ALPHA 100

OPERATORS MANUAL (Product V1.19)
Issue 7

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Whilst the Company ensures that all details in this document are correct at the time of publication, we reserve the right to alter specifications & equipment without notice. Any changes we make will be reflected in subsequent issues of this document. The latest version will be available upon request.

This publication is for International usage.

Please complete and return the User Registration page at the end of this manual.

Please observe the following:-

After Sales Modifications.

Modifications to this equipment by any party other than Calrec Audio Limited may invalidate EMC and safety features designed into this equipment. Calrec Audio Limited can not be liable for any legal proceedings or problems that may arise relating to such modifications.

If in doubt, please contact Calrec Audio Limited for guidance prior to commencing any such work.

ESD (Static) Handling Procedures.

In its completed form, this equipment has been designed to have a high level of immunity to static discharges. However, when handling individual boards and panels, many highly static sensitive parts are exposed. In order to protect these devices from damage and to protect your warranty, please observe static handling procedures, for example, use an appropriately grounded anti-static wrist band. Calrec will supply an electrostatic cord and wrist strap with all of it's digital products.

All modules and cards should be returned to Calrec Audio Limited in anti-static wrapping. Calrec Audio Limited can supply these items upon request, should you require assistance.

This applies particularly to digital products due to the types of devices and very small geometries used in their fabrication, analogue parts can however still be affected.

IMPORTANT HEALTH AND SAFETY INFORMATION

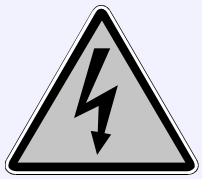
- **This equipment must be EARTHED.**
- **Only suitably trained personnel should service this equipment.**
- **Please read and take note of all warning and informative labels.**
- **Before starting any servicing operation, this equipment must be isolated from the AC supply (mains).**
- **Fuses should only be replaced with ones of the same type and rating as that indicated.**
- **Operate only in a clean, dry and pollutant-free environment.**
- **Do not operate in an explosive atmosphere.**
- **Do not allow any liquid or solid objects to enter the equipment. Should this accidentally occur then immediately switch off the unit and contact your service agent.**
- **Do not allow ventilation slots to be blocked.**
- **Do not leave the equipment powered up with the dust cover fitted.**
- **The rack mounting parts of this equipment must be fitted into an enclosure which complies with local regulations.**

Cleaning

For cleaning the front panels of the equipment we recommend anti-static screen cleaner sprayed onto a soft cloth to dampen it only.

Explanation of Warning Symbols

The triangular warning symbols below contain a black symbol on a yellow background, surrounded by a black border.



The lightning flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of dangerous voltages and energy levels within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock or injury.

The exclamation mark within an equilateral triangle is intended to prompt the user to refer to important operating or maintenance (servicing) instructions in the documentation supplied with the product.

POWER SUPPLY BLANKING PLATES (ZN4849-3 and ZN6020)

If you are in receipt of a ZN4849-3 or ZN6020 power supply unit please do not remove the blanking plates which are fitted to the unused output connectors. The maximum potential between the terminals exceeds 60 volts, the blanking plates are fitted to avoid the risk of electric shock.

CONTENTS

Continued...

TECHNICAL CUSTOMER SUPPORT

Should you require any technical assistance with your Calrec product then please contact your local distributor, if outside the U.K. and Ireland. For a list of Worldwide distributors please see the Calrec Web site at www.calrec.com or contact Calrec UK.
If you do not have a local distributor, then please contact Calrec UK.

For Technical assistance within the UK and Ireland, please contact a member of the Calrec Customer Support Team at :-

Customer Support
Calrec Audio Ltd
Nutclough Mill
Hebden Bridge
HX7 8EZ
England
UK

Tel: +44 (0) 1422 842159
Fax: +44 (0) 1422 845244
Email: support@calrec.com
Website: www.calrec.com

We can deal with all technical after sales issues, such as :-

- Arrange repairs
- Supply of replacement or loan units while repairs are being carried out
- Service / commissioning site visits
- Operational training courses
- Maintenance training courses
- Supply of replacement components
- Supply of documentation
- Technical advice by telephone

If you have any other issues regarding your Calrec purchase, then please contact us and we will do our best to help. Calrec welcomes all Customer feedback.

