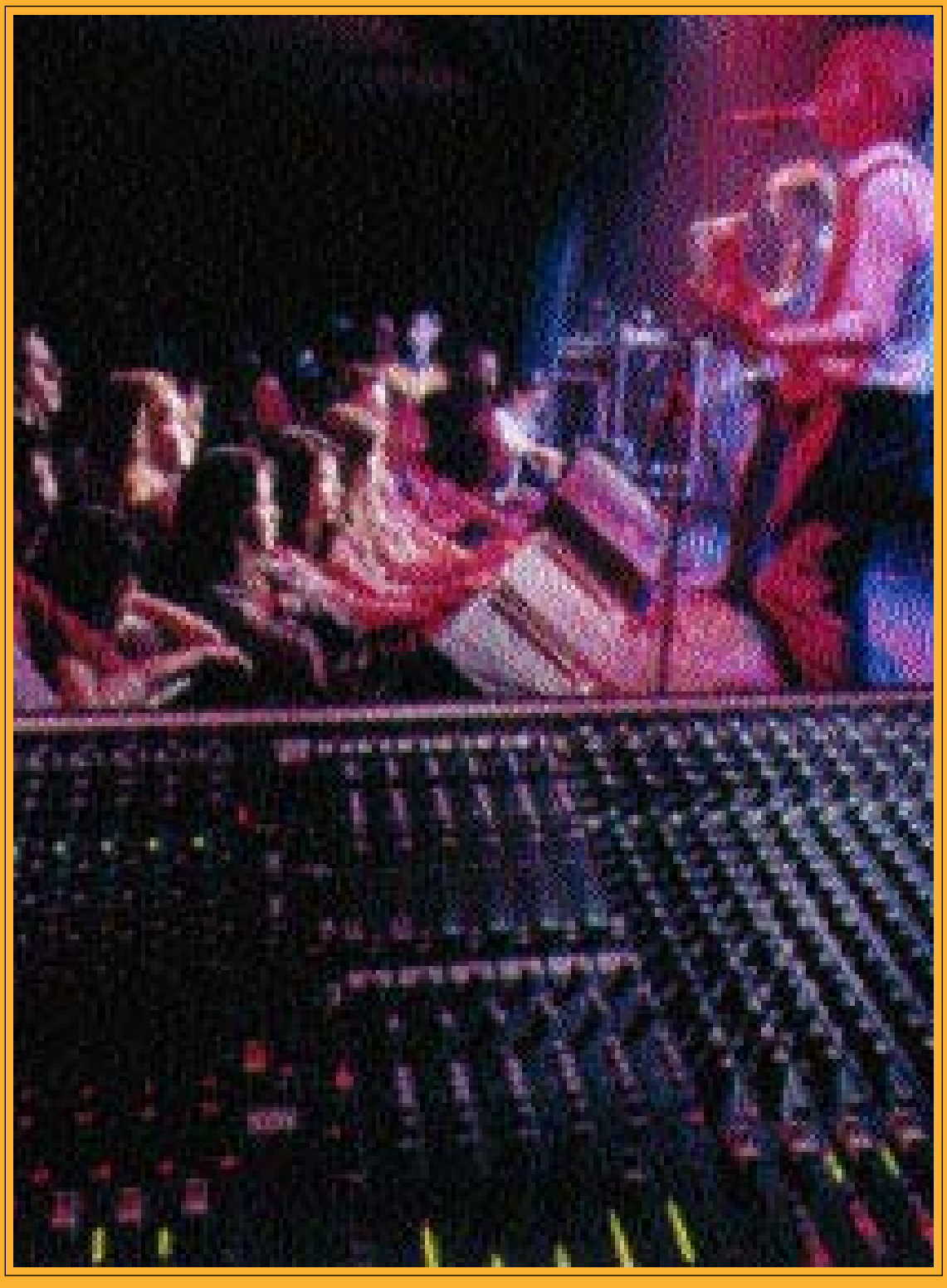
