Digital Mixers

PRO SERIES
PRO1-IP

Live Digital Console with 48 Input Channels,
24 MIDAS Microphone Preamplifiers,
27 Mix Buses and 96 kHz Sample Rate

- Live performance digital console with up to 48 simultaneous input channels
- 24 award-winning MIDAS microphone preamplifiers
- 27 time-aligned and phase-coherent mix buses
- AES50 networking allows up to 172 inputs and 172 outputs @ 96 kHz sample rate
- 8 VCA (Variable Control Association) and 6 POPulation groups
- Up to 28 assignable 1/3 octave KLARK TEKNIK DN370 graphic equalisers
- Up to 6 multi-channel digital signal processing effects engines
- 18 MIDAS PRO motorised 100 mm faders
- Daylight viewable 15" full colour TFT display screen
- Fully interpolated touch sensitive controls
- Optional wireless remote control with MIDAS MIXTENDER App for iPad*
- Auto-ranging universal switch-mode power supply
- 3-Year Warranty Program*
- Designed and engineered in England

The ground breaking PRO1 features 48 simultaneous input channels with 24 award-winning MIDAS Microphone Preamplifiers and 27 time-aligned and phase-coherent mix buses in an all-new lightweight aluminium frame. Like all PRO Series consoles, the PRO1 features managed latency and 40 bit floating point processing precision. Designed for use in high-profile live sound applications, the PRO1 sets a new standard of performance and portability in a compact digital console form factor.

AES50 audio networking technology allows the PRO1 to dynamically assign up to 172 inputs and 172 outputs at 96 kHz sample rate to any of its input channels and bus outputs on a scene-by-scene basis. This high level of connectivity, coupled with the large channel and bus counts, makes the PRO1 equally at home in theatres and clubs as it is in live concert touring, outside broadcast and music festivals.

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NAMM TEC Nominee 2012

Award-Winning MIDAS Mic Preamplifier

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 - bringing out subtle ambience, maintaining spatial positioning and more effectively capturing a precise sound image. The acclaimed sound of the award-winning MIDAS microphone preamplifier has inspired generations of live sound engineers to their best work, creating sonic panoramas that have captivated audiences worldwide.

Since pristine sound always begins with the microphone preamplifier, the first point where the signal enters the console, PRO1 features the latest generation of 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.

Over the years many mix engineers have found this robust and overload-tolerant design takes on a whole new dimension of sound when driven hard, the crystal-clear 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.

Digital Audio Networking

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

PRO1 is compatible with all MIDAS PRO Series digital I/O units, as well as with any other 96 kHz-enabled AES50-equipped devices. Multiple PRO Series consoles can be connected together to create either larger mixing systems, or multiple discrete mixing consoles can share a common resource of networked and distributed I/O interfaces.

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Advanced Navigation Flexibility

At the heart of MIDAS Pro Series console navigation is the VCA and POPulation groups, which mirror the natural work flow used by mix engineers and encourages the development of a mental picture, or "Mind Map", of the whole system. Only the required control elements and associated feedback are presented, allowing users to adopt structured task-based workflows, rather than being presented with an overwhelming 'sea of knobs'.

Integrated Effects Processors and Graphic Equalisers

The PRO1 can simultaneously provide up to 6 multi-channel digital signal processing engines for a wide choice of virtual effect devices, which range from dual-mono delay units, stereo modulation and numerous diverse reverberation simulations, multi-band compression, dynamic EQ and multi-channel dual-function dynamics processing. Up to 28 1/3 octave KLARK TEKNIK DN370 Graphic Equalisers (GEQs) are provided, which can be patched into any output.

PRO1 provides comprehensive automatic latency management of all internal routing and processing delays – and also includes compensation for external analogue inserts. All audio samples are synchronised before summing, resulting in absolute phase coherence at the outputs, without the comb filtering effects of many of its Competitor's products that often result in specific frequencies being cancelled out completely.

All effects processors and GEQs are custom-designed to function within this automatic latency compensation system. This ensures a phase-coherent, sample-accurate mix regardless of whether the devices are used as channel inserts or on auxiliary buses.

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MIDAS PRO Fader

Not satisfied with the existing motorised fader choices in the marketplace, MIDAS created the PRO FADER, rated for up to a million cycles – three times that of other leading manufacturers - and providing high linearity, robustness, and smooth feel during operation. This decision yielded many other benefits, including total quality control over the manufacturing process and lower costs that could be passed on to customers.

