

PRO1

LIVE AUDIO SYSTEM



 **midas**



Introducing the PRO1

The PRO1 breaks new ground for MIDAS digital consoles, featuring an all-new, lightweight aluminium frame, PRO1 is the first stand-alone MIDAS digital console, and sets new standards of portability and performance for a "compact" digital console.

PRO1 is easy to configure and operate. Engineers who are new to MIDAS digital can relax, enjoy the PRO1's sample-synchronous audio quality, and mix from well within their comfort zone.

Engineers familiar with MIDAS can just load their existing showfile straight into the PRO1, regardless of which MIDAS digital console it was created on, and carry on working.

In addition to the PRO1's 40 primary input channels, it features 8 aux returns, all of which feature 4-band MIDAS parametric EQ and insert points. These 8 aux returns can be used as returns for the PRO1's internal FX processors, or as additional mic channels, if enough mic inputs are available on the network I/O hardware.

A total of 48 input channels have routing to 27 mix busses. These busses comprise 16 user-configurable aux busses, which can be mixes, subgroups or mix minus groups, and 8 matrix busses. The Matrix busses source from inputs, as well as groups, and so can be used as 8 additional auxes (monitor mix and FX sends) which provides a total of 24 mixes (plus L, R & Mono) for monitor mixing duties. All busses can be linked as stereo pairs (except the MONO buss).

As with all MIDAS digital consoles the audio paths can be routed to multiple destinations and the console format can be reconfigured live on a scene-by-scene basis.





Daylight Viewable Display Screen



Assignable Controls



100mm Motorised Faders



24 x Analogue MMic/Line Inputs
with MIDAS Mic Pre's



Local Monitor B L&R

2 x AES3 Inputs

3 x AES3 Outputs

Talk Mic Input

Multiple Clocking Options



- Detail Strip
- Input Gains
- Dynamics Processing
- Equalisation
- GLOBAL TAP-TEMPO Button
- Six POP Groups
- Eight VCAs
- Navigation Modes
- Fader EXTEND Button

- 16 x Analogue Outputs
- Ethernet Control
- DVI Video Out
- USB
- Removable Power Supply
- Local Monitor A L&R Talk Output
- Left, Right and Mono Master Outputs
- 3 x AES50 Ports





Display Screen

The high-resolution screen remains visible even in direct sunlight. In this aspect, the PRO1's visual support is exceptional, as most conventional consoles become difficult, or impossible to operate in high ambient lighting.

Visual feedback for the entire system is provided by the screen. Pressing the HOME key (just to the left of the assignable controls) instantly displays the console overview screen, which keeps all vital information (all metering, all fader positions, mutes and solos) in view at all times.



Detail Panel Area

The detail panel is a vertically oriented channel strip, with an almost identical layout to the PRO2, 3, 6 and 9. The controls are configured in a logical, signal-path sequence and are easily identified by their relative positions. Both analogue users and digital adopters will find no difficulty using the large multi-colour LCD channel select buttons for navigating the console.



Input Gains

The PRO1 features two input gains per channel. First is the remote analogue gain for that wonderful MIDAS mic amp, the second is a digital gain. Set the analogue gain for the desired amount (if any) of that famous MIDAS "warmth", then use the digital gain to trim to your preferred gain structure.



Equalisation

MIDAS digital EQ features fully interpolated controls, which re-create the original phase-shift as experienced when working on the Worlds' best-loved analogue consoles. Each input channel has 4-band parametric EQ, with a choice of four different filter types for both the high and low filters. These powerful EQ options enable the user to employ EQ filters which emulate the sound of historic MIDAS consoles, or, freed of the limitations of analogue circuitry, choose advanced digital filter types.



Dynamics Processing

The dynamics processing on the PRO1's input channels is identical to the much-acclaimed MIDAS XL8. Each input channel features a frequency-conscious gate and a choice from four different compressor algorithms. Further creative expression is available, as all four compressor options feature variable knee, internal and external sidechain filtering, and colouration artefact options. Output (buss) compression offers a choice of five different options.

These compression algorithms are designed to provide the engineer with a broad pallet of options 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 PRO1's FX rack, including multiband compression and dynamic equalisation.





