### Typical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency response</td>
<td>XLR input to any output +0/-1dB, 20Hz-20kHz</td>
</tr>
<tr>
<td>T.H.D. &amp; noise</td>
<td>All measurements at +10dBu output, 30dB gain. XLR input to Direct output XLR input to Mix output -0.007% @ 1kHz -0.008% @ 1kHz</td>
</tr>
<tr>
<td>Mic input E.I.N.</td>
<td>22Hz-22kHz bandwidth, unweighted &lt;128dBu (150 Ω source)</td>
</tr>
<tr>
<td>Mic gain</td>
<td>Min: 5dB Max: 60dB</td>
</tr>
<tr>
<td>Bus noise</td>
<td>Mix output, input faders @ Min Mix fader @ 0dB 32 channels routed &lt;0.007% @ 1kHz</td>
</tr>
<tr>
<td>Mic input E.I.N.</td>
<td>Mic input E.I.N. 22Hz-22kHz bandwidth, unweighted</td>
</tr>
<tr>
<td>Mic gain</td>
<td>Min: 5dB Max: 60dB</td>
</tr>
<tr>
<td>Bus noise</td>
<td>Mix output, input faders @ Min Mix fader @ 0dB 16 channels routed &lt;0.008% @ 1kHz</td>
</tr>
<tr>
<td>Mic input E.I.N.</td>
<td>Mic input E.I.N. 22Hz-22kHz bandwidth, unweighted</td>
</tr>
<tr>
<td>Mic gain</td>
<td>Min: 5dB Max: 60dB</td>
</tr>
<tr>
<td>Crosstalk @ 1kHz</td>
<td>Input channel muting &gt;98dB</td>
</tr>
<tr>
<td>Input fader cutoff</td>
<td>&gt;98dB</td>
</tr>
<tr>
<td>Input pan pot isolation</td>
<td>&gt;82dB</td>
</tr>
<tr>
<td>Mix routing isolation</td>
<td>&gt;98dB</td>
</tr>
<tr>
<td>Group routing isolation</td>
<td>&gt;98dB</td>
</tr>
<tr>
<td>Adjacent channel isolation</td>
<td>&gt;100dB</td>
</tr>
<tr>
<td>Group-Mix crosstalk</td>
<td>&lt;-84dB</td>
</tr>
<tr>
<td>CMRR</td>
<td>Mono input, measured at max gain Typically 80dB @ 1kHz</td>
</tr>
<tr>
<td>Input &amp; output levels</td>
<td>Input channel mic input +15dBu max Input channel line input +30dBu max Stereo inputs &amp; insert returns +30dBu max All outputs +20dBu max Nominal operating level 0dBu Headphone power 2 x 250mW into 200 Ω phones</td>
</tr>
<tr>
<td>Input &amp; output impedances</td>
<td>Mic input 1kW (with EQ, in otherwise worst case 1.8k Ω)</td>
</tr>
<tr>
<td>Line inputs</td>
<td>6 x 100V</td>
</tr>
<tr>
<td>Input channel insert return</td>
<td>5k Ω (with EQ in, otherwise</td>
</tr>
<tr>
<td>Mix, Group, Aux outputs</td>
<td>150 Ω</td>
</tr>
<tr>
<td>Insert sends</td>
<td>75Ω</td>
</tr>
<tr>
<td>Recommended headphone impedance</td>
<td>50-600 Ω</td>
</tr>
<tr>
<td>High pass filter (Mono input)</td>
<td>100Hz, 18dB per octave</td>
</tr>
<tr>
<td>EQ (Mono input)</td>
<td>HF 13kHz, +/-15dB, 2nd order shelving Mid-Mid 55Hz-13kHz, +/-15dB, Q=1 Lo-Mid 72Hz-3.6kHz, +/-15dB, Q=1 LF 80Hz, +/-15dB, 2nd order shelving</td>
</tr>
<tr>
<td>Meters</td>
<td>6 tri-colour 12-segment LED bargraphs</td>
</tr>
<tr>
<td>Power consumption</td>
<td>AC mains supply (internal PSU) 85V-270V AC, 50/60Hz universal input Power consumption Less than 50W</td>
</tr>
<tr>
<td>Weight</td>
<td>16 channel 18.3kg (40lbs) 24 channel 21.8kg (48lbs) 32 channel 29.4kg (65lbs)</td>
</tr>
<tr>
<td>Operating conditions</td>
<td>Temperature range -10°C to +30°C Relative humidity 90% to 80%</td>
</tr>
</tbody>
</table>

