



**VL250**  
LIVE PERFORMANCE CONSOLE  
MAKING THE MIDAS TOUCH  
MULTI-FUNCTIONAL



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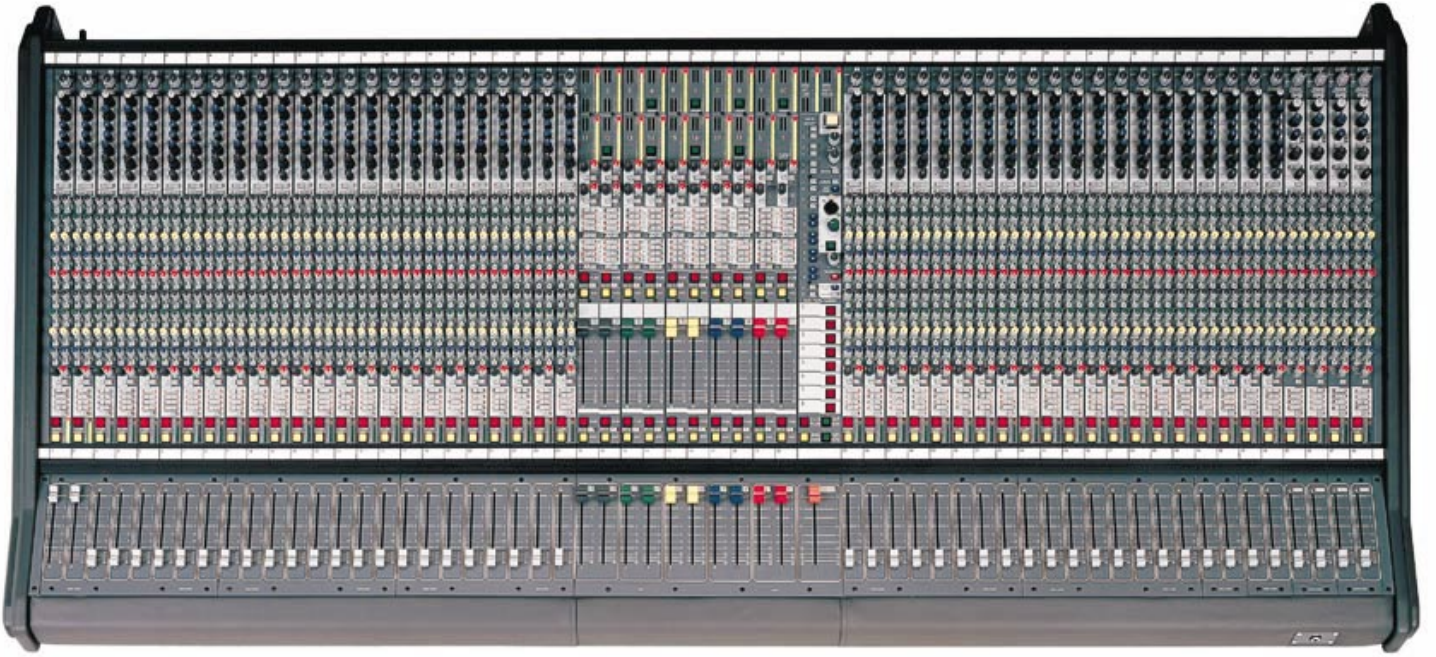
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# MIDAS XL250

## LIVE PERFORMANCE CONSOLE

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# Midas XL250 Features.

## Multi Functional Application.

The XL250 is an extremely flexible and truly multi-functional console. It can be re-configured in seconds for applications such as in ear monitoring, wedge monitoring, combinations of both, front of house use and many more. All this is achieved with no compromise to the control functions or layout through use of configurable busses and the controls that feed them. If you need a stereo buss, switch the stereo button between two groups and they are now working in stereo with all inputs routed via level and pan controls. If you want mono busses switch the stereo button off and the two groups are independent and fed from separate level controls on the input channels.

## Compact and Ergonomic.

Great care has been taken to get the feel of the console correct. The result is a simple, fast and responsive control surface which is compact and yet gives effortless control over the 48 inputs and 20 outputs.

## The Sound.

The XL250 has the Midas Sound. Transparent, open and dynamic. Switch changes are silent, the noise floor is way down and the headroom is high due to the consistent internal gain structure.

## The Inputs.

The XL250 features a new mic amplifier which improves on the XL3 design giving better CMR, noise and distortion performance whilst retaining the XL3's constant HF bandwidth topology which assures excellent amplifier stability and RF rejection at all gains. All inputs, mic, line, insert etc. are fully balanced and are both differential and common mode impedance matched.

## The Equaliser.

The responsive control, character and sonic performance of the legendary XL3 equaliser are maintained in full including parametric mid's and traditional Midas swept shelving treble and bass.

## The Inserts.

Each channel has a half normalised fully balanced insert send and return point which can be switched in or out and set as either pre or post equaliser from the front panel.

## Input Metering.

The peak reading input meters monitor pre fader signals and cover a 40dB range from +15dBu downwards in ten 3dB steps with a signal present indicator at -25dBu.

## Direct Outputs.

Every input module is fitted with a direct output as standard with its own level control and front panel switch which selects the source from pre fader or pre insert and equaliser. This provides a valuable output feed to effects, broadcast or recording.

## Audio Busses.

The XL250 has 4 fixed busses, 2 aux busses for effects sends and a stereo master bus. The aux busses have independent on/off switching and pre/post fader switching. The remaining 16 busses are configured on a bus by bus basis as mono or stereo. The channel mix controls that feed these busses automatically change from level and level to level and pan with the push of a switch on the group modules. As an extreme this gives 18 independent mono busses with a stereo master bus or 2 mono aux busses with 9 independent stereo busses. Dual concentric type controls have not been used on any of the bus sends. This simplifies adjustment and viewing of relative levels within the mix. All the configurable mix sends feature independent on/off switching and pre/post fader switching.

## Mix Groups with Direct Inputs.

The 20 mix groups feature 100mm faders and can be used directly for speaker outputs or as audio sub groups with groups 1 to 18 feeding the stereo master (groups 19 and 20) via individual pan controls and on/off switches. Each mix group also has a direct input with level control which can be routed into the mix group either pre or post insert point. This can be used to link consoles, return effects, bring in sub mixes or taped material etc.