As a digital console manufacturer, MIDAS has a perspective on the actual application of motor faders that a component manufacturer would not have. The multi-disciplinary development project combined mechanical design, electronic hardware and software optimisation with a rigorous testing programme and an investment in material science to produce the best possible performance in actual operation in MIDAS PRO Series consoles. Semi-precious metals are used for the wiper fingers for their hard-wearing properties, and precision resistive tracks were created that offer highly linear positional accuracy, coupled with long-term durability and even response in use.

Highest Quality Display Screen

The PRO1 features a 15" full colour daylight-viewable TFT display for use in all environments, both inside and outdoors. The display provides visual feedback for the entire system, pressing the HOME key (just to the left of the assignable controls) instantly navigates to the console overview page, which keeps all vital information (all metering, all fader positions, mutes and solos) in view at all times.

Digital Precision, Analogue Response

The oversampled 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 and the continuous phase shift of a swept frequency control is heard without the quantisation artefacts exhibited by competing digital consoles.

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Wireless Remote Control

Delivering unprecedented control and mobility, the MIXTENDER App for iPad* combines control of key functions with the highly responsive system metering, allowing users to take control of PRO1 from an iPad anywhere in a venue. Support for multiple simultaneous iPads allows FOH and monitor engineers to work collaboratively, enhancing productivity and communication, as well as saving valuable time during set-up.

The MIXTENDER App for iPad is available as a free download from the Apple App Store.

Auto-Ranging Universal Switch-Mode Power Supply

The PRO1 power supply, which is interchangeable with those in PRO2 and PRO2C, is auto-voltage sensing for use on a worldwide basis and is externally removable for easy field service in the unlikely event of a replacement being required.

You Are Covered

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

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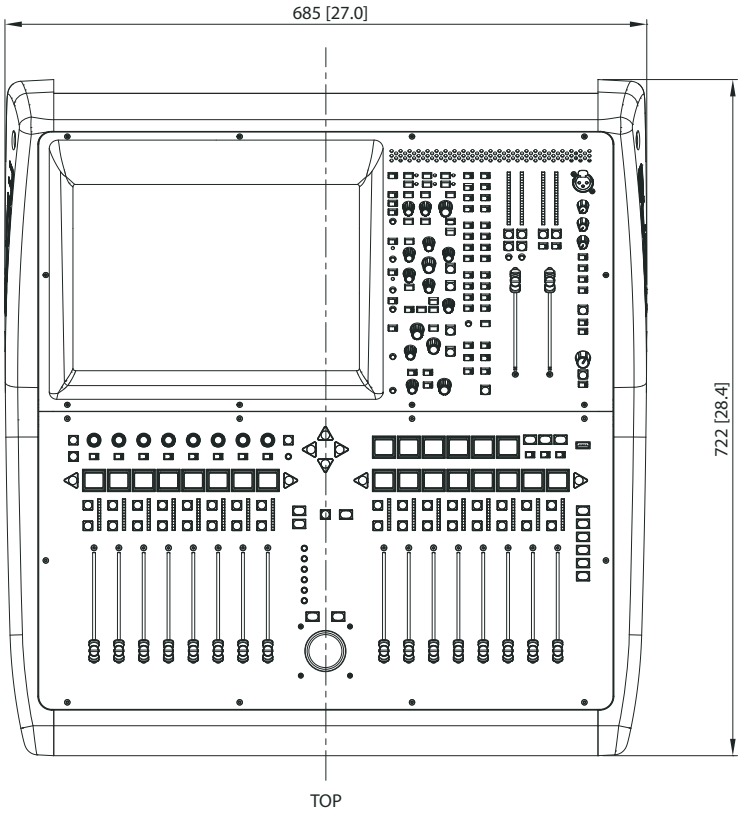
Dimensions