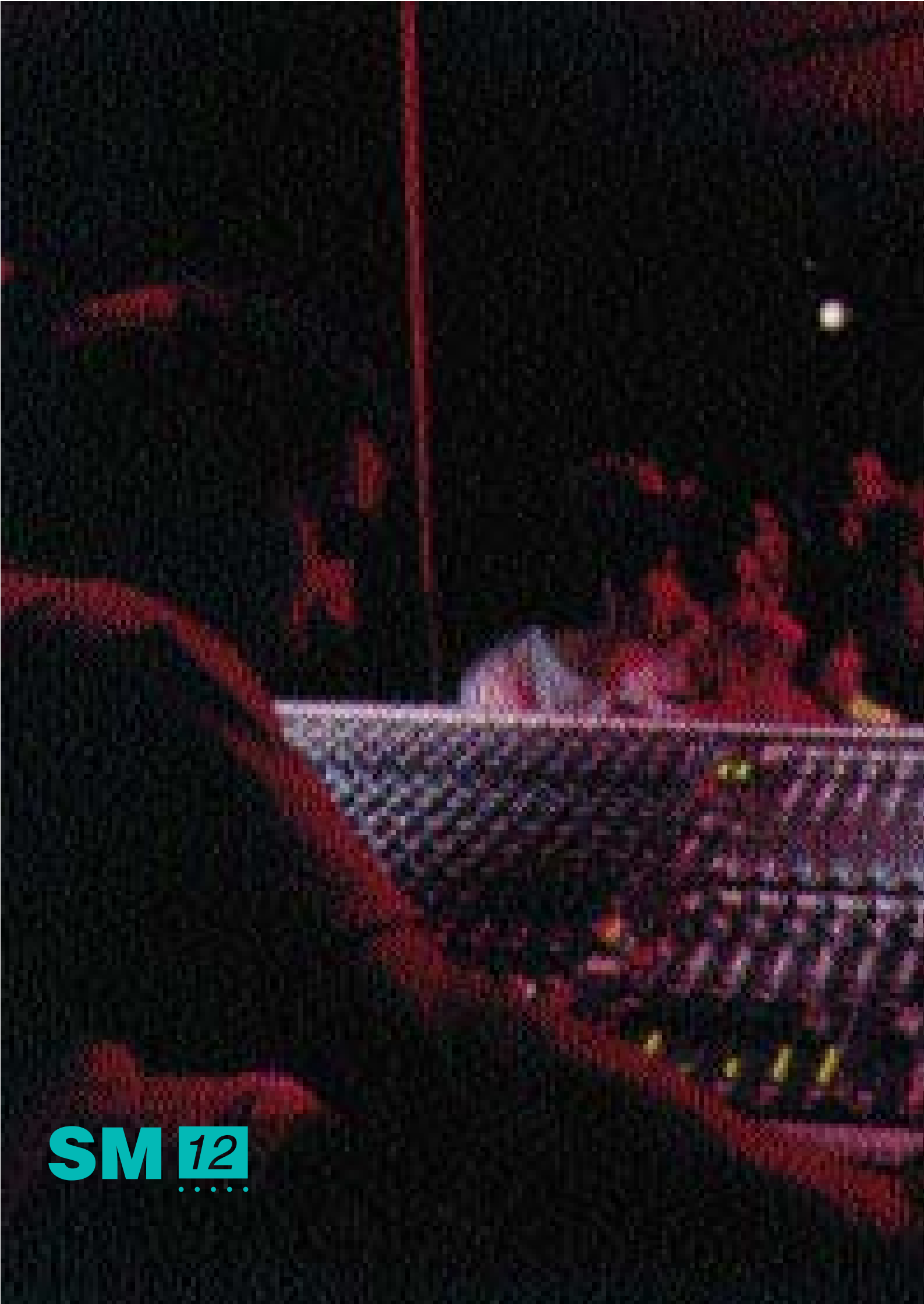