## Outputs and Meters.

All outputs including insert sends can drive large capacitive loads and feature semi-floating fully balanced circuits which are both differential and common mode impedance matched. All the mix group outputs are monitored post fader by 20 led peak reading meters which cover a 60dB range in 3dB steps.

## Automutes.

The XL250 has 8 automute masters which can be assigned to any input or group and act on pre fader and post fader signals. These are overlapping and allow easy muting of unwanted instruments during a performance. Each module has a safe switch which can be used to over ride the automute system.

## The Solo System.

The XL250 has an advanced solo system which operates in two main modes; auto cancel and input priority add mode. The auto cancel mode allows fast access channels and groups by removing the need to cancel previous solos. The add mode allows the building of solo scenes when many solos can be placed on to the solo buses at the same time; inputs are given priority over groups, i.e. any active input channel solo will temporarily override an active group solo. In auto cancel mode, stereo and other multiple channels or groups can be soloed together providing they are switched on at the same time. This saves switching back and forth between the two modes. In either mode the solo switches are only latching in operation if they are pressed for under a second, if they are held for longer than this they unlatch and the solo will cancel when the switch is finally released. The solo system can operate as PFL mono, AFL stereo or solo in place which operates on the stereo master output.

## The Communications Module.

The talk system is very simple, fast and flexible; one button press selects the source from a choice of talk mic, pink noise generator, swept oscillator or external input; a second button press routes the signals to any of the mix outputs. An external output is also provided to connect to other systems. Internal console signals can be monitored via a powerful 8 watt headphone amplifier or via speakers under control from the 100mm local output fader.

# XL250 Specification Overview and Statistics.

1. The XL250 is a 23 bus console as follows:-

2 mono aux	=2
16 stereo or mono configurable groups	=16
1 stereo master	=2
1 stereo AFL	=2
1 mono PFL	=1
TOTAL	=23

2. The XL250 has 8 automute group busses.

3. The XL250 has 48 input channels plus an additional 20 direct inputs on the group modules.

4. The XL250 has a total XLR input count of 73 as follows:-

48 channel mic inputs
20 group direct inputs
3 solo bus inject inputs
1 talk mic input
1 talk bus inject input

5. The XL250 has a total XLR output count of 58 as follows:-

32 input channel direct outputs
2 aux outputs
16 configurable group outputs
2 stereo master outputs
3 solo outputs
2 local outputs
1 talk output

6. The XL250 has a total of 136 balanced 1/4 inch jacks for inserts follows:-

48 input channel insert sends
48 input channel insert returns
2 mono aux insert sends
2 mono aux insert returns
16 configurable group insert sends
16 configurable group insert returns
2 stereo master insert sends
2 stereo master insert returns

7. The XL250 has a total of 62 peak program meters with:-

20 LED segments on outputs
11 LED segments on inputs

8. XL250 Dimensions:-

1736mm	width
1020mm	depth
260mm	height

9. XL250 Weight:-

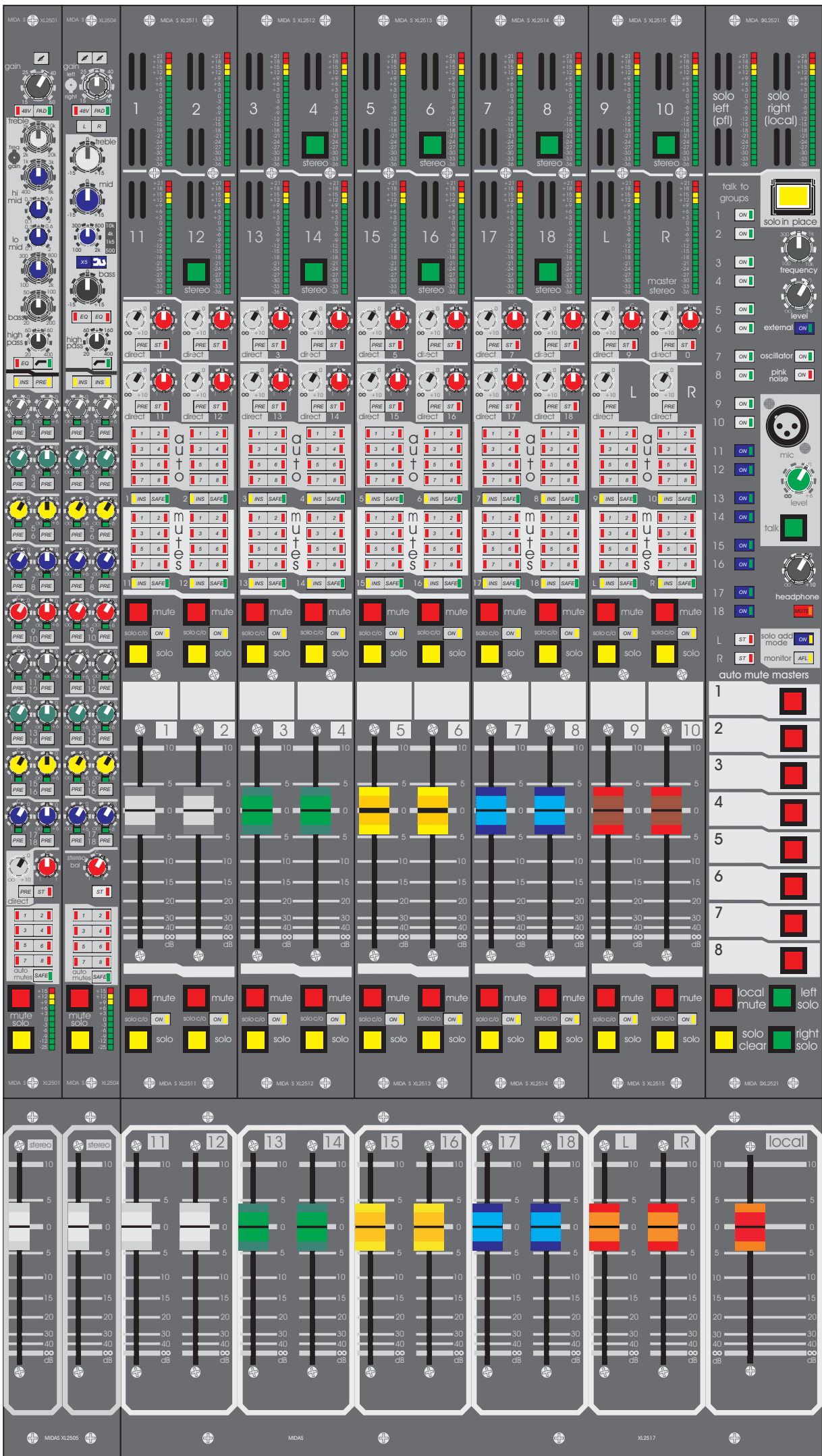
1	29Kg/258lb	net weight
	301Kg/665lb	shipping weight

