

GB4
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GB8
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4-BUS & 8-BUS PROFESSIONAL
MIXING CONSOLES



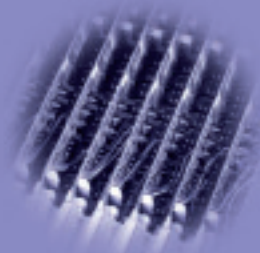
THE FULLY PROFESSIONAL LIVE SOUND CONSOLE YOU THOUGHT YOU COULDN'T AFFORD



Drawing on 30 years of Soundcraft experience, GB Series consoles set new standards in professional live sound mixing on a budget. Both the GB4 (4-bus) and GB8 (8-bus) are packed with the features you need to create a memorable FOH and monitor mix, combining totally re-engineered circuit topology with our ground-breaking GB30 mic

preamp and EQ designs to deliver a sonic performance rivalling many high-price, high-end consoles. Unlike other mixers in their class, GB Series consoles are built to last with a rigid steel chassis, high quality vertically mounted fibreglass PCB channel strips and

individually nutted potentiometers ensuring reliability in both fixed installations and on the road. And because Soundcraft understands the way that live sound engineers work, you'll find an intuitive control surface and a conveniently angled rear connector panel, so you can do all your patching without ever leaving the mix position.



GB4

GB8



GLOBAL FEATURES:

- GB30 mic preamp and precision equalisation circuitry
- Direct outputs on every channel
- Talkback facility
- 100mm faders
- Switchable 48V phantom powering on every channel
- 18dB/octave high pass filter
- 4 mute groups
- 12-segment LED metering
- Record output with limiter

GB4 FEATURES:

- 12, 16, 24, 32 and 40 channel frame sizes
- 15 busses
- 2 full feature stereo channels
- 2 stereo returns
- 8 Aux sends (4 are pre/post switchable)
- 4 sub groups (SWAP with Auxes 1-4)
- 7x4 output matrix

GB8 FEATURES:

- 16, 24, 32, 40 and 48 channel frame sizes
- 19 busses

- 4 full feature stereo channels
- 4 stereo returns
- 8 Aux sends (all are pre/post switchable)
- 8 sub groups (SWAP with all 8 Auxes)
- 11x4 output matrix
- Alternate stereo output with limiter
- 1kHz oscillator
- Meterpod with 3 high definition VU meters (L/C/R)
- Internal jumpers switch pre-fade Aux sends to pre-EQ

DUAL-MODE TOPOLOGY, STRAIGHT FROM THE SOUNDCRAFT MH SERIES



GB4 pictured

With dual-mode topology derived from Soundcraft's acclaimed MH Series, GB Series consoles provide ideal live sound mixing solutions for medium-sized venues including clubs, theatres and houses of worship. With a single button press on the GB4, any of the first four Aux master controls can be swapped with the respectively numbered Group fader, providing the flexibility to work at FOH, Monitors, or perform both duties

simultaneously. Meanwhile, the GB8 provides greater bus power for more sophisticated applications. All eight Aux master controls can be swapped with eight Groups, and all Auxes are pre/post switchable globally per Aux bus from the Master Section.

New GB30 circuit designs ensure world class sonic performance. Every input channel features a GB30 mic preamp which uses local linearisation techniques rather than global

feedback to deliver an extremely open frequency response and excellent phase linearity. The GB30 EQ borrows the innovative designs developed for the Soundcraft MH4 console, providing GB4 and GB8 users with the benefits of genuine high-end equalisation. And thanks to a meticulous 'ground-up' approach to circuit and mechanical design, the GB Series exhibits class-leading noise performance and channel isolation figures.