Soundcraft™

SM 12


SM 12

THE HEAT IS ON

Monitor consoles do not have an easy life - subjected to heat, dirt and the rigours of touring, they are expected to work reliably and sound good every night of the week. Soundcraft's reputation for high spec professional audio equipment is well-known and the new generation of Stage Monitoring consoles are all set to become the new industry standard. The SM12 is a full-spec professional monitor console offering twelve mono plus one stereo sends for use in touring or fixed applications. As the smallest console in the Soundcraft 'SM' range, the SM12 still offers the high level of facilities found on the world's top monitor consoles.

Ultimate Control

Soundcraft's advanced solo system (as used on the SM16 and SM24 consoles) speeds up soundchecks and reduces the risk of feedback; instant pre-post switching allows more flexible mix arrangements, and a four-band overlapping sweep EQ gives optimum control of each sound source.

Practical Solution

But the SM12 is not just an engineer's dream; it is a practical solution to a wide range of problems faced by venues and rental companies alike. Available in 32, 40 and 48 channel frame sizes, its modular design allows for future expansion and ease of maintenance. The compact frame reduces on-stage space requirements, while the power supply design increases reliability under unfavourable conditions.

Maximum Flexibility

Soundcraft's design expertise has produced a cost effective console which sounds superb in every on stage situation, but works equally well as a front-of-house mixer. In fact, with logical sub-grouping and an advanced solo system, the SM12 out-performs many traditional front-of-house consoles.

THE INPUT MODULE

The SM12 utilises Soundcraft's unique wide-range input stage allowing any low impedance balanced mic or line level source to be interfaced via the XLR connector. Two switchable sensitivity ranges are provided; -70dBu to -2dBu and -20dBu to +10dBu. 48V phantom power may be applied to individual channels and a phase reverse switch is fitted. A separate line level high impedance input is provided; both this and the mic input may be fitted with transformers as an option.

Accurate EQ

A four band sweep EQ section allows the engineer accurate control of the following frequency ranges; 12Hz to 450Hz (LF); 70Hz to 1.4kHz (LMF); 450Hz to 10kHz (HMF) and 1kHz to 20kHz (HF). All bands have peak/dip characteristics, with a fixed Q of 1.3. An EQ In switch is also fitted to each input. A switchable 100Hz high-pass filter is used to remove stage rumble and wind noise.

Balanced Inserts

A balanced insert point is provided on separate send and return connectors, for connection to outboard processors. This may be configured internally to be pre or post EQ.

14 Mixes

The SM12 allows the engineer to create up to twelve mono mixes, switched in pairs to be pre or post fade. The send controls are colour-coded in groups of four for rapid identification. A stereo mix is also available, for use as a side-fill send in monitoring applications, or as a L-R master when the SM12 is used as a front-of-house console. This may be switched to be pre or post fade and configured internally as pre or post mute, EQ and insert.

Mute Groups and Meters

Each input may be assigned to one or more Mute groups, but may also be selected as 'Safe' for temporarily dropping a channel out of a Mute group. A Cut switch is provided, which illuminates if activated directly or via the Mute groups. The input signal is routed via a high-quality 100mm long-throw fader and may be monitored using the engineer's output by pressing the PFL switch in conjunction with the advanced solo logic system controlled from the Master module. The 8-segment LED bargraph meter adjacent to the fader displays the post input amp signal level.

THE OUTPUT MODULE

The SM12 is fitted with six dual output modules; the lower sections are used to control outputs 1-6, while the upper sections affect sends 7-12.

Flexible Subgrouping

An external input may be connected to each output for console slaving, submixing or FX returns; this is provided with rotary level control, ON and LSTN switches for matching input levels and monitoring.

The output may be routed to the Stereo mix if required, enabling the SM12 to act as a front-of-house console with up to twelve sub-groups. This may be achieved in stereo or mono as required.

