

Siena series

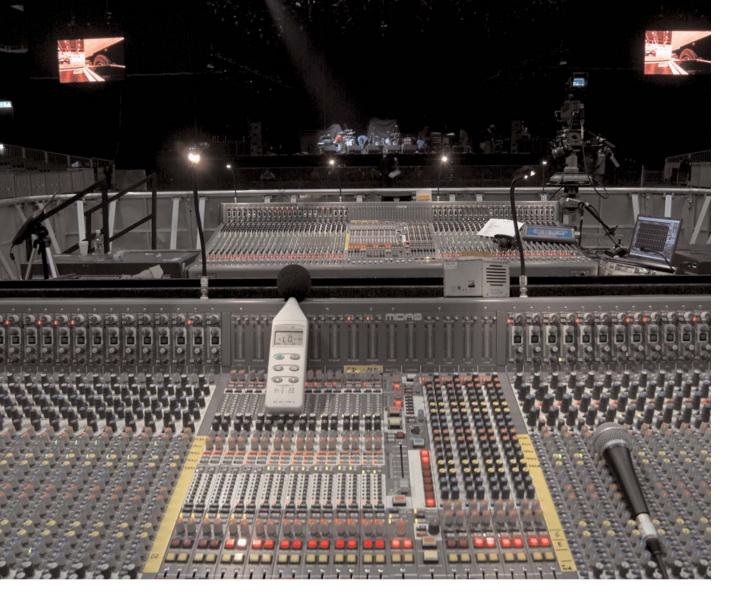
live sound

installation

audio visual

broadcast





Midas - A Brief History

Since 1969 Midas has been the premier console brand throughout the world of professional audio. Midas consoles have been on the road with acts like Pink Floyd, Paul McCartney, Rolling Stones, Madonna, U2, Coldplay and Kylie just to name a few. From the famous Pro Series, the benchmark XL3 and XL4, and onto the current industry standard Heritage 3000, Midas remains the first choice for the most discerning of professional live sound engineers and has set the standard in the industry.

"The Midas sound" is a commonly heard phrase in the world of pro audio and refers to the sonic performance of Midas consoles - the mark by which others are judged. It comes simply from a unique combination of a superb dynamic range, very low noise floor, flawless audio path transparency and a beautifully warm EQ and the industries finest microphone pre-amp - plus thirty years of experience from a design team that not only understands audio but also loves music.

Sonic performance is only part of the reason behind Midas' success; there is also the outstanding product reliability. Midas consoles are able to handle thousands of gruelling events and hundreds of thousands of miles of punishing touring without major fault. To back up our impeccably solid construction and proven roadworthiness there is a three year global warranty, so our support network of dealers and distributors are on call at all times should any of our products need any kind of after-sales service.

Midas' proven technology and track record has made it an essential tool in numerous applications. Countless theatres, broadcasting suites, Houses of Worship, conference specialists and installation

companies entrust their live sound requirements to Midas. The reason for this confidence is simple. It is founded on the fundamental philosophy behind Midas: totally uncompromising research, design, engineering and manufacturing which results in a product synonymous with excellence.

Siena - Introduction

Siena brings all of Midas' knowledge and experience in building dual-purpose consoles, such as the industry-leading Heritage 3000 and the now-legendary XL3, and offers all of these benefits in a compact package. Siena has been designed to both compliment and expand the ground-breaking Verona concept. Built on the highly successful, proven Verona platform, the Siena represents a combination of superb audio performance, and increased functionality, creating a new, class-leading, dual-purpose console.

Siena is more than a Verona with extra auxes. The buss structure has been redesigned to be more appropriate for monitor use. Sophisticated engineering solutions have been employed, such as the advanced Solo Tracking System, switched inserts on outputs, and a powerful logic controlled solo system.

Siena has a comprehensive control surface, however, it still maintains the familiar ergonomic layout of all Midas consoles, making navigation around the control surface quick, easy and intuitive.

Siena will appeal to the discerning audio professional, be they working in Concert sound, Theatre, Broadcast, House-of-worship or Audio-Visual, and at either end of the multicore.

Work surface Reference

This page is to be used in conjunction with the rest of the brochure as a reference and you may find it helpful to leave it folded out.