GB4

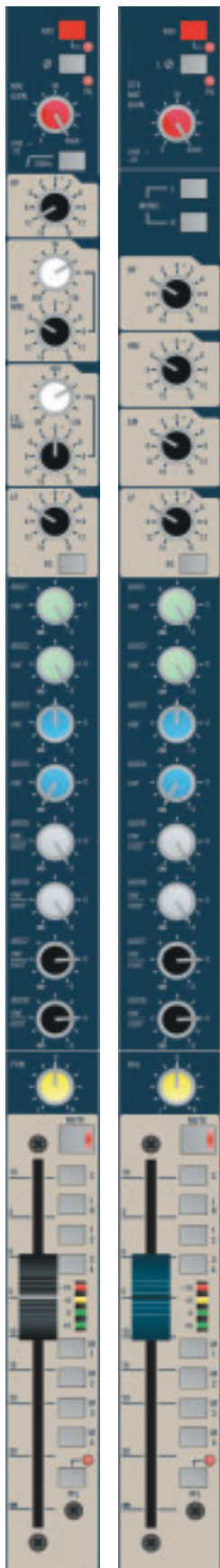
GB8



GB series consoles are packed with professional features. In addition to the Groups - 4 on the GB4 and 8 on the GB8 - both mixers have L/C/R and eight Aux busses, providing flexible mixing solutions for virtually any application. Four mute groups provide quick and easy muting of groups of channels, ideal for scene changes or where groups of instruments need to be silenced. And the output matrix is essential when different zones

in a venue require specifically tailored mixes, enabling the operator to create sub-mixes of the Group, L-R mix and C (mono) busses. When it comes to recording a performance, the GB4 & GB8 are similarly well equipped with pre-/post-fader switchable direct outputs on every channel and a high-quality limiter on dedicated record outputs fed from the L-R mix bus. The GB8 even has a separate, Alternate output with limiter.





GB4 Mono Input Channel

GB4 Stereo Input Channel

MONO INPUT MODULE

Mic Input

A balanced XLR connector accepts balanced or unbalanced mic signals.

Line Input

A balanced 1/4" jack accepts balanced or unbalanced line level sources, such as keyboards.

+48 Phantom Power

Phantom power is individually switchable on every channel, with front panel LED indication of status.

Phase Reverse

Phase reverse is individually switchable on every channel.

Input Stage

Precision, low noise mic preamps deliver continuously variable gain between 5dB and 60dB. A Peak LED indicates internal signal levels in excess of +18dBu.

High Pass Filter

A steep 18dB per Octave High Pass Filter is included straight after the preamp to reduce low frequency rumble on stage and clean up vocal performances.

Insert

A pre-fade, pre-EQ (but post-HPF) insert point is provided for patching in Limiters, Graphic Equalisers or other signal processors. It may also be used for recording.

Direct Output

A direct output is also available on every mono channel with individual pre/post fader switching situated on the rear panel. This allows the direct outputs to be equally useful for effects send applications or multitrack tape feeds.

EQ Section

GB4 and GB8 incorporate the GB30 4-band equaliser section - based on that used in the high-end MH Series. Both the HF and LF shelving sections have steeper slopes than usual which substantially reduces mid frequency harshness in the HF band and muddiness in the LF. This increase in "cleanliness" of response is further enhanced by an element of undershoot and overshoot in the boost/cut response. It has two swept mid frequencies carefully selected for optimum control during live performances. All bands provide 15dB of cut or boost. The Low frequency equaliser response shelves at 80Hz. The swept Lo Mid control operates between 80Hz and 1.9kHz. The swept Hi Mid control operates at frequencies between 550Hz and 13kHz. The fixed High frequency equaliser response shelves at 13kHz.

EQ Switch

The EQ section can be bypassed using the EQ switch, allowing comparison of treated and untreated sounds without having to reset controls.

Auxiliary Sends

The GB4 has 8 flexible Auxiliary sends which allow the choice of either monitor or effects orientated mixes. Auxes 1-4 are pre-fader and, in normal operation, are routed to the rotary Aux masters 1-4. In SWAP mode, they are routed to Group faders 1-4 and Group meters 1-4, ideal for monitor mixing applications. Auxes 5 to 8 are pre/post switchable - globally assigned selectable per Aux bus from the Master Section.

The GB8's 8 Auxiliary sends (Fig. 1) are globally selectable per Aux bus between pre/post fade. The Auxes are routed to rotary Aux masters, which all feature SWAP mode.

