

R U P E R T N E V E D E S I G N S



5088

Fully Discrete Analogue Mixer



Operations Manual

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Introduction Thank you for purchasing the all-new, 5088 Fully Discrete Analogue Mixer. We hope you enjoy using this tool as much as we have enjoyed designing and building it.

The 5088 is an elegant and pure design focused on delivering the highest possible sound quality to complex digital or analogue recording systems. Scalable from a straightforward 16-channel console of the highest quality to a comprehensive mixer capable of handling very complex tracking tasks, the 5088 offers timeless sound quality with an unmatched heritage.

Safety Guidelines It's usual to provide a list of "do's and don'ts" under this heading but mostly these amount to common sense issues. However, here are some reminders: The 5088 uses discrete, high-voltage, "Class A" amplifiers throughout. "Class A" is not efficient in terms of power utilization. We have placed sonic quality first in order of importance.

MAKE SURE CHANNEL AND GROUP MODULES ARE PLACED IN THEIR PROPER SLOTS, FAILURE TO DO SO COULD CAUSE SERIOUS DAMAGE TO THE MODULE!!!

The heat generated by the 5088 and the 5088's power supply is radiated through ventilation holes in the case work by convection as well as silent fans. These holes should not be covered or blocked or it may reduce component life and operating stability!

Don't operate your 5088 in or around water! Do not be tempted to place drinks on the 5088 as electronic equipment and liquids are not good friends. If any liquid is spilled, such as soda, coffee, or alcoholic beverage, the sugars and acids will have a very detrimental effect. Sugar crystals act like little rectifiers and can produce noise (crackles, etc.). SWITCH OFF IMMEDIATELY because once current starts to flow,

the mixture hardens (burnt toffee!) and can cause permanent and costly damage. If the 5088 gets wet and you suspect that good clean water may have gotten in, immediately unplug the unit, and remove it from the source of water. Please contact support as soon as possible at support@rupertneve.com for resolution.

Always power down the 5088 before removing group or channel modules!

Unpacking When you receive your 5088, remove the screws from the lid of the crate and slide the lid off the crate. Once open, inspect the insides for any apparent damage that may have occurred during transit. We have taken the utmost care in protecting the modules and chassis, but should there be any damage, notify your freight company to make a claim as soon as possible, and call our support line at 512-847-3013 so that we can make arrangements to replace any damaged components. Once inspected, carefully unpack the modules and lay them on a clean surface out of the way. Clear a space large enough for the chassis and have 2-3 people lift it out of the crate and place it down gently.

Standard Parts List

- 1 x 5088 Chassis
- 1 x 5088 Rack-mountable Autoswitching Power Supply
- 1 x DC Power Connection Cable
- 1 x 3-pin AC connection Cable
- 16 x 5088 Input Channel Modules
- 4 x 5088 Group Master Modules
- 1 x 5088 Monitor Master Module

Installing Modules

Before loading the chassis with modules, secure the chassis in its intended furniture. Once loaded, a 16

channel 5088 weighs approximately 256 pounds, so it is important to position it correctly beforehand. Unwrap each module from its packing material and slide them into their corresponding card slot. Input channels range from 1-16, group channels range from 17-20, and the monitor section fits in the remaining slot on the right as you face the front of the 5088. Once inserted into the correct card slot, turn the thumb screws at the top and bottom of each module clockwise to lock them into place.

Gaurding Against Interference

Large power supplies, power transformers, computer displays and many other devices can radiate large interference fields that may affect the 5088's performance. Although the 5088's circuitry is screened by steel and includes an external AC-DC power supply to reduce interference, it is not completely immune to EMI and RFI interference. If you are having issues with interference, it may be necessary to experiment with different locations for certain pieces of equipment. If these issues persist, please contact our support line so that we may help you troubleshoot the issue

Connecting Audio

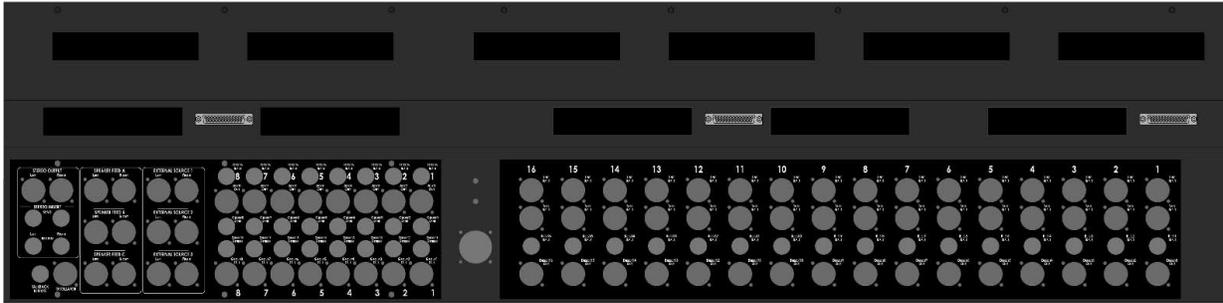
To connect audio to the 5088, we recommend you use only very high quality balanced cabling and connectors. The patch points on back plane may be connected directly to other sources and destinations, however we recommend that you have a professional integrate the 5088 with a patchbay to add convenience and avoid wear on the 5088's connection jacks.

Channel Strip Connections(per module): 2 x XLR-F, 1 x XLR-M, 1 x TRS

Group Channel Connections(per module): 6 x TRS, 2 x XLR-M

Master Monitor: 6 x XLR-in, 9 x XLR out, 5 x TRS

Back Panel



Connecting the Power Supply

The 4RU Power Supply included with the 5088 is capable of powering one 5088 master and one 16 channel expansion chassis. Additional 16 channel expansions may be added, but additional power will be required. Although the power supply is relatively quiet, we recommend that it be mounted in an adjacent machine room, with at least one empty space above and below it (**blocking the power supply vents could cause permanent damage!**).

Studio Configuration Recommendations

The 5088 may be incorporated into a recording system a number of ways. The simplest is to use a patchbay to route mic signals into the mic in of Portico or other external preamps and feed the output directly to the AD converters (if needed you may insert any processing modules you choose in between the two). Route each DA converter channel to its corresponding channel on the 5088 (assumingly latency is acceptably low) and create Stereo and cue mixes with channel and group controls for both tracking and mixing.

If you wish to add the 5088's sonic signature during tracking, or if latency performance isn't sufficient for cue mixes, route the connections from your preamplifiers to the "Line" inputs on the 5088. Next, send the direct out (selectable pre or post fader via an internal jumper) to the input of your AD-DA to record the signal through the 5088, using auxes and groups 1-8 to create cue and effects sends.

To monitor the "Tape" signal while tracking through the 5088, there are two options to choose from. If you have

a sufficient quantity of input modules, you may run the 5088 as a split desk with your mic signals on one side and individual tape returns on the other side.

If you are more limited in the total number of inputs, you can create grouped outputs inside your DAW and route them to the group master line inputs and FX line inputs for monitoring the “Tape” signal during tracking. During mixing, you can change the mixed group outputs in the DAW back into dedicated channel outputs to have the final mix run through the 5088’s mix architecture.

Cleaning Instructions

When cleaning the 5088, do not spray cleaning fluids directly onto the 5088! If you must use a cleaning solution, apply it directly to a lint free cloth and gently wipe the surfaces which need to be cleaned.

