



MIDRAS
DESIGNED FOR A PURE PERFORMANCE





MIDAS

DESIGNED FOR A PURE PERFORMANCE

Since 1969 the MIDAS brand has been the premier console brand throughout the world of professional audio. From the famous Pro Series consoles to the industry standard XL-3 and XL-4, and onto the current state of the art Heritage series, MIDAS consoles remain the first choice for live sound professionals who expect the very best from their equipment.

MIDAS consoles are also regarded as essential tools in numerous other applications. Countless theatres, broadcasting suites, conference specialists and installation companies entrust their live sound requirements to MIDAS. The reason for this trust and confidence in the product is simple, born of the fundamental philosophy behind MIDAS: totally uncompromising research, design, engineering and manufacturing processes, which together produce a product of rare quality.

A commonly-heard phrase in the world of Pro-Audio is the 'MIDAS Sound', usually referring to the sonic performance of MIDAS consoles as the mark by which others are judged – how is it done? It comes simply from a unique combination of dynamic headroom, noiseless signal paths, unmatched EQ, the finest microphone pre-amps money can buy... ..and thirty years of experience!

However, sonic performance is not the only reason that MIDAS is Number One, it's also the outstanding reliability of the product. MIDAS consoles are able to handle thousands of events and hundreds of thousands of miles of travelling without fault. However, life can be tough on the road, so our global support network of dealers and distributors is on call at all times should any of our products need any kind of after-sales service.

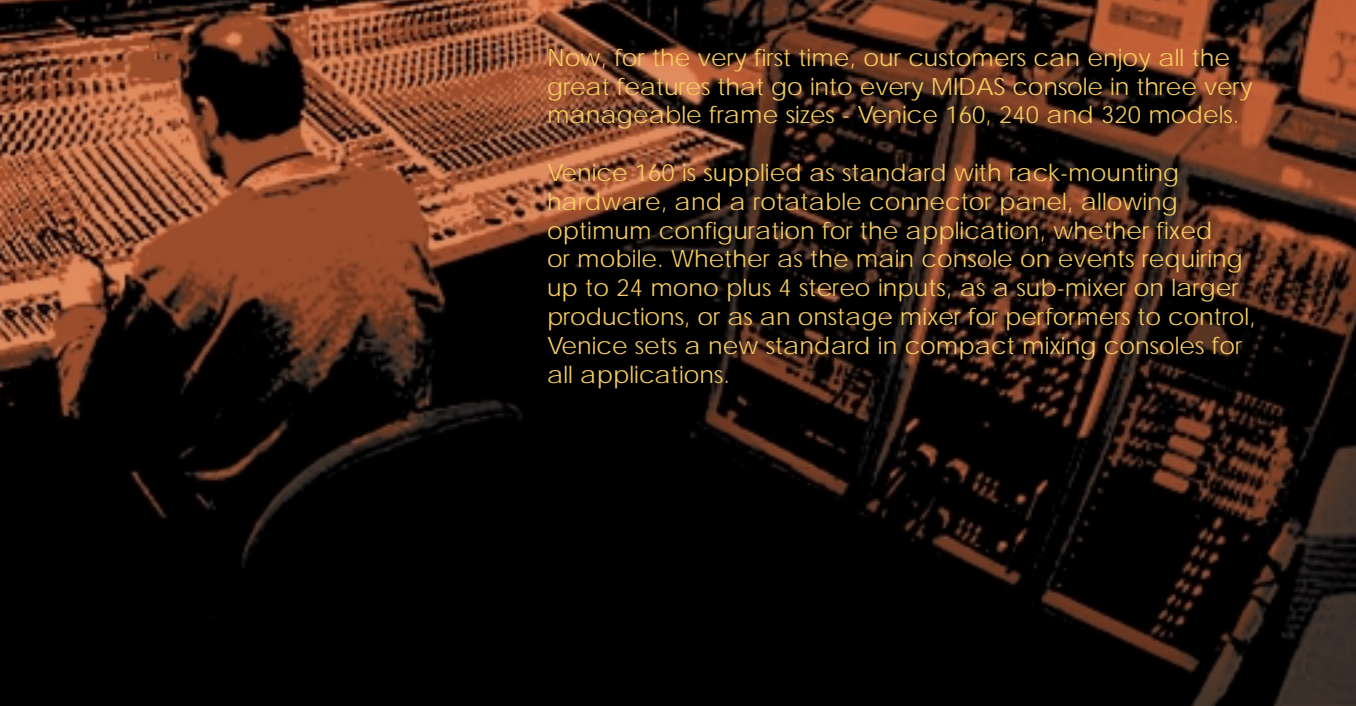
All MIDAS products are developed in close consultation with leading audio engineers from all over the world. Following consistent demand for the legendary sound and reliability of MIDAS in a compact format,
MIDAS is very proud to present



A NEW STANDARD IN COMPACT MIXING CONSOLES

Now, for the very first time, our customers can enjoy all the great features that go into every MIDAS console in three very manageable frame sizes - Venice 160, 240 and 320 models.

Venice 160 is supplied as standard with rack-mounting hardware, and a rotatable connector panel, allowing optimum configuration for the application, whether fixed or mobile. Whether as the main console on events requiring up to 24 mono plus 4 stereo inputs, as a sub-mixer on larger productions, or as an onstage mixer for performers to control, Venice sets a new standard in compact mixing consoles for all applications.





MIDAS

- TOP CLASS QUALITY AND DESIGN

MIDAS microphone pre-amps - the basis of the legendary 'Midas Sound'

The overall sonic performance of any console can only ever be as good as the point where the incoming signal interfaces with it, namely the microphone pre-amplifier. MIDAS consoles therefore always incorporate the very best microphone pre-amps available, and Venice is no exception. Venice incorporates an updated version of the ground-breaking MIDAS XL3 microphone pre-amp, which uses MIDAS' own "long-tailed pair" circuitry. This means that the Venice pre-amp has ample headroom and gain range to accept both microphone and line-level signals without any pad or range switching.