Level Control and Routing

On the GB4, the signal on each fader can be routed to the L-R mix (via the Pan control), the C (mono) bus and Groups 1&2 and 3&4. On the GB8, the signal can additionally be routed to Groups 5&6 and 7&8 (Fig. 2).

Pan

Turning the pan control full left or right enables odd or even groups or the left or right Mix bus to be accessed individually.

Solo/PFL

Each channel can be soloed pre-fader, post-EQ to check levels. PFL status is indicated via a front panel LED.

100mm Fader

Professional grade, 100mm faders provide accurate, consistent control of audio levels and have superb cut-off performance.

Metering

A 4-segment LED display on each fader strip provides an instant reference for the signal level on that channel.

STEREO INPUT MODULE

GB4 has two stereo inputs which allow connection of stereo sources, or use as sophisticated effects returns. GB8 has four stereo inputs. The stereo input channels share all features with the mono input channels, with the exception of the following:

Connections

Each channel is equipped with both balanced jack and XLR pairs. The left or right input can be selected, if required, as a single, mono source to be routed to both paths. Alternatively both the left and right signals can be mono-summed.

EQ Section

The equaliser section provides 15dB of cut or boost at each of 4-bands: a HF shelf at 13kHz; Hi-Mid at 2.5kHz; Lo-Mid at 450Hz; and a LF shelf at 80Hz.



Fig.1 - GB8 Channel strip detail, Auxiliary Controls.



Fig.2 - GB8 Channel strip detail, Fader section.

GROUP SECTION

Group Outputs

Each Group has an impedance-balanced XLR output connector, allowing long cable runs on stage.

Insert Points

Pre-fade insert points are provided on jack connectors, for the connection of Limiters, Graphic Equalisers or other signal processors.

Group Metering

GB4 has four 12-segment peak reading bargraph meters which display Group (or Aux 1-4 in SWAP mode) output levels.

Matrix Assignment

Four rotary controls per Group allow individual assignment to Matrices 1-4.

Matrix Masters

The level at each Matrix output (balanced jack) on the rear panel is controlled by a rotary control, with a button for AFL.

Auxiliary Masters

The level at each Auxiliary output (balanced jack) on the rear panel is controlled by a rotary control with a button for AFL.

Group/Aux SWAP

GB4 has four push buttons which swap the functions of Auxiliary 1-4 master rotary controls and Group master faders. NB: The 12-segment peak reading bargraph meters always display the signal selected to the Group faders, i.e. Groups in normal operation, or Auxes when used in SWAP mode.

Routing

The signal on each Group fader can be routed to either the L-R mix (via the Pan control) or to the C (mono) bus.

100mm Group Faders

The Group faders provide 10dB of extra gain above the zero mark, whilst still ensuring smooth operation. Each Group is also equipped with AFL.

MASTER SECTION

Connections

L-R mix and C (mono) bus outputs appear on balanced XLR with jack insert points. The L-R mix is also provided on two pairs of balanced jack outputs and one pair of RCA/phono outputs. A balanced XLR input allows a talkback mic to be connected. Two control room outputs for engineer monitoring are available on impedance balanced 1/4" jacks.

2TRK Inputs

A pair of unbalanced -10dBV phono connectors labelled "2TRK In" allow pre-show music to be replayed.

Rec/Alt Output

GB4 has a single Rec/Alt section. Outputs are provided on impedance balanced 1/4" jacks and unbalanced -10dBV phono connectors. They provide a post-fade send from the L-R mix. The C (mono) bus may be added and/or the mix can be mono summed. A rotary control governs level and a switchable limiter is provided.

Talkback Section

Once connected, the engineer's talkback mic can be routed to all Groups and/or Aux 1-2, 3-4, 5-6 & 7-8. A rotary control governs talkback level.

Stereo Returns

GB4 has two stereo returns - provided for use with effects units, or as simple stereo instrument inputs. The rotary controls govern level. Ste Ret 1 and 2 can be routed to Groups 1/2 and 3/4 respectively, or the main L-R mix.