Input Channel

Phantom power 15dB pad input gain insert in & out phase reverse swept hi pass filter

Midas 4 band swept EQ

pre fade mix EQ bypass EQ in & out

16 Mix sends with individual pre/post fader switching (even number sends reconfigure to pan when stereo mode is selected)

stereo master output pan control

master stereo output assign

mute with LED status

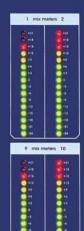
4 segment LED metering

100mm self cleaning monorail fader

5 mute group assigns

solo with LED status

Mix Outputs



16 segment LED output metering

Stereo direct input level controls

mono/stereo status indicator insert in & out

mute with LED status

mono/stereo assign switch

100mm self cleaning monorail faders

mute group assign

solo with LED status

mono/stereo status indicator insert in & out

mix to master stereo output assign

pan control mute with LED

mono/stereo assign

status

100mm self cleaning monorail fader

mute group assign

solo with LED status



with solo and

direct to masters level and assign switch

talk back Mic gain

talk on

talk back routing

11-12

13-14

15-16

solo add solo clear

input solo PFL/AFL output solo

PFL/AFL

mute group assign

master mutes master solo

100mm self cleaning monorail master faders

Master & Solo Outputs

16 segment LED master metering

frequency generator level & sweep

talk back mic

talk external

5 mute group masters (1-4 input, 5 input and/or output)

headphone level

stereo solo output sum to mono

mono solo output mute

stereo solo output mute

100mm self cleaning monorail local output fader



Superior Midas Sound

As with all our consoles we are continually striving to improve our sonic circuits. Siena uses a premium performance Mic amp, based on our own discrete component design, which provides very high CMR performance providing simple, noise free interconnections. High performance audio summing busses are used throughout and all main outputs are fully balanced with high current capability for noise free interconnections.

Simple, Intuitive, Effective

Engineers the world over understand the advantages of Midas' consistent gain structure. The controls feel right, and the console responds to control changes in a precise, predictable manner. Whether it's the highly accurate 4-band EQ, the superb 100mm monorail faders or the intuitive layout, Siena is designed to place the live sound engineer in control.

Six Models - Siena 240 to Siena 640

Siena frames range from 24 inputs, and increment in blocks, of 8 up to a maximum of 64!

Three Functions, One Desk

Easy set-up for monitors: the Mono/Stereo changeover switches, allow the choice of any combination of wedge or stereo in-ear monitor outputs to be controlled via a 100mm fader including switched insert point. This flexibility also extends to FOH operation as mixes 9-16 will act as subgroups as they can be routed to stereo master outputs and include pan and stereo assign switches. Routing inputs to groups is easily achieved by dialling the appropriate auxiliary to unity gain.



ΕQ

Highly accurate and musical swept 4-band EQ on every channel with swept high pass filter on every input.

Inserts

Front panel switchable insert points on each Mic/line input and all mix outputs. Verona has proven that with Midas' innovative grounding philosophy unbalanced inserts do not compromise audio performance.

16 Mix Outputs

16 Mix busses with individual Pre/Post Fader switches in mono mode. 8 global master Mono/Stereo switches, which reconfigure the mix busses in pairs to a Pan/level arrangement with stereo pre/post switching. The 16 master mix outputs also include 16 100mm faders and 16 separate meters.

5 Mute Groups

Easy to set up, easy to activate mute scenes. The soft mute circuits have silent operation and LED indication. Mute group 5 also operates on assigned outputs.

Power Supplies

The current sharing, voltage sensing, auto-switching PSUs are internally mounted. The "no hum" design saves the need for external racking and cabling. Siena 240 comes with one internal PSU whilst Siena 320, 400, 480, 560 and 640 come with two internal PSUs. Each frame includes a rear panel mounted connector for an optional external PSU.



The advantages of touring with a Midas console are appreciated the world over. The combination of roadworthy, reliable products and Midas' global support, has made the Midas "Touring Package" the international standard of the industry. The Siena represents all the classic values of the brand, with the added advantages of smaller footprint, lighter frame, and true multifunctionality. Siena can easily handle Front of House making it an invaluable addition to any rental companies inventory.

These features, when combined with the audio quality of the Siena, ensure it will fit comfortably into even the most demanding application. The facing page highlights features which are most relevant to this application.