Returning Modules for Service

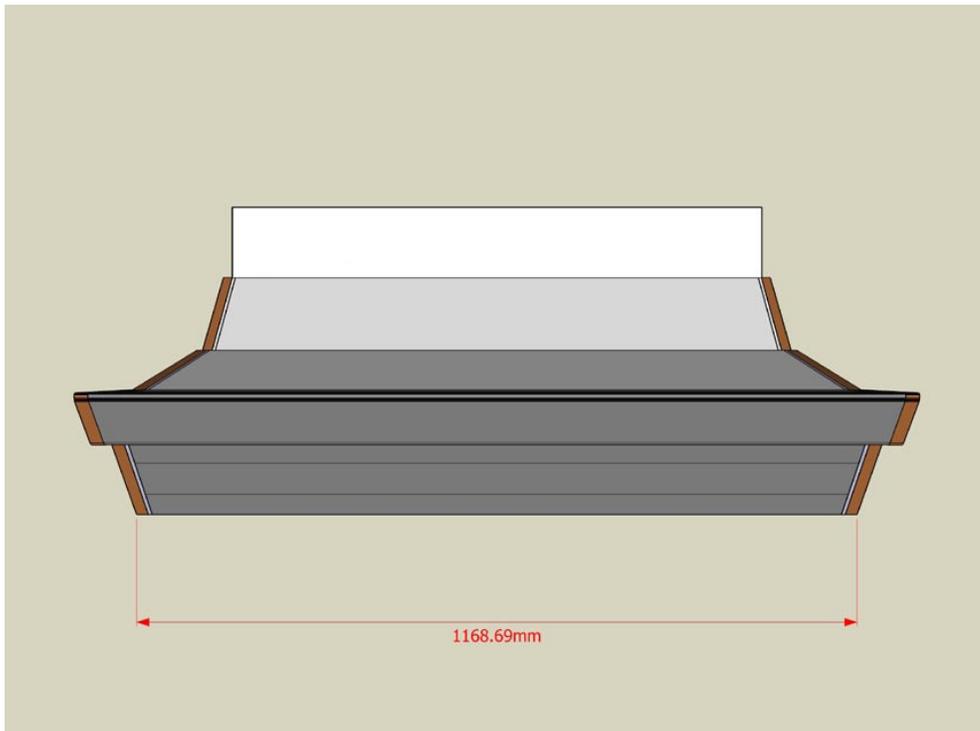
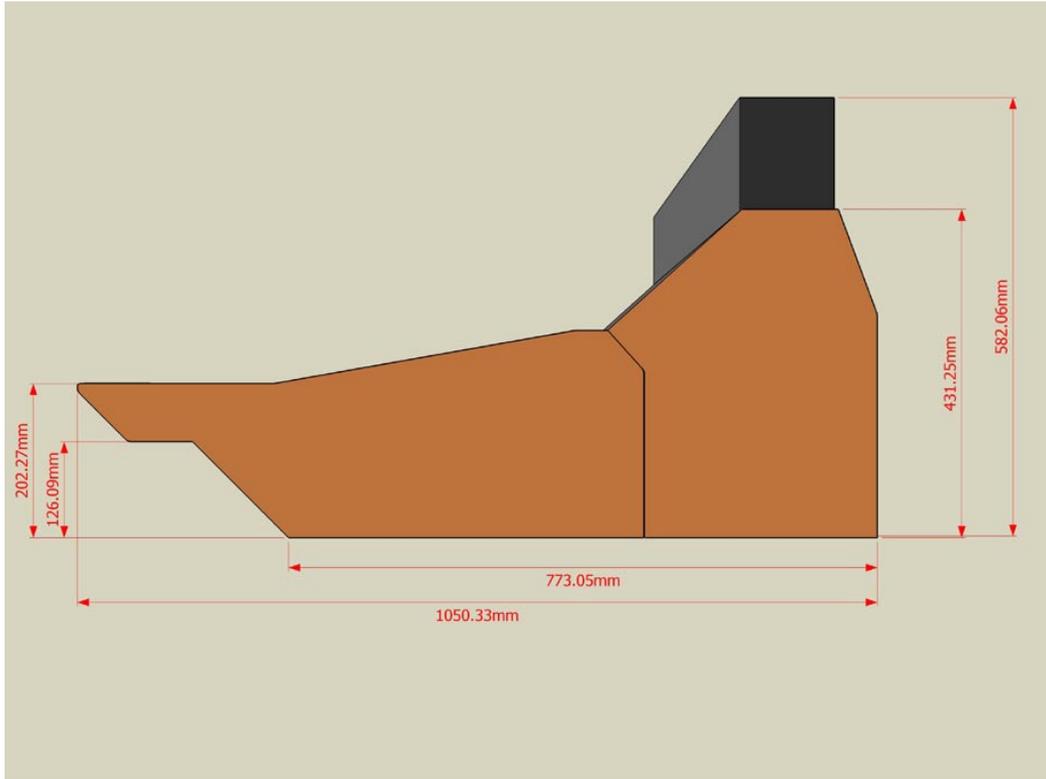
If you have a malfunctioning module that needs service, call 512-847-3013 or email support@rupertneve.com to arrange for an RMA and return shipping label once we have verified the issue that is occurring.

To remove a group or channel module, power down the 5088, disconnect the power supply, unlock the thumbscrews at the top and bottom of the module, and carefully slide the module out by pulling on the thumbscrews.

Make sure the module is very safely packaged for the return shipping, marked sensitive electronic equipment and drop the package off with the shipper indicated on the return label. Additional modules may be purchased to be used as spares in case one module needs to be serviced.

To remove the Master module, please call for assistance first!

Dimensions



Penthouse Assembly

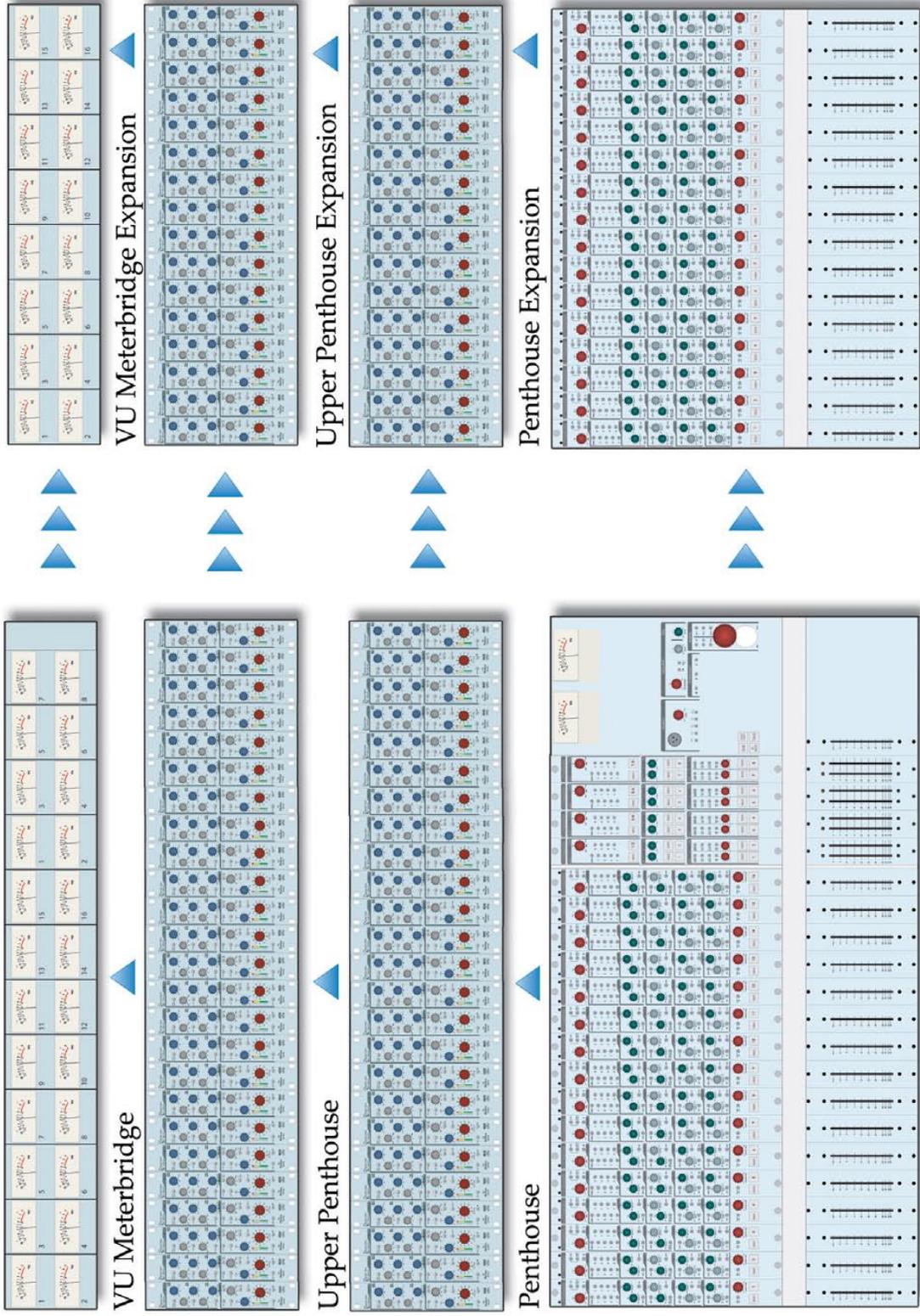
To join the penthouse to the 5088 Master, first power down the 5088 and unplug any cords or cables attached to the 5088. Second, remove the wood sides from both the penthouse and the 5088 by unscrewing the bolts that fasten them into the metal work. Next, slide the penthouse together with the 5088 such that the screw holes between the penthouse and the 5088 chassis align. Last, use the supplied screws to lock the penthouse to the 5088 master on both sides.