CONTROL ROOM SECTION

The control room section allows the engineer to monitor either the 2-track return, the C (Mono) Bus, or the Mix via the control room outputs or headphones. A headphone jack is provided for use with headphones with impedances of 100 Ohms or greater. Both the control room and 2-track return levels can be altered using the associated controls. It is also possible to replace the Mix output signal with the 2-track return by pressing "2 TRK TO MIX". This allows easy playing of pre-show music at a single button press, without having to make any alterations to the band's settings.

Metering

Three 12-segment Peak reading bargraph meters display L-R mix and C (mono) bus output levels when the appropriate control room selection is made. If any input or Auxiliary master is soloed then the PFL/AFL LED illuminates, and the master meters show PFL/AFL levels instead.

Matrix Assignment

Any of the four Group masters, Left, Right and C (mono) buses can be routed to any of the four matrix outputs via individual rotary controls.

100mm Master Faders

Mix and C (Mono) Output levels are controlled by custom-built 100mm long throw faders. The Mix outputs may be routed to the C (Mono) bus should only a mono PA be required, or an induction loop need to be fed.

PSU Indicators

A green LED illuminates if the console is powered up, showing the status of the +/-17v voltage rails.

Integral Power Supply

The console is fitted with a high-efficiency SMPS design (Switched Mode Power Supply) unit that makes for cooler operation and lighter weight. The PSU is capable of accepting a wide range of AC input voltages without any internal or external switch changes.



GB4 Outputs & Master



THE GB8 OUTPUTS & MASTER SECTION HAVE THE SAME FEATURES AS THE GB4, PLUS THE FOLLOWING PERFORMANCE ENHANCEMENTS.

GROUP SECTION

Group Metering

GB8 has 8 12-segment peak reading bargraph meters which display Group (or Aux 1-8 in SWAP mode) output levels.

Group/Aux SWAP

GB8 has eight push buttons which swap the functions of Auxiliary 1-8 master rotary controls and Group master faders. NB: The 12-segment peak reading bargraph meters always display the signal selected to the Group faders, i.e. Groups in normal operation, or Auxes when used in SWAP mode.

MASTER SECTION

Rec/Alt Output

GB8 features separate Record and Alternate output sections. Outputs are provided on impedance balanced 1/4" jacks and unbalanced -10dBv phono connectors. They provide a post-fade send from the L-R mix. The C (mono) bus may be added and/or the mix can be mono summed. A rotary control governs level and a switchable limiter is provided.

Talkback Section

GB8 additionally features a 1kHz oscillator with identical routing to the talkback.

Stereo Returns

GB8 has four stereo returns - provided for use with effects units, or as simple stereo instrument inputs. The rotary controls govern level. Ste Ret 1, 2, 3 and 4 can be routed to Groups 1/2, 3/4, 5/6 and 7/8 respectively, or the main L-R mix.

OVERHEAD VIEW



NB: GB8 32 channel model shown. GB4 Channel and Outputs & Master section differences are highlighted in the preceding pages.

REAR PANEL CONNECTIONS



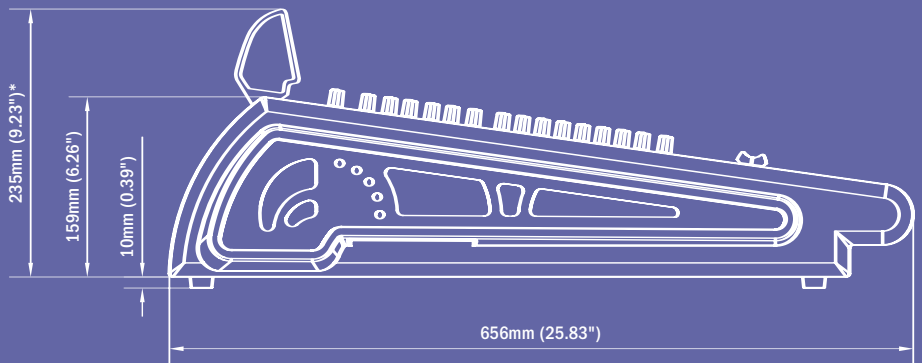
NB: GB8 32 channel model shown. GB4 Channel connections are identical. GB4 Outputs & Master section connections are similar but provide 4 Groups and a single Rec/Alt output.