Stephen Brant
Senior Customer Support Engineer

PRODUCT WARRANTY

A full list of our conditions & warranties relating to Goods & Services is contained in the Company's standard 'Terms & Conditions'. A copy of this is available on request.

CUSTOMER SUPPORT HOURS

Factory based customer support engineers can be contacted by telephone during normal office hours, or outside hours, a message can be left on the answering machine.
All messages are dealt with promptly on the next working day. Alternatively a message can be sent to them by email at: support@calrec.com

REPAIRS

If you need to return goods to Calrec, for whatever reason, please contact the Company beforehand in order that you can receive advice on the best method of returning the goods & that a repair order reference number can be issued.

STANDARD OF SERVICE

Ensuring high standards is a priority & if you have any comments on the level of service, product quality or documentation offered to you by Calrec, then the Customer Support team would be pleased to receive your comments through any of the normal contact numbers, the email address listed earlier or on the User registration form located at the end of this manual.

Overview

INTRODUCTION

The Alpha 100 is a large format digital console designed for the most critical broadcast production and on-air applications. It is a no-compromise design that provides comprehensive features and functionality with sophisticated failure protection systems. The Alpha 100 represents a milestone in digital audio mixing console systems as it offers the reliability associated with analogue technology but with the flexibility of an all-digital system.

The Alpha 100 is the result of over 30 years experience in broadcast console design and is the third generation of Calrec consoles to feature a digital control surface and computer-aided memory system. The introduction of digitally controlled assignable systems in 1980 has allowed for their ergonomics to be continuously refined by user input and the Alpha 100 reflects this in its user interface. In contrast to many other designs, the flexibility offered by digital control has been harnessed to provide greater functionality and ease of use.

Calrec has a world-wide customer base which includes many of the world's most prestigious broadcasters. By consistently focusing upon purely broadcast products, Calrec offers consoles with the most comprehensive combination of performance and features available. The high level of reliability of all Calrec products, many of which are still in daily use after 20 years service, reflects a clear awareness of the critical nature of the operating environment.

This understanding of the real issues of broadcast operations is one of the many reasons why operators and management alike prefer Calrec. The Alpha 100 is designed to ensure this level of confidence will continue in the digital era.

ISO 9001 AND RAB REGISTERED

Calrec Audio Ltd has been issued the ISO9001: 2000 standard by the Governing Board of ISOQAR.

The award, for both UKAS and RAB registration, is the most comprehensive of the ISO9000 international standards. Granted in recognition of excellence across design, development, manufacture and after-sales support, the certification follows a rigorous and thorough review of Calrec's internal and external communication and business procedures.

PRINCIPAL FEATURES

Format

Up to 96 faders, with A & B layers of control, plus 4 dedicated main output faders.
226 equivalent channels: Up to 96 stereo or mono channels plus 34 mono channels.
Comprehensive surround panning and monitoring with optional motorised joystick.
Input Delay and control panel option.
Optional I/O expansion via a wide area interface such as MADI or Hydra, Calrec's sophisticated audio networking system.

Channel / Group Facilities

All channels have 4-band EQ, 2-band Filters, Compressor/Limiter and Expander/Gate.
All groups have Compressor and Expander/Gate.
Up to 20 auxiliary outputs which can be 20 mono or 10 stereo.
There is a pool of assignable inserts and a pool of direct outputs for channels and groups.
Pre configured inserts are assignable to any channel or group.
Direct outputs can be from pre EQ, pre fader, or post fader.
Every direct output can be a mix minus feed.
All faders are motorised and touch-sensitive.
A centrally assigned fader allows control of any fader from the optimum listening position.

Routing

8 stereo or mono audio groups.
Additional VCA style grouping system.
Up to 48 outputs for multi-track or general purpose feeds.
Tracks can be fed from pre EQ, pre fader, post fader or mix minus.
4 main stereo or 5.1 surround outputs with Compressors.
Simultaneous LCRS, stereo and mono outputs available from each 5.1 main output.
Every channel can route to every bus, at the same time, without restrictions.
Direct input available to group, mains, aux and mix-minus busses.