SIENA FEATURE SET

PREMIUM QUALITY PREAMP DIRECT OUTPUTS SWITCHABLE INSERT POINTS

SWITCHABLE INSERT POINT.

SWEPT HPF

MIDAS 4-BAND SWEPT EQ

PREFADE MIX EQ BYPASS

16 MIX SENDS/OUTPUTS

SELF-CLEANING 100mm MONORAIL FADER

5 "SOFT-CIRCUIT" MUTE GROUPS

STEREO DIRECT INPUT

MONO/STEREO CHANGEOVER

EXTREMELY LOW NOISE

REDUNDANT PSU CAPABILITY

FRGONOMIC LAYOUT

TALKBACK SYSTEM

STEREO SOLO BUSS WITH MODE SWITCHING

SOLO TRACKING SYSTEM INTERFACE

STEREO MASTER OUTPUTS

CLEAR, COMPREHENSIVE METERING

TOURING (STAGE MONITORING) BENEFITS

Premium Quality Preamp - The Siena Mic amps can handle input levels up to +21dB. The high CMR means excellent performance with long multicore runs and passive Mic splits.

Switched Insert Points - Invaluable for quick set-ups.

Midas 4-Band Swept EQ - Siena EQ has been designed to give the same legendary power, response and "feel" as the world-renown XL and Heritage series consoles. All of which are proven in dual-purpose roles.

16 Mix Outputs - All 16 Mix sends are globally switched mono/stereo in pairs. This format combines maximum flexibility with minimum set-up time. The master mix outputs are configurable to suit the mode of operation. Run 16 mono mixes and a stereo mix, or 9 discrete stereo mixes, or any combination of mono and stereo. Mix outputs feature high current output drivers, and can deliver +21dB before clip. Never run out of "drive".

Self Cleaning 100mm Monorail Faders - Highly accurate, essential when relying on fader position to show relative levels.

5 "Soft-Circuit" Mute Groups - Quick, silent muting/unmuting of multiple inputs and outputs.

Mono/Stereo changeover - The Mono/Stereo changeover function not only switches the input mix controls from a level/level arrangement to a pan/level arrangement with single pre/post switch per pair, it also reconfigures the associated direct inputs to mono or stereo operation. In addition Mix 1-8 AFL is also reconfigured for mono or stereo operation automatically.

Redundant PSU Capability - Every Siena console has backup PSU capability. Siena 320, 400, 480, 560 and 640 models have redundancy as standard. Internal PSUs are auto-voltage sensing, current sharing and auto-changeover.

Talkback system - Talk to individual outputs or multiple outputs simultaneously. External talk line in & out, for linking to other consoles.

Stereo solo buss with mode switching - For monitor engineers, the ability to know exactly what is happening with multiple remote mixes at any one time is crucial. Siena's logic solo system provides mono and stereo solo outputs, each with its' own mute switch, and separate PFL/AFL selection for both inputs and outputs.

Solo Tracking System - View your outboard KLARK TEKNIK HELIX EQ at the touch of a solo switch. Siena solo buss has an RS232 control interface with KLARK TEKNIK HELIX digital EQ systems.

Clear And Comprehensive Metering - 16-segment output meters that show each of the 18 master Mix busses simultaneously and four segment LED input meters on all input channels.

Installation: Live Music Dual Purpose

The Siena excels at both ends of the multicore. Its' compact frame means minimum space is required in control booth or side-stage. Features such as individual pre/post switching, configurable mono/stereo aux operation, and a clear ergonomic control surface, make the Siena an obvious choice for Monitors, FOH, or both. The facing page highlights features that are most relevant to this application.





SIENA FEATURE SET

PREMIUM QUALITY PREAMP DIRECT OUTPUTS

SWITCHABLE INSERT POINTS
SWEPT HPE

MIDAS 4-BAND SWEPT EQ PREFADE MIX EO BYPASS

16 MIX SENDS/OUTPUTS

SELF-CLEANING 100mm MONORAIL FADER

5 "SOFT-CIRCUIT" MUTE GROUPS

STEREO DIRECT INPUT

MONO/STEREO CHANGEOVER

EXTREMELY LOW NOISE

REDUNDANT PSU CAPABILITY

ERGONOMIC LAYOUT

TALKBACK SYSTEM

STEREO SOLO BUSS WITH MODE SWITCHING

SOLO TRACKING SYSTEM INTERFACE

CLEAR, COMPREHENSIVE METERING

INSTALLATION: DUAL PURPOSE BENEFITS

Premium Quality Preamp - High-stability, low-noise Mic amps allow the engineer to deal with whatever signal source the band turns up with, be it +4dB line or low-level electro-acoustic pickups.