Meterbridge Assembly

The Meterbridge can be locked into either a penthouse or a 5088 master. To attach or unattach a meterbridge from a penthouse, the first step is to remove the front face. To remove the front face, carefully remove the 10 screws on the front and have a second person support the front face so that the internal wiring isn't strained.

The screws that tie into the penthouse are located on each side of the meterbridge on the inside. Once the screws that connect the meterbridge to the penthouse are secured, the front face can be replaced and screwed in. Once Attached to the frame, plug in both the meterbridge power supply and the ribbon cables that connect it to the 5088.

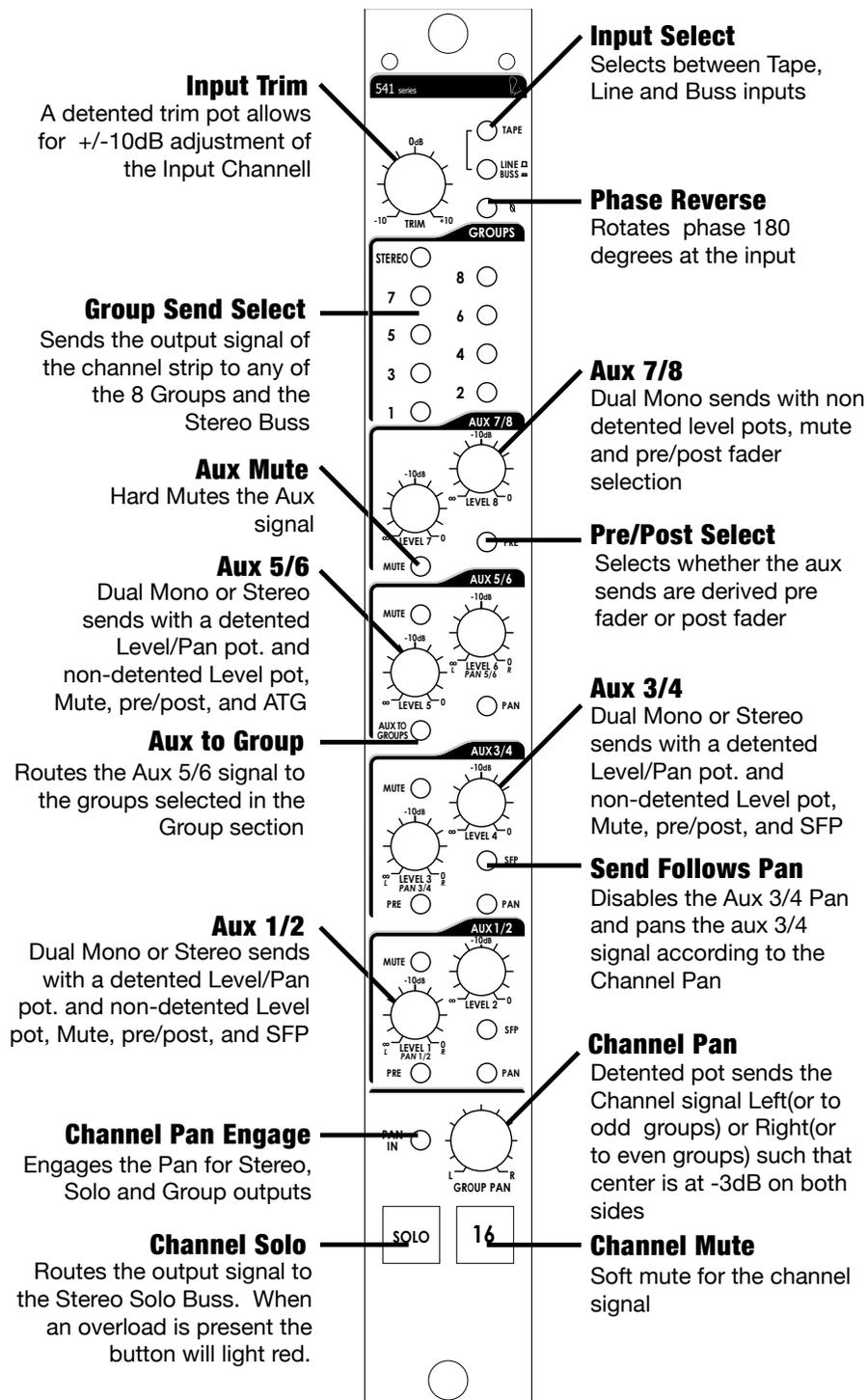


5088 Master

Sixteen Channel Expansion Chassis

Configuration Guide

Channel Strip



Channel Strip

At the top of each channel strip, push-buttons are provided to select transformer coupled line, Portico buss and tape inputs. A trim pot provides adjustment of the selected input by +/- 10dB and there is also a phase reverse push-button.

Each module in the Portico series includes rear panel TRS connectors and a front panel TO BUSS push-button that together allow multiple devices to be daisy-chained together and combined on a single buss to form a multi-processor audio path that might include, for example, a mic preamp, an equalizer and a compressor. Such a signal chain may be wired into the 5088 via the buss input connector and selected on each respective channel strip.

This input flexibility allows the 5088 to be custom configured and wired to suit the individual studio workflow. Wiring directly to these connectors and selecting the appropriate input on the channel strip switches can eliminate re-patching for each application. For example, a Portico Series mic preamp could be normalled to the buss or line input connectors for vocal and acoustic instrument tracking, a series of Portico dynamics processors could be wired into each of the line inputs for electronic instrument tracking or processing external mic preamps, and the outputs from the DAW could be normalled to the tape input connectors for monitoring and mixing.

Nine push-buttons provide buss assignment of the channel input signal to any of eight subgroup modules and the stereo output. The pan pot at the bottom of the channel, has an associated IN switch and effects the stereo and group buss output panning.

The eight auxiliary sends come in three different configurations:

Aux 7/8, farthest from the operator, comprises two separate level controls with an associated mute switch. A switch also selects the sends to be pre-fader (and before the soft mute) rather than the default, which is

post-fader.