System

On board Flash ROM memory system offers 99 memories.
PC backup allows an unlimited number of memories.
Console operates independantly of PC.
Sophisticated GPIO facilities.
Independent DSP operation ensures audio continuity even during PC or control reset.
Console & racks boot from power on in less than 20 seconds.
Full control system reset in less than 15 seconds.
Last settings fully restored on power-up or reset.
Automatic change over to hot spares for power supplies, control cards & DSP cards.
Hot plugging of every card and module.
Hot plugged cards initialise upon insertion.

IMPORTANT CONCEPTS

Layering

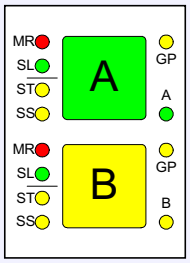
Each fader can control two independent audio signal paths, named A and B. These signal paths can be either channels or groups, although for easy reference, the faders are simply known as “channel faders”. B signal paths are fully equipped with all the same facilities as an A path.

The faders are motorised, so when switching between A and B, the fader will move to the correct position.

Less important signals can be placed on the B layer. Even then, only one button press is required to access them again. Using the ALL A and ALL B buttons is like moving to a different section of a single layer design.

This arrangement allows more channels to be fitted into the space available in the frame. Channels towards the ends of the control surface can be accessed more quickly than on a conventional, single layer design.

Assignable Control



Each fader has an “Assign” button (sometimes called the “Show Me” button) for each audio path. The Assign buttons are labelled A & B for channel or group paths, and M1, M2, M3 or M4 for the main output paths on the main faders. Pressing the Assign button causes the central control panels (the “Assign Panels”) to display and control the settings for that fader’s channel, group or main path.

In this way a large number of controls can be accessed, for each audio path, from the central listening position. As there is less need to move around a large control surface, controls can be accessed more efficiently.

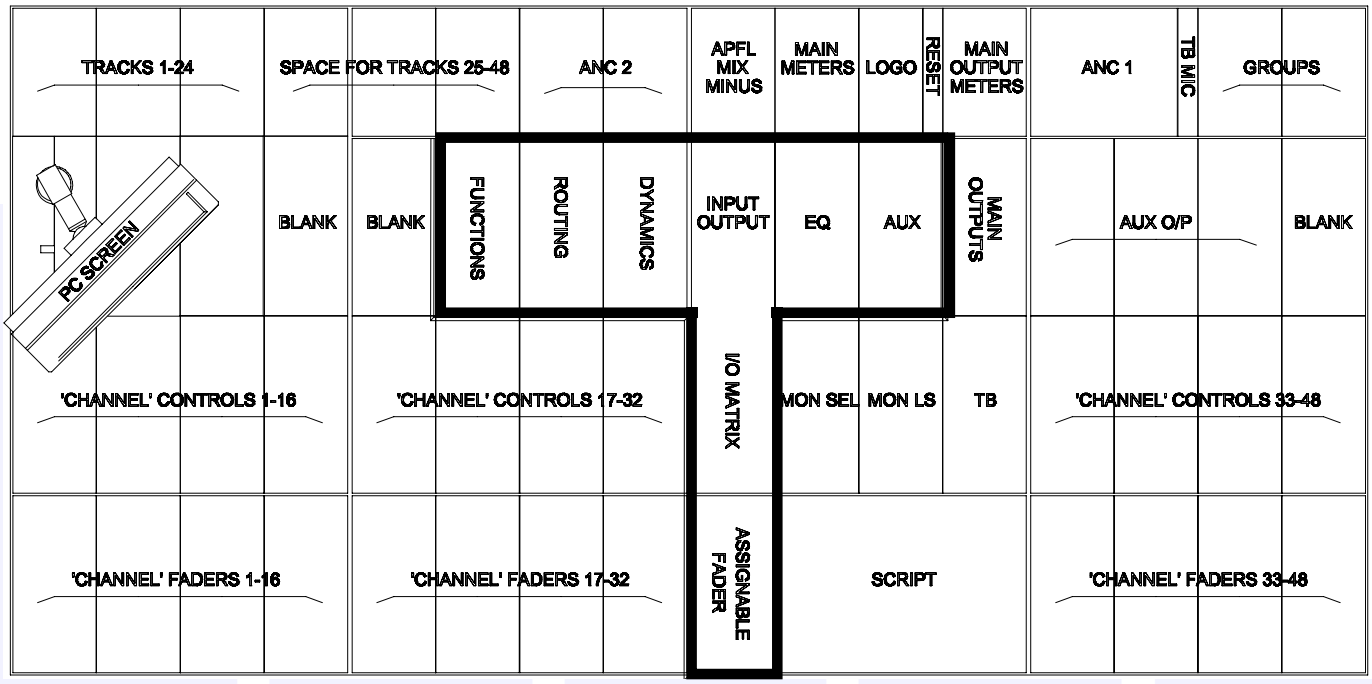
A number of controls and displays are also provided on a per fader basis, to allow important information to be even more easily available.