GB4 DIMENSIONS & WEIGHTS

Frame Size	Width	
12 Ch	730mm (28.73")	20kg (44.1lbs)
16 Ch	842mm (33.13")	22kg (48.5lbs)
24 Ch	1065mm (41.93")	27kg (59.5lbs)
32 Ch	1300mm (51.17")	32kg (70.5lbs)
40 Ch	1523mm (59.96")	37kg (81.6lbs)

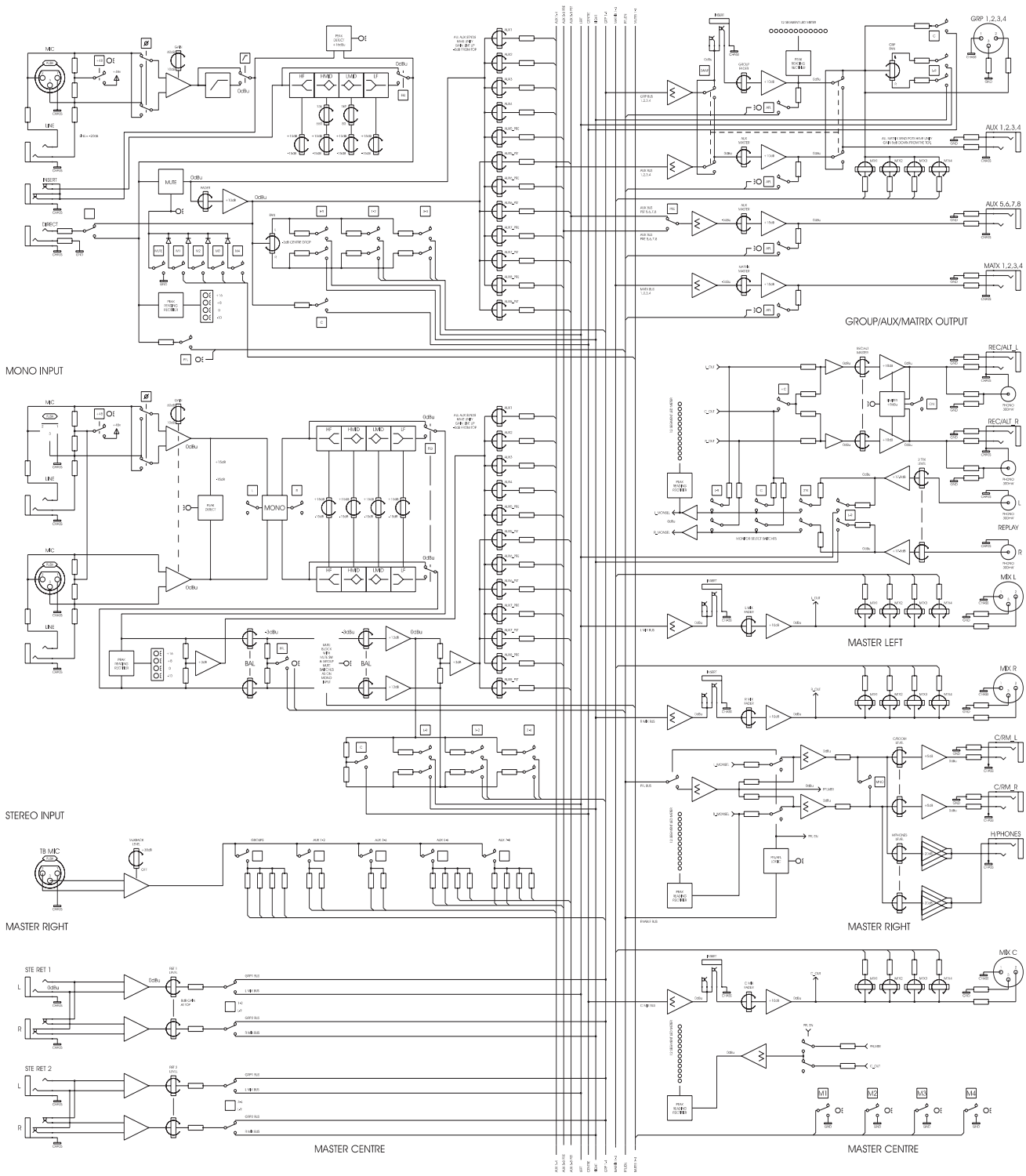
GB8 DIMENSIONS & WEIGHTS

Frame Size	Width	
16 Ch	984mm (38.74")	25kg (55.1lbs)
24 Ch	1208mm (47.56")	30kg (66.1lbs)
32 Ch	1442mm (56.77")	35kg (77.2lbs)
40 Ch	1666mm (65.59")	40kg (88.2lbs)
48 Ch	1889mm (74.37")	45kg (99.2lbs)