Navigating the channels

The concept of “paging” or “layering” is eliminated; instead the operator is invited to create groups of mix or musically related channels, which are structured around the process of mixing the show. This is preferable to locating target channels from arbitrary “layers” or “pages” which have no logical delineation and often start and end at inconvenient points (i.e. half-way through a logical sequence of inputs).

There are two types of groupings available on PRO1, VCA (Variable Control Associations) and POPulation groups. These groups are identified using colour coding and labelling with supported from the full-colour daylight-visible TFT screen. Selecting a VCA or POP group will bring all of the

members of that group to the designated area on the control surface, populating from the VCA area out to the left. If the group has more members than the 8 physical input channels they can be viewed either by scrolling the input faders or by pressing the EXTEND button, which will populate the 8 VCA faders with additional members of that group giving a total of 16 input faders.

An operator used to “layers” of faders can programme the POPulation groups to mimic this way of operation, so navigating between 3 layers of 16 input faders to access the PRO1’s 48 input channels is easily achieved.

Navigation Mode

When a MIX SELECT button is engaged, the input faders flip to become the input channel contributions to that selected output.

When the GEQ SELECT button is engaged, selecting an output which has a GEQ assigned, will present the GEQ on the VCA faders. Scrolling the VCA faders left or 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.

COLLAPSED FLIP (Hide/show unassigned channels when flipped) When in this mode, the console will only be populated with the input channels which are assigned to the selected output.



Automation

One of the most critical requirements for theatre applications is the power and flexibility of console automation. The MIDAS PRO1 has taken into consideration these very specific requirements, and features the same automation software as the XL8, which is itself no stranger to Broadway!

The PRO1’s automation system can store and recall up to 1000 snap shot 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.

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, 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).

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.

MIDI input and outputs are provided, for control of external MIDI devices, or for recalling console events from an external MIDI source. All software versions (including stored shows on a USB stick) are both forward and backward compatible i.e. a show created on one PRO1 can be loaded into a console (via a USB stick) regardless of the software version on either system. PRO1 showfiles are also compatible with all other MIDAS digital console systems.



Assignable Controls

Between the screen and the fader bank are the 8 assignable rotaries and buttons. These controls are scrolled using the vertical arrow keys, and address the function of all primary rotary and switch functions on the channels populating this area of the console. The ALT button selects the alternative function (if one is available) for each area. Assignable rotaries can be used for input gain, compressor and gate threshold, aux send levels, pan.



Surround Sound

In addition to normal stereo and SIS operation, the PRO1 can operate in one of three surround sound modes:

Quad Four-channel L-R front plus L-R rear
LCRS Four-channel L-C-R plus single rear channel
5.1 Six-channel L-C-R plus Sub plus L-R rear

All three surround modes feature divergence control to tailor the depth of the surround panning. Dynamic surround panning can be implemented using the PRO1's trackball, or the USB pointing device of your choice.



FX

The PRO1's 40 bit floating-point audio processing hosts a wide choice of virtual FX devices, which range from dual-stereo 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 on a send-and-return basis. Delay FX can be individually configured to synchronise to the PRO1's GLOBAL TAP-TEMPO hardware button. This makes on-the-fly changes to delay effects child's play.



Remote Control

Remote control of the PRO1 can be achieved using an iPad and wireless access point. Install the PRO1 remote app on the iPad and connect the WAP to the PRO1's Ethernet control port, having configured the wireless link.



Offline Editor

The MIDAS Offline Editor will create, edit and view show files for a PRO1 on any Intel-based Apple Mac computer. 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 that can be done on the console can be done on the Offline Editor, without learning any new operational procedures.



I/O Options

The PRO1 is MIDAS' first stand-alone digital console with 24 inputs located on the rear panel. However there are a number of optional MIDAS digital I/O units – either with fixed or modular configurations - which can be connected by inexpensive Cat5-e cable that will expand the input count to 48. To further increase flexibility a number of I/O boxes can be connected to the PRO1, up to 100m (300ft) cable distance from the console, allowing audio point-to-point routing of up to 100 inputs x 102 outputs from anywhere within the Network.