Direct outputs - On every channel. Used for driving dedicated FX processor, multi-track recording, parallelling inputs, etc. Direct outputs are post fader as standard and can be set pre insert, pre EQ, post EQ or pre fader via internal jumpers.

Midas 4-Band Swept EQ - Precise, powerful control of input frequency response. Swept HPF for exceptional control of low-frequency content.

Prefade Mix EQ Bypass - Mixes can be independent of input EQ. Use for recording, foldback, etc.

16 mix send outputs - User configurable as the situation demands. 8 of the mixes can be routed and individually panned within the master stereo outputs. This permits the engineer to create 8 sub-mixes for FOH applications (sub groups or FX sends), while still leaving 8 auxes for foldback mixes.

5 "Soft-Circuit" Mute Groups - Quick, silent muting/unmuting of multiple inputs or outputs.

Stereo Direct input - Each Mix output features a direct level control, which can operate in mono and stereo modes, and can be used as an additional input for house announcements, paging, BGM etc.

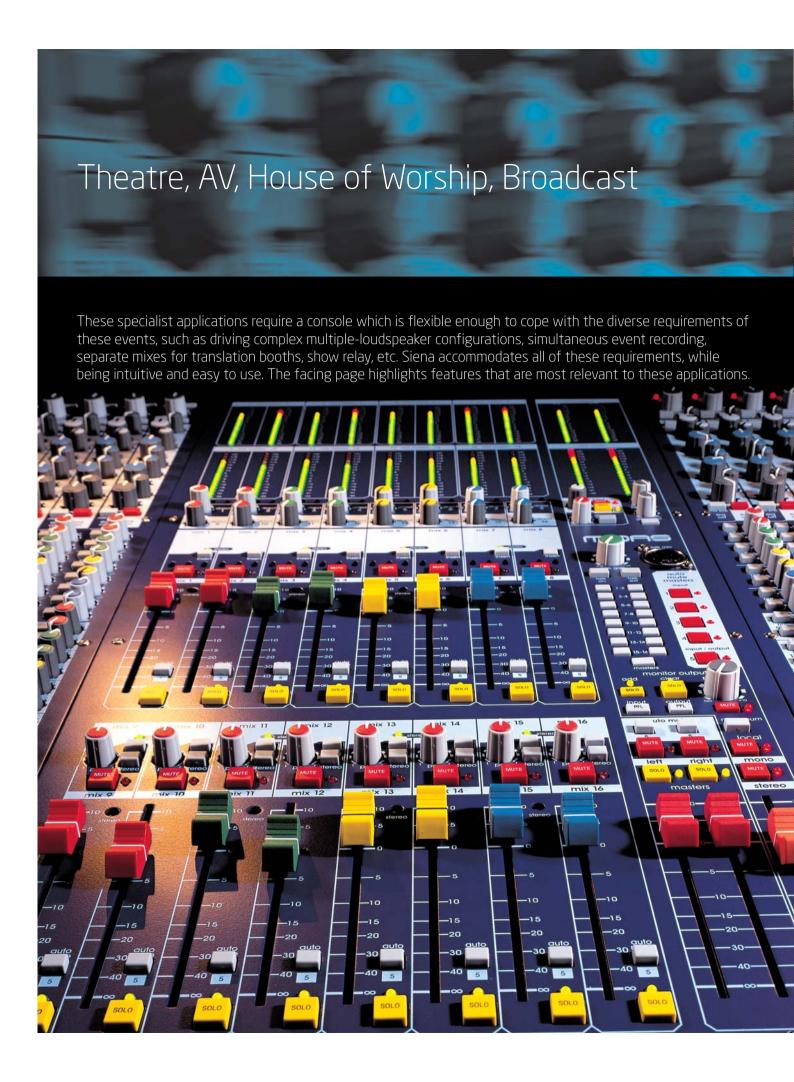
Extremely Low Noise - The Siena is QUIET, no unwanted noise during your show.

