

## GL3800 Architects Specification

The console shall be an eight group, ten aux mixer with meterbridge, fully equipped for dual function operation using recessed switches for tamper-proof selection of operating mode between front-of-house and monitor mixing. Recording facilities shall be provided via channel direct outputs. Advanced facilities for multi-mode operation shall be provided to configure the M output as a centre/submix, LR mono sum or engineers listen wedge, and to reverse the aux outputs with masters on 100mm faders with inserts and balanced XLR outputs. Two patchable mic pre-amps shall be available for adding ambience feeds to in-ear monitor mixes or recording mixes created on matrices. The console shall be fully expandable using a balanced bussing system to enable mixers from the same manufacturer to be interconnected. The unit shall be available with 24, 32, 40 or 48 input channels, arranged in one of the following configurations: all mono inputs; 4 stereo channels to the right of the master section; 4 stereo channels on the right of the console or 8 stereo channels on the right of the console.

All external audio connections will be provided on metal-bodied jacks or Neutrik XLRs with gold-plated contacts. Fully differential balanced connections shall be provided on the group outputs (XLR), LRM outputs (XLR), all mic inputs (XLR), mono/stereo channel line inputs (TRS jack) and even-numbered stereo return inputs (TRS jack). Impedance-balanced connections shall be provided on TRS jack sockets for aux outputs, matrix outputs, monitor outputs and channel direct outputs. Mono channels shall handle a maximum input level of +34dBu. 100mm ultra smooth-travel dual rail faders providing up to +10dBu boost shall be provided on all input channels, group outputs, LRM outputs and shall be accompanied in each case by illuminated mute switches and illuminated PFL(inputs) or AFL (outputs) switches, along with 4-bar LED meters showing pre-fade (input channels) or post-fade (outputs) signal levels. All balance, pan and cut/boost rotary controls shall be centre-detented.

Rotary audio control potentiometers will be individually secured to the front panel using threaded nuts. Internal grounding will be based on a solid copper grounding strip. All formats will use an external linear power supply unit and allow simultaneous connection of two identical supplies to provide a redundant backup. The chassis shall include connections for gooseneck lamps.

Mono input channels shall each feature: mic inputs normalised through the line input connector; line/pad switch selecting between the two connectors or providing 20dB pad for the XLR input if the jack socket is unused; input gain continuously variable in the range +10dB to +60dB (mic) and -10dB to +40dB (line/padded mic); polarity reverse switch; +48V phantom power switch; 100Hz, 12dB/octave filter with in/out switch; 4-band parametric EQ with in/out switch. Mono channel EQs shall provide shelving HF and LF controls at 12kHz and 80Hz respectively and two sweepable mid-range controls, each with a Q of 1.8 and frequency sweeps in the range 500Hz to 15kHz (HM) and 35Hz to 1kHz (LM). Mono input channels shall also feature: 10 auxiliary sends with 1-8 on individual rotary controls, each having a maximum additional boost of +6dB and 9&10 configured as a stereo pair with level and pan control; three pre/post fade switches, one for aux sends 1-4, another for aux sends 5-6 and one for stereo send 9&10; pre-fade aux-sends sourced post-insert, post-EQ with recessed switch for changing to pre-EQ pre-insert; pre-EQ, pre-mute TRS insert point; PFL facility; signal meter; pan control for L(odd)/R(even) adjustment to main mix and groups; routing switches to LR, M, groups 1-2, 3-4, 5-6 and 7-8; channel fader; switches for assignment to mute groups 1-4.

Each stereo input shall feature: a mono microphone input with rotary gain control adjustable in the range +6dB to +60dB; stereo line input with rotary gain control in the range OFF to +16dB; +48V phantom power switch on mic input along with line/pad switch, polarity reverse switch and 100Hz 12dB/octave high pass filter with in/out switch; mic output jack normalised to channel, providing a break point for patching the mic pre-amp output into other inputs; four-band fixed-frequency

EQ with in/out switching. The EQ shall feature HF and LF shelving elements, set at 12kHz and 80Hz respectively and two mid bands centred at 250Hz and 2.5kHz. The channel shall also feature: 10 auxiliary sends on rotary controls, each featuring a maximum boost of +6dB; auxiliaries 1-8 fed in mono; auxes 9&10 fed respectively from the Left and Right input channels with level and balance controls provided; three pre/post fade switches, one for aux sends 1-4, another for aux sends 5-6 and one for send 9&10; balance control; mute switch for all aux sends and post fade signals; signal meter; four mute group assignment switches; signal meter; PFL switch; routing switches to LR mix, mono routing to the M buss and stereo routing to groups 1-2, 3-4, 5-6 and 7-8; channel fader.