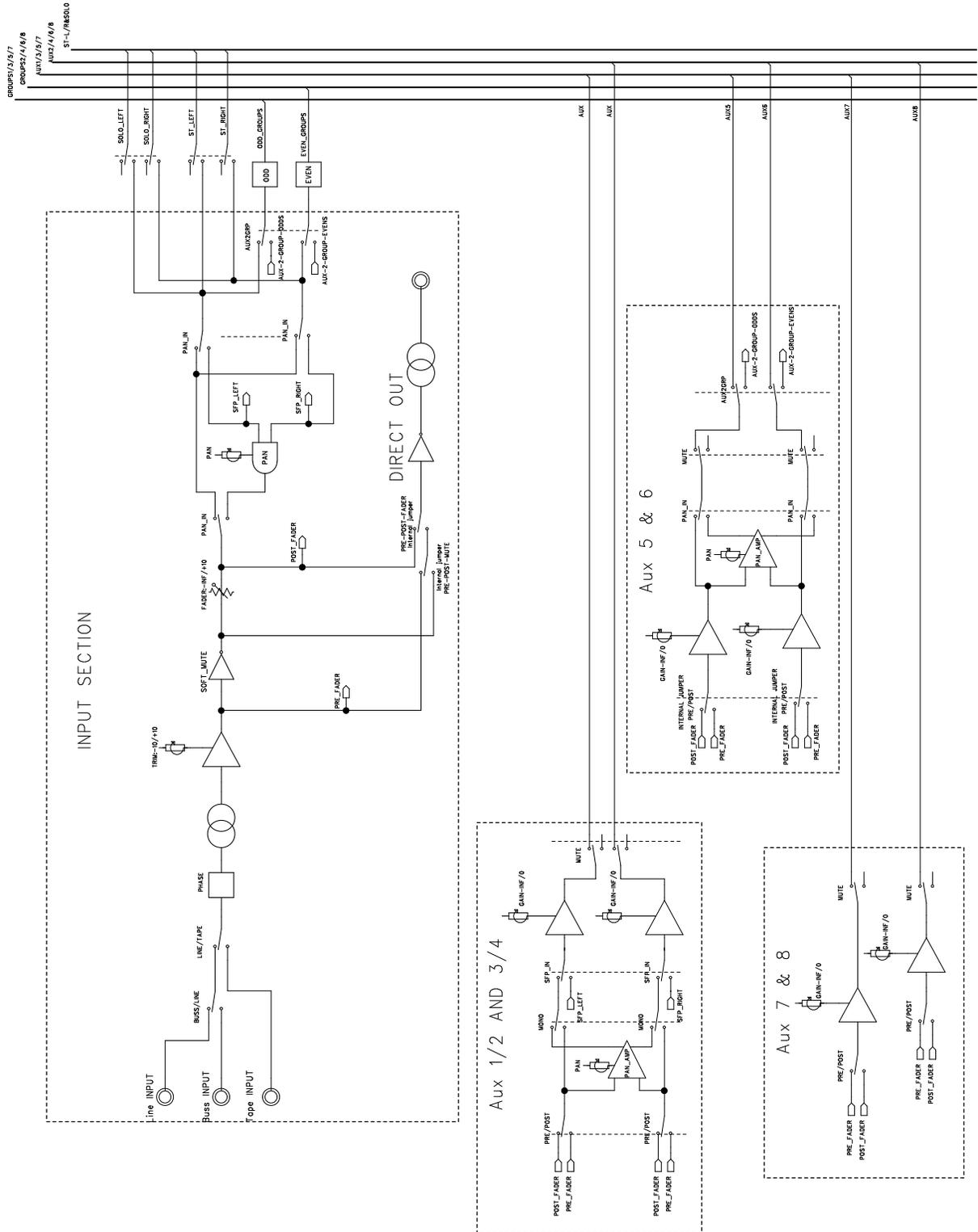
Aux 5/6 offers dual mono or stereo operation. In the default condition the aux 5/6, is a dual mono send. When the PAN switch is pressed aux 6 becomes a pan control. There is a MUTE switch and an AUX TO GROUP switch. When engaged, AUX TO GROUP routes aux 5/6 to the selected subgroup busses instead of aux 5/6, which allows sub mixes to be created across any of the 8 Group Busses.

Aux 3/4 and aux 1/2 are identical pairs. Similar to aux 5/6, the odd numbered pot has a center detent and serves as either a pan or level control according to the position of the associated PAN switch. There is also a mute switch and a pre-/post-fader switch. Selecting SFP -- send follows pan -- derives the aux signal after the channel pan pot, which is especially useful for quickly creating cue and stereo reverb sends. For SFP to work, the send must be post fader and the pan button must be pushed in the channel aux using SFP.

Each input channel also has a 100mm fader as well as a pan control, and large, illuminated, latching buttons for soft mute and solo which lights red when a signal overload occurs.

Each input channel has a transformer coupled direct output on an XLR connector. By default, the direct output is post-fader and after the soft mute, but can be selected pre-fader/ pre-mute, pre-fader / post-mute, or post-fasder / pre-mute via an internal jumper.

Channel Strip Block Diagram

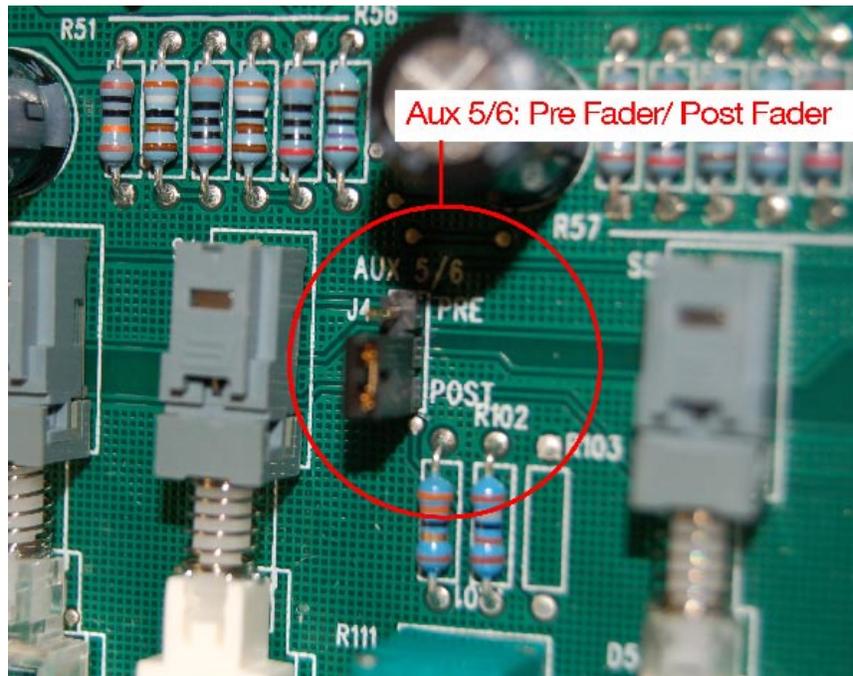


Channel Strip Jumpers

The 5088 channel strip has two sets of jumpers that can be changed to alter the functionality of Aux 5/6 and the direct out. When changing jumpers, make sure that the 5088 is turned off before removing or lifting modules out. To move the jumpers, carefully grab them with your fingers or a small set of pliers.

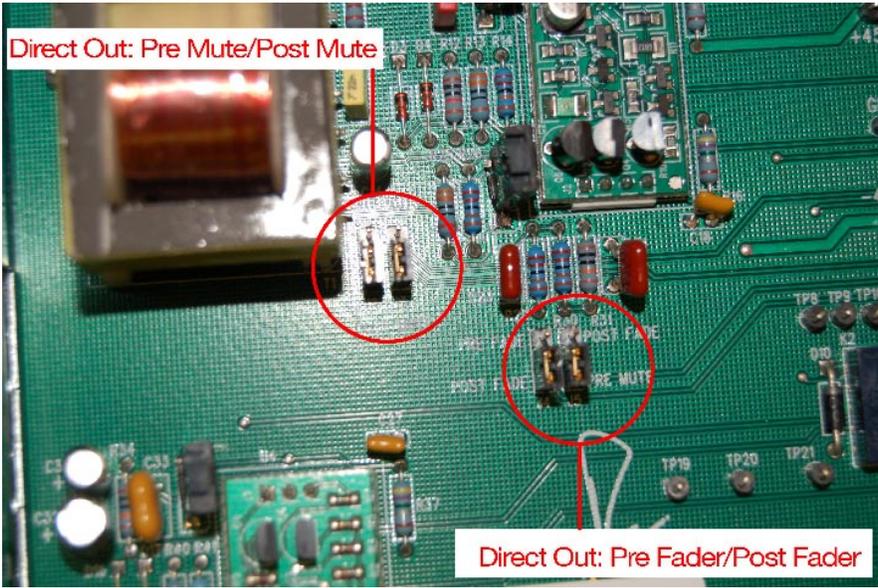
AUX 5/6: Pre fader/ Post fader

The aux 5/6 jumper is located on the upper(daughter) card next to the Aux 5/6 send. By default, Aux 5/6 is a post fader send. The jumper on each channel must be moved to the pre position on each individual channel strip.