Redundant PSU Capability - Every Siena console has backup PSU capability. Siena 320, 400, 480, 560 and 640 models have redundancy as standard. Internal PSUs are auto-voltage sensing, current sharing and auto-changeover.

Ergonomic Layout - The control surface is clearly laid out, uncluttered, and intuitive. The console is easy to operate, visiting engineers will feel right at home.

Talkback System - Talk to individual, or any combination of outputs.

Solo buss - Stereo solo buss with separate mute and level control for headphone and local speaker outputs. Separate mono and stereo outputs each with discrete mute switches.





photographer Mark Westerby

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DIRECT OUTPUTS
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MONO/STEREO CHANGEOVER
EXTREMELY LOW NOISE
REDUNDANT PSU CAPABILITY
ERGONOMIC LAYOUT

TALKBACK SYSTEM

STEREO SOLO BUSS WITH MODE SWITCHING
SOLO TRACKING SYSTEM INTERFACE
STEREO MASTER OUTPUTS

CLEAR, COMPREHENSIVE METERING

APPLICATION BENEFITS

Premium Quality Preamp - High-stability, low-noise Mic. Amps allow the engineer to squeeze the last available dB out of "difficult" lavaliere & lectern mics.

Swept HPF - For rejection of unwanted low frequency content resulting in improved speech intelligibility.

Midas 4-Band Swept EQ - Precise, powerful control of input frequency response.

Prefade Mix EQ Bypass - Mixes can be independent of input EQ. Use for recording, foldback, etc.

Self Cleaning 100mm Monorail Faders - Highly accurate and beautifully weighted.

5 "Soft-Circuit" Mute Groups - Quick, silent muting/unmuting of multiple inputs and mix sends.

Stereo direct input - Which can be routed to all 16 Mix outputs and the stereo master with individual level controls.

Mono/Stereo changeover - The Mono/Stereo changeover function not only switches the aux. mix controls from a level/level arrangement to a pan/level arrangement, it also reconfigures the associated direct inputs to mono or stereo operation.

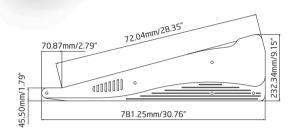
Extremely Low Noise - The Siena is QUIET, minimising obtrusive noise during conferences, spoken word, and drama performances.

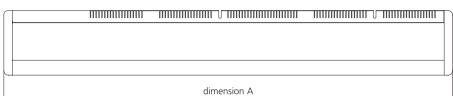
Redundant PSU Capability - Siena's internal PSUs are silent as they are convection cooled rather than fan cooled. Every Siena console has backup PSU capability. Siena 320, 400, 480, 560 and 640 models have redundancy as standard. Internal PSUs are auto-voltage sensing, current sharing and auto-changeover.

Ergonomic Layout - The control surface is clearly laid out, uncluttered, and intuitive. The console is easy to configure and straightforward to operate.

Clear And Comprehensive Metering - Twenty 16-segment output meters are dedicated to reading each master and Solo output, and four segment LED input meters on all input channels.







Siena Overview

Unique Module Construction

Semi modular construction in 8 channel blocks based on the proven Verona platform.

Modules blocks feature a structural sub chassis carrying 2 PCBs and a separate (non structural) dress facia.

This construction eliminates the need for long ribbon cables or expensive back planes and improves both reliability and crosstalk without sacrificing serviceability.

The sub chassis provides electrical screening under the PCBs protecting busses from noise pickup and allowing the use of internal power supplies without interference.

PCBs are produced with all surface mount components on the underside so that they are not affected by the build up of debris after years of use.

Electrolytic capacitors are mounted conventionally on the top of the board, which provides them with a high degree of thermal protection increasing reliability and lifetime.

The non-structural front panel can be easily removed allowing direct access to the PCBs for service. All major circuit nodes are marked as test points on the top of the board to simplify fault diagnosis at system level or down to component level in situ.

Input Module

A premium performance Mic amp design with very high CMR performance providing simple, noise free interconnections.