Talkback

The monitor engineer may talk to any output individually via the TB button; this will dim the engineer's output by 20dB when active. The talkback mic connector and other talkback controls are located on the Master module.

Peak or Average Meters

Each output is controlled by a 100mm long-throw fader and output CUT switch and is displayed by a 16-segment LED bargraph meter adjacent to the output fader. The meter may be selected internally to be peak or average reading. A post fade insert point is provided on separate 0.25" jacks for the insertion of equalisers or other processors. The meter displays the post insert signal, but the AFL switch may be selected from the front panel to be pre or post insert to allow the engineer to compare dry and processed signals.

A phase reverse switch is fitted to correct non-standard wiring or to help cancel feedback on stage. The output is electronically balanced as standard; transformers may be fitted as an option to the outputs and/or external inputs.

THE MASTER MODULE

The SM12 Master module contains controls for the stereo mix, engineer's output, advanced solo system and talkback facilities.

Dedicated Stereo Mix

The stereo output is designed for use as a sidefill monitor send or master L-R mix in front-of-house applications. Facilities are identical to those found on the mono outputs; a stereo external input is provided with separate level control and monitoring; this is mixed into the main L-R mixes before the output fader. This is controlled by a high-quality 100mm fader and large illuminated CUT switch; an insert point is provided for external processors. The AFL point is switchable to pre or post insert point and works in conjunction with the advanced solo system controls. Metering is via twin LED bargraph meters, which are also used for the engineer's feed when any PFL, AFL or LSTN selection is made.

Communications and Oscilator

A variable frequency oscillator is built into the SM12 and may be routed to the mono and stereo outputs, giving the engineer a single tone between 63Hz and 10kHz, or pink noise for system equalisation. Communication with the stage or front-of-house engineer is made possible by the SM12's talkback system; accepting a dynamic mic input which may be routed to the mono and stereo outputs, or to the FOH console via a 4-wire link. The monitor engineer may route the FOH engineer to the stage by using the EXT switch.

The engineer's output may be used in stereo or mono as required, and is controlled by a 100mm fader. The four Mute group master switches are located at the bottom of the module and are illuminated for clarity.

Advanced Solo System

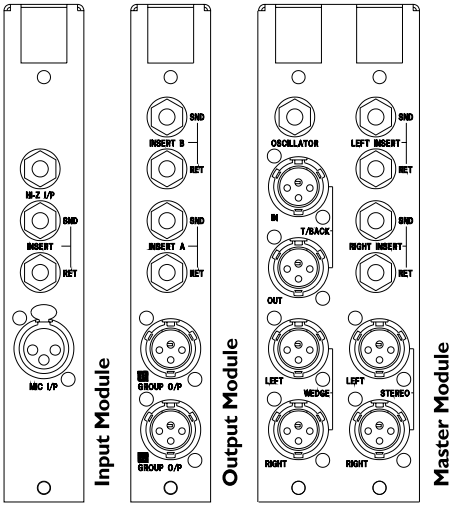
The SM12 is fitted with Soundcraft's revolutionary advanced solo system which is designed to speed up the engineer's search for potential feedback sources. The system operates in one of three modes, as outlined in the table opposite. Any AFL, PFL or LSTN selection may be removed using the illuminated Solo Clear button.

Mode	*Autocancel button*	*Input Priority button*	*Description*
'Normal'	0 (=off)	0	All output and input solos are additive.
'Autocancel'	x (=on)	0	All solos autocancel, no distinction between output and input.
'Input Priority'	0	x	If an output is left on solo, soloing an input will temporarily override the output but will return to it when input is unsoloed.
'Input/Output Intercancel with input Priority'	x	x	Combination of last two- as input priority, but also with autocancelling between groups of outputs and groups of inputs.