## XL250 Technical Specification.

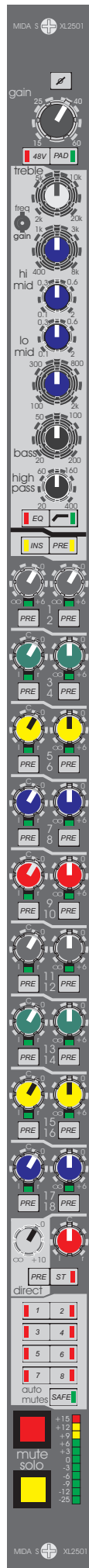
Input Impedance	Mic 2K Balanced Line 20K Balanced
Input Gain	Mic Continuously variable from +15dB to +60dB (all faders at 0dB) Mic + Pad Continuously variable from -10dB to +35dB Line Level Inputs 0dB Maximum Input Level Mic +6dBu Mic + Pad +31dBu Line Level Inputs +21dBu
CMR at 1kHz	Mic (gain +60dB) > 70dB Mic + Pad (gain +30dB) > 50dB Line > 50dB
Frequency Response	Mic to Mix (20 to 20kHz) (gain +60dB) +0dB to -1dB Noise (20 to 20kHz) Mic EIN ref. 150 Ohms (gain +60dB) -129dBu Mic + Pad EIN (gain +10dB) -99dBu Group Direct Line Input EIN (gain +10) -100dBu
System Noise	(20 to 20kHz) Summing Noise (12 channels routed with faders down) -83dBu Line to Mix Noise (12 channels routed at 0dB, pan centre) -81dBu Summing Noise (48 channels routed with faders down) -81dBu Line to Mix Noise (48 channels routed at 0dB, pan centre) -75dBu
Distortion at 1kHz	Mic to Mix (+60dB gain, 0dBu output) < 0.03%
Crosstalk at 1 kHz	Channel to Channel < -90dB Mix to Mix < -70dB Channel to Mix < -70dB Maximum Fader attenuation > 80dB
Output Impedance	All Line Outputs 50 Ohms Balanced Source to drive > 600 Ohms Headphones To drive > 8 Ohms
Maximum Output Level	All Line Outputs +21dBu Headphones +21dBu (8W into 8 Ohms) Nominal Signal Level Mic -60dBu to +10dBu Talk Mic -50dBu to -20dBu (auto gain) Line Inputs and Outputs 0dBu Headphones +10dBu Headroom at all stages Headphones >10dB All other signals >20dB

Input Metering	<p>Type 10 led peak reading plus signal present  Range- 25dBu to + 15dBu  Colour Green Up to + 6dBu Normal signal  Colour Yellow + 9dBu to + 12dBu High signal  Colour Red Over + 15dBu Signal Very High  Quantity 40</p>
Output Metering	<p>Type 20 led peak reading  Range- 36dBu to + 21dBu  Colour Green Up to + 9dBu Normal signal  Colour Yellow + 12dBu to + 15dBu High signal  Colour Red Over + 18dBu Signal Too High  Quantity 22</p>
Equaliser	<p>Hi pass slope 12dB / Oct.  Hi pass frequency Continuously variable  - 3dB point from 20Hz to 400Hz  Treble Gain Continuously variable  +1.5dB to -1.5dB  Centre detent = 0dB  Treble Shelving Continuously variable  Freq.- 3dB point from 1K to 20K  Hi Mid Gain Continuously variable  +1.5dB to -1.5dB  Centre detent = 0dB  Hi Mid Freq. Continuously variable  centre from 400Hz to 8K  Hi Mid Bandwidth Continuously variable from 0.1 Oct. to 2 Oct.  Lo Mid Gain Continuously variable  +1.5dB to -1.5dB  Centre detent = 0dB  Lo Mid Freq. Continuously variable  centre from 100Hz to 2K  Lo Mid Bandwidth Continuously variable from 0.1 Oct. to 2 Oct.  Bass Gain Continuously variable  +1.5dB to -1.5dB  Centre detent = 0dB  Bass Shelving Continuously variable  Freq.- 3dB point from 20Hz to 200Hz</p>





# MIDAS XL250 CONTROLS



# MIDAS XL2501 Mono Input Module

MIDA S  XL2501

The GAIN control gives continuous adjustment of the input amplifier gain from +15dB to 60dB

The 48V switch connects 48 volt phantom power to the input connector which is suitable for a condenser microphone or DI box.

The HI MID (dual concentric top) control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent.

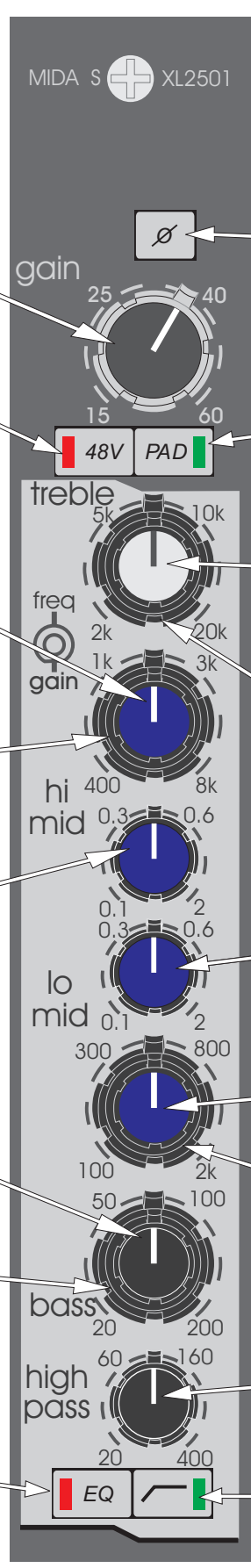
The hi mid FREQ. (dual concentric bottom) control gives continuous adjustment of the frequency range that the hi mid equaliser acts on from 400Hz to 8K.