Architect's and Engineer's Specification

The PRO1 standard package comprises of:-

- 27 Buss Console (plus 4 solo),
- 48 main input channels (or 40 input and 8 aux return)
- 24 XLR mic/line inputs
- 24 XLR line outputs
- 2 AES/EBU inputs
- 3 AES/EBU outputs
- 1 Console flight case (TP version only)

The system shall be configurable to meet all of its I/O, processing and control surface requirements within an easily portable solution that is fast to set up.

The system shall be expandable and capable of sourcing inputs and driving outputs from multiple locations so that for example all inputs can source their signal from a hard disk recorder for sound checking but switch over to microphone feeds for the main live show event.

The system shall be capable of mixing 40 primary input channels and 8 auxiliary input channels simultaneously to 24 main buss output channels, with equalisation every channel and dynamic processing on all outputs and primary input channels. 6 effects processors shall be included that can be inserted into any channel path with the ability to add additional external insert points to any of the channels, as desired.

The available audio processing shall include:

Primary Input Channel Functions:-

Input Channel Hi Pass	10 Hz to 400 Hz swept slope selectable 12 dB/Oct or 24 dB/Oct
Input Channel Lo Pass	2 kHz to 20 kHz swept slope selectable 6 dB/Oct or 12 dB/Oct
Input Channel Treble	Parametric Operation Frequency 1 kHz to 25 kHz swept Gain +16 dB to -16 dB BW 0.1 Oct to 3 Oct Shelf Operation Frequency 1 kHz to 25 kHz swept Gain +16 dB to -16 dB Soft, Classic or Bright (minimum harmonic disruption) curves
Input Channel Hi Mid	Parametric Operation Frequency 320 Hz to 8 kHz swept Gain +16 dB to -16 dB BW 0.1 Oct to 3 Oct
Input Channel Lo Mid	Parametric Operation Frequency 80 Hz to 2 kHz swept Gain +16 dB to -16 dB BW 0.1 Oct to 3 Oct
Input Channel Bass	Parametric Operation Frequency 16 Hz to 400 Hz swept Gain +16 dB to -16 dB BW 0.1 Oct to 3 Oct Shelf Operation Frequency 16 Hz to 400 Hz swept Gain +16 dB to -16 dB Warm, Classic or Deep (minimum harmonic disruption) curves
Input Channel Compressor	Peak, Linear, RMS, Vintage modes Thresh -50 dBu to +20 dBu Attack 200 uS to 20 mS Release 50 mS to 3 Sec Ratio 25:1 to 1:1 Knee 4 dB, 12 dB or 40 dB Gain 0 dB to +24 dB Side chain source selectable + filter Frequency 50 Hz to 15 kHz swept Bandwidth 1/3, 1 or 2 Oct
Input Channel Gate	Peak mode Thresh -50 dBu to +20 dBu Attack 10 uS to 20 mS Hold 5 mS to 2 Sec Release 2 mS to 2 Sec Range 100 dB to 0 dB Side chain source selectable + filter Frequency 50 Hz to 15 kHz swept Bandwidth 1/3, 1 or 2 Oct

Auxiliary Input Channel Functions:-

Aux Channel Band 6	Parametric Operation Frequency 16 Hz to 25 kHz swept Gain +16 dB to -16 dB BW 0.1 Oct to 3 Oct Lo Pass Operation Frequency 16 Hz to 25 kHz swept Slope 6 dB/Oct or 12 dB/Oct
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Shelf Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
Mode soft curve

Aux Channel bands 3,4,5

Parametric Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
BW 0.1 Oct to 3 Oct

Aux Channel Band 2

Parametric Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
BW 0.1 Oct to 3 Oct
Hi Pass Operation
Frequency 16 Hz to 25 kHz swept
Slope 24 dB/Oct

Aux Channel Band 1

Parametric Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
BW 0.1 Oct to 3 Oct
Hi Pass Operation
Frequency 16 Hz to 25 kHz swept
Slope 6 dB/Oct or 12 dB/Oct.