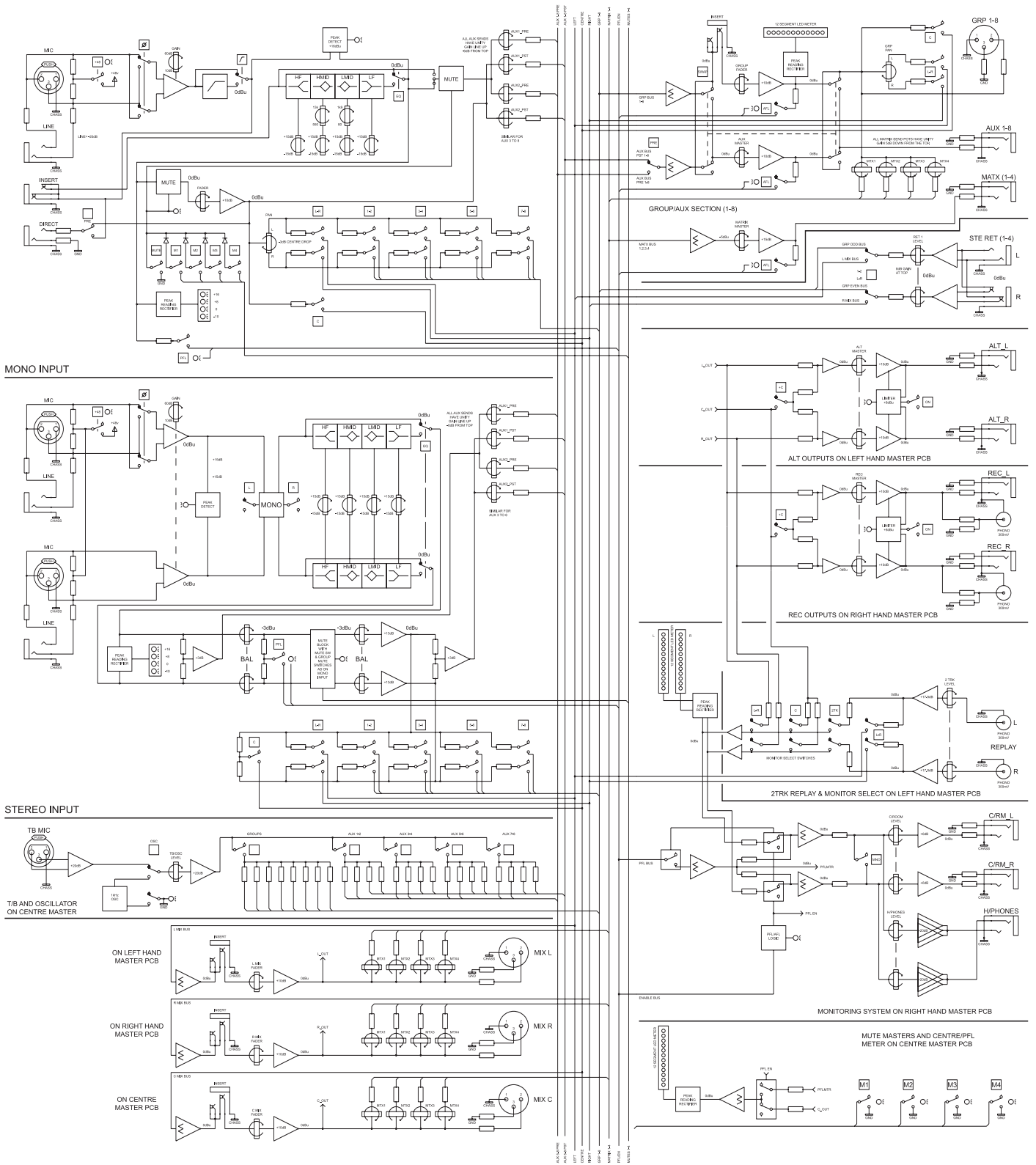


*NB The Meterpod is only available on the GB8

GB4 SYSTEM BLOCK DIAGRAM



GB8 SYSTEM BLOCK DIAGRAM





GRAHAM BLYTH

In the year of our 30th anniversary, Soundcraft co-founder and Technical Director Graham Blyth has taken a well established and classic Soundcraft microphone preamplifier to a new level of performance, resulting in the new GB30 preamp which boasts extraordinary clarity with exceptionally controlled overload characteristics.

Soundcraft's legendary 4-band EQ has also been improved further with the addition of elements derived from Soundcraft's highly successful MH Series consoles. This new design delivers the sound of the classic 'British EQ' enhanced even further with more focused HF and LF shelving sections.



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This equipment complies with the EMC Directive 89/336/EEC

Part No: ZL0627-02



H A Harman International Company

TYPICAL SPECIFICATIONS

Frequency Response	Mic/Line Input to any output, 20Hz - 20kHz <1dB
THD + N	Mic sens. -30dBu, +20dBu at all outputs @1kHz <0.006%
Noise	Measured RMS, 22Hz to 22kHz Bandwidth Mic E.I.N. @ unity gain, 150Ω source impedance -128dBu Mix Output, 40 inputs routed to mix <-82dBu Group & Centre Outputs <-83dBu Aux Outputs <-80dBu Matrix Outputs <-89dBu
Crosstalk (@1kHz, typical)	Input Channel Mute <-97dB Input Fader cut-off <-95dB Pan isolation <-77dB Mix route isolation <-97dB Group route isolation <-97dB Adjacent channel crosstalk <-99dB Group to Mix <-89dB Aux Send pots offness (typical) <-84dB Matrix Send pots offness (typical) <-84dB
