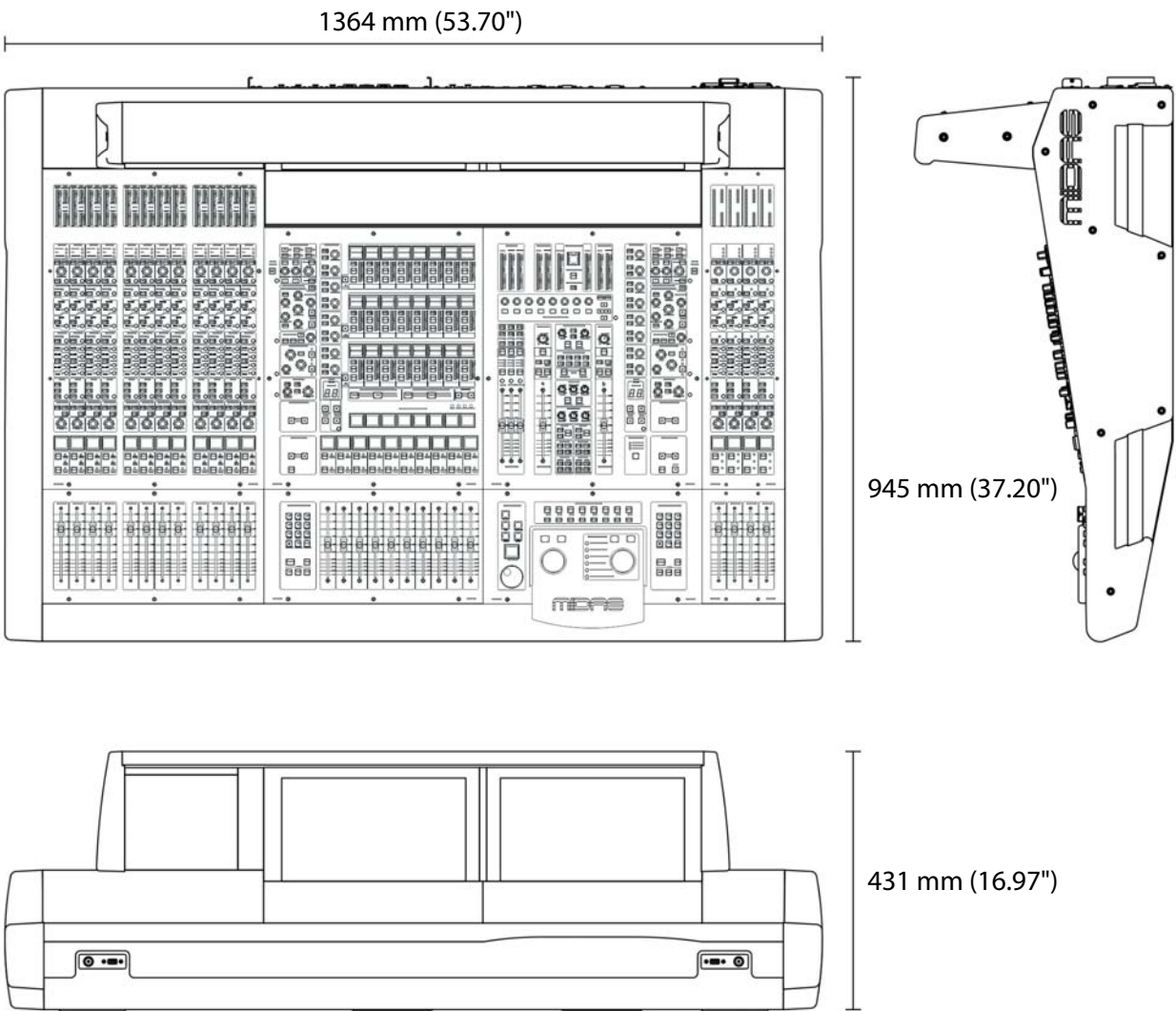
Output Type	Source Z	Gain	Max Level	Connector
Surface I/O	50 Ω	0 dB	+21 dBu	XLR
Talk	50 Ω	0 dB	+24 dBu	XLR
Monitor	50 Ω	0 dB	+24 dBu	XLR
Headphones	10 Ω	+10 dB	750 mW	¼ inch jack

Digital I/O Characteristics

Type	Channels	Data Length	I/O	Description Notes	Connector
AES3	2	24 bit	Input	Conforms to AES3 -2003	XLR
AES3	2	24 bit	Output	Conforms to AES3 -2003	XLR
AES50	24	24 bit	Bidirectional	Conforms to AES50 -2006	Ethercon XLR