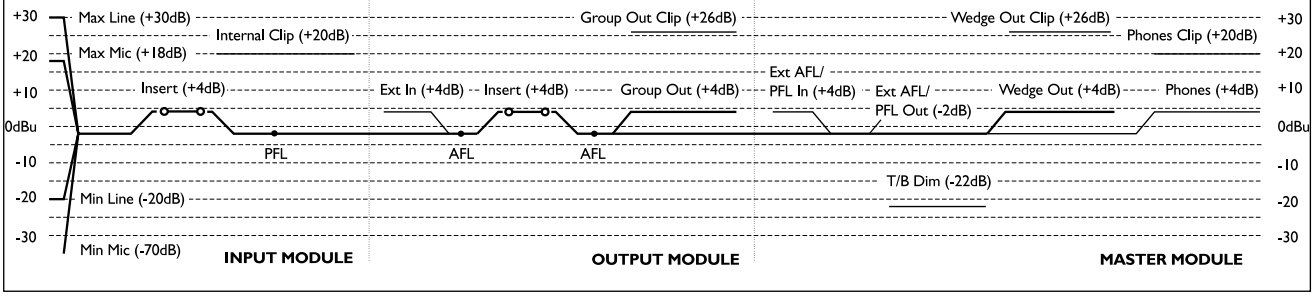
Connections and Powering

The SM12 is powered by the PSM300 power supply, which accepts an AC input voltage of between 90V and 250V. Multiple power supplies may be linked directly to provide active back-up. In common with all Soundcraft touring consoles, the SM12 is available in a custom flightcase for on-the-road use. Power supplies may also be cased to provide a ready-to-roll package for busy rental companies.