Frequency response and distortion - a 'hot' issue

To retain the natural qualities of many different sorts of input signals, a console must be able to handle incoming signals across a very wide frequency range with lowest possible distortion. The maximum input capability of Venice is +22dBu, enabling the console to deal with even the hottest line signals within 15Hz to 100kHz frequency range. Hi-value EMI suppression filters shelter the signal-path from unwanted external noise, one of the fundamental MIDAS design specialities.

MIDAS equalisation - both a creative tool and a problem solver for the engineer

Leading audio professionals all over the world confirm: it's not the number of pots that make an EQ section, it's the audible result, the ability to accurately control and fine-tune audio signals in the most musical method possible. Great EQ also provides the creative processing power to create personalised soundscapes without any unwanted side-effects. For instance, this means that the HF and LF filters won't interfere with the mid-band frequencies: all filters keep their gain regardless of frequency settings and +/-15dB on a gain potentiometer means exactly what it says. The Venice EQ is what thousands of MIDAS owners and users expect from our products: pure performance.

Highest quality components - only the best makes its way into a MIDAS console

The world-class audio performance expected of a MIDAS can only be achieved by fitting first-class components with minimised tolerances. There's no other way to do it: the operational benefit is that two identical signals will sound equal regardless of which channel they are fed into.



MIDAS Venice - first-class electromechanical parts throughout

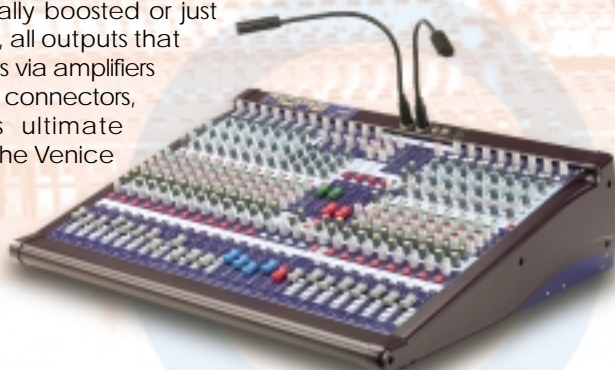
Pots, knobs, switches, connectors and faders. These components work very hard throughout the long life of the console, and are constantly exposed to heat, moisture, cold, dust and heavy mechanical usage. Venice uses only pots and faders with metal shafts from ALPS and connectors from NEUTRIK, ensuring low maintenance and first class reliability.

Straightforward layout and intuitive operation - through experience

All console manufacturers have their own philosophy of control surface design and layout, but MIDAS remains the most dedicated and experienced manufacturer of audio consoles for live applications. Venice could most certainly be used for recording, but MIDAS's "dedicated to live production" approach means the design layout of Venice is optimised for quick and easy control. Every function is exactly placed where it should be, easy to find, operate and read even at low light levels (though connectors for two desk lamps are fitted as standard). Venice provides the right feature set for all live applications: very clear and straightforward, and easy to reach despite the high density of controls.

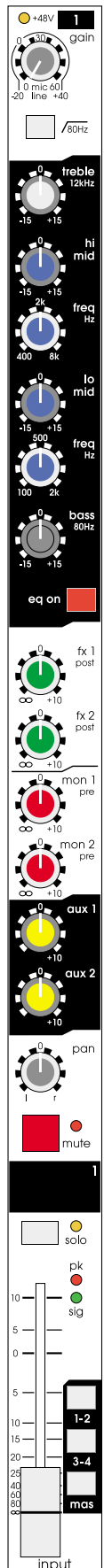
Gain structure and output signals

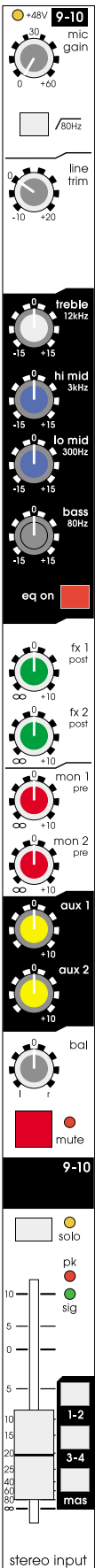
All controls on Venice that affect actual output levels feature a centre position at 0dB with range from minus infinity to plus 10dB (enough to make any output signal more than twice as loud than at the 0dB position). This allows the user to see at a glance whether a signal is really boosted or just adjusted to the overall mix. Additionally, all outputs that would typically be linked to loudspeakers via amplifiers are fitted with electronically balanced XLR connectors, protected by relays. This provides ultimate protection for the loudspeakers should the Venice be accidentally switched off during use.



VENICE INPUT CHANNEL FEATURES

- ☉ The three variants of VENICE (160, 240 and 320) differ only in their numbers of mono inputs, 8, 16 and 24 respectively. All three consoles provide four stereo channels which can be used as either a dedicated input for stereo sources (keyboards, playback etc), or as an additional mono microphone input, with separate input trim controls. This allows even the smallest version to handle up to 12 microphone and 8 line signals, not to mention the 4 stereo returns for external effect units.
- ☉ The extremely linear and noiseless VENICE pre-amp enables the operation of both microphone- and line-level signals up to +22dBu without external switching or an additional pad switch. A hi-resolution gain pot allows fine adjustment over the entire gain range.
- ☉ 48-volt 'phantom power' (for condenser microphones and active DI boxes) is switchable individually per-channel, rather than globally, from the connector panel. Two yellow LEDs indicate 'phantom power' status on both the control surface and the connector panel.
- ☉ A second-order Butterworth hi-pass filter set at 80Hz with enable switch allows effective elimination of unwanted low-frequency noise, such as stage rumble.
- ☉ Insert points are provided on all mono inputs for connection to external processing, and are right after the hi-pass filter in the signal path. All mono channels also feature direct outputs (for connection to additional FX or direct to multi-track recording) which operate post-fader, but which can be internally reconfigured to be pre-fader and post-EQ if required.
- ☉ The stereo input channel features the same microphone pre-amp as the mono channel, including the hi-pass filter. In addition, two line-level inputs are fitted to accept stereo signals. Because the stereo inputs have two independent circuits, it is possible to have all three connected inputs at the same time, providing silent backup in the event of something unexpected happening – a common occurrence in live sound situations.
- ☉ Mono channels are fitted with a 4-band MIDAS EQ section, featuring fixed-frequency HF and LF shelving filters (at 80Hz and 12kHz respectively), plus two swept-frequency mid-EQ bands. The low-mid band is adjustable between 100Hz and 2 kHz, whilst the high-mid controls frequencies between 400Hz to 8kHz, and both controls have a fixed 'Q' factor of 1.4. The stereo channels are fitted with a fixed 4-band EQ, controlling frequencies at 80Hz, 300Hz, 3kHz and 12kHz respectively. All the EQ gain controls offer plus and minus 15dB of cut and boost over the selected frequencies.
- ☉ VENICE features a total of six auxiliary sends, designated after their intended application. FX1 and FX2 provide a post-fader signal at their respective outputs, designed to provide feeds for external effect / signal processing such as reverbs and delays. However, these sends can be internally reconfigured for pre-fade operation. Monitor 1 and Monitor 2 are pre-fade, pre-eq, to provide controllable feeds for foldback and monitoring applications: these can also be modified internally to be post-eq.