The hi mid WIDTH control gives continuous adjustment of bandwidth from 0.1 to 2 octaves with a 0.4 octave centre point.

The BASS (dual concentric top) control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent.

The bass FREQ. (dual concentric bottom) control gives continuous adjustment of the frequency range that the bass equaliser acts on from 20Hz to 200Hz. The bass equaliser has a shelving response.

The EQ switch connects the equaliser in the input channel signal path.



The PHASE switch activates a 180 degrees phase change within the input amplifier.

The PAD switch gives 25dB of attenuation to the input signal which will allow the connection of high output microphones or line level signals. If the input amplifier is transformer coupled (option) the pad greatly reduces the risk of saturation at very low frequencies.

The TREBLE (dual concentric top) control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent.

The treble FREQ. (dual concentric bottom) control gives continuous adjustment of the frequency range that the treble equaliser acts on from 2K to 20K. The treble equaliser has a shelving response.

The lo mid WIDTH control gives continuous adjustment of bandwidth from 0.1 to 2 octaves with a 0.4 octave centre point.

The LO MID (dual concentric top) control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent.

The lo mid FREQ. (dual concentric bottom) control gives continuous adjustment of the frequency range that the lo mid equaliser acts on from 100Hz to 2K.

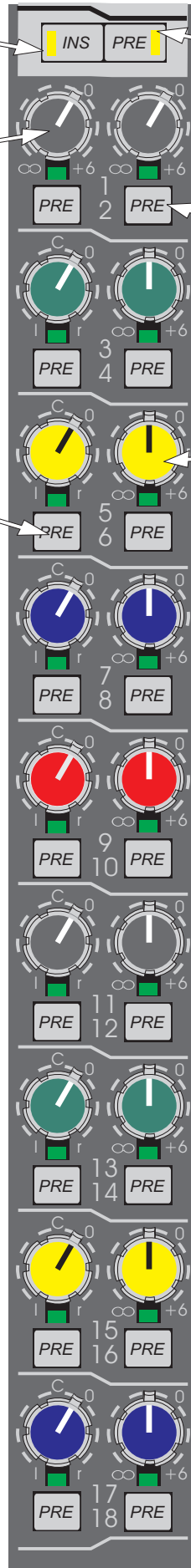
The HI PASS filter control is continuously adjustable from 20Hz to 400Hz.

The HI PASS switch connects the filter in the input channel signal path before the insert point and equaliser.

The INS switch connects the input insert return signal to the input channel signal path.

The mono aux MIX controls (1 and 2) give continuous adjustment of the level sent from the input channel to the aux busses. The level adjustment is from +6dB to off. These controls incorporate an ON/OFF switch by way of a non latching push/push action. Status is indicated by a LED

The group PRE switches change the signals sent to the group busses from post fader to pre fader. When configured as stereo only the right switches are active.



The insert PRE switch arranges the input channel signal to pass through the insert point before the equaliser when activated and after the insert point when not activated.

The aux PRE switches change the signal sent to the aux busses from post fader to pre fader.

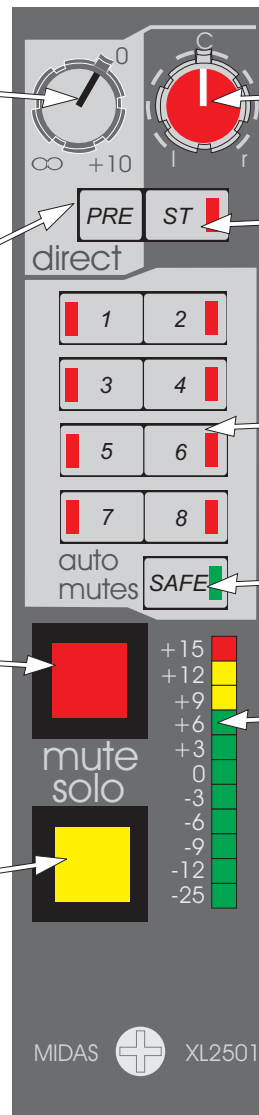
The configurable group MIX controls (3 to 18) adjust the levels sent from the input channel to the group busses. They can be configured as mono or stereo on a bus by bus basis and are controlled from the global STEREO switches on the GROUP modules. When configured as stereo the left controls perform a pan function with a constant power (-3dB) law while the right controls give continuous level adjustment from +6dB to off. When configured as mono the left and right controls give independent level adjustments from +6dB to off. These controls incorporate an ON/OFF switch by way of a non latching push/push action. Status is indicated by a LED. When configured as stereo only the right switch controls and LED's are active.

The DIRECT output control gives continuous adjustment of the direct output level from +10dB to off. The output is derived from the input channel post equaliser pre fader signal.

The PRE switch re configures the direct output to derive signal from the input channel pre insert and equaliser .

The MUTE switch mutes the input channel at all points except the insert send and direct output if it is set to pre.

The SOLO switch sends the input channel signal to the PFL mono and AFL stereo busses. If the switch is pressed for a short time it will latch on or off, but, if it is held on for more than 1 second the latching is disabled and when the switch is released the channel solo will turn off. As a default the solo system is auto cancelling so each new solo cancels the last. This function is time dependant which allows several solos to be active as long as they are switched on at approximately the same time. The SOLO ADD MODE switch on the COMMS module defeats the auto cancelling and allows multiple channel monitoring. In this mode input solos have priority over outputs and will temporarily override any active output solos.



The PAN controls the placement of the channel within the master stereo mix and has a constant power law i.e. -3dB at the centre position.