Mic phase change over switch on every channel.

Swept high pass filter on inputs.

Switched insert points on every channel.

4 LED input metering on every channel.

Highly accurate and musical swept 4 band EQ on every mono channel.

Soft mute circuit with silent operation and led indication.

16 Mix busses with individual Pre/Post Fader switches.

Pre fade Mix EQ bypass switch.

100mm monorail faders.

Input Connectors

The main XLR input is for use with balanced Mic or Line level signals.

The line jack is for use with balanced or unbalanced line level signals and is protected from 48V phantom.

The insert jack is normalised and unbalanced with the send on the tip and the return on the ring. The insert position is pre EQ.

The direct output jack is impedance balanced with hot on the tip and cold on the ring. The signal is post fader in the default setting.



Weights And Dimensions

Siena 240 24 mic inputs	dimension A	1085.00mm/42.72"	weight* 45kg/99.23lbs
Siena 320 32 mic inputs	dimension A	1327.00mm/52.24"	weight* 55kg/121.25lbs
Siena 400 40 mic inputs	dimension A	1569.00mm/61.78"	weight* 65kg/143.30lbs
Siena 480 48 mic inputs	dimension A	1811.00mm/71.30"	weight* 75kg/165.34lbs
Siena 560 56 mic inputs	dimension A	2053.00mm/80.83"	weight* 85kg/187.39lbs
Siena 640 64 mic inputs	dimension A	2295.00mm/90.35"	weight* 95kg/209.44lbs

^{*} estimated weight out of flight case

Output Module

High performance audio summing busses are used throughout.

16 Mix busses with global master Mono/Stereo switching in pairs.

Stereo Master bus with pan and stereo assign switch (Mix 9-16)

5 Auto mute busses individually selectable to act on any input channel. Mute group 5 also operates on outputs.

All main outputs are fully balanced with high current capability for noise free interconnections.

20 output LED bar graphs with 16 segments.

Comprehensive PFL and stereo AFL solo system including interlock add and clear functions.

Independent AFL/PFL switching for inputs and masters, with prioritised selection of inputs, mix and stereo master.

Monitor output level controlled by a 100mm stereo fader.

Solo Tracking System following all 18 master solo switches.

Output Section Connectors

The Mix XLR outputs provide a balanced, 50R source, line level signal.

The Mix insert jacks are normalised and unbalanced with the send on the tip and the return on the ring.

The direct input jacks are for use with balanced or unbalanced line level signals.

The stereo master XLR outputs provide a balanced, 50R source, line level signal.

The stereo master insert jacks are normalised and unbalanced with the send on the tip and the return on the ring.

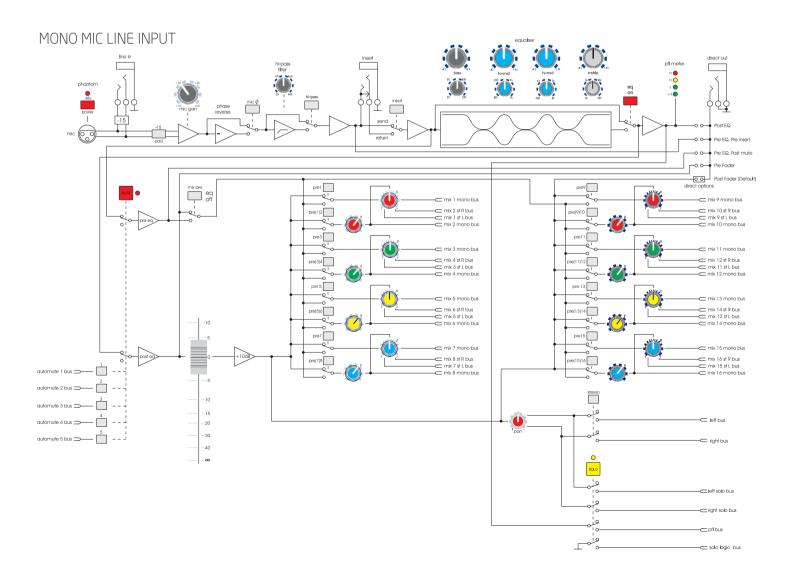
The PFL XLR output provide a balanced, 50R source, line level signal.