☉ To accommodate constantly-changing monitor / FX requirements, VENICE also offers two further auxiliary busses (labelled Aux 1 and Aux 2), which can be individually switched pre or post fader on the master module. In pre-fade mode they follow the pre / post EQ selection of Monitor 1 and Monitor 2, thus Venice offers the flexibility to provide 2 FX sends plus 4 monitors, 3 FX sends plus 3 monitors, or 2 monitors and 4 FX sends. On stereo channels, the auxiliary sends provide a sum of the left and right inputs. All auxiliary sends offer a range of minus infinity to plus 10dB, providing accurate level control over a very wide gain range.

☉ The individual pan controls define the position of their respective channel within the overall stereo image. The pan rotary also controls the level of the selected channel being routed to audio subgroups if either of the routing switches are depressed. On the stereo channels, the bal controls the balance between left and right input signal.

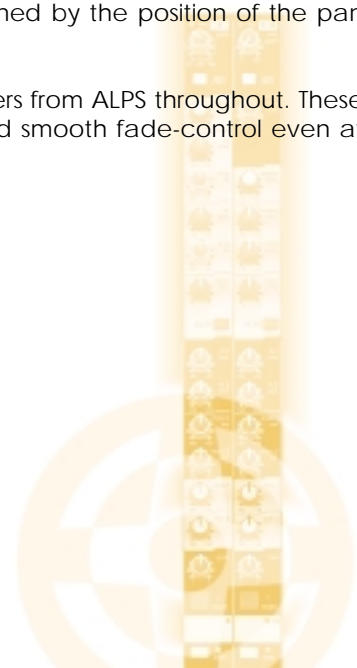
☉ A large mute switch (with LED status indicator) mutes all outputs from the channel, including all auxiliary sends and direct outputs.

☉ The solo button (with yellow LED indication) switches the signal from the selected channel to the headphone buss and control room speakers. It is possible to choose between PFL (pre-fader listen) in mono or AFL (after fader listen) to evaluate and control a signal within the full stereo image. In addition the level of the "soloed" signal is displayed on the hi-resolution LED metering on the master section, without disrupting the metering for the master outputs. The solo switch is situated well away from the mute switch to avoid unintended operation of either.

☉ Incoming signal levels to both mono and stereo input channels are displayed on two LED indicators. The green signal present LED illuminates when the incoming signal exceeds -16dBu, enabling the user to see at a glance which channels have signals present at their inputs. The red peak LED illuminates when the incoming signal exceeds +16dBu, and continues to sense the input even if the EQ section is bypassed. However, due to the quality of the MIDAS input circuitry, there is still around a further 6dB of headroom available even when the red peak LED is flashing.

☉ The routing switches direct the signal from their channel to master L/R outputs or the subgroups. When using the subgroup routing switches, the level of channel signal directed to the selected groups is determined by the position of the pan control.

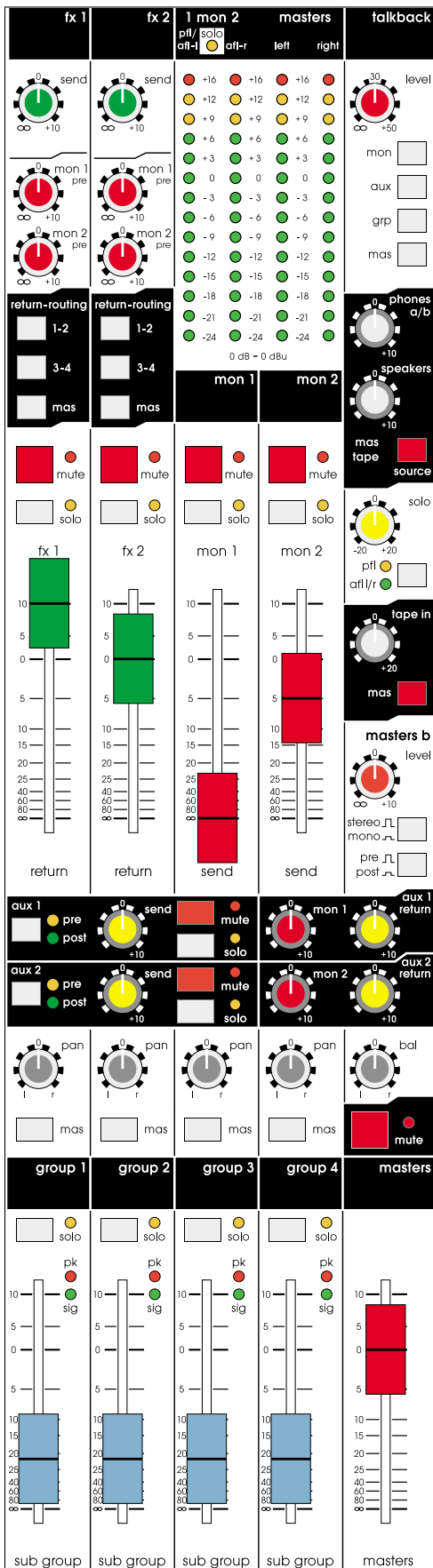
☉ VENICE is fitted with long-life "Super-Slide" faders from ALPS throughout. These high quality faders ensure exact level settings and smooth fade-control even at lower levels.