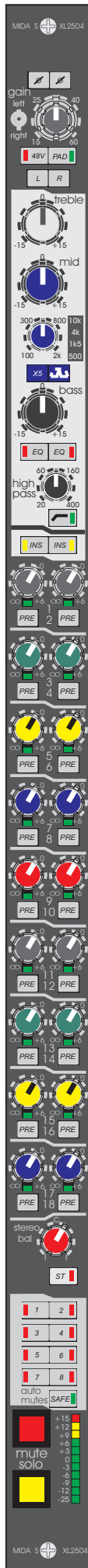
The ST switch connects the post fader channel signal to the master stereo bus via the pan control.

The AUTO MUTE switches assign the channel to the 8 auto mute groups.

The SAFE switches disconnect the channel mutes from the auto mute busses.

The METER monitors the peak signal level of the pre fader input channel

The FADER gives continuous adjustment of the input channel level from +10dB to off.



# MIDAS XL2504 Stereo Input Module

MIDA S  XL2504

The dual concentric GAIN controls give continuous adjustment of the input amplifier gains from + 15dB to + 60dB. The left channel is on top and the right channel is on the bottom.

The 48V switch connects 48 volt phantom power to both input connectors and is suitable for condenser microphones or DI boxes.

The LEFT switch places the left channel signal onto both left and right channels.

The TREBLE control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent. The frequency is fixed at 10K.

The mid FREQ. control gives continuous adjustment of the frequency range that the mid equaliser acts on from 100Hz to 2K.

The FREQ. X 5 control increases the mid equaliser frequency so that it operates between 500Hz and 10K.

The HI PASS filter control is continuously adjustable from 20Hz to 400Hz.

The PHASE switches activate a 180 degree phase change within the corresponding input amplifier.

The PAD switch gives 25dB of attenuation in both input signals to allow the connection of high output microphones or line level signals. If the input amplifiers are transformer coupled (option) the pad greatly reduces the risk of saturation at very low frequencies.

The RIGHT switch places the right channel signal onto both left and right channels. If the left and right switches are both active a mono sum signal is fed to both channels of the input channel.

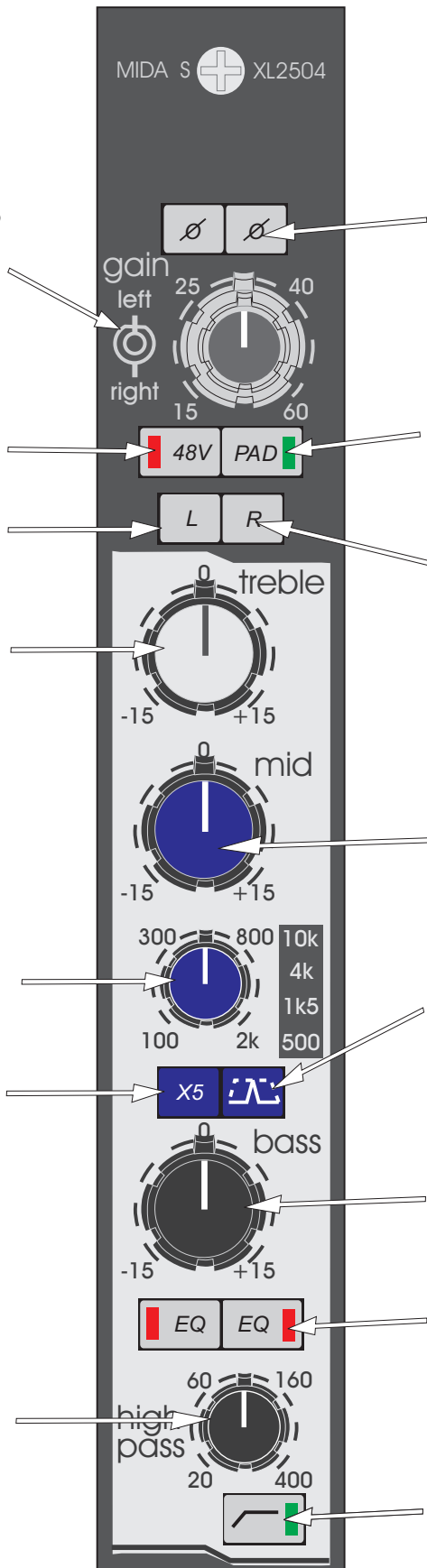
The MID control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent.

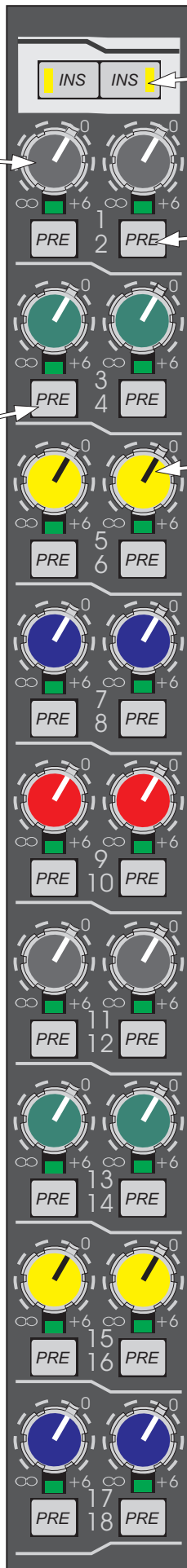
The WIDTH control selects the bandwidth of the mid equaliser to be 1.5 octave or 0.3 octave.

The BASS control gives continuous adjustment of boost and cut from + 15dB to - 15dB with a 0dB centre detent. The frequency is fixed at 100Hz.

The EQ switches connect the equalisers in or out of the input channel signal paths.

The HI PASS switch connects the filters in the input channel signal path before the insert points.





The mono aux MIX controls (1 and 2) give continuous adjustment of the level sent from the input channel to the aux busses. The signal is a mono sum of left and right and the level adjustment is from +6dB to off. The level controls incorporate an ON/OFF switch by way of a non latching push/push action. Status is indicated by a LED.

The group PRE switches change the signals sent to the group busses from post fader to pre fader.