Facility for four stereo return inputs shall be provided via two dedicated stereo return channels, each featuring two stereo line inputs. The first line input on each return shall be directly routable to the LR mix, using a recessed switch or used as an input to the return channel. Features shall be: rotary gain control in the range OFF to +16dB; normalling of each L input through the corresponding R input connector to enable use with mono sources; summed LR inputs feeding aux send controls for auxes 1 and 2; stereo aux 9-10 send on rotary controls; maximum +6dB boost on each aux send; aux sends sourced post fade with internal jumpers for configurations requiring pre-fade sends; mute switch affecting all signals except line inputs which are routed direct to the LR mix and PFL; PFL switch; 60mm fader with +10dB maximum boost; 'M' routing switch, routing inputs to the M mix in mono; a LR routing switch for routing the Left inputs to the Left mix and Right inputs to the Right mix; routing switches such that return channel 1-2 shall be routable to groups 1-2 and return channel 3-4 shall be routable to groups 3-4.

Auxiliary masters 1-8 shall be controlled using individual rotary potentiometers with +10dB maximum boost available and an illuminated after-fade listen (AFL) switch. A single rotary control shall be provided as a master for auxes 9&10 with +10dB maximum boost and an illuminated mute switch.

Each group master shall feature an individual pan control adjacent to a LR main mix routing switch and a M routing switch. A 4-LED meter shall provide indication of post-fade signal levels. A 100mm linear fader shall provide +10dB maximum boost and shall be accompanied by illuminated mute and AFL switches.

The LR and M masters shall each feature: output fader; mute switch, signal meter. The M output shall be operable as a dedicated mono mix or as a 'listen wedge' for AFL/PFL signals, determined by the status of a recessed mode switch in the master section. A 'LR to M' rotary control shall be provided to send a mono mix of the LR buss to the M buss.

Four matrix outputs shall be provided, each generated using a mix of groups 1-8, LR and M and an external input. Each matrix mix shall be created using rotary controls and an overall output level set using a rotary control with +6dB maximum boost. Illuminated Mute switches shall be provided on each matrix send. External inputs shall be normalled to allow a single mono or stereo source to feed all the matrices or individual connections to break the normalling, providing an independent source to each.

The default operating mode shall be front-of-house. Mode switches within the auxiliary master sections shall reverse connection and control of aux sends 1-8 with those of groups 1-8. Sends 9&10 shall reverse with LR. A mode switch for the M channel shall configure it as an engineers listen wedge in Monitor mode. In monitor mode, the matrix shall continue to be fed from the group and LR mix. The LR to M control shall continue to feed the LR mix to the M buss. Ambience feeds for in ear monitor mixes or recording mixes shall be available by directly patching stereo channel mic outputs to matrix external inputs.

A comprehensive console monitor section shall be provided, featuring 3 headphone sockets with rotary master level control. One of the outputs shall be on a 3.5mm

jack socket, the remainder on  $\frac{1}{4}$ " jack sockets. A bank of switches shall be provided to select the monitor source between M, LR, 2-track input, Matrix and aux 9-10. Matrix mixes shall be selectable as individual mono mixes or as stereo pairs, so that matrix 1 feeds the left channel and matrix 2 feeds the right, OR matrix 3 feeds the left channel and matrix 4 feeds the right. LED indication of AFL/PFL activity shall be provided. Twin 12-LED bargraph meters shall be provided to indicate the selected monitor signal, automatically switching to the AFL/PFL buss when in use. Talkback facilities shall be provided with destination being selectable using switches for M, LR, matrix 1-2, Matrix 3-4, Aux 1-2, Aux 3-4, Aux 5-8 and Aux 9-10. A rotary trim control shall enable adjustment of talkback levels and a momentary TALK button shall be used to activate the talkback to the selected destinations. A recessed switch shall be provided to make the TALK button latch. A signal generator shall be provided for test purposes, enabling routing of a tone or pink noise to destinations selected on the talkback routing section. Oscillator activation shall be achieved using a recessed switch with associated LED indicator and a rotary level control shall be provided. A dedicated 2-track replay input shall be provided with an illuminated switch for direct routing to the main LR mix. Master mute switches for the 4 mute groups shall be provided in the master section.

An integral meterbridge shall be provided enabling moving coil metering of fader master outputs, in addition to the LED signal meters next to the faders, for groups and LRM, or Auxes. The M meter shall be switched to show AFL/PFL signals when present and an LED indicator shall provide confirmation of AFL/PFL activity. LED illumination of moving coil meters shall be provided for longevity. An integral LED on each meter shall indicate signal within 5dB of clipping.

The Mixing Console shall be constructed using an extruded aluminium beam and steel panel frame in a compact footprint, designed for easy flightcasing. The channels shall use individual channel PCB's for ease of servicing.

The console dimensions and weight shall be published in product literature according to frame size.

The mixing console shall be the Allen & Heath GL3800.