GROUPS AND MASTER SECTION

- ☉ The comprehensive masters section on VENICE features two full-function stereo FX-return inputs with faders, mute, solo, routing to groups and master controls as well as send controls to monitor 1 and 2. This feature allows the user to avoid using up stereo input channels as FX returns, without sacrificing the necessary controls.
- ☉ The two FX-master sends determine the overall level of FX send to the connected effect unit.
- ☉ Four hi-resolution LED bargraphs monitor the output signals for Monitor 1 and 2 and for Master L/R. The monitor bargraph is automatically switched to Solo (PFL or AFL) if any channel solo button is engaged. The master output metering is always active.
- ☉ The two dedicated monitor sends are equipped with faders to allow precise control and an easy visual reference for monitor outputs. They too have mute and solo functions with LED status indicators.
- ☉ Auxiliary sends 1 and 2 can be individually switched pre or post fader for monitor or FX applications as required. The auxiliary master sends all feature mute and solo functions with LED status indicators, plus an additional 10dB extra gain.
- ☉ There are also two further stereo auxiliary returns with level-to-master and send-to-monitor controls. This means that even with VENICE configured to accept 4 stereo FX returns, it does not affect the number of available stereo input channels.
- ☉ The four audio subgroups can be routed to the stereo master outputs, or used as independent outputs from the connector panel. Pan adjusts the position of the group within the overall stereo image. The AFL mode can be used in conjunction with the group solo button to monitor a whole group signal, including any applied FX, giving an accurate audio picture including the whole stereo image.
- ☉ An XLR microphone talkback input is provided on the front panel to connect a microphone for talkback use, and is controlled by a rotary input control offering up to +50dB of gain. Phantom power is permanently applied to this input to allow the use of condenser microphones, though dynamic microphones may also be used without risk of damage. The talkback input may be routed via a series of non-latching switches to monitors, aux, groups and masters.





Both headphone outputs are controlled via the phones a/b rotary control, which provides a further 10dB of extra gain, as well as the output for control room speakers. In the same section, the source switch controls whether the tape or the master signal is present at the headphones and control room speakers if no solo button is engaged.

The solo rotary control adjusts the solo output level by +/-20dB. This is useful to balance between a louder PFL and a lower level AFL signal. The PFL/AFL mode switch with LED status indicator selects between listening in mono to the pre-fader signal (PFL) or in stereo after the fader.

The tape in rotary control, with - infinity to +20dB gain, provides output level control over a stereo source plugged into the cinch (phono) inputs on the connector panel. This is designed to provide a simple stereo input for playing (for instance) background music during a show, and the signal from this control remains on the master output even when the master mute is activated. However, there is also a further pair of cinch (phono) outputs in this section for a recording device to be connected if required. The signal for this tape output is pre master fader, insert and master mute.

The master B control provides a second, independently switchable stereo or mono master signal which can be used for a variety of purposes. For instance, in stereo it can feed other zones, in mono it could be used for delay lines or subwoofer feeds. This function is unique to VENICE within this class of console, and also of course features the extra 10dB of gain on the output.

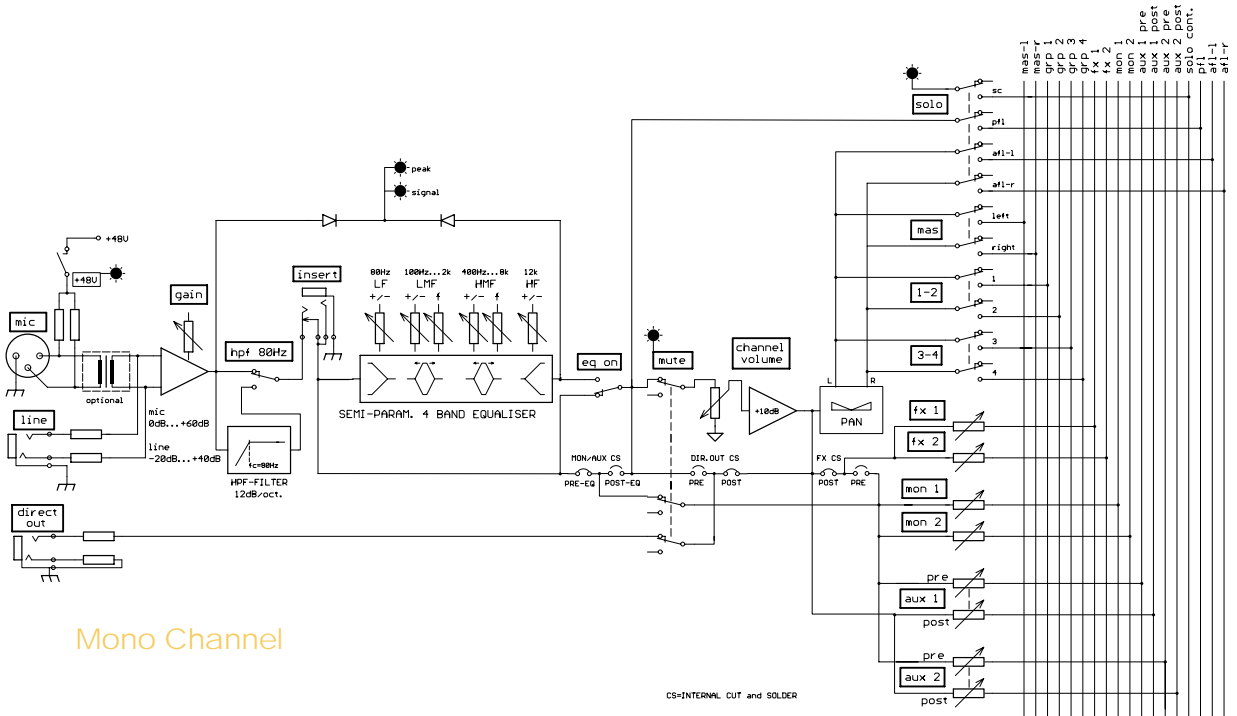
The stereo master output has a balance control, to allow correction of left / right imbalances, and allows the overall stereo image to be controlled by just one (stereo) fader. The master mute affects the master outputs of the console except the tape return signal to master, providing a convenient method of turning audio on and off as required.