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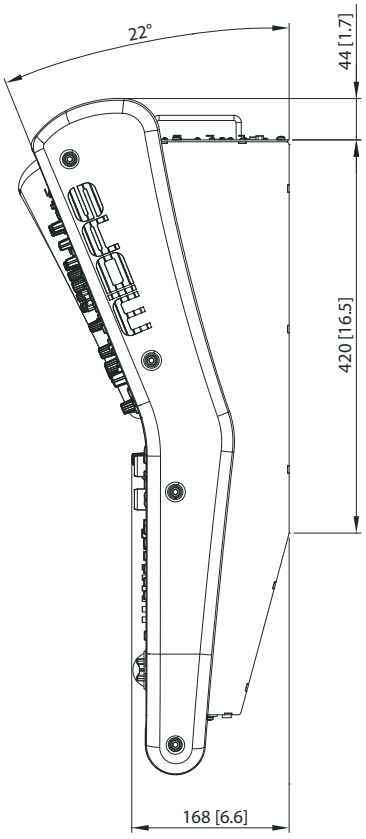
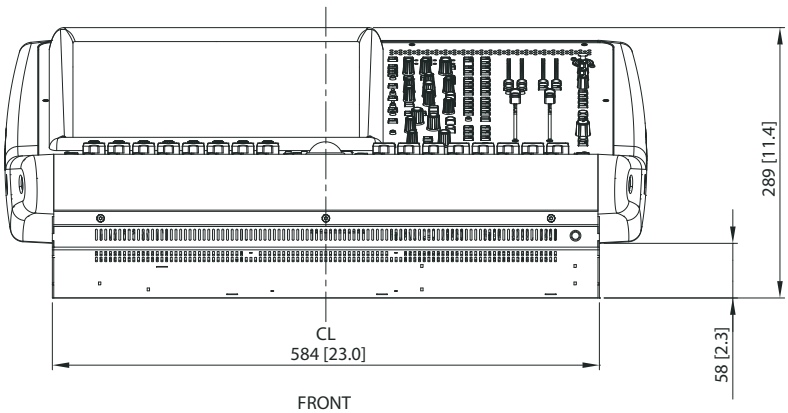


SIDE



FRONT

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Technical Specifications

System Specifications

Sampling frequency	96 kHz
Latency	<2 ms input to master (no compensation)
Dynamic range	107 dB, 22 Hz to 22 kHz (no pre-emphasis)
Maximum voltage gain	80 dB inputs to subgroups and masters 86 dB inputs to aux and matrix
Crosstalk at 1 kHz	-100 dB physically adjacent input channels
Crosstalk at 10 kHz	-90 dB physically adjacent input channels
Fader/pan cut off at 1 kHz	-100 dB
Fader/pan cut off at 10 kHz	-100 dB
Display screen	1 x 15" daylight-viewable colour screen
Dimensions (W x D x H)	685 x 722 x 288.6 mm (27.0 x 28.4 x 11.4")
Net weight	PRO1 control centre: 21.5 kg
Shipping weight	Touring (in flight case): 97.5 kg Install (in carton): 28.7 kg
Power requirements	100 V to 240 V a.c. ±10%, 50 to 60 Hz
Operating temperature range	+5°C to +45°C
Storage temperature range	-20°C to +60°C

Frequency Response

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

Gain Error at 1 kHz

Input	Output	Gain	Maximum	Minimum
Surface I/O	Surface I/O	0 dB	+1.0 dB	-1.0 dB
Surface I/O	Surface I/O	45 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	45 dB	90 dB	90 dB

Distortion at 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	45 dB	0.03%	0.03%

Distortion at +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	45 dB	0.03%	0.03%

Mixing Noise (All Bus Types) 22 Hz to 22 kHz Unweighted

Number of inputs	Gain	Fader position	Pan	Output noise
12	0 dB	-infinity	Central	-91 dBu
12	0 dB	0 dB	Central	-78 dBu
24	0 dB	-infinity	Central	-91 dBu
24	0 dB	0 dB	Central	-75 dBu
48	0 dB	-infinity	Central	-91 dBu
48	0 dB	0 dB	Central	-72 dBu

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Signal Path Noise 22 Hz to 22 kHz Unweighted

Input	Output	Gain	Output noise	EIN
Surface I/O	Surface I/O	0 dB	-86 dBu	-86 dBu
Surface I/O	Surface I/O	45 dB	-81 dBu	-126 dBu

Dynamic Range 22 Hz to 22 kHz Unweighted

Input	Output	Gain	Maximum output	Dynamic range
Surface I/O	Surface I/O	0 dB	+21 dBu	107 dBu
Surface I/O	Surface I/O	45 dB	+21 dBu	102 dBu

PRO1 Control Surface - DSP/Router System Inputs and Outputs

System connectors	6 x AES50 (24 channels of bidirectional digital audio) on etherCon XLR
Word clock IN connector	BNC
Word clock OUT connector	BNC
Video sync IN connector	BNC
AES3 sync IN connector	3-pin XLR
AES3 sync OUT connector	3-pin XLR

PRO1 Control Surface - Analogue Audio System Inputs

Connector	3-pin XLR balanced
A/D converter	24-bit, 96 kHz with 128 times oversampling
Talkback connector	3-pin XLR balanced line
Talk connector	3-pin XLR balanced mic with +48 V phantom power