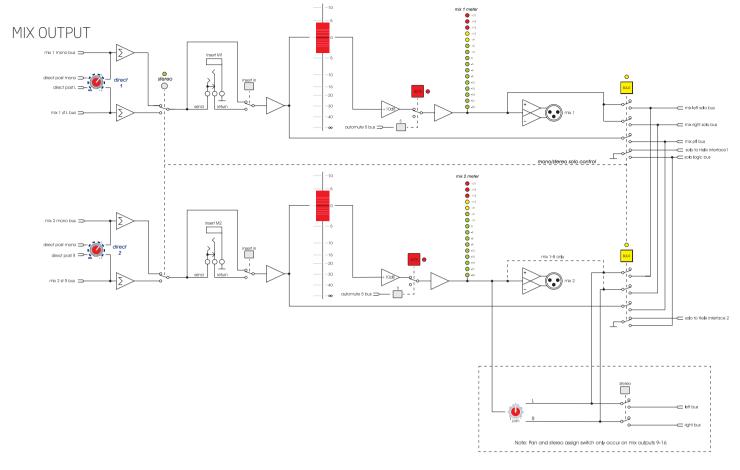
The monitor XLR outputs provide a balanced, 50R source, line level signal.

The ext talk input and output XLR's are balanced line level signals.

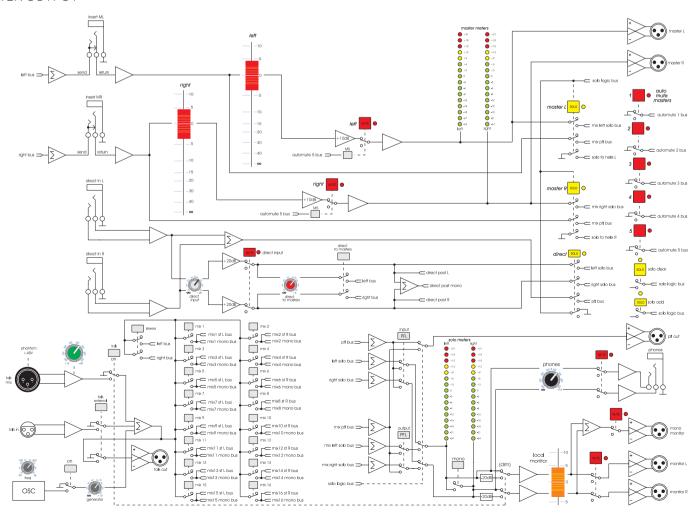
The talk XLR input is for use with balanced mic level signals.

Siena: Block Diagrams





MASTER OUTPUT



Siena: External Power Supply

The Midas V190 is a linear type; 19" rack mounted power supply, which is designed to provide dual PSU redundancy for 24 and 64 channel Siena consoles and also as an additional external PSU option for the entire Siena and Verona range.

The front panel features a large illuminated power switch, individual LED indicators for rail status, and a "low mains" warning LED. The V190 has parallel outputs on both front and rear, to allow for convenient connection to the console and multiple PSU linking. For multiple PSU applications, no additional switching unit is required.





Siena Statistics

The Siena is a 21bus console. The busses are as follows: -

16 Mix = 16 1 stereo master = 2 1 stereo AFL = 2 1 mono PFL = 1 TOTAL = 21

The Siena has 5 automute sub groups.

The Siena 480 has 48 Mic input channels plus an additional 2 direct inputs on the master module.

The Siena 480 has a total XLR input count of 50 as follows: - 48 channel Mic inputs

1 talk external line input

1 talk Mic input

The Siena 480 has a total XLR output count of 23 as follows: -

16 mix bus outputs

2 master outputs

3 monitor outputs

1 PFL output

1 talk external output

The Siena 480 has a total of 50 1/4 inch balanced input jacks as follows: - 48 channel line inputs

2 direct inputs

The Siena 480 has a total of 66 1/4 inch (send and return) jacks for inserts as follows: -

48 input channel inserts

16 mix inserts

2 master inserts

The Siena 480 has a total of 48 1/4 inch impedance matched output jacks as follows: -

48 input channel direct outputs

The Siena 480 has 67 long throw faders for mix and monitor control.