PERFORMANCE SPECIFICATIONS

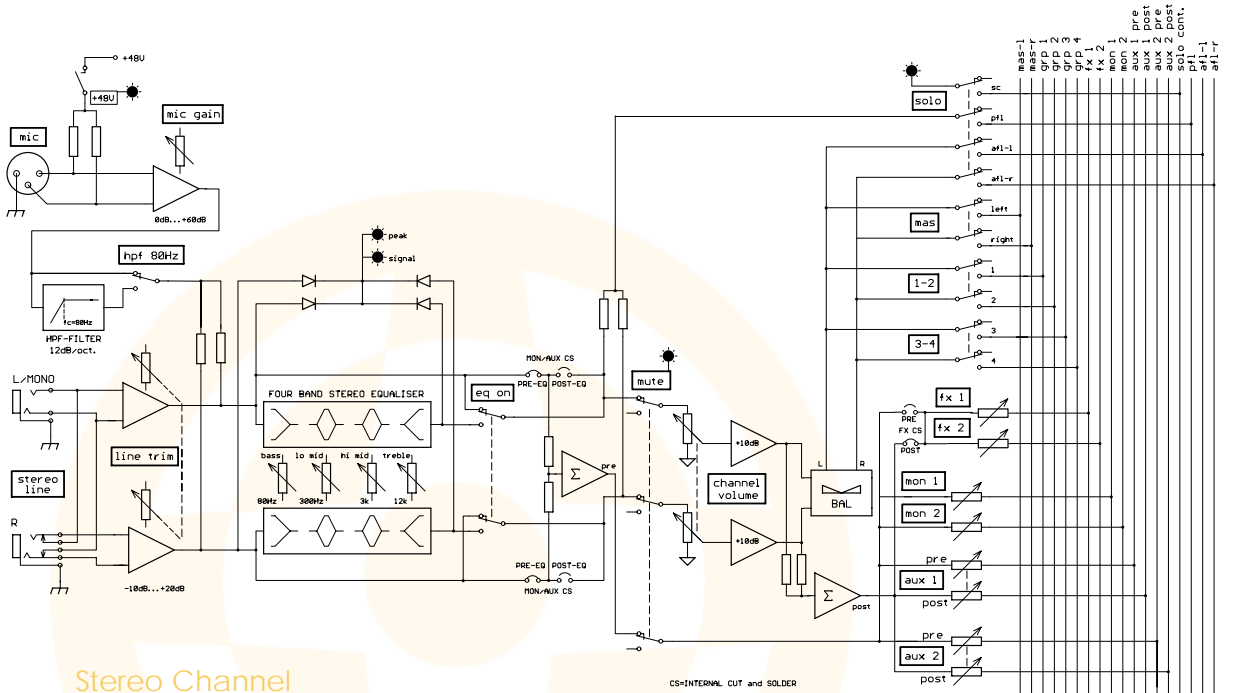
Features and Specifications	Venice 160	Venice 240	Venice 320
Inputs (total)	30	38	46
Mono-Inputs (Mic/Line) with Inserts	8	16	24
Stereo-Line/Mono-Mic-Input Channels	4/4	4/4	4/4
Stereo-Effect>Returns (Line)	4	4	4
Stereo-Tape-Return (Line)		1 left/right	
Busses		15	
Subgroups		4	
Aux Pre-Fader (Monitor)		2	
Aux Post-Fader (Effects)		2	
Aux switchable Pre/Post-Fader		2	
Master L/R		2	
Mono-PFL		1	
Stereo-AFL		2	
Outputs			
Subgroups (with Inserts)		4 impedanced balanced 1/4 inch jacks	
Aux Pre-Fader (Monitor)		2 XLR (balanced)	
Aux Post-Fader (Effects)		2 impedanced balanced 1/4 inch jacks	
Aux switchable Pre/Post-Fader		2 XLR (balanced)	
Master (with Inserts)		2 XLR (balanced)	
Master B Out		2 XLR (balanced)	
(switchable Mono/Stereo, pre-post Fader)			
Tape Send (Recording)		1 Stereo (Phono)	
Direct Outputs (1/4 inch Jack)	8	16	24
Stereo-Headphones		2 Stereo-1/4 inch jack	
Stereo-Speakers		2 impedanced balanced 1/4 inch jacks	
Additional Features			
Connector for desk lamps		2 x 12V/5W (4-Pin XLR)	
19" -rack-mounting- kit,	yes	-	-
rotatable connector panel	yes	-	-
Accessories			
		Dust Cover (included)	
		12 V Desk Lamp (not included)	
		Input Transformer (not included)	
Technical Data			
Input Impedance			
Mic		2k Ω Balanced	
Line		20k Ω Balanced	
Input Gain			
Mic		Continuously variable 0dB to +60dB	
Line (Mono Channel)		Continuously variable -20dB to +40dB	
Line (Stereo Channel)		Continuously variable -10dB to +20dB	
Line Level Inputs		0dB	