PRO1 Control Surface - Analogue Audio System Outputs

Connector	3-pin XLR balanced
D/A converter	24-bit, 96 kHz with 128 times oversampling
Monitor connector	3-pin XLR balanced line
Talk connector	3-pin XLR balanced line
Headphone connector	¼" Jack (stereo)

PRO1 Control Surface - Digital Audio System Inputs and Outputs

Input connector	AES3 (two channels of digital audio) on 3-pin XLR
Sample rates	Accepts any frequency 32 kHz - 96 kHz
Bypass	Sample rate converter can be bypassed
Output connector	AES3 (two channels of digital audio) on 3-pin XLR
Sample rate	48 kHz, 96 kHz, or auto-tracking to inputs
Bypass	Sample rate converter can be bypassed
Word length	16, 20 or 24-bit

PRO1 Control Surface - Control Data System Inputs and Outputs

System connector	etherCon XLR

PRO1 Control Centre - Miscellaneous Inputs and Outputs

Monitor output connector	DVI/DP++
USB host connection	USB 2.0 full speed (12.0 Mbs) 5 V, 1A maximum load
Lamp connector	4-pin XLR
MIDI	In, Out and Thru on 5-pin DIN
Footswitch connector	¼" Jack

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Analogue Input Characteristics

Input type	Load Z	Gain	Maximum level	Connector
Surface I/O	10 k	-22.5 dB to +65 dB	+24 dBu	XLR
Talk mic	600R	+15 dB to +60 dB	+6 dB	XLR
Monitor	10 k	0 dB	+21 dBu	XLR

Analogue Output Characteristics

Output type	Source Z	Gain	Maximum level	Connector
Surface I/O	50R	0 dB	+21 dBu	XLR
Talk Out	50R	0 dB	+21 dBu	XLR
Monitor	50R	0 dB	+21 dBu	XLR
Headphones	10R	+10 dB	+21 dBu	¼" 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 -2011	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 TTL level, 96 kHz square wave	BNC
AES sync	IN	Accepts a 96 kHz digital audio signal conforming to AES3-2003	XLR
AES sync	OUT	Provides a 96 kHz grade II reference signal conforming to AES3-2003	XLR

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Architecture and Engineering Specifications

The digital console shall be designed for digital audio mixing applications and be optimised for use in live performance. It shall feature 48 simultaneous input channels with 24 integrated microphone preamplifier inputs and 27 time-aligned and phase-coherent output mix buses and operate at 96 kHz sampling rate.

The digital console shall support 100 Mbit/s Ethernet frame-based digital audio networking, allowing for a total channel count capability of 172 inputs and 172 outputs at 96 kHz sampling rate.

The 100 Megabit Ethernet frame-based digital audio network shall offer N+1 cable redundancy and be compliant with the Audio Engineering Society AES50-2011 standard.

The digital console shall provide a combination of up to 28 assignable digital audio emulations of industry standard one-third octave proportional-Q response graphic equalisers and 6 multi-channel digital signal processing effects engines. There shall be automatic latency management of all internal routing, external analogue insert and digital signal processing delays. This latency management system shall synchronise audio samples when summing to mix buses to ensure phase alignment of the summed signals.

The digital console shall provide a user navigation system including 8 variable control association (VCA) groups and 6 population (POP) groups.

The digital console shall have 18 motorised 100 mm faders with a rated life time of up to one million cycles and one daylight-viewable 15" full colour display screen. It shall include software interpolation of physical control elements and associated display feedback to eliminate digital quantisation artefacts.

The digital console shall have the provision for the optional wireless control using an Apple iPad, with a bespoke software application available as a free download from the Apple App Store.

The digital console shall include an auto-voltage sensing power supply for use on a worldwide basis, which shall be externally removable.

The digital console shall be 685 mm wide x 722 mm deep x 289 mm high (27.0" x 28.4" x 11.4"), with nominal weight 21.5 kg (47.5 lbs). The digital console shall be installed on a flat horizontal surface capable of safely supporting its weight. Input, output, and power connections shall be made at the rear panel of the digital console. Installers shall allow adequate space at the rear for connection and disconnection of input, output, and power connections. The power requirements shall be 100 to 240 VAC, 50 to 60 Hz.

The digital console shall be the MIDAS PRO1-IP and no other alternative shall be acceptable.

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3 Year Warranty

For service, support or more information contact the MIDAS location nearest you:

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