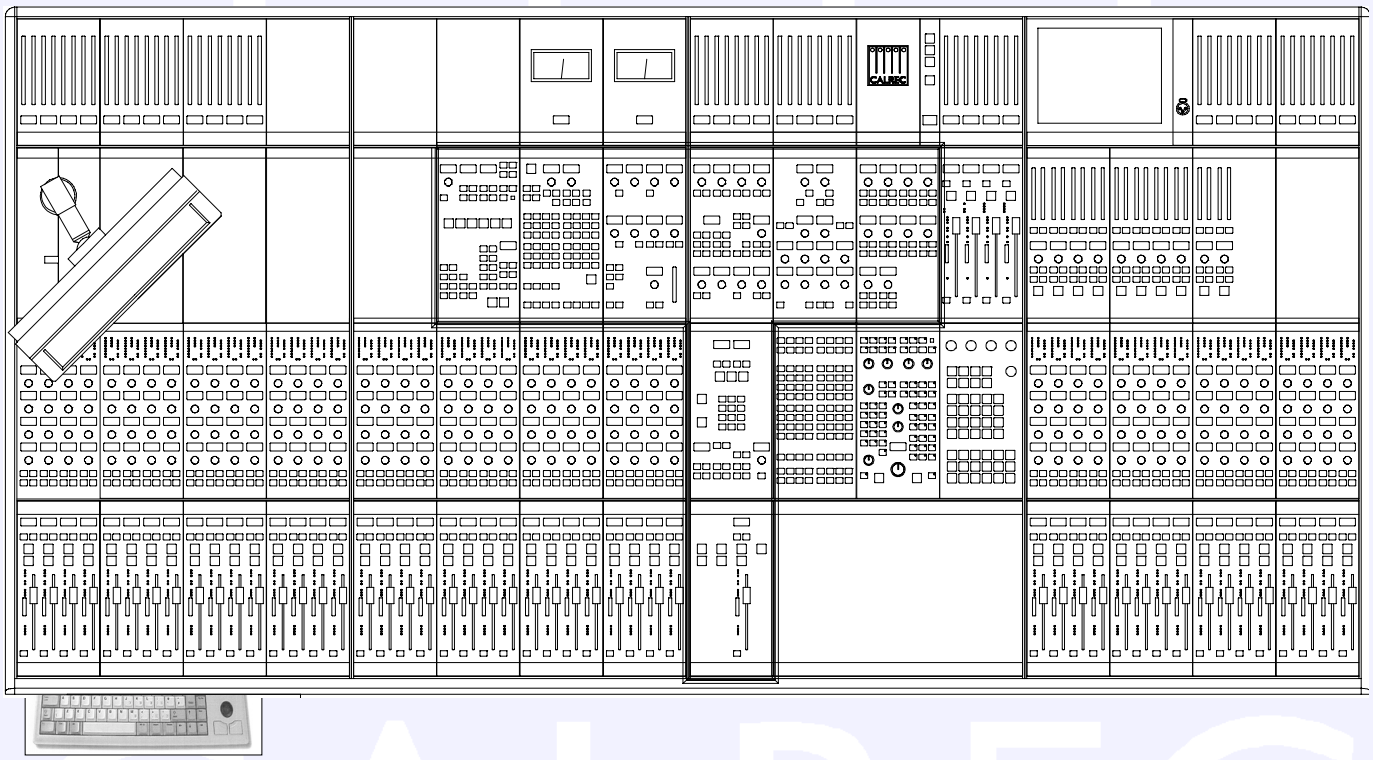
In addition to the above, the “channel” faders are assignable, in that the operator can choose which faders to use for the mono channels, which for the stereo channels, and which for the groups.