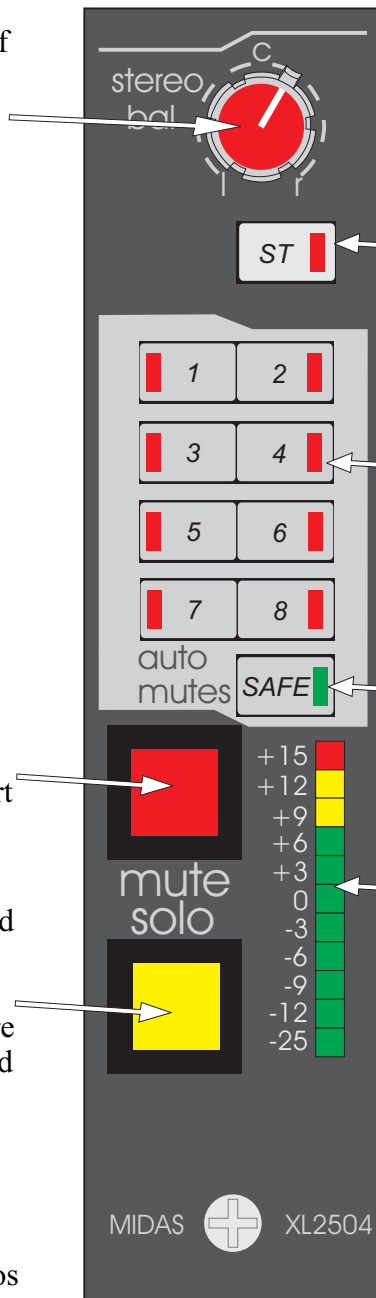
The INS switches connects the input insert return signal to the input channel signal path. The insert point is pre equaliser.

The aux PRE switches change the signal sent to the aux busses from post fader to pre fader.

The configurable group MIX controls (3 to 18) give continuous adjustment of the levels sent from the input channel to the group busses. The adjustment is from +6dB to off. They can be configured as mono or stereo on a bus by bus basis and are controlled from the global STEREO switches on the GROUP modules. When configured as stereo the left controls send left channel signals and the right controls send right channel signals. When configured as mono the left and right controls give independent level adjustments and derive their signal from a mono sum of left and right. These controls incorporate an ON/OFF switch by way of a non latching push/push action. Status is indicated by a LED



The BALANCE (pan) control is used to balance the relative levels of the left and right channel signals that are sent to the master stereo mix. The control has a constant power law, i.e. 0dB at the centre position and +3dB or off at either extreme setting.



The ST switch connects the post fader channel signals to the master stereo bus via the balance control.

The AUTO MUTE switches assign the channel to the 8 auto mute groups.

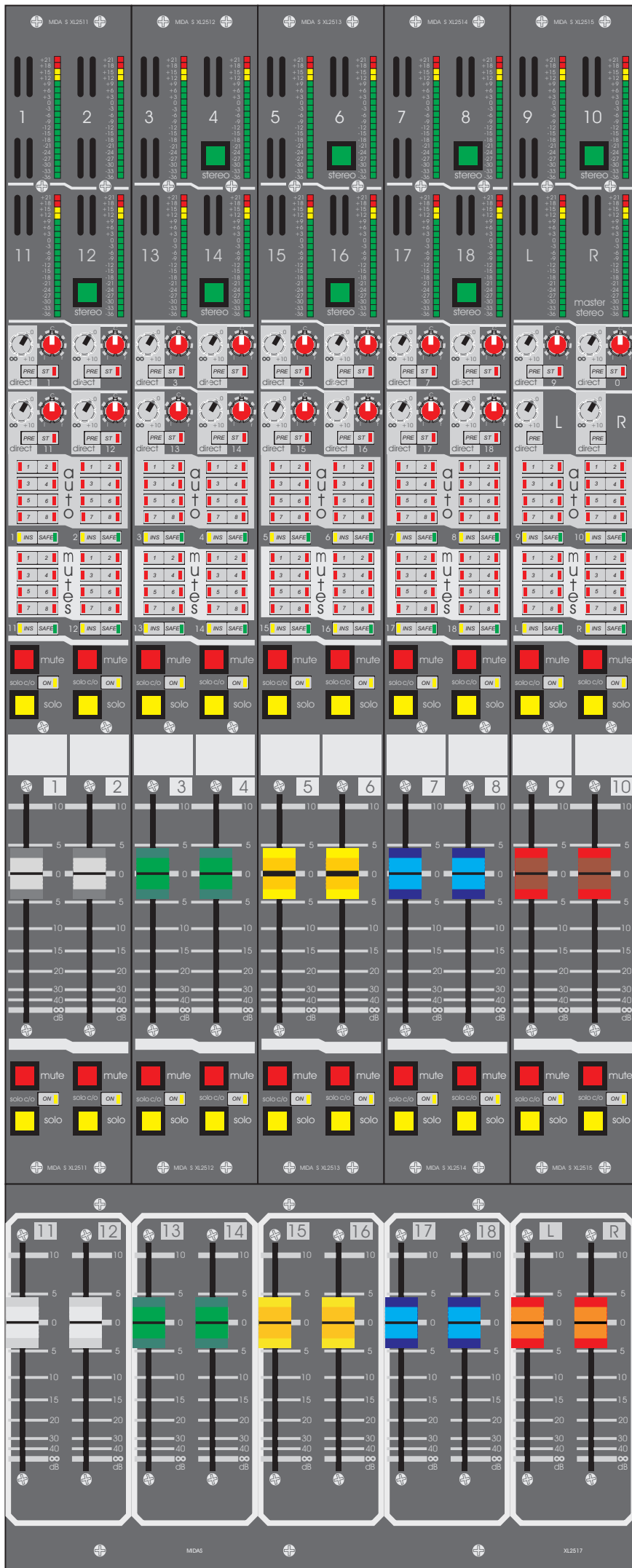
The SAFE switches disconnect the channel mutes from the auto mute busses.

The MUTE switch mutes the input channel at all points except the insert send.

The SOLO switch sends the input channel signals to the PFL mono and AFL stereo busses. If the switch is pressed for a short time it will latch on or off, but, if it is held on for more than 1 second the latching is disabled and when the switch is released the channel solo will turn off. As a default the solo system is auto cancelling so each new solo cancels the last. This function is time dependant which allows several solos to be active as long as they are switched on at approximately the same time. The SOLO ADD MODE switch on the COMMS module defeats the auto cancelling and allows multiple channel monitoring. In this mode input solos have priority over outputs and will temporarily override any active output solos.