Maximum Input Level	
Microphone and Line	+22dBu
Line Level Inputs (Mono)	+42dBu
Line Level Inputs (Stereo)	+22dBu
CMR at 1kHz	
Mic (Gain +30dB)	> 80dB
Line	> 40dB
CMR at 100Hz	
Mic (Gain +30dB)	70dB typical
Frequency Response (20Hz-20kHz)	
Mic to Mix (Gain +60dB)	+ 0dB to -1dB
Noise (20Hz-20kHz)	
Mic EIN ref. 150Ω gain +60dB	-129dBu
Mic EIN ref. 150Ω gain 0dB	-107dBu
System Noise (20Hz-20kHz)	
Summing Noise (12 channels routed, faders down)	-90dBu
Line to Mix Noise (12 channels routed at 0dB)	-84dBu
Distortion at 1kHz	
Mic to Insert (+30dB Gain, +20dBu Output)	Typ 0,0007%
Mic to Master (+30dB Gain, +20dBu Output)	< 0,009%
Crosstalk at 1kHz	
Channel to Channel	< -80dB
Mix to Mix	< -80dB
Channel to Mix	< -80dB
Fader Attenuation	> 100dB
Switch Rejection	> 100dB
Output Impedance	
Line Outputs	75Ω balanced
Headphones	to drive 32Ω
Maximum Output Level	
Master Outputs	+25dBu
Line Outputs	+22dBu
Headphones	+22dBu / 600Ω
Nominal Signal Level	
Microphone	- 60dBu to 0dBu
Line	0dBu
Equaliser Mono Channel	
Hi Pass Filter	2nd order Butterworth, 80Hz
Treble	+/-15dB at 12kHz (Shelv)
Hi Mid	Continuously variable 100Hz to 2kHz (1 Oct) +/-15dB
Lo Mid	Continuously variable 400Hz to 8kHz (1 Oct) +/-15dB
Bass	+ /-15dB at 80Hz (Shelv)
Equaliser Stereo Channel	
Treble	+/-15dB at 12kHz (Shelv)
Hi Mid	3kHz (1,4 Oct) +/-15dB
Lo Mid	300Hz (1,4 Oct) +/-15dB
Bass	+/-15dB at 80Hz (Shelv)