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 specification.
Introducing the new Soundcraft LX7ii – our hugely popular 7-bus mid-sized mixing console, totally re-engineered with genuine Soundcraft technology for unrivalled sonic performance. The LX7ii can handle both FOH and monitors, making it ideal for live sound applications in small to medium-sized venues. And direct channel outputs allow for simple connection of multitrack recording equipment, making the LX7ii equally at home in the studio.

In the year of our 30th anniversary, Soundcraft co-founder and Technical Director Graham Blyth has developed new microphone preamps and 4-band EQ circuits of extraordinary clarity and musicality, which we call GB30.

Totally re-engineered and derived from designs used in Soundcraft’s acclaimed MH Series professional live sound consoles, they gift the LX7ii with an exceptionally open sound and an almost unnervingly low noise floor.

KEY FEATURES:
• 16, 24 and 32 channel frame sizes • GB30 mic preamp and precision equalisation circuitry • True 7-bus architecture • 2 stereo inputs • 2 stereo returns • Channel direct outputs • Talkback facility • 100mm faders • +48 phantom power • 6 aux sends, 4 of which are pre/post switchable • 18dB/octave High pass filter • Group and mix inserts • 12-segment LED metering • Integral universal voltage, switched-mode PSU for light weight

ADVANCED SOUNDcraft TECHNOLOGY NOW COMES IN MEDIUM SIZE
**NEW GB30 MIC PREAMP AND EQ**

Soundcraft founder Graham Blyth explains the development of the GB30 design:

**GB30 MIC PREAMP**

“It is particularly important in live applications to have a mic preamp that has a well-controlled overload response. Many preamp designs achieve excellent THD figures by wrapping tons of negative feedback around the front end. Unfortunately, these topologies tend to behave badly under overload conditions, causing an untidy and muddy sound. “The new preamp in the LXT achieves wanted performance figures by using local linearisation techniques rather than global feedback, together with a wide frequency response and excellent phase linearity. All these factors result in a simple, all-silicon equalisation and comb filter design. GB30 EQ

“The classic problem with ‘low cost’ equaliser circuits is that the LF and HF shelving sections have insufficiently steep slopes, so that, when applying any reasonable amount of boost, bands of unwanted mid frequency response also get added resulting in a muddily sound. What is needed is a genuine ‘second order’ shelving format provided us with a neat solution. By taking these concepts into a cost-effective design that brings high-end EQ into an affordable mixing console for the first time.”

### GB30 EQ

- **LF EQ**
- **LO MID SWEEP EQ**
- **HI MID SWEEP EQ**
- **HF EQ**

**Control Section**

The control section allows the engineer to monitor either the 2-track return, the C (Mono) bus, or either pair of Groups via the control room outputs or headphones. A headphone jack is provided for use with headphones with impedances of 100 Ohms or greater.

**Group Outputs**

Each Group has an impedance-balanced 1/4" jack output connector, allowing long cable runs on stage.

**Insert Points**

Pre-fader insert points are provided on each Group for the connection of Limiters, Graphic Equalisers or other signal processors.

**Auxiliary Outputs**

There are 6 impedance-balanced jack outputs for the Auxiliary outputs.

**Auxiliary Masters**

Six rotary controls govern auxiliary send levels. Each Auxiliary may be soloed after the fader.

**Group Metering**

Four 12-segment Peak reading bargraph meters display Group output levels.

**100mm Group Faders**

The Group faders provide 10dB of extra gain above the “3-4” switch. Each group may be routed to Mix, C (Mono) bus or foldback mixes.

**Auxiliary Sends**

6 flexible auxiliary sends allow the choice of either monitor or effects oriented mixes. Auxes 1-4 are normally post-fader, post-EQ but can be switched in pairs from each channel to be pre-fader, post-EQ. Auxes 5 and 6 are always post-fader, pre-EQ. This way a maximum of 4 pre-fader foldback mixes or 8 post-fader effects sends are possible.