The METER monitors the peak signal level of the channel pre fader left and right inputs (which ever is the heighest).

The FADER gives continuous adjustment of the input channel levels from +10dB to off.

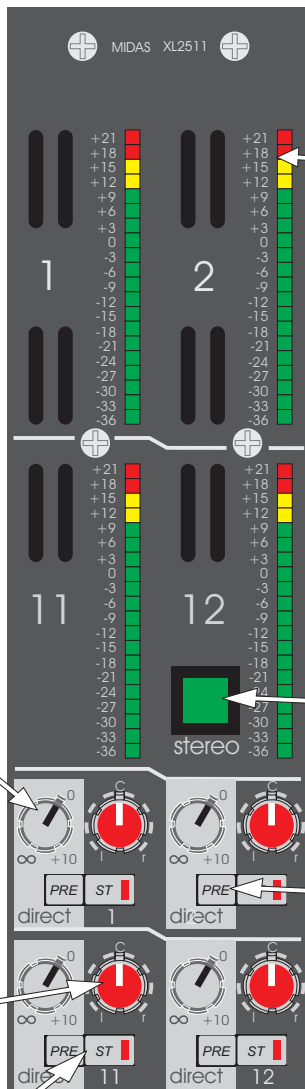


# MIDAS XL2511 XL2512 XL2513 XL2514 XL2515 Group Output Modules

The DIRECT input controls give continuous adjustment of the direct input levels from +10dB to off. The direct signals are summed into the mix group signals and can be used as effects returns etc. or for console bus linking. The direct inputs can be accessed by the mix group solos if the SOLO C/O switches are on.

The PAN controls allow stereo placement of any mixes which are being used as sub groups feeding the master stereo mix. These have a constant power law i.e. -3dB at the centre position.

The ST switches connect the post fader mix group signals to the master stereo busses via the pan controls. (The master stereo mix does not have the ST switches and PAN controls).



The METERS monitor the peak signal levels of the mix group outputs (post fader).

The global STEREO switches configure input module MIX controls to act as either mono level and level or as stereo level and pan. This makes the console extremely flexible and quick to reconfigure. The first two mixes are permanently configured as mono auxes and do not require a stereo switch. The last two mixes are also fixed being the master stereo mix.

The direct PRE switches move the point at which the direct signals are summed into the mix groups. The default is post insert. This allows the insert points to be used as an effects sends with the direct inputs performing effects return functions with level and solo controls (This will require "Y" splits in the cabling if the insert points are being used to add equalisation etc.). If the PRE switches are active the direct signals are summed onto the mix busses (pre insert). With this configuration the direct inputs can be used to return effects, add ambience microphones (with a suitable preamplifier) or facilitate console bus linking.

The INS switches connect the mix insert return signals to the mix groups.

The AUTO MUTE switches assign the mix outputs to the 8 auto mute groups.

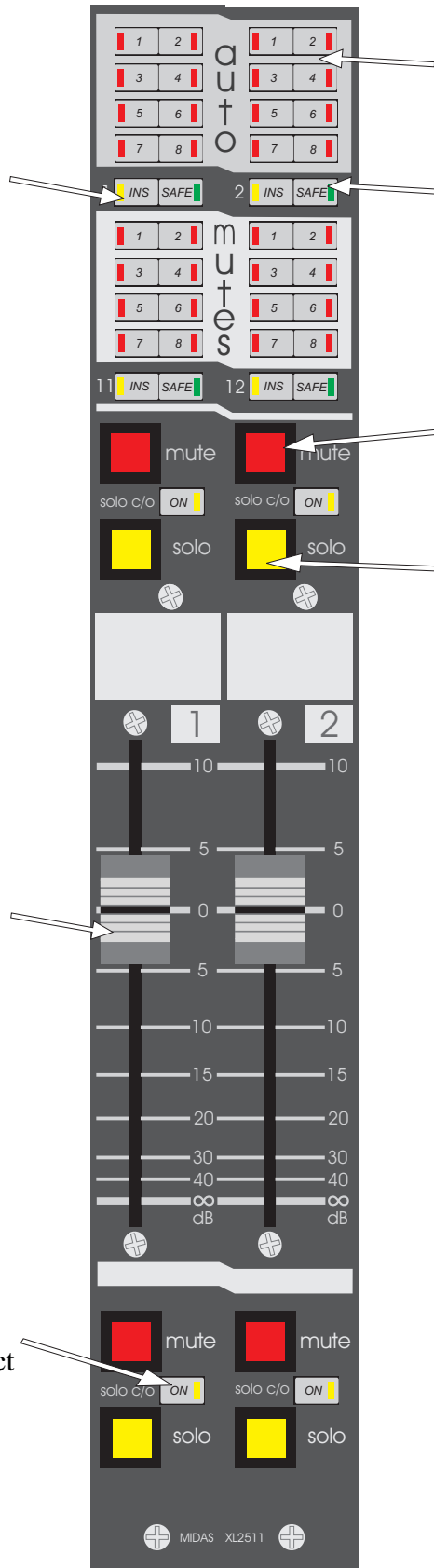
The SAFE switches disconnect the channel mutes from the auto mute busses.

The MUTE switches mute the mix groups at all points except the insert send.

The SOLO switches send mix group signals to the PFL mono and AFL stereo busses (AFL is selected as stereo or mono depending on the global STEREO switch setting). If a SOLO switch is pressed for a short time it will latch on or off, but, if it is held on for more than 1 second the latching is disabled and when the switch is released the channel solo will turn off. As a default the solo system is auto cancelling so each new solo cancels the last. This function is time dependant which allows several solos to be active as long as they are switched on at approximately the same time, i.e. to solo both sides of a stereo mix press both solo switches at the same time. Alternatively the SOLO ADD MODE switch on the COMMS module can be used to defeat the auto cancelling and allow multiple channel monitoring. In this mode input channel solos have priority over the mix group solos and will temporarily override them. When the input solos are cancelled the mix group solos will be active again.

The GROUP FADERS give continuous adjustment of the mix output levels from +10dB to off.