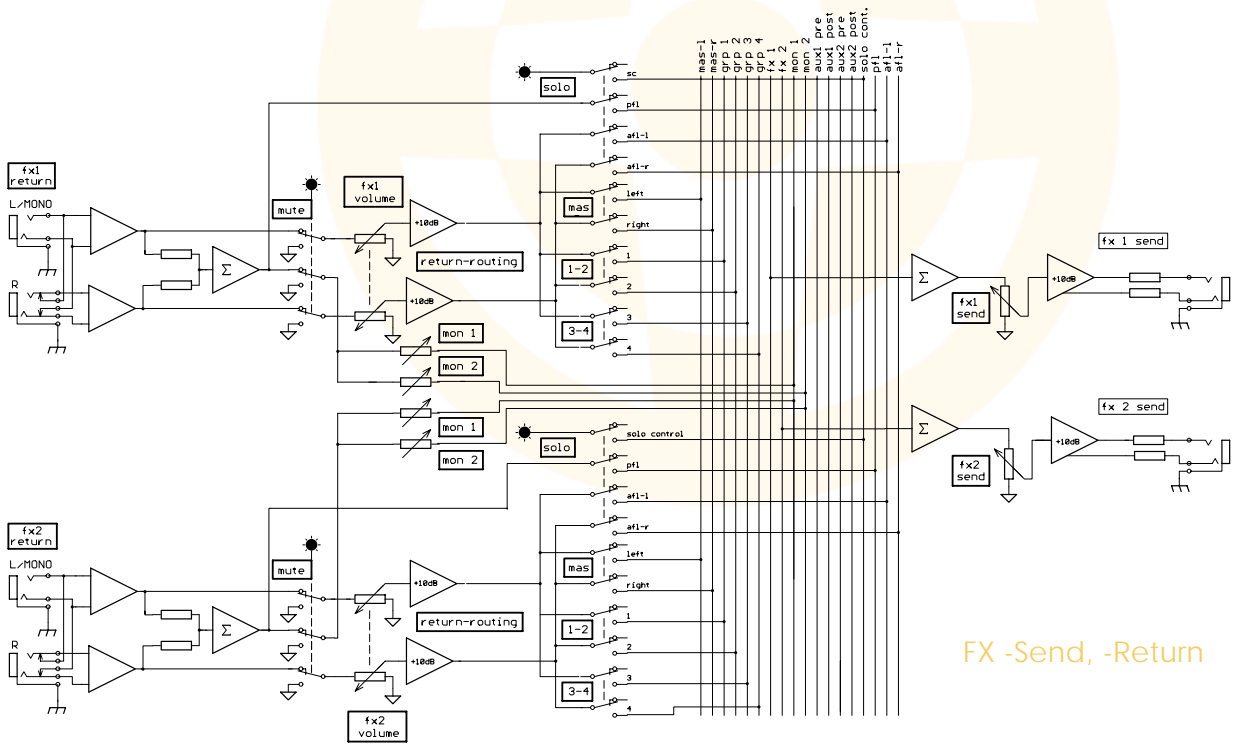
BLOCK DIAGRAMS



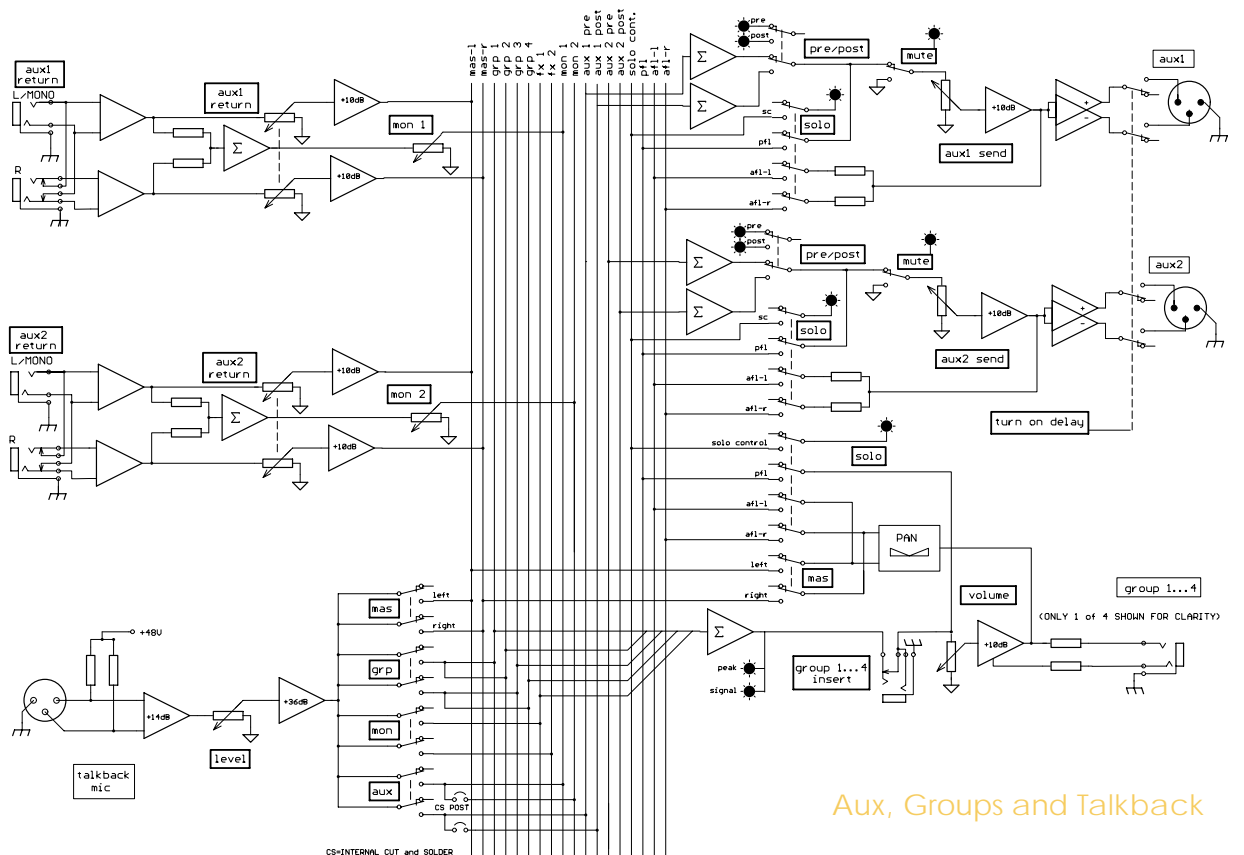
Mono Channel



Stereo Channel

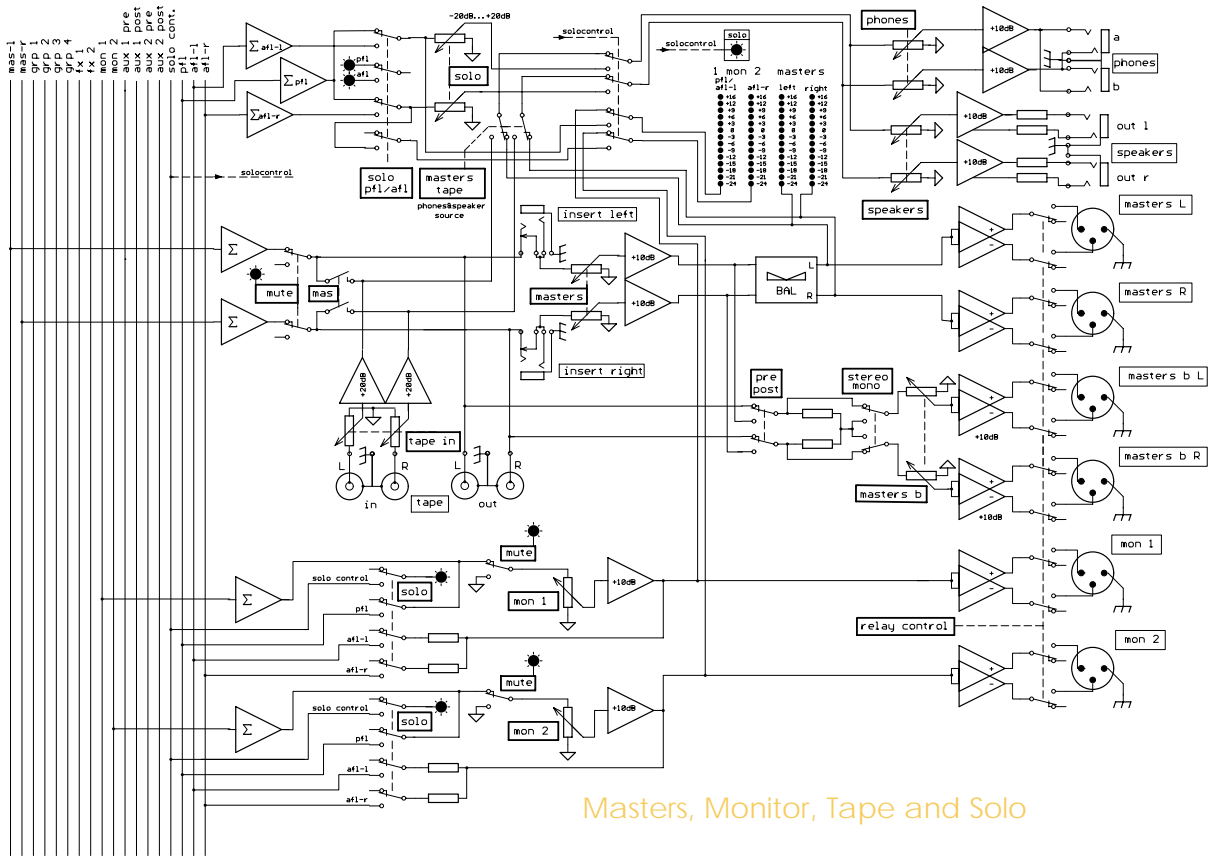


FX -Send, -Return



Aux, Groups and Talkback

BLOCK DIAGRAM



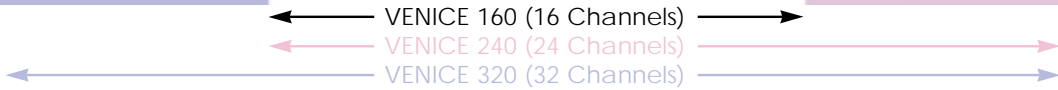
Masters, Monitor, Tape and Solo

19" RACK MOUNT



11 RU

OVERVIEW AND STATISTICS



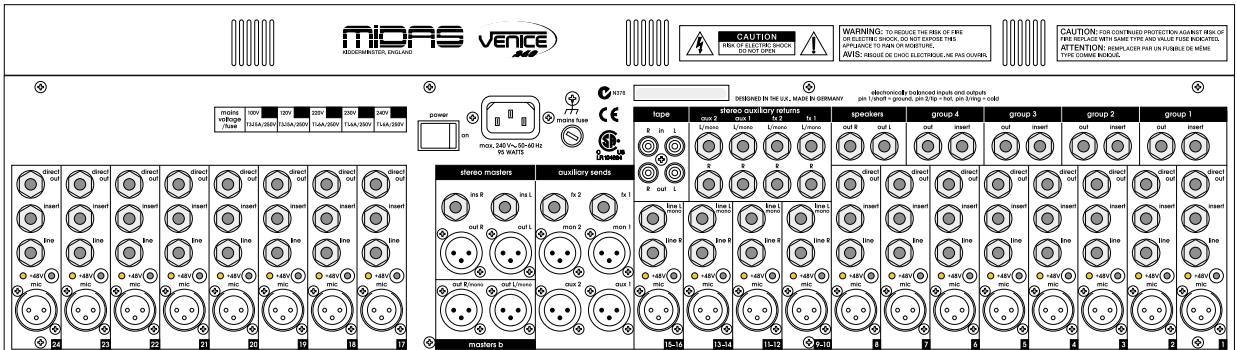
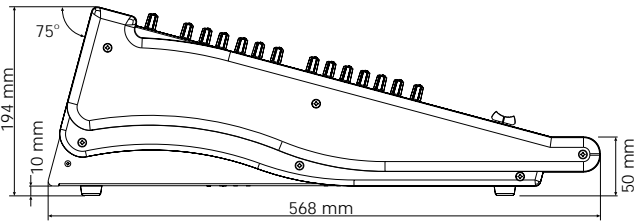
VENICE 160 VENICE 240 VENICE 320

Size (mm/inch)

Width	490 / 19.3"	698 / 27.5"	906 / 35.7"
Depth	568 / 22.4"	568 / 22.4"	568 / 22.4"
Heights	194 / 7.6"	194 / 7.6"	194 / 7.6"

Weight (kg/lb)

	16,4 / 36.2	21,1 / 46.5	25,8 / 56.9
--	-------------	-------------	-------------



KLARK TEKNIK GROUP



KLARK TEKNIK
SIGNAL PROCESSING BY DEFINITION



DDA
BETTER BY DESIGN



MIDAS
DESIGNED FOR A PURE PERFORMANCE

“Celebrating their 30th Anniversary in 2000, the Midas name has long represented the pinnacle of live console design and engineering. Though many things have changed in the past 30 years, the fundamental principles applied by Midas remain the same: to provide the professional sound engineer with the ultimate in audio quality, flexibility and reliability.

The legendary XL3 was launched in 1990 and was joined by the unique XL4 in 1995. The range has been subsequently expanded with the launch of the XL200 and XL250 consoles, making the great Midas sound accessible to a whole new market. 1999 saw the launch of the Heritage Series, the most popular analogue live sound reinforcement consoles of recent years.’



“At the forefront of professional signal processing since their conception, Klark Teknik celebrated their first quarter-century in 1999. From their industry-standard analogue graphic equalisers to the leading edge technology of their digital units, Klark Teknik continues to be the first choice for audio professionals around the world. The year 2000 also marks the introduction of several groundbreaking new products.”