**Level Control and Boosting**

Each input channel can be routed to Mix, the separate Centre (Mono) bus, and/or any of the 4 Groups in pairs.

**Pan Control**

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

**Solo/PFL**

Solo/PFL LED illuminates if soloed pre-fader, post-EQ to check gain levels.

**PFL LED**

A rotary control provides 22dBu of gain range to boost even source to both paths.

**Connections**

2 balanced pairs of line inputs allow the stereo inputs to be accessed. Plugging in the left jack only will feed a mono source to both paths.

**Input Gain control**

A rotary control provides 22dBu of gain range to boost even source to both paths.

**MONO INPUT CHANNEL**

- **Mic Input**
  - A balanced XLR connector accepts balanced or unbalanced mic signals.
  - **Line Input**
  - The balanced 1/4" jack allows connection of balanced or unbalanced electronic instruments, such as keyboards.
- **+48V Phantom Power**
  - +48V Phantom Power is available switched in blocks of 4 for condenser mics and active DI boxes.

**Input Stage**

LX7ii’s exclusive GB30 padless mic preamp provides up to +15dBu input capability with the input gain control operating between 5dB and 60dB on all mic inputs.

**High Pass Filter**

A 1.5kHz Octave High Pass Filter is included straight after the preamps to reduce low frequency rumble on stage and clean-up vocal performances.

**Insert**

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

**Direct Outputs**

A direct output is also available on all but the last 8 channels with individual pre/post fader switching situated in the EQ section. This allows LX7ii’s direct outputs to be equally useful for effects send applications or monitor feeds.

**EQ Section**

LX7ii’s new GB30, 4 band equaliser section is based on that used in the MH4 multi-track tape feeds.

- **Stereo Returns**
  - Stereo inputs allow stereo sources such as CD players.
  - **Connections**
  - A built-in 100mm long throw faders. The Mix outputs may 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 OUT”. This allows easy playing of pre-recorded mixes at a single button press, without having to make any alterations to the board’s settings.

**Integral Power Supply**

- The LX7ii is fitted with a high-efficiency SMPS design (Switched Mode Power Supply) and that makes for cooler operation and lighter weight. The PSIU is capable of accepting a wide range of AC input voltages without any internal or external switch changes.

**PFL/AFL LED**

- The PFL indicator LED also doubles as a PEAK indicator, illuminating 4dB below clipping occurs to make the maximum headroom available.

**Gain Control**

- The PFL indicator LED also doubles as a PEAK indicator, illuminating 4dB below clipping occurs to make the maximum headroom available.

**100mm Fader**

- The 100mm faders provide accurate, consistent control of master output levels.

**Auxiliary Masters**

- Six rotary controls govern auxiliary send levels. Each Auxiliary may be soloed after the fader.

**Group Metering**

- Four 12-segment Peak reading bargraph meters display Group output levels.

**100mm Group Faders**

- The Group faders provide 10dB of extra gain above the “3-4” switch, whilst still ensuring smooth operation. Each pair of Groups may be routed to Mix.

**Steady INPUT SECTION**

Two stereo inputs allow stereo sources such as CD players, keyboards or samplers to be connected. Alternatively, they may be used as sophisticated effects returns.

- **Connections**
  - A pair of unbalanced -10dBV stereo inputs with a balanced XLR input allowing talkback microphones to be connected.
  - **Connections**
  - Two band High and Low frequency EQ sections provide 15dB of boost or cut at 2kHz and 80Hz respectively.

**Auxiliary Control**

- The stereo inputs have access to either Auxes 1 & 2 or 3 & 4 by toggling the “3-4” switch.
- **Solo/PFL**
  - Inputs can be soloed pre-fader, post-EQ and routed direct to Mix, or to the Group immediately below each input strip. A rotary control governs signal level.

**LX7ii’s new GB30, 4 band equaliser section is based on that used in the MH4 multi-track tape feeds.**

- **Variable**
  - Blyth explains the development of this new concept: It’s the first time high-end EQ has been brought into an affordable mixing console. Previously, this level of equalisation would have cost around £1500. In the LX7ii, the sound quality has been made accessible to the masses by using a combination of in-circuit linearisation techniques rather than global feedback, together with a wide frequency response and excellent phase linearity. All these factors result in a simple, all-silicon equalisation and comb filter design. GB30 EQ

“...bring high-end EQ into an affordable mixing console for the first time.”