Miscellaneous Digital Characteristics

Type	I/O	Description Notes	Connector
Word Clock	IN	Accepts TTL level, 96 kHz square wave; impedance 75 Ohms	BNC
Word Clock	OUT	Provides a TTL level, 96 kHz square wave	BNC
AES Sync	IN	Accepts a digital audio signal conforming to AES3 -2003 at 96 kHz	XLR
AES Sync	OUT	Provides a grade II reference signal conforming to AES3 – 2003 at 96 kHz	XLR



PRO X is built around a road rugged frame:

Dimensions: Width 1,364 mm x Depth 945 mm x Height 431 mm (53.7" x 37.2" x 17")

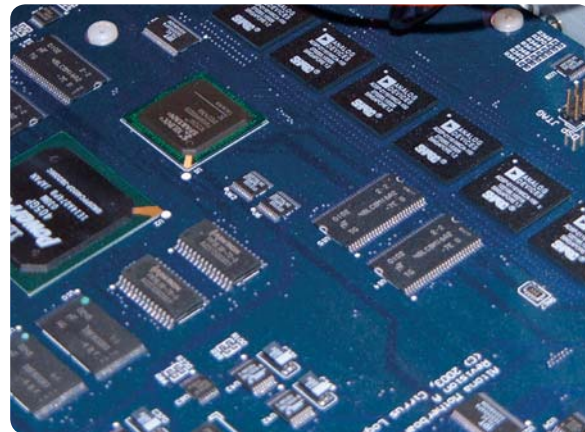
Weight: 97 kg (213 lbs)***

*** Weights are approximate and out of road case. Packing may vary by territory.

R&D Centre of Excellence

In 2012, MIDAS' parent company MUSIC Group expanded the Manchester site again, investing in a state-of-the-art R&D Centre of Excellence with 24,000 sq. ft. of space and dramatically expanding the engineering team.

Today the site represents a state-of-the-art research and development center with world-leading expertise in hardware and software, laying the ground for unprecedented innovation and product design.



Highly-complex 14-layer PCB with DSP and FPGA semiconductors

The Future Sound of MIDAS & KLARK TEKNIK



NAMM TEC Nominee 2014

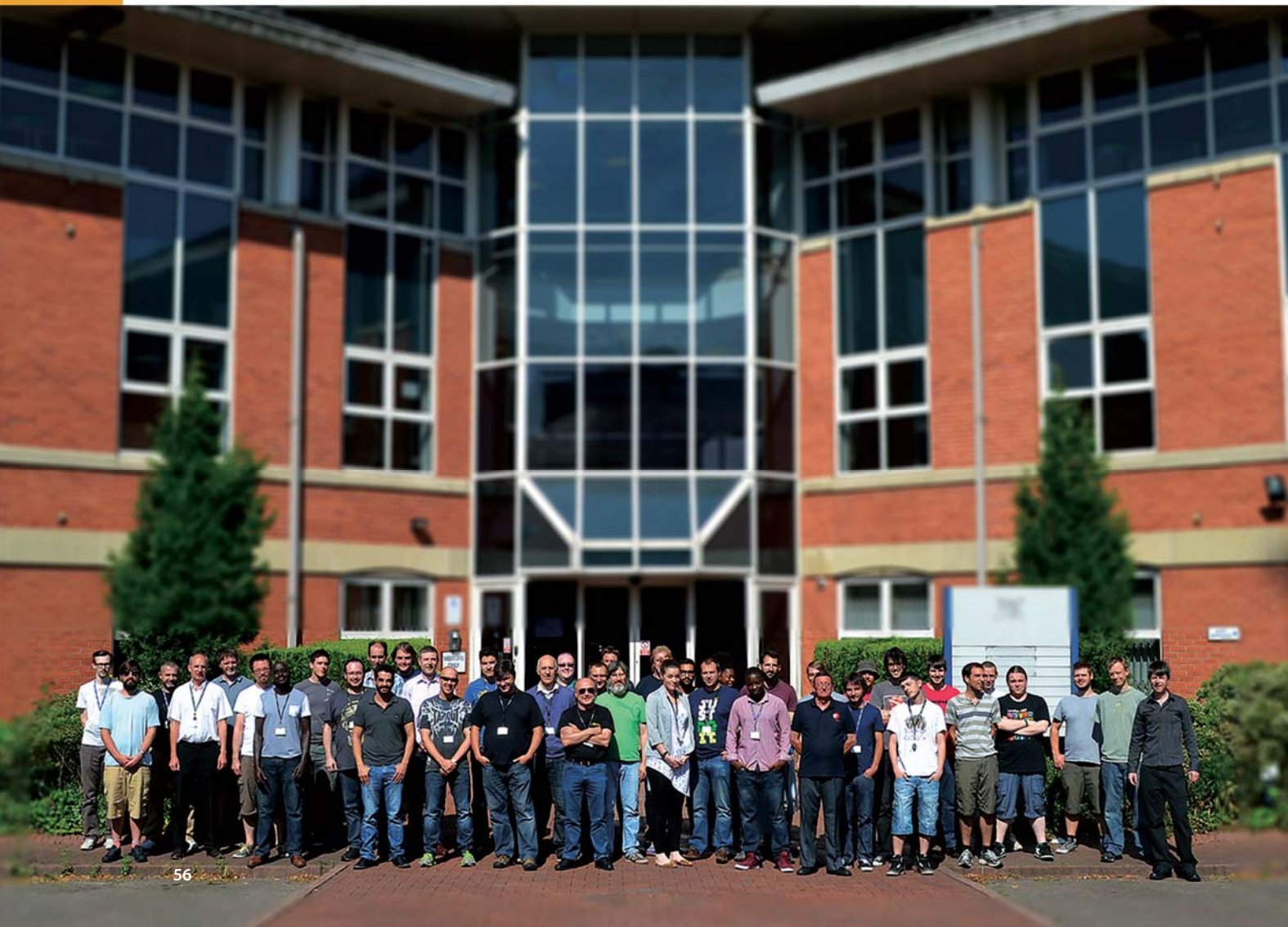
For over 40 years MIDAS and KLARK TEKNIK have repeatedly shown award-winning innovation and leadership in the world of high end professional audio, producing landmark products that have defined and shaped the live industry.