DDA has established a reputation for designing and manufacturing live performance and recording production consoles of outstanding quality. DDA consoles are used in some of the most prestigious studios and concert venues around the world.

MIDAS

Klark Teknik Building, Walter Nash Road, Kidderminster, Worcestershire, DY11 7HJ. England.
Tel: + 44 (0) (1562) 741515 Fax: + 44 (0) (1562) 745371

International Distribution

Country	Address	Telephone	Fax
United States of America	Telex Communications Inc., 12000 Portland Avenue South, Burnsville, MN55337.	+1 5075263205	+1 5075263059
Canada	Telex Communications Ltd., 705 Progress Ave, Unit 10, Scarborough, Ontario M1H 2X1	+1(0)4164314975	+1(0)4164314588
Germany	Telex / EVI Audio GmbH, Hirschberger Ring 45, D-94315 Straubing	+49(0)94217060	+49(0)9421706357
United Kingdom	Telex-Shuttlesound Ltd., 4, The Willow Centre, Willow Lane, Mitcham, Surrey, CR4 4NX. UK	+44(0)2086409600	+44(0)2086407583
France	EVI Audio France S. A., Parc de Courcerin, Allee Lech Walesa, Lognes, F 77185	+33(0)164800090	+33(0)160065103
Hong Kong	EVI Audio Limited, Unit E&F, 21/F Luk Hop Ind. Building, 8 Luk Hop St, San Po Kong, Kowloon	+852 23513628	+852 23513329
Japan	EVI Audio Japan Ltd., 5-3-8 Funabashi, Setagaya-ku Tokyo, 156-0055 Tokyo-Japan	+81(3)53165020	+81(3)53165031
Singapore	Telex Communications (Sea) Pte Ltd., 3015A Ubi Rd 1 #05-10, Kampong Ubi, Industrial Estate, SGP 8705 Singapore	+65 7468760	+65 7461206
Australia	EVI Audio Aust. Pty Ltd., Unit 23, Block C, Slough Avenue, (P. O. Box 6427), Slough Business Park, 2128 Silverwater NSW	+61(2)96483455	+61(2)96485585