“...the new preamp in the LX7 achieves wanted performance figures by using local linearisation techniques rather than global feedback, together with a wide frequency response and excellent phase linearity. All these factors result in a simple, all-silicon equalisation and comb filter design.”

“...the classic problem with ‘low cost’ equaliser circuits is that the LF and HF shelving sections have insufficiently steep slopes...”
MONO INPUT CHANNEL

Mic Input
A balanced XLR connector accepts balanced or unbalanced mic signals.

Line Input
The balanced 1/4" jack allows connection of balanced or unbalanced electronic instruments, such as keyboards.

+48V Phantom Power
+48V Phantom Power is available switched in blocks of 4 for condenser mics and active DI boxes.

Input Stage
LX7’s new GB30 preamp design provides up to 15dB input capability with the gain input control operating between 50dB and 80dB on all mic inputs.

High Pass Filter
A steep 1.8kHz per Octave High Pass Filter is included straight after the preamp to reduce low-frequency rumble on stage and clean up vocal performances.

Input AUX Preamp
A pre-fade, pre-EQ (but post-HPF) insert point is provided for patching in mics and active DI boxes.

A balanced XLR connector accepts balanced or unbalanced mic signals.

A pair of unbalanced -10dBv phono connectors labelled 2TRK Inputs.

A rotary control provides 22dBu of gain range to boost even the weakest line-level signals.

Two stereo inputs allow stereo sources such as CD players, keyboards or samplers to be connected. Alternatively, they may be used as additional effects send applications or multitrack feedbacks.

Connections
Two stereo inputs allow stereo sources such as CD players, keyboards or samplers to be connected. Alternatively, they may be used as additional effects send applications or multitrack feedbacks.

Auxiliary Sends
6 flexible auxiliary sends allow the choice of either monitor or effects oriented mixes. Auxes 1-4 are normally post-fader, post-EQ but can be switched in pairs from each channel to be pre-fader, post-EQ Auxes 5 and 6 are always post-fader, post-EQ. In this way a maximum of 4 pre-fader foldback mixes or 6 post-fader effects sends are possible.

Level Control and Blending
Each input channel can be routed to Mix, the separate Centre (Mono) bus, and/or any of the 4 Groups in pairs.

Pan Control
Taping the control panel 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 selected pre-fader/post-EQ to check gain levels.

PFL LED
The PFL indicator LED also doubles as a PEXIT indicator, illuminating 4dB before clipping occurs to make the maximum headroom available.

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

STEREO INPUT SECTION

Input Gain control
A rotary control provides 22dBu of gain range to boost even the weakest line-level signals.

Connections
Two stereo inputs allow stereo sources such as CD players, keyboards or samplers to be connected. Alternatively, they may be used as additional effects send applications or multitrack feedbacks.

EQ Section
LX7’s new GB30, 4 band equaliser section is based on that used in the LX15 and LX20. The HF and LF shelves are extended to 18kHz and 40kHz respectively.

The LX7’s new GB30, 4 band equaliser section is based on that used in the LX15 and LX20. The HF and LF shelves are extended to 18kHz and 40kHz respectively.

Auxiliary Control
The stereo inputs have access to either Auxes 1 & 2 or 3 & 4, by toggling the “3-4” switch.

Solo/PFL
Inputs can be selected pre-fader, post-EQ and routed direct to Mix, or to the Group immediately below each input strip. A rotary control governs signal level.

Level Control and Routing
Pre-fade insert points are provided on each Group for the connection of Limiters, Graphic Equalisers or other signal processors.

Auxiliary Outputs
Six stereo channels control group send level. Each Auxiliary may be selected after the fader.

Group Metering
Four 12-segment Peak reading bargraph meters display Group output levels.

100mm Group Faders
The Group faders provide 105dB of extra gain above the “break” mark, whilst still ensuring smooth operation. Each pair of Groups may be routed to Mix.