For large consoles, some of the Assign panels may be duplicated to aid user operation.

CONTROL SURFACE LAYOUT

Key to the bottom diagram





Bold border denotes the
area of the “ASSIGN PANELS”

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PATHS AND PORTS

On an analogue desk, the channel inputs are physical connections to the channel module or card. They are fixed. Channel 1's input is always channel 1's input (even though it may be possible to control channel 1 from a different fader). Every channel will probably have both a mic and a line input, even though most will only use one of them at any one time.

In a digital desk, there are two basic types of input: mic/line and digital. However, it is not necessary to provide both types for every channel, as only one input will be used at any one time. To provide both types for each channel would increase the cost, size and power consumption of the desk unnecessarily.

Instead, a "pool" of each type is available, plus an internal matrix to allow any of them to be connected to any channel. This provides more flexibility than is possible with analogue designs. The matrix can be thought of as an electronic patch-bay with the advantage that any connections made will be stored with the console's memories. A similar matrix and "pool" is provided for the outputs which can also be stored with the memories.

Each channel can select from two inputs (1 and 2), which can be any combination of mic/line and digital. Both inputs can be set up independently, using separate input controls (input gain, phase reverse, phantom power, etc). The switching between the two inputs takes place after these controls.

The basic terminology is that channels, groups and mains are referred to as "paths" within the digital processing system, and the inputs and outputs are referred to as "ports" through which the audio signals have to pass. Ports are connected to paths via the Matrix.

PORT LABELS AND LISTS

When the Alpha 100 is installed, all the ports on the system are labelled to match the studio wiring. Some rules are imposed on this labelling:

- The I/O should be labelled in pairs.
- The label must be no more than six characters (to fit on the console's displays).
- The same label cannot be used more than once (but an input can have the same label as an output) - to avoid confusion.

I/O is labelled in pairs to make it easier to use with any type of signal; mono, stereo or surround. Also, digital I/O is wired in pairs and it makes sense to deal with all the I/O in the same way.

The system automatically adds a left (L) and right (R) suffix to the label to distinguish the two halves of the pair, or an L/R suffix when the pair is used together.

The pairs can be used either for two mono signals, or a stereo signal, or parts of a surround signal. This includes the digital ports if the external circuit allows them to be used for two mono signals.

One exception to these rules is that I/O which is dedicated, externally, to mono signals only (telephone lines, mono reverbs, mono distribution feeds, etc), can be specified as being mono in which case the two halves of the pair have separate labels and the L & R suffixes are not applied. Note that I/O labelled in this way cannot be connected in pairs to stereo paths.

In addition to labelling, each port will have been allocated to one of a number of lists. This allows I/O which is wired for similar purposes to be grouped together for selection. Each list is automatically sorted alphabetically/numerically.

There are 12 separate lists for inputs and 8 for outputs. Each list can contain a mixture of normal I/O (labelled in pairs) and I/O dedicated to mono signals.

Each list will have been given a six character "list label" and the lists will have been sorted into the order in which they appear on the selection screens. The lists will appear in the same order on the I/O matrix panel. It is possible to determine which lists appear for selection on the I/O Matrix panel. This reduces the number of times the pot needs to be pushed, to go through all the available lists.