The Siena 480 has a total of 68 peak program meters with 16 LED segments on all 20 output meters and 4 LED segments on input channels.

Siena Performance Specifications

Input Impedance Mic 1K5 Balanced
Line 10K Balanced

Input Gain (all faders at OdB)

Mic Continuously variable from +15dB to + 60dB Mic + Pad Continuously variable from 0dB to + 45dB

Line Inputs Continuously variable from 0dB to + 45dB

(-15dB to + 30dB with pad)

Direct Inputs Continuously variable from + 20dB to off

- 80dB

- 75dB

Maximum Input Level Mic + 6dBu

Mic + Pad + 21dBu Mono Channel Line + 36dBu

CMR at 100Hz Mic (gain + 40dB) Typ 95dB

Mic + Pad (gain 0dB) Typ 80dB Line (gain 0dB) Typ 80dB

 CMR at 1KHz
 Mic (gain + 40dB)
 Typ 95dB

 Mic + Pad (gain 0dB)
 Typ 80dB

Line (gain 0dB) Typ 80dB

Frequency Response (20 to 20KHz) Mic to Mix (gain + 40dB) + 0dB to - 1dB

Noise (20 to 20KHz) Mic EIN ref.

150 Ohms (gain + 60dB) - 129dBu

System Noise Summing Noise (20 to 20KHz) (48 channels routed with faders down)

Line to Mix Noise

(48 channels routed at 0dB, pan centre)

Distortion at 1KHz Mic to Mix (+ 40dB gain, 0dBu output) < 0.03%

Crosstalk at 1KHz Channel to Channel < - 100dB

Mix to Mix < - 85dB
Channel to Mix < - 85dB
Maximum Fader attenuation > 100dB
Maximum Mute attenuation > 100dB

Output Impedance All Line Outputs 50 Ohms Balanced

 $\begin{array}{cc} {\rm Source\ to\ drive} > 600\ {\rm Ohms} \\ {\rm Headphones} & {\rm To\ drive} > 100\ {\rm Ohms} \end{array}$

Maximum Output Level All Line Outputs + 21dBu

Headphones + 21dBu

Nominal Signal Level Mic - 60dBu to 0dBu

 $\begin{array}{lll} \text{Line} & \text{OdBu} \\ \text{Headphones} & + 10 \text{dBu} \end{array}$

Equaliser Hi pass slope 12dB / Oct.

Hi pass frequency Continuously variable - 3dB point from 20Hz to 400Hz

Treble Gain Continuously variable + 15dB to - 15dB

Centre detent = 0dB

Treble Freq. Continuously variable - 3dB point from 2K to 20K

Hi Mid Gain Continuously variable + 15dB to - 15dB Centre detent = 0dB

Hi Mid Freq. Continuously variable centre from 400Hz to 8K

Hi Mid Bandwidth 1 Oct.

Lo Mid Gain Continuously variable + 15dB to - 15dB

Centre detent = 0dB
Lo Mid Freq. Continuously variable centre from 100Hz to 2K

Lo Mid Freq. Continu Lo Mid Bandwidth 1 Oct.

Bass Gain Continuously variable + 15dB to - 15dB

Centre detent = 0dB

Bass Freq. Continuously variable - 3dB point from 20Hz to 400Hz

^{*} Due to a policy of continual improvement Midas reserves the right to alter the specification and performance at any time without prior notification.

Midas has been designing and manufacturing live performance mixing consoles for the world's most demanding sound engineers, performers and production rental companies since the early 1970s.

The evolution of Midas consoles throughout the 30-year history of this classic marque has always paralleled, and often led, increasingly sophisticated audio innovations for the world-wide entertainment technology industry. Raising the standards of sonic quality through continual research and development has always been - and still remains - our overall aim.

Equally important to us is the design and implementation of many new areas of control functionality and user-friendly desk operation to anticipate and accommodate the rapidly changing and expanding needs of audio professionals who specify Midas consoles for their major tours, festivals, international events, broadcast projects and prestigious fixed installations.

The Midas design pedigree has, since our birth, been founded upon a track record of achieving a unique symbiosis with working sound engineers around the planet - engineers who respect and endorse our proven technology in the light of their responsibilities to their internationally-based clients who are themselves the leading lights of our industry.