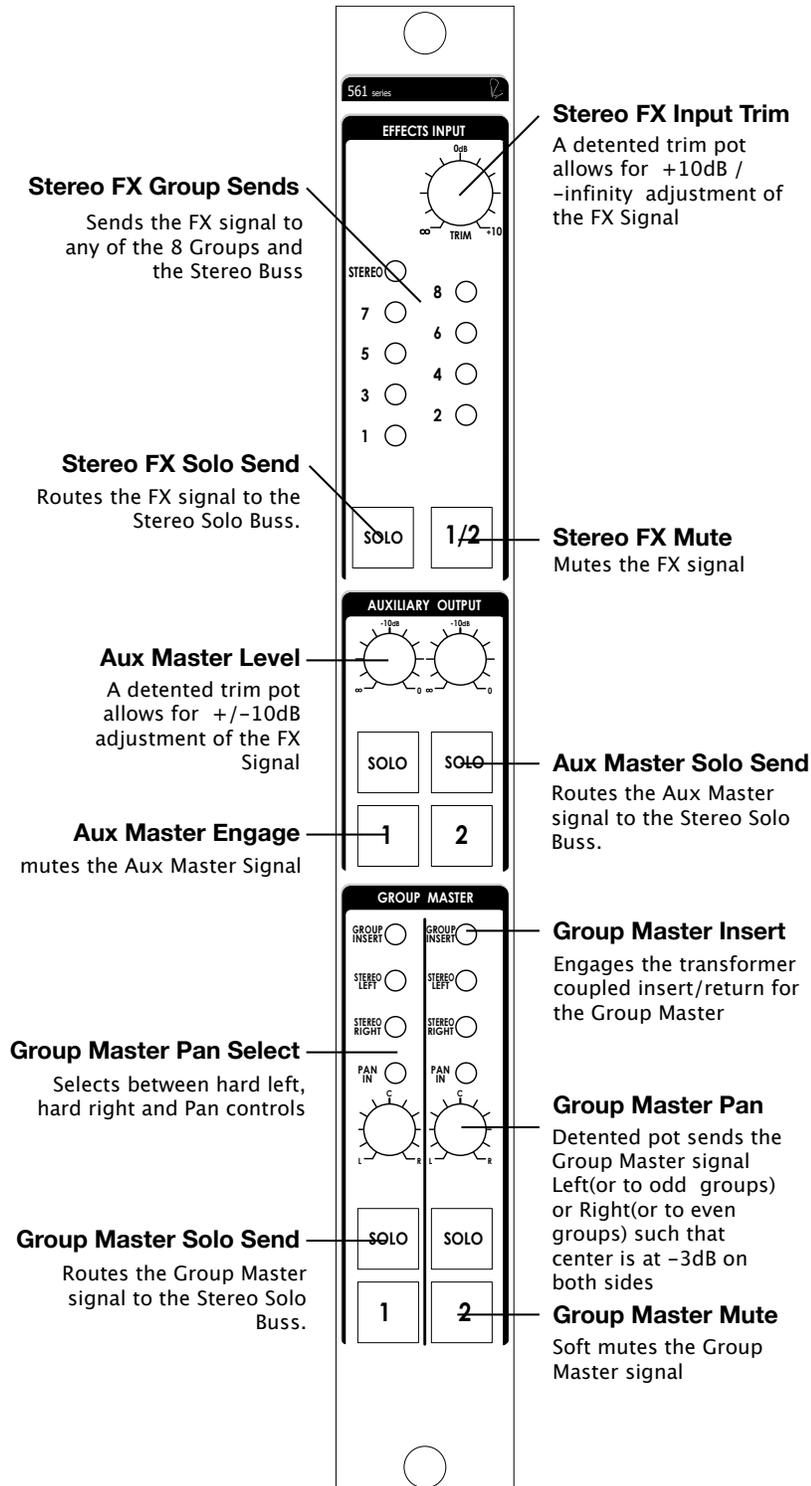


Direct Out: Pre Fader/ Post Fader & Pre Mute / Post Mute

The channel strip's transformer coupled direct output is set to Post Fader & Post Mute by default, however two jumpers allow the direct output to be changed to Pre Fader and Pre Mute. The jumpers are located in the bottom corner of the mother board.



Group Channel



Group Channel

There is a stereo effects return on each of the four dual-group modules. Each features a level control, individual switch assignment to the 8 group busses plus the stereo buss, and large, illuminated, latching buttons for solo and a soft mute. The solo button lights green when pressed.

Since each stereo effects return features two transformer coupled line inputs on TRS connectors, these can alternatively be used as simple input channels when routed directly to their corresponding buss.

The middle half of each subgroup module incorporates a pair of auxiliary master outputs, accessed on the rear of the 5088 via transformer coupled XLR connectors. Each of the 8 auxiliary masters features level control, a large, illuminated, latching button for solo and a large, illuminated, latching button for the hard mute.

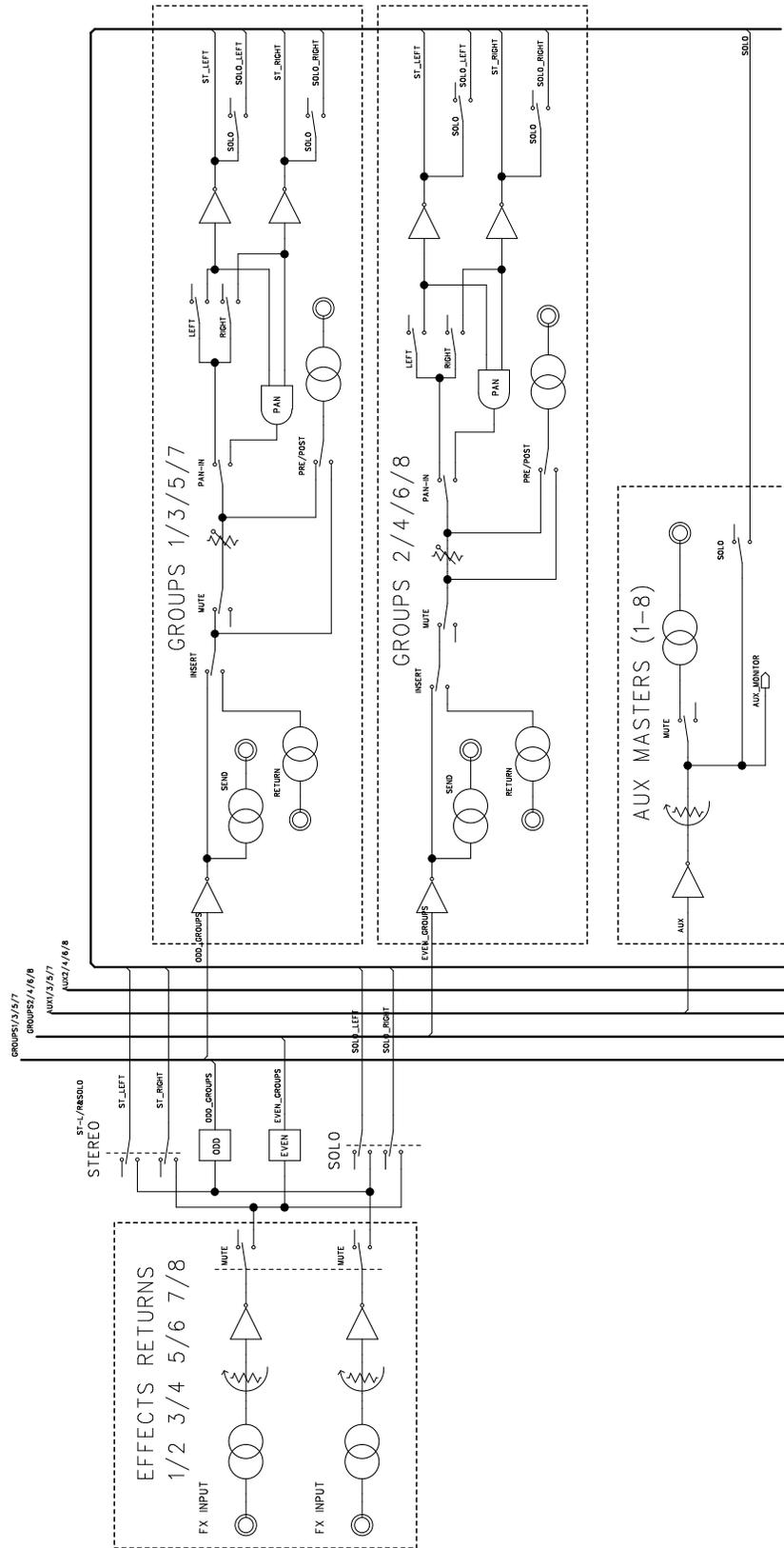
Each group module is completed by a set of group master output controls, including panning and assignment to the stereo buss, plus an INSERT switch. Pressing INSERT brings the insert send (which is always active) and the insert return, which are both available on the rear of the 5088 on transformer coupled TRS connectors, into the group signal path.