SIGNAL PATHS

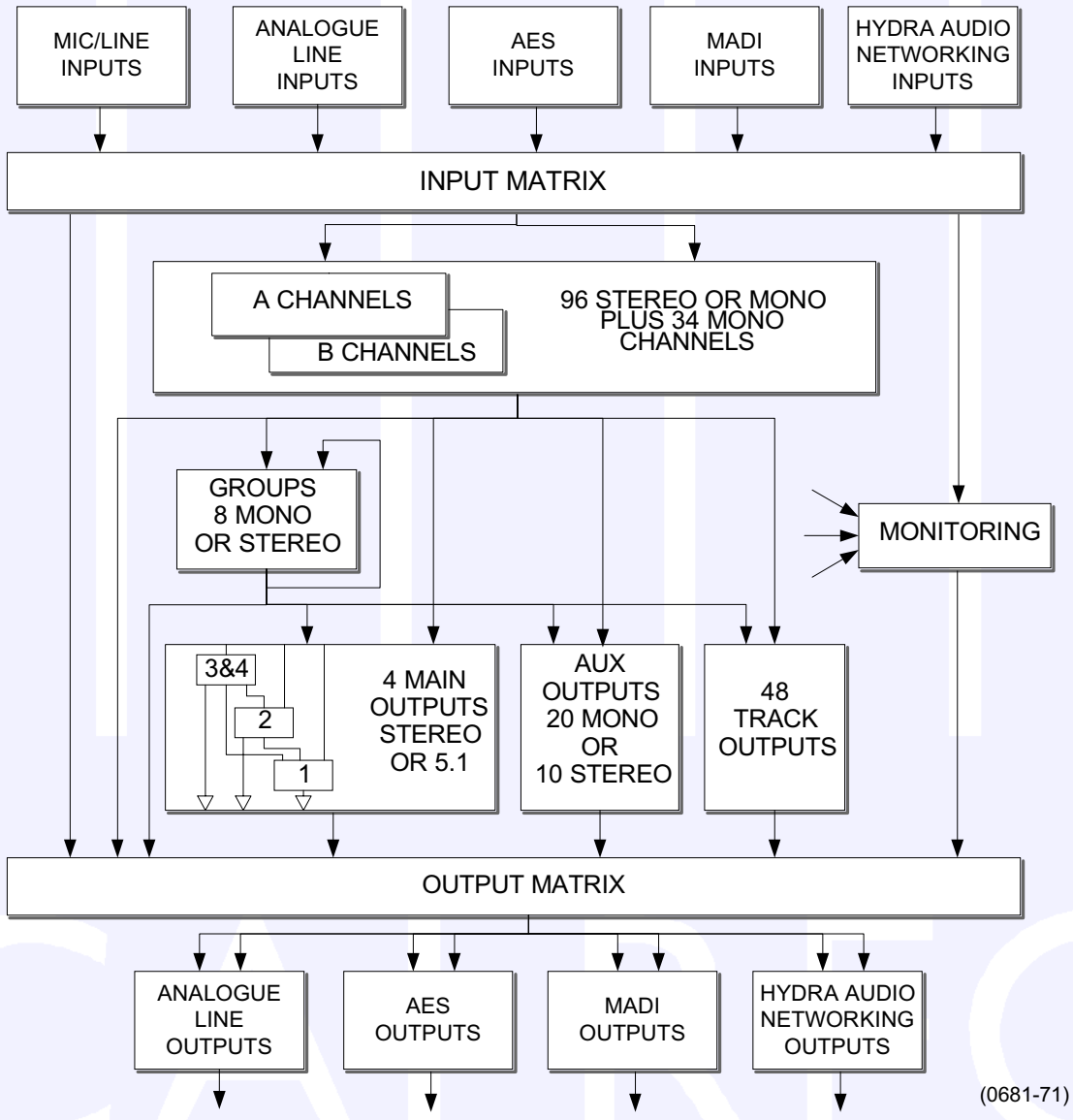
The Alpha 100 system can have 226 equivalent channels: up to 96 stereo or mono, plus 34 mono channels.

The 8 groups can each be designated as stereo or mono. In addition, as many VCA style groups as required can be created.

The 4 main outputs can each be designated as stereo or 5.1 surround. If they are 5.1 surround, a mono rear is derived at the output to allow them to be used as LCRS mains. Stereo and mono downmixes of the 5.1 are also produced.

If a channel is panned to both a stereo and 5.1 bus simultaneously, the pan law to each will be correct, as though the other bus did not exist; even though the same control is used to achieve the pan.

The 20 mono auxiliary outputs can be paired up to give up to 10 stereo auxiliary outputs.