Our achievements would not have been possible without the unwavering support of all our amazing employees throughout the years.

We dedicate this brochure to you, the employees. You have made MIDAS and KLARK TEKNIK global brands that have become the Industry Standard. Words can't describe the amount of dedication, heart and soul that you have contributed.

We also thank our partners, customers, sound engineers, musicians and the many friends who have supported us for over 40 years. This has been a wonderful journey together and we can't wait to see where the next 40 years will take us.

Thank You.





MIDAS Care

For service, support or additional information, please refer to midasconsoles.com or contact the MUSIC Group office nearest you.

Europe

MUSIC Group Services UK
Klark Industrial Park, Walter Nash Road
Kidderminster, Worcestershire DY11 7HJ
United Kingdom
Tel: +44 156 273 2290
Email: CARE@music-group.com

USA/Canada

MUSIC Group Services NV Inc.
5270 Procyon Street
Las Vegas, NV 89118
Tel: +1 702 800 8290
Email: CARE@music-group.com

Japan

MUSIC Group Services JP K.K.
ASSORTI Kodonmacho Liens 10F
Nihonbashi Kodonmacho 14-10
Chuo-ku Tokyo Japan 103-0001
Tel: +81 3 6231 0454
Email: CARE@music-group.com

Any names, likeness, or images featured or referred to herein are not affiliated with MUSIC Group. They do not sponsor or endorse MUSIC Group or any of its products.

*Audinate® is a registered trademark of Audinate Pty Ltd. Dante is a trademark of Audinate Pty Ltd. Audinate products are protected by one or more of US Patents 7747725, 8005939, 7978696, 8171152 and other patents pending or issued, see www.audinate.com/patents. Apple, iPad, iPhone, Macintosh, Mac, and OS X are trademarks of Apple Inc. All third-party trademarks are the property of their respective owners. Their use neither constitutes a claim of the trademark nor affiliation of the trademark owners with MUSIC Group. Product names are mentioned solely as a reference for compatibility, effects and/or components.

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

MUSIC Group accepts no liability for any loss which may be suffered by any person who relies either wholly or in part upon any description, photograph, or statement contained herein. Technical specifications, appearances and other information are subject to change without notice. All trademarks are the property of their respective owners. MIDAS, KLARK TEKNIK, TURBOSOUND, BEHRINGER, BUGERA, and DDA are trademarks or registered trademarks of MUSIC Group IP Ltd. © MUSIC Group IP Ltd. 2014 All rights reserved.

MUSIC Group IP Ltd. Trident Chambers, Wickhams Cay, P.O. Box 146, Road Town, Tortola, British Virgin Islands. 985-90000-00338 V1