Engaging the group master PAN button sends signal to the left and right busses with the balance determined by the position of the pan control. Each group output also includes a LEFT and a RIGHT button that, when pressed, disengages the panning control and sends the signal directly to the respective left or right stereo buss.

Each group master includes large, illuminated, latching buttons for solo and a soft mute. The solo button lights green when pressed. A 100mm fader is provided for group level control to the stereo buss.

A group direct output is also available at a transformer coupled XLR. By default the group direct output is post-fader and after the soft mute.

5088-561 GROUP MODULE

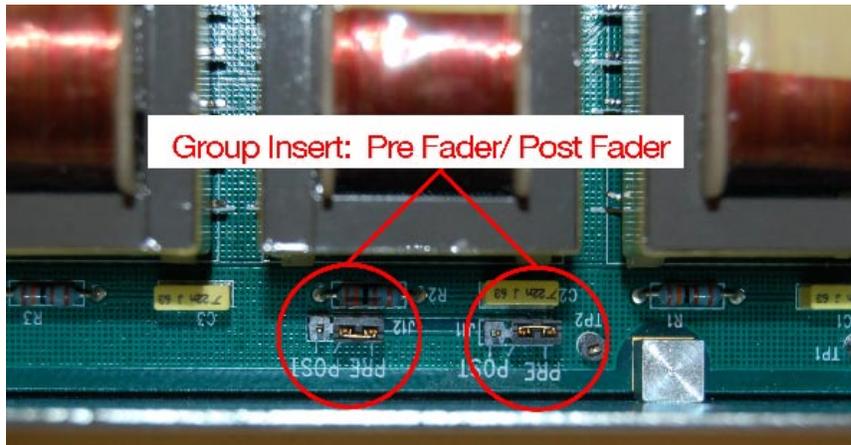


Group Channel Jumpers

Group modules have three sets of Jumpers.

Insert Output: Pre Fader / Post Fader
Group Direct Output: Pre Fader / Post Fader

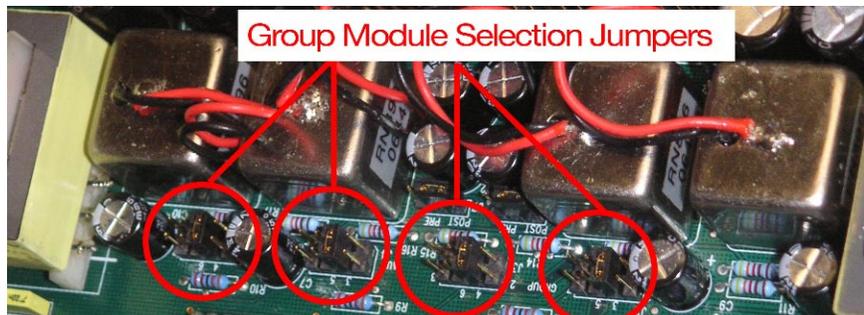
At the top and bottom of the group module mother board, there are pairs of jumpers that change the Group Insert L & R(top of module) and Group Direct Output L & R(bottom of module) behind the output transformers.



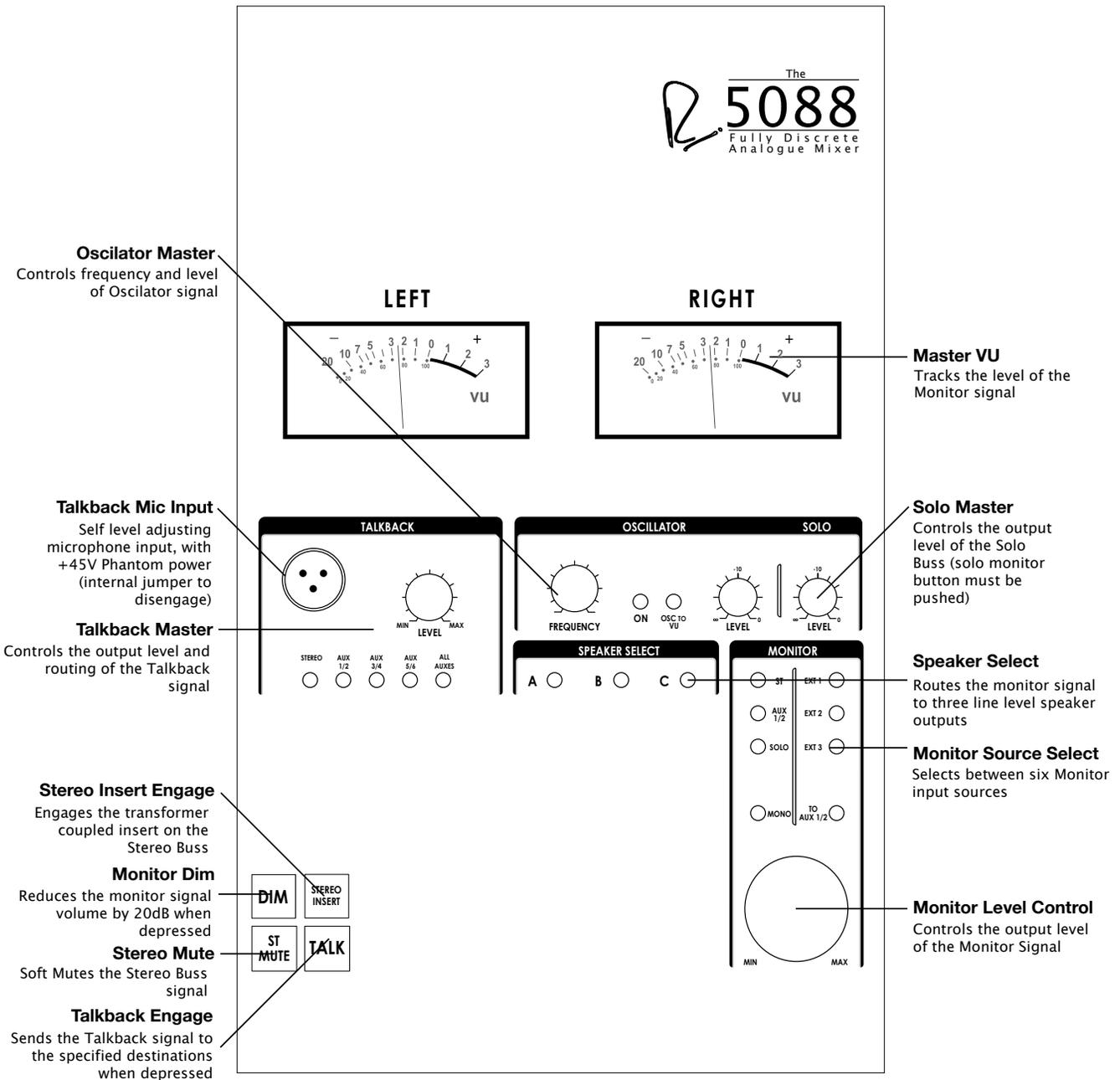
Group Module: Group Selector

The group buss that a group module receives is decided by the position of the module's group buss selectors(i.e. if group module 1-2 is moved to the slot for 3-4, the module will still be receiving group 1-2 unless the group selector jumpers are changed)

To change which group buss is selected, there are 4 jumpers that must be changed. Each of the 4 jumpers has four different positions labeled either 1,3,5,7 or 2,4,6,8.