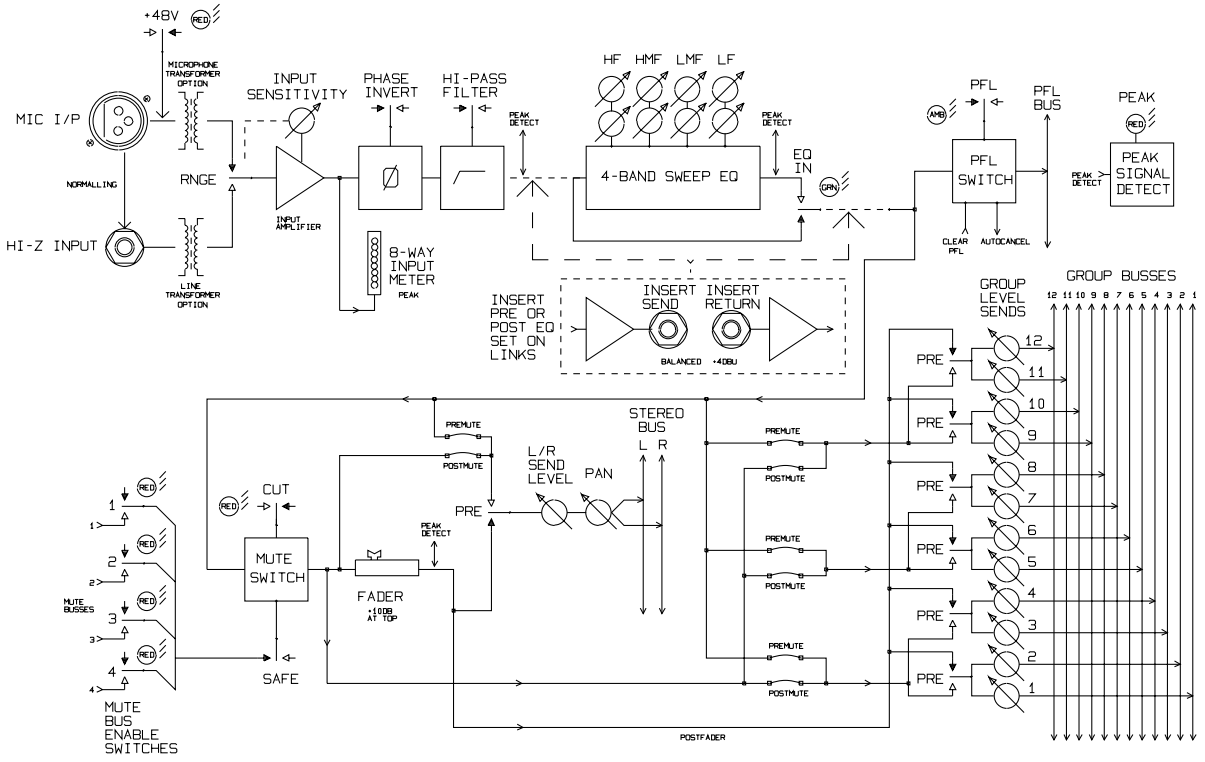
Module Rear Connectors



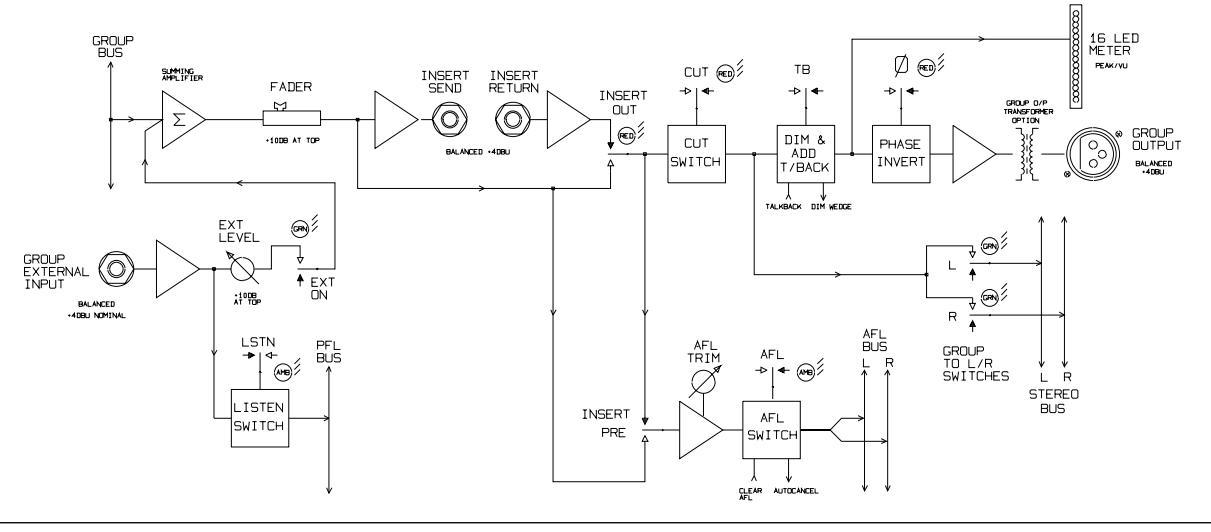
SM12 NOMINAL LEVEL DIAGRAM



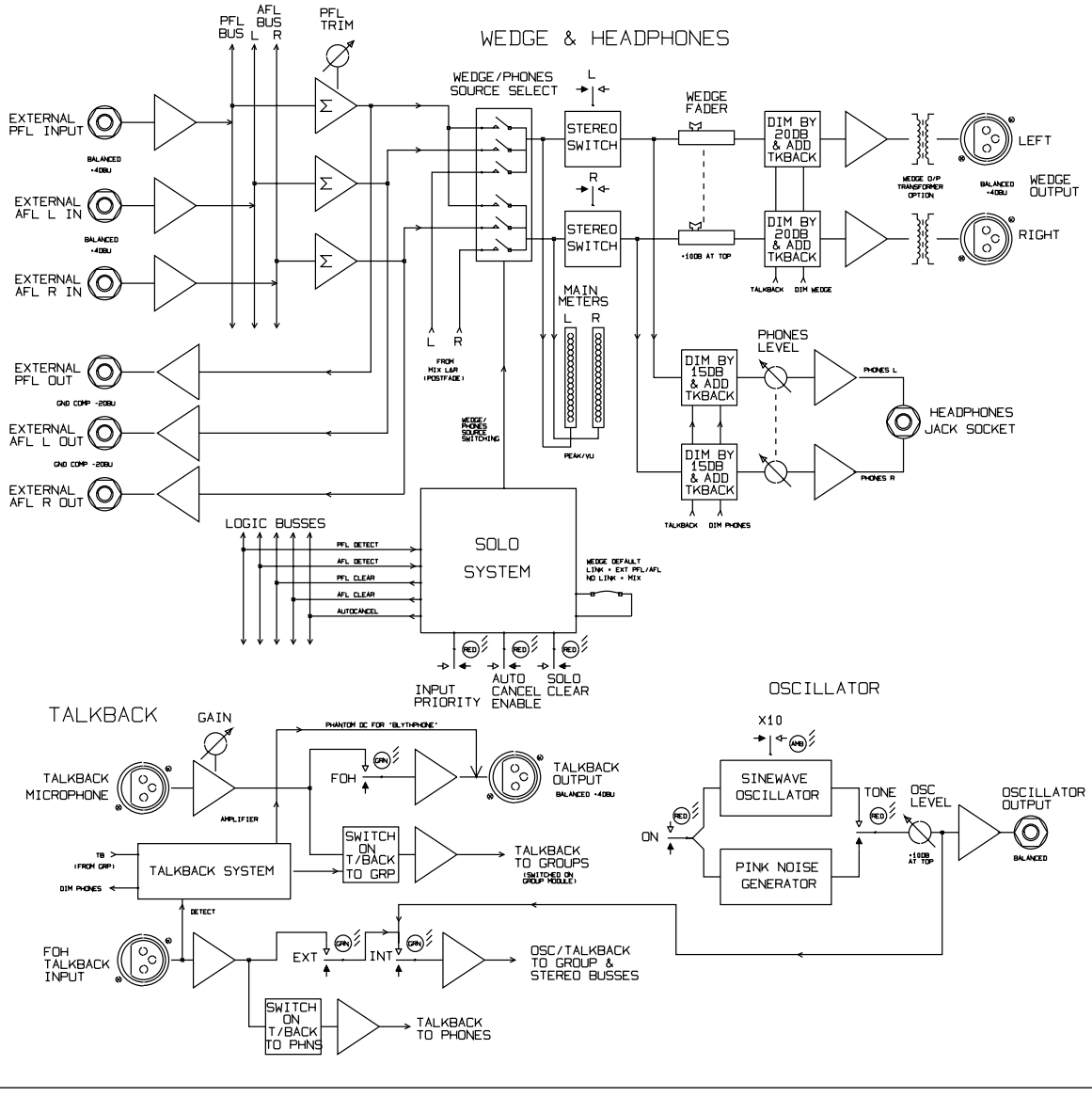
INPUT MODULE BLOCK DIAGRAM



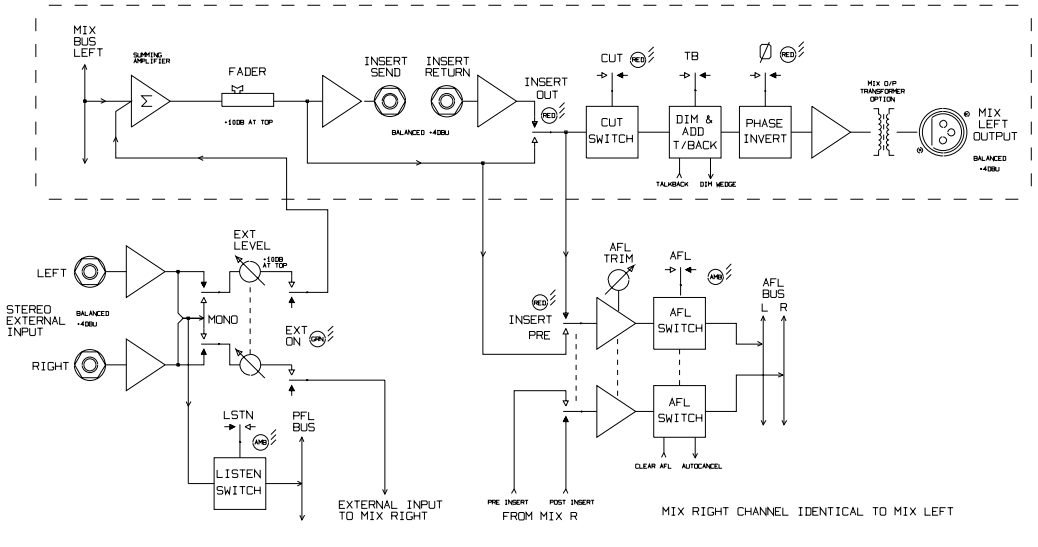
MONO OUTPUT BLOCK DIAGRAM



MASTER OUTPUT BLOCK DIAGRAM

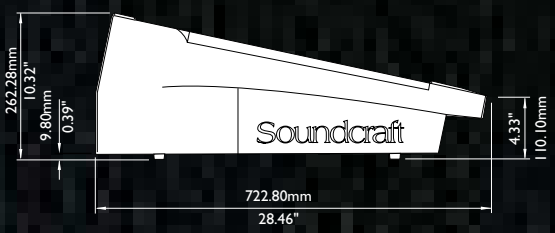


STEREO OUTPUT BLOCK DIAGRAM



SM12 TYPICAL SPECIFICATIONS

Frequency Response	Any input to any output	20Hz - 20kHz, +0/-0.5dB
Total Harmonic Distortion	(All measurements at 20dBu)	
	Line In to Group or Mix out	Less than 0.005% @ 1kHz
		Less than 0.025% @ 10kHz
Noise	(22Hz-22kHz bandwidth, unweighted)	
	Mic Input Equivalent Input Noise (200ohm source)	Less than -127.5dBu