MASTER SECTION

Connections
3 (impedance-balanced XLR) connectors carry the Mix and C (Mono) Outputs, with a balanced XLR input allowing talkback microphones to be connected. Two control room outputs for engineer monitoring are available on impedance balanced 1/4" jacks.

Aux Inputs
A pair of unbalanced -10dBv phono connectors labelled “2TRK” allow pre-show music to be replaced.

Talkback Section
Once the engineer’s talkback mic can be routed to Aux 1-2, Aux 3-4 or the Mix by momentary action switches.

The control room section allows the engineer to monitor either the 2-track return, the C (Mono) Bus, or either pair of Groups via the control room outputs in 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 OUT”. 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
A 12-segment bargraph meter normally displays Mix output levels, but switches to display Group, C (Mono) output or 2-track 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.

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

PSU Indicators
The LEDS illuminate if LX7 is powered up, showing the status of the +/-17v voltage rails used within the console.

Integral Power Supply
The LX7 is fitted with a high-efficiency SMPS design (Switched Mode Power Supply) and 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.

CONTROL ROOM SECTION

The control room section allows the engineer to monitor either the 2-track return, the C (Mono) Bus, or either pair of Groups via the control room outputs in 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 OUT”. This allows easy playing of pre-show music at a single button press, without having to make any alterations to the band’s settings.

Stereo Returns
Two stereo returns are provided for use with effects units, or as simple stereo instrument inputs. The rotary controls govern level and are automatically routed to Mix.

Gabriel Graham
Soundcraft founder Graham BithYE tributes the development of the GB30 design.

“The new preamp in the LX7 achieves excellent performance figures by using local linearisation techniques rather than global feedback, together with a wide frequency response and excellent phase linearity. All these factors result in an exemplary preamp for all applications.”

Soundcraft founder Graham Bith.
TOP PANEL, CONNECTORS & DIMENSIONS

LX7 OVERHEAD VIEW

LX7 REAR PANEL CONNECTIONS

DIMENSIONS

164MM (6.5”)
22.0MM (0.87”)
31MM (1.2”)
503MM (19.8”)
77MM (3”)
32 INPUT: 1059MM (41.7”)
24 INPUT: 856MM (33.7”)
16 INPUT: 653MM (25.7”)

BLOCK DIAGRAM

LX7
TYPICAL SPECIFICATIONS

Frequency response XLR input to any output +0/-1dB, 20Hz-20kHz

T.H.D. & noise All measurements at +10dBu output, 30dB gain.
XLR input to Direct output <0.007% @ 1kHz
XLR input to Mix output <0.008% @ 1kHz

Mic Input E.I.N. 22Hz-22kHz bandwidth, unweighted < -128dBu (150Ω source)

Mic gain Mic: Min 5dB Max 60dB

Bus noise Mix output, input faders @ Min, Mix fader 0dB
32 channels routed <-85dBu
16 channels routed <-88dBu

Group output, input faders @ Min, Group fader 0dB
32 channels routed <-85dBu
16 channels routed <-88dBu

Aux output, input sends @ Min, Aux master 0dB
32 channels routed <-88dBu
16 channels routed <-91dBu

Crosstalk @ 1kHz Input channel muting >98dB
Input fader cutoff >98dB
Input pan pot isolation >82dB
Mix routing isolation >98dB
Group routing isolation >98dB
Adjacent channel isolation >100dB
Group-Mix crosstalk <-84dB

CMRR Mono input, measured at max gain Typically 80dB @ 1kHz

Input & output impedances
Mic input 2kΩ
Line inputs >10kΩ
Input channel insert return 5kΩ (with EQ in, otherwise worst case 1.8kΩ)
Mix, Group, Aux 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 500Hz-13kHz, +/-15dB, Q=1
Lo-Mid 80Hz-1.9kHz, +/-15dB, Q=1
LF 80Hz, +/-15dB, 2nd order shelving

Metersing 6 tri-colour 12-segment LED bargraphs

Power consumption AC mains supply (internal PSU) 85V-270V AC, 50/60Hz universal input

Weight 16 channel 18.3kg (40lbs)
24 channel 21.8kg (48lbs)
32 channel 29.4kg (65lbs)

Operating conditions Temperature range -10ºC to +30ºC
Relative humidity 30% 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.