Monitor Section



Monitor Section

There is a single, stereo 100mm fader to adjust the level of the stereo buss, with a large, illuminated, latching soft mute button. The left and right stereo buss outputs are available on the rear of the 5088 on transformer coupled XLR connectors. A pair of full size VU meters follows the Stereo signal level.

An illuminated STEREO INSERT button engages the left and right insert sends and return, which are available on the rear of the 5088 on separate transformer coupled TRS connectors. The inserts are pre-fader/mute, and the sends are always on.

An onboard oscillator outputs to a rear panel XLR connector and is activated by a front panel switch. When Oscillator to VU is pressed, the right VU cuts out and the left VU is used to calibrate the level of the oscillator with the +/- 10dB trim control. To calibrate individual meters, patch the oscillator output to each individual channel inputs and route the channel signal to the group busses. The oscillator also has a switch for selection of six frequencies: 20Hz, 100Hz, 440Hz, 1kHz, 10kHz and 20kHz.

Three switches, designated A, B and C, route the monitor selection to one of three pairs of loudspeaker outputs on transformer coupled XLR connectors. A large, high quality pot controls the monitor output level, and an associated large, illuminated, latching DIM pushbutton reduces the monitor output level by 20dB. A front panel XLR connector provides a self level adjusting microphone input for talkback, with phantom power (which may be disengaged at the internal jumper).

The talkback master section includes mic input level control, a momentary push-to-talk button (non-illuminating), and destination switches that route the talkback mic signal to AUX 1/2, AUX 3/4, AUX 5/6, ALL AUXES, and the MAIN stereo buss (slate).

Six relay-interconnected switches provide monitor

source selection. Sources include the stereo buss, solo buss, Aux 1/2, EXT 1, EXT 2, and EXT 3, which each route the signals wired to an associated pair of transformer coupled XLR connectors on the rear panel to the selected monitor speakers.

A MONO switch sums the selected stereo monitor signal for phase confirmation. The TO AUX 1/2 switch routes the selected source to the outputs of auxiliary sends 1 and 2.

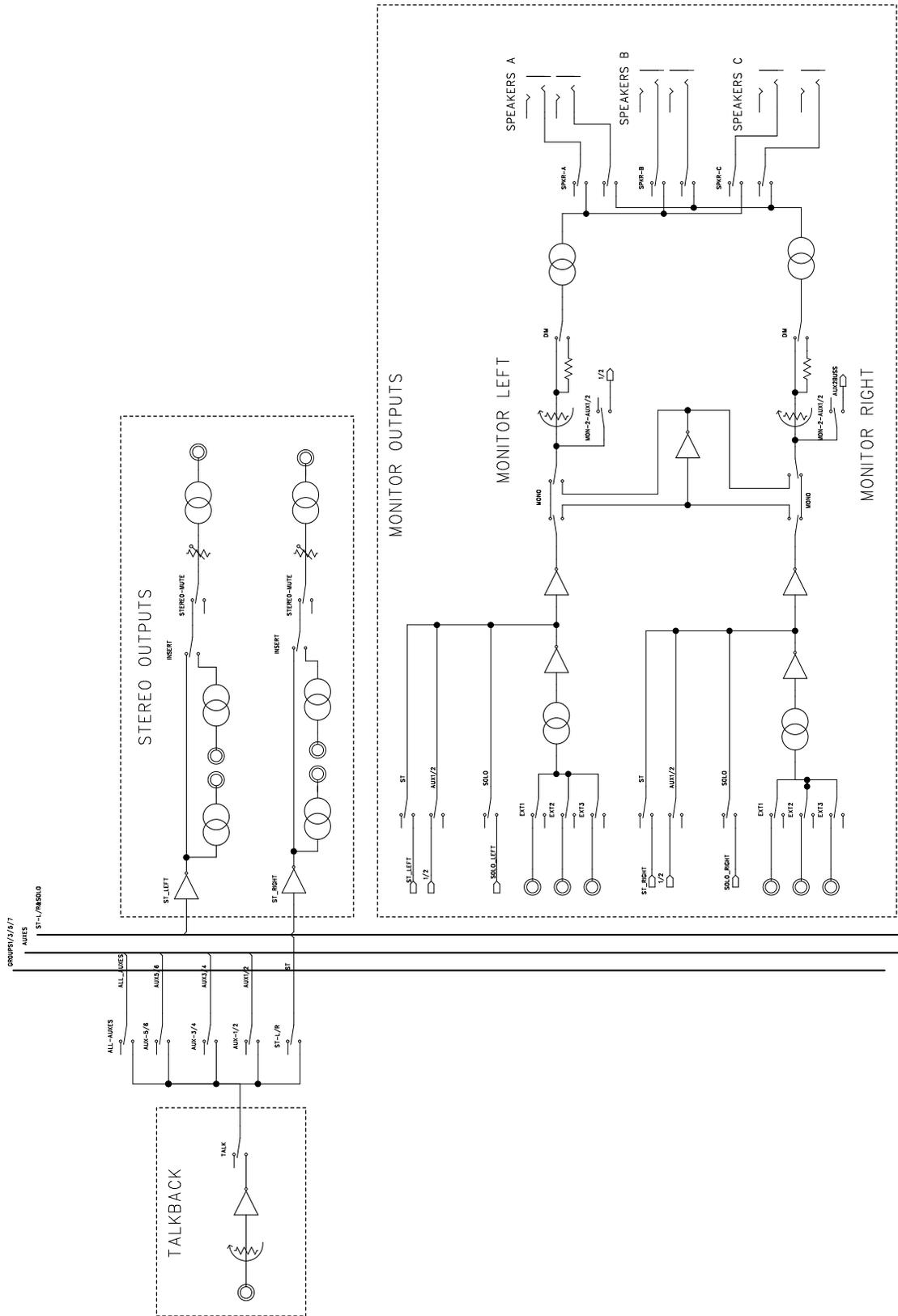
VU Meterbridge

The VU meter bridge has 24 independent VU meters for monitoring The channel and group module signals.

The channel section meters can be toggled to read pre fader, post fader and direct outs using the push buttons on the right hand side.

The group section meters can be toggled to read FX returns, group send and group output.