Shelf Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
Mode soft curve

Output Channel Functions:-

Output Channel Band 6

Parametric Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
BW 0.1 Oct to 3 Oct

Lo Pass Operation
Frequency 16 Hz to 25 kHz swept
Slope 6 dB/Oct or 12 dB/Oct

Shelf Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
Mode soft curve

Output Channel bands 3,4,5

Parametric Operation
Frequency 16Hz to 25kHz swept
Gain +16dB to -16dB
BW 0.1 Oct to 3 Oct

Output Channel Band 2

Parametric Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
BW 0.1 Oct to 3 Oct
Hi Pass Operation
Frequency 16 Hz to 25 kHz swept
Slope 24 dB/Oct

Output Channel Band 1

Parametric Operatio
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
BW 0.1 Oct to 3 Oct
Hi Pass Operation.
Frequency 16 Hz to 25 kHz swept
Slope 6 dB/Oct or 12 dB/Oct.

Shelf Operation
Frequency 16 Hz to 25 kHz swept
Gain +16 dB to -16 dB
Mode soft curve

Output Channel GEQ

8 available in place of PEQ (above)
31 Bands. 1/3 Oct. Proportional Q
Lo Pass Frequency 2 kHz to 20 kHz swept
Slope 6 dB/Oct or 12 dB/Oct
Hi Pass Frequency 20 Hz to 500 Hz swept
Slope 6 dB/Oct or 12 dB/Oct

Output Channel Dynamic

Pk, Linear, RMS, Vintage, Shimmer modes
Thresh -50 dBu to +20 dBu
Attack 200 uS to 20 mS
Release 50 mS to 3 Sec
Ratio 25:1 to 1:1
Knee 4 dB, 12 dB or 40 dB
Gain 0 dB to +24 dB

Side chain source selectable + filter
Frequency 50 Hz to 15 kHz swept
Bandwidth 1/3, 1 or 2 Oct

Effects Channel Functions:-

Effects Channel

16 available configurable as
Stereo or mono in, stereo out
Modulated delay effects
Complex delay, reverbs
Advanced dynamics



PRO1 Configuration:

- 100 inputs x 102 outputs (max capacity) point-to-point routing anywhere within the Network
- 24 mic/line inputs with MIDAS mic preamps
- 48 simultaneous input processing channels
- 24 analogue outputs (including 2 stereo local monitor outputs)
- 3 AES3 outputs
- 2 AES3 inputs
- 27 sample-synchronous, phase-coherent mix busses
- Up to 12 multi-channel FX engines
- Up to 28 KLARK TEKNIK DN370 31-band Graphic EQs
- Full-colour 15" daylight-viewable display screen
- 8 VCA (Variable Control Association) groups
- 6 POPulation groups
- 96 kHz 40-bit floating-point processing throughout

Additional I/O Unit Options:

- DL431 24 in 5 way split: fixed configuration I/O
- DL251 48 in / 16 out fixed configuration I/O
- DL252 16 in / 48 out fixed configuration I/O
- DL351 Up to 64 in / 64 out configurable I/O (8 card slots)
- DL451 Up to 24 in / 24 out configurable I/O (3 card slots)