CMRR	Typical @ 1kHz 80dB
Input & Output Max Levels	Mono & Stereo Mic Inputs +15dBu Mono & Stereo Line Inputs +30dBu Stereo Returns & Insert Returns +20dBu Any output +20dBu Nominal Operating Level 0dBu Headphone Power 2 x 250mW into 200Ω
Input & Output Impedances	Mic Inputs 2kΩ Line Inputs and Stereo Returns 10kΩ Input channels Insert Return 5kΩ with EQ in, otherwise 3kΩ Mix, Group, Aux, Matrix & Direct outputs 150Ω Insert sends 75Ω Recommended Headphone Impedance 50 - 600Ω
High pass filter (Mono input) 100Hz, 18dB per octave
EQ (Mono input)	HF 13kHz, +/-15dB, 2nd order shelving Hi-Mid 550Hz-13kHz, +/-15dB, Q=1.5 Lo-Mid 80Hz-1.9kHz, +/-15dB, Q=1.5 LF 80Hz, +/-15dB, 2nd order shelving
Metering	Input channels Single tri-colour 4-segment LED bargraph Outputs (GB4) 7 tri-colour 12-segment LED bargraphs Outputs (GB8) 11 tri-colour 12-segment LED bargraphs, + Meterpod with 3 VU meters (L/R/C)
Power consumption	AC mains supply (internal PSU) 85V-270V AC, 50/60Hz universal input Power consumption Less than 150W
Operating conditions	Temperature range -10°C to +30°C Relative humidity 0% to 80%

Note: These figures are typical of performance in a normal electromagnetic environment. Performance may be degraded in severe conditions. All measurements refer to electronically balanced inputs and outputs with VCAs enabled. Input and output transformers may affect these specifications.