5088-661 MASTER/MONITOR SECTION

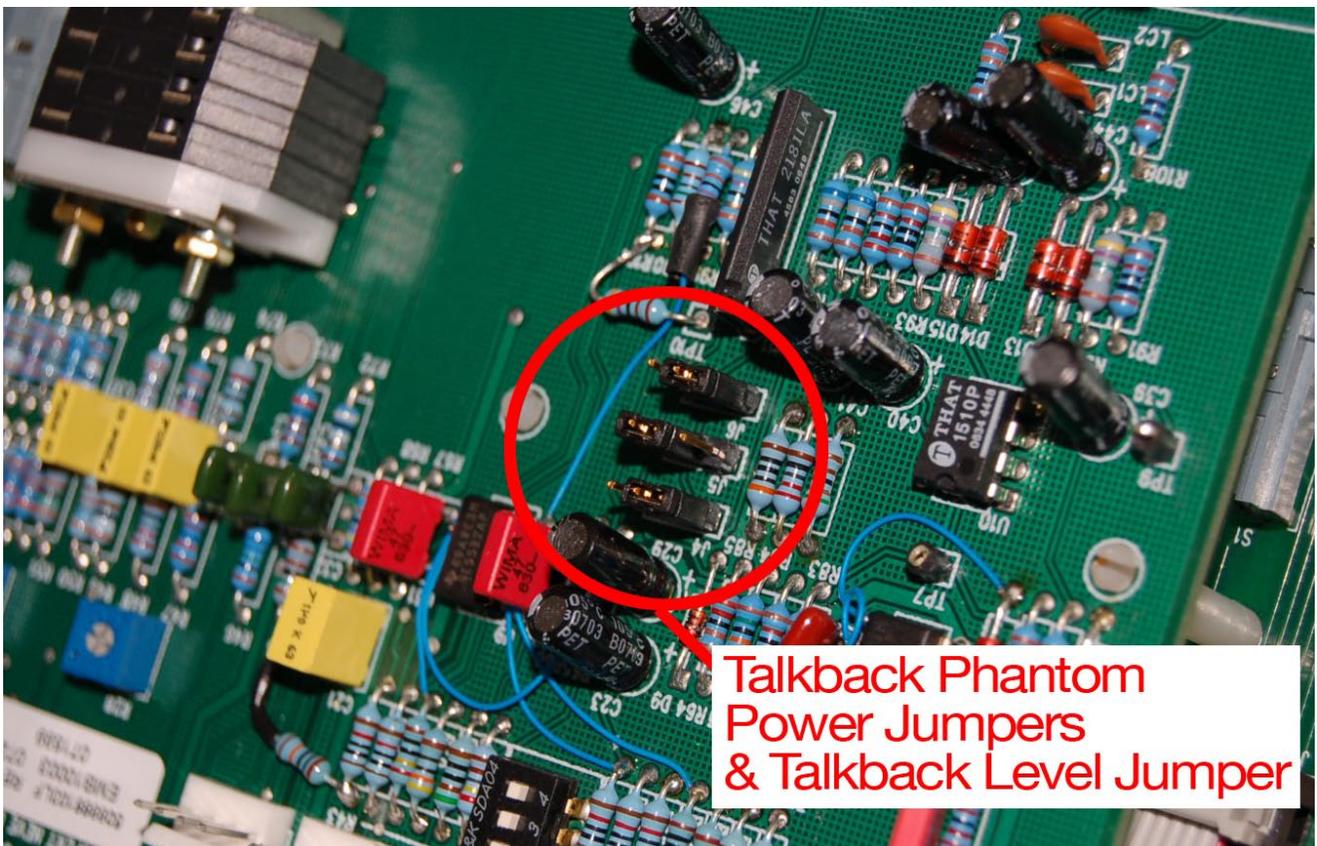


Monitor Section Jumpers

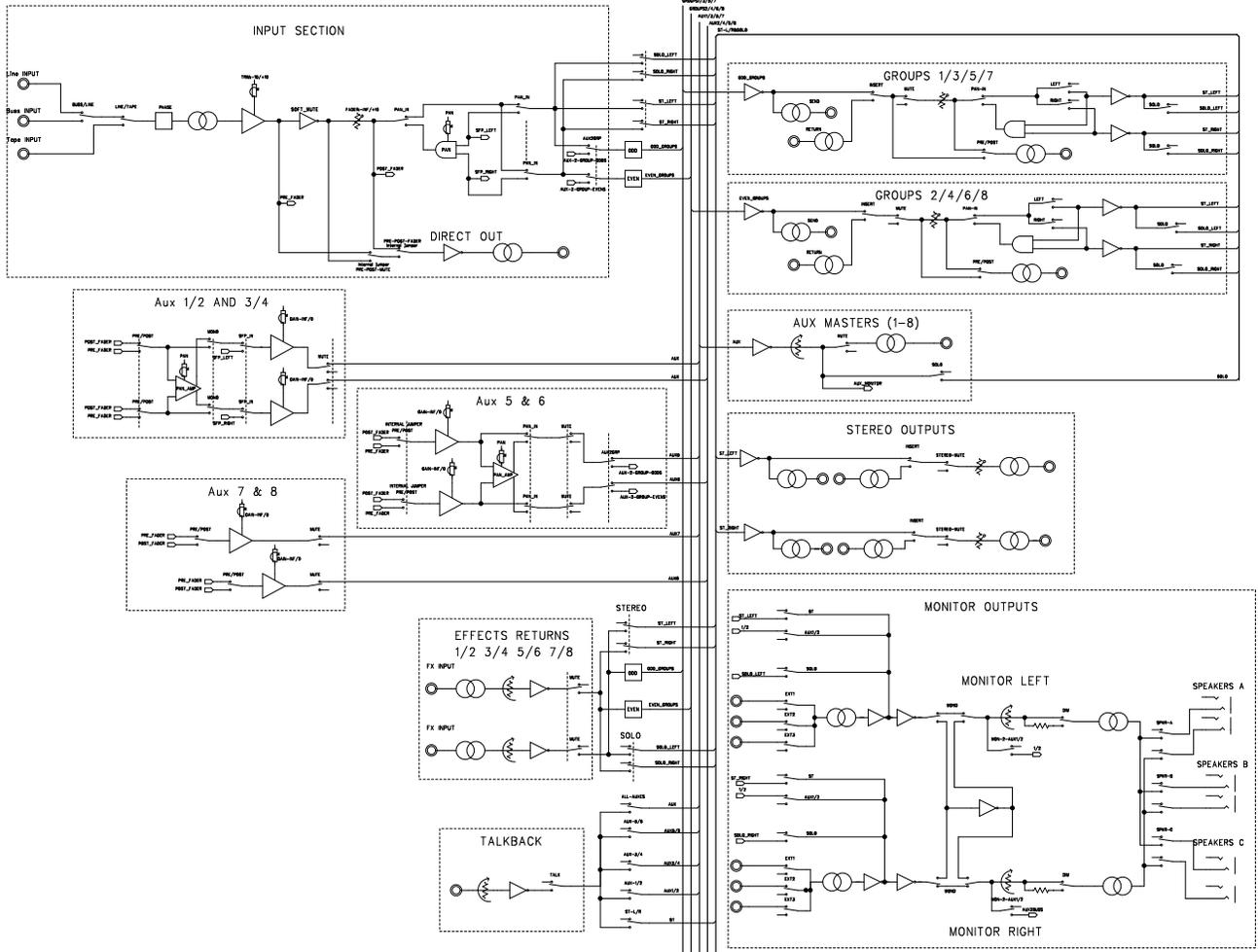
The only jumpers on the Monitor section control phantom power (two jumpers) and gain amount (one jumper) for the talkback mic.

To change the jumpers on the master section, power down the 5088 and remove the three adjacent Group Modules. Instead of completely removing the monitor section entirely from the frame and disconnecting the buss cables, carefully pull the monitor section up so that you can rest the back of the monitor section on the back of the frame, and the bottom of the monitor section on the front of the frame.

The three jumpers are located together on the board that connects to the talkback section on the front faceplate. The two outside jumpers (J4 and J6) turn on the phantom power when in the default position (under the Jumper labels). The Jumper that controls the gain level is in the middle (J5). The default (under the J5 label) position is +10dB and the other position is +30dB.



5088 COMPLETE BLOCK DIAGRAM



Limited Warranty

Rupert Neve Designs warrants this product to be free from defects in materials and workmanship for a period of one (1) year from date of purchase, and agrees to remedy any defect identified within such one year period by, at our option, repairing, or replacing the product.

Limitations and Exclusions

This warranty does not apply to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, or which has been altered or modified in any way. This warranty is extended to the original end user purchaser only. A purchase receipt or other satisfactory proof of date of original purchase is required before any warranty service will be performed.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED TO THE EXTENT ALLOWED UNDER APPLICABLE STATE LAW. IN NO EVENT SHALL RUPERT NEVE DESIGNS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT.

Some states do not allow the exclusion or limitation of consequential damages or limitations on how long an implied warranty lasts, so this exclusion may not apply to you.

Warranty Service

If you suspect a defect in your device, you must first call us at 512-847-3013, or e-mail us using our online support form. It is possible that a suspected defect could be due to a faulty cable or connector, improper setup, or some other factor not involving the unit itself.

If it is determined that your unit may be defective, we will issue a return material authorization number and we will send you a pre-paid shipping label for return shipping.

These terms and conditions are subject to change without notice.

Contact Details:

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