INPUTS AND OUTPUTS

There are two types of ANALOGUE INPUT CARD:

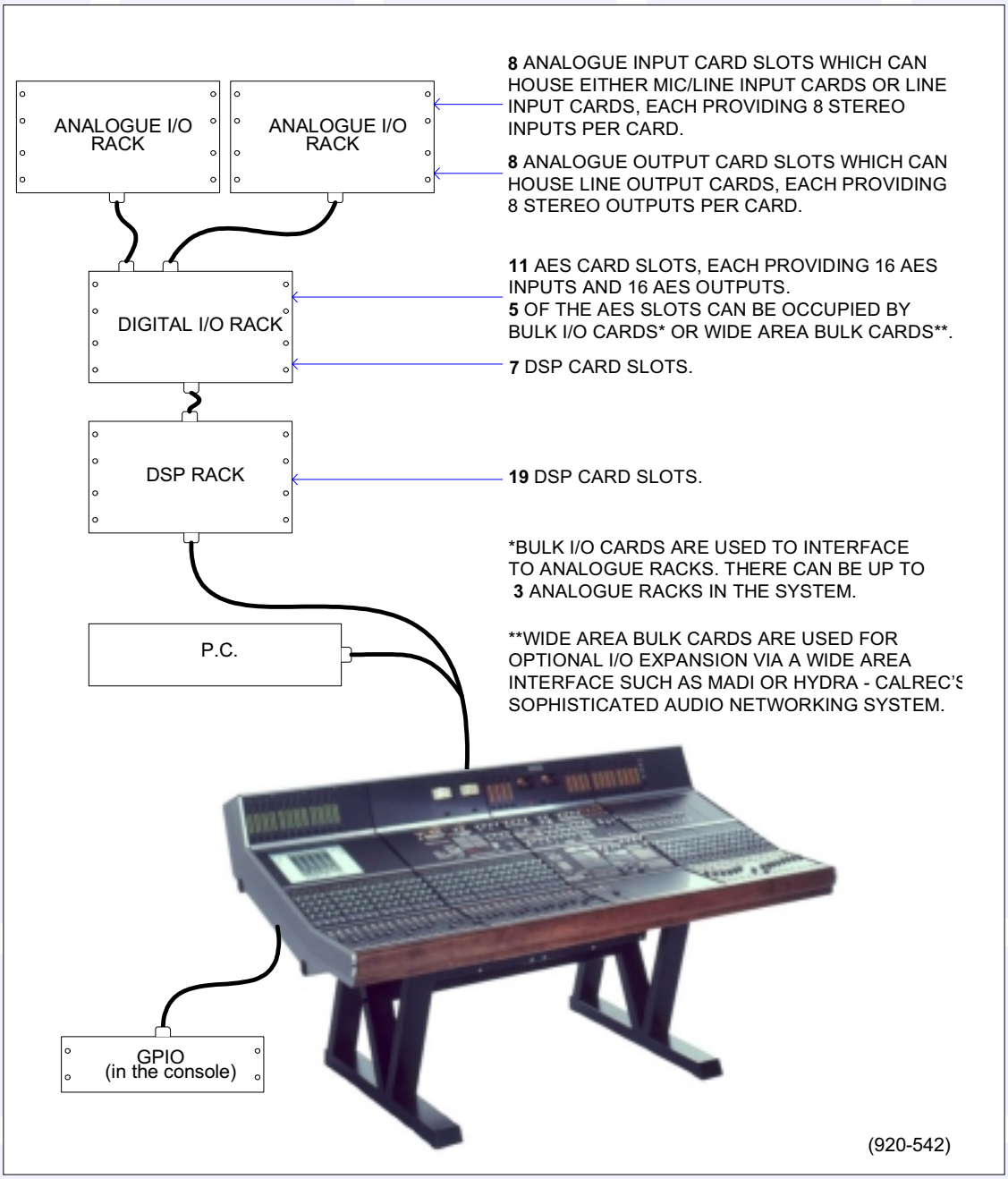
- Mic/line input card - 8 stereo or 16 mono inputs per card.
- Line input card - 8 stereo or 16 mono inputs per card.

There is one type of ANALOGUE OUTPUT CARD:

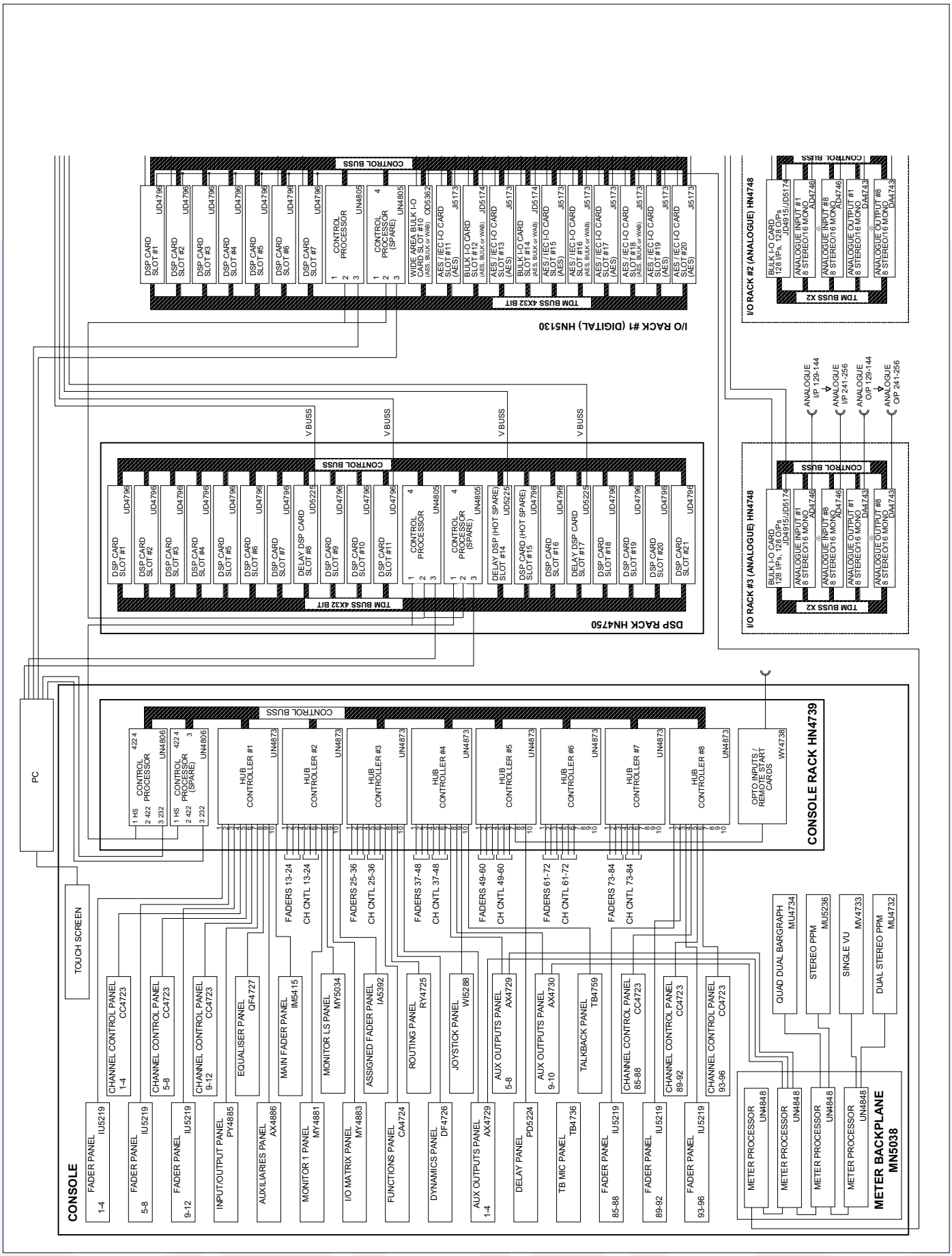
- Line output card - 8 stereo or 16 mono line outputs per card.

There is a DIGITAL (AES3) INPUT/OUTPUT CARD:

- Digital (AES3) input/output card - 16 AES inputs and 16 AES outputs per card. All inputs have switchable sample rate conversion.



TYPICAL SYSTEM DIAGRAM



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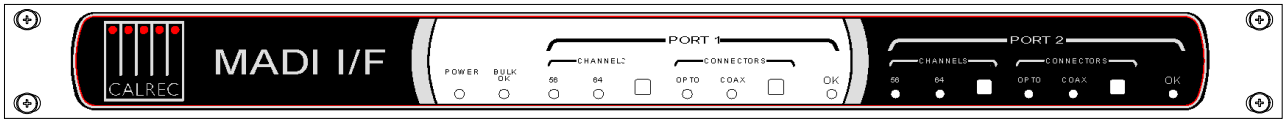
OPTIONAL I/O EXPANSION VIA WIDE AREA INTERFACES