	Group Output Noise	Less than -82dBu (40 ch routed)
	Mix Output Noise	Less than -84dBu (40 ch routed)
Crosstalk	(All measurements at 1kHz)	
	Input Channel Muting	Greater than 100dB
	Input Channel Send Pot isolation	Greater than 75dB
	Group Fader isolation	Greater than 95dB
	Group to Group crosstalk	Less than -75dB
	Group to Mix crosstalk	Less than -75dB
	Mix to Group crosstalk	Less than -75dB
Input and Output Impedences	Mic Input	2k balanced
	Hi-Z and Line Input	Greater than 10k balanced
	Input Insert Send	Less than 75 balanced
	Input Insert Return	Greater than 10k balanced
	Output Insert Send	Less than 75 balanced
	Output Insert Return	Greater than 10k balanced
	Outputs	Less than 75 balanced
Input/Output Capability	Mic Maximum Input Level	+28dBu
	Line Maximum Input Level	+30dBu
	Input Insert Sends	+20dBu into 2k
	Input Insert Returns	+26dBu
	Output Insert Sends	+26dBu into 600
	Output Insert Returns	+26dBu
	All Balanced Outputs	+26dBu into 600
	Headphone Output	+20dBu into 600
		150mW into 8
Input and Output Levels	Mic Input Sensitivity (XLR)	-2dBu to -70dBu, +10dBu to -20dBu
	Line Input Sensitivity (0.25" jack)	+10dBu to -20dBu
	Input Insert Send/Return	-2dBu nominal
	Output Insert Send/Return	+4dBu nominal
	Outputs	+4dBu for 0VU



CONSOLE	WIDTH	WEIGHT
32ch	1366.00mm 53.78"	48kg / 106lbs
40ch	1620.00mm 63.78"	57kg / 125lbs
48ch	1874.00mm 73.78"	66kg / 145lbs

Soundcraft™

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