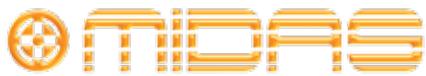
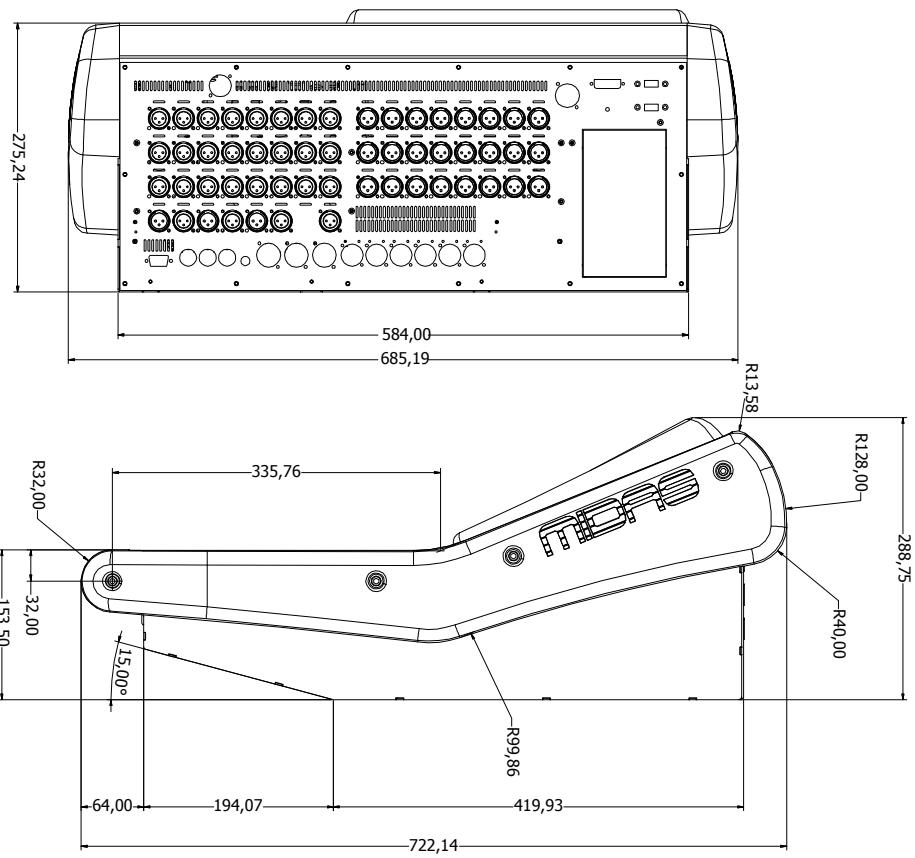
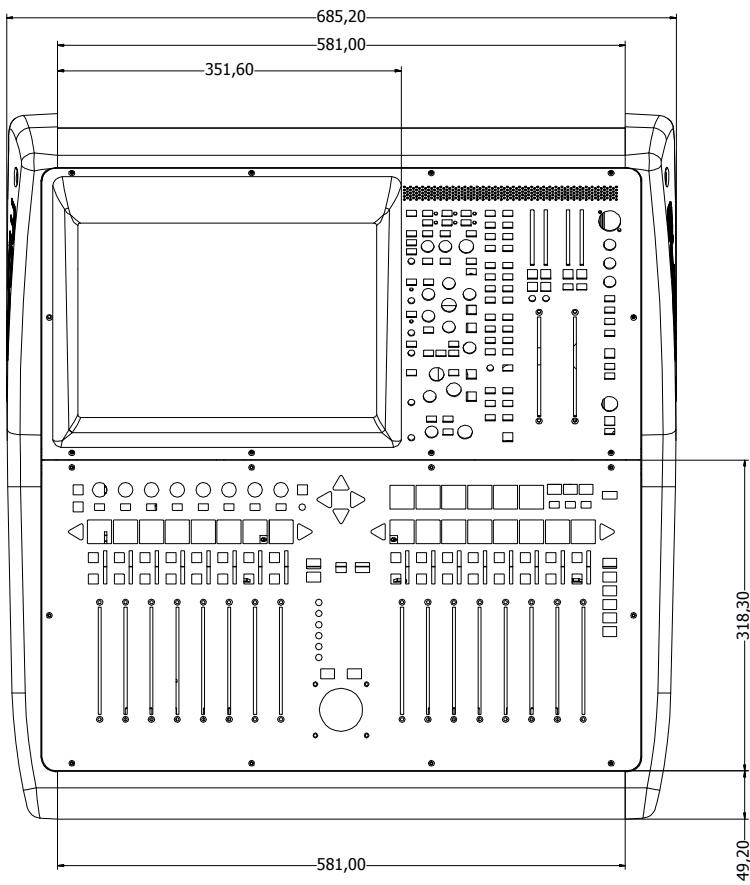
PRO1 Control Centre Weight and Dimensions:

- Width 685.20 mm (26.98")
- Depth 722.14mm (28.43")
- Weight: 21.5kg (47.5lbs)

*weights are approximate and out of flight case

Accessories:

- KLARK TEKNIK DN9331 Rapide Graphic Controller
- KLARK TEKNIK DN9696 96 track High Resolution Audio Recorder
- KLARK TEKNIK DN9650 Network Bridge (MADI, Dante, Aviom, Ethersound, CobraNet)



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