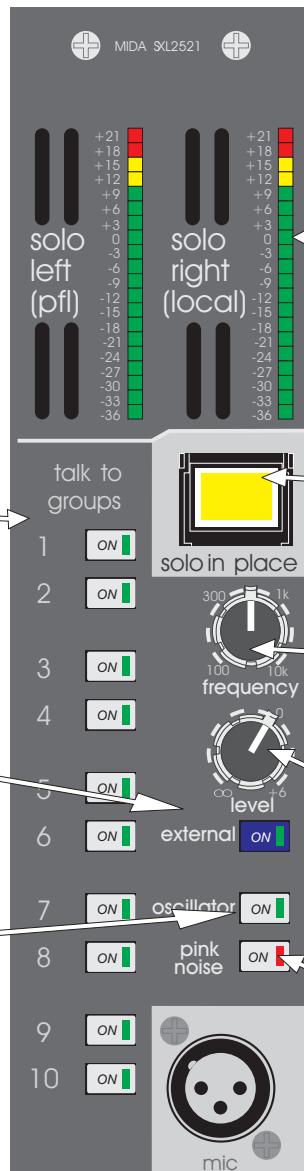
The SOLO C/O switches move the solo switch functions so that they act on the group direct inputs.







# MIDAS XL2521 Comms Module



The TALK TO GROUP switches are used to route the talk system signals to any or all of the group busses.

The EXTERNAL ON switch connects the external talk input and output to the talk system.

The OSC switch connects the oscillator to the talk system.

The METERS monitor the peak signal levels of the stereo AFL left and right solo busses or the PFL bus and local output level. The change over is automatic as part of the monitor AFL switch.

The SOLO IN PLACE switch disconnects the pre insert master stereo mix signals and replaces them with the stereo AFL solo buss signals. This only happens when a solo is active on the console; if no solo is active the master stereo bus is not interrupted.

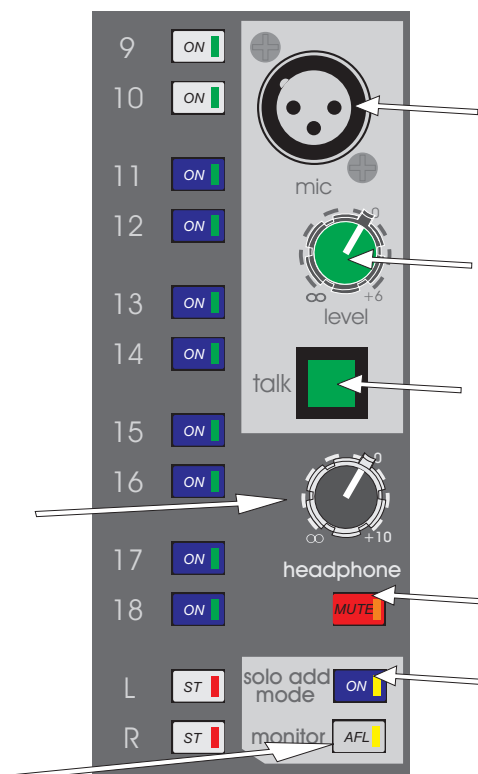
The FREQ. control gives continuous adjustment of the talk system oscillator frequency from 100Hz to 10K.

The talk LEVEL control gives continuous adjustment of all the talk system signals except the talk mic which has its own control. The range is from + 6dB to off.

The PINK noise switch connects pink noise to the talk system.

The HEADPHONE LEVEL control gives continuous adjustment of the headphone level from +10dB to off.

The MONITOR AFL switch sends the stereo AFL solo bus signals to the headphones and local outputs in place of the mono PFL solo bus signal.



The TALK XLR socket accepts balanced 150 Ohm microphone signals from -50dBu to -20dBu and uses an auto-ranging gain system to bring the level to nominal 0dBu line level.

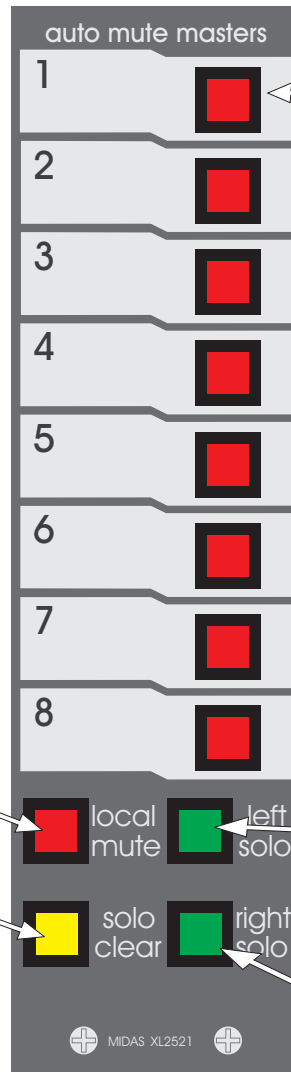
The TALK control gives continuous adjustment of the talk microphone amplifier signal from +6dB to off.

The TALK switch connects the talk microphone input to the talk system and at the same time dims the local outputs by 20dB to prevent howl round.

The HEADPHONE MUTE switch mutes the headphone outputs.

The SOLO ADD MODE switch allows multiple channel access to the solo busses. When the solo add mode is off the action of pressing a solo switch will cancel any previously active solo. Multiple solos such as stereo left and right signals can be monitored in this mode of operation as long as the solo switches are pressed at approximately the same time. When the solo add mode is on the auto-cancelling is defeated which allows multiple channel or output soloing. In this mode input channel solos have priority over the output solos, i.e. any active input solo will temporarily override all active output solos; when the input solo is cancelled the output solos will return.





The AUTO MUTE GROUP MASTER switches (1 to 8) activate the mute circuits on any appropriately mute group assigned input channels or mix groups.

The LOCAL MUTE switch mutes the local outputs.

The SOLO ON / CLEAR switch and indicator has two functions; it illuminates when any solo switch is active and when pressed it clears any active solo switches.

The LOCAL FADER gives continuous adjustment of the local output level from +10dB to off.

The LEFT switch cuts the AFL right signal and places the AFL left signal on to both left and right local and headphone outputs

The RIGHT switch cuts the AFL left signal and places the AFL right signal on to both local and headphone outputs. If the left and right switches are both active a mono sum signal is fed to the local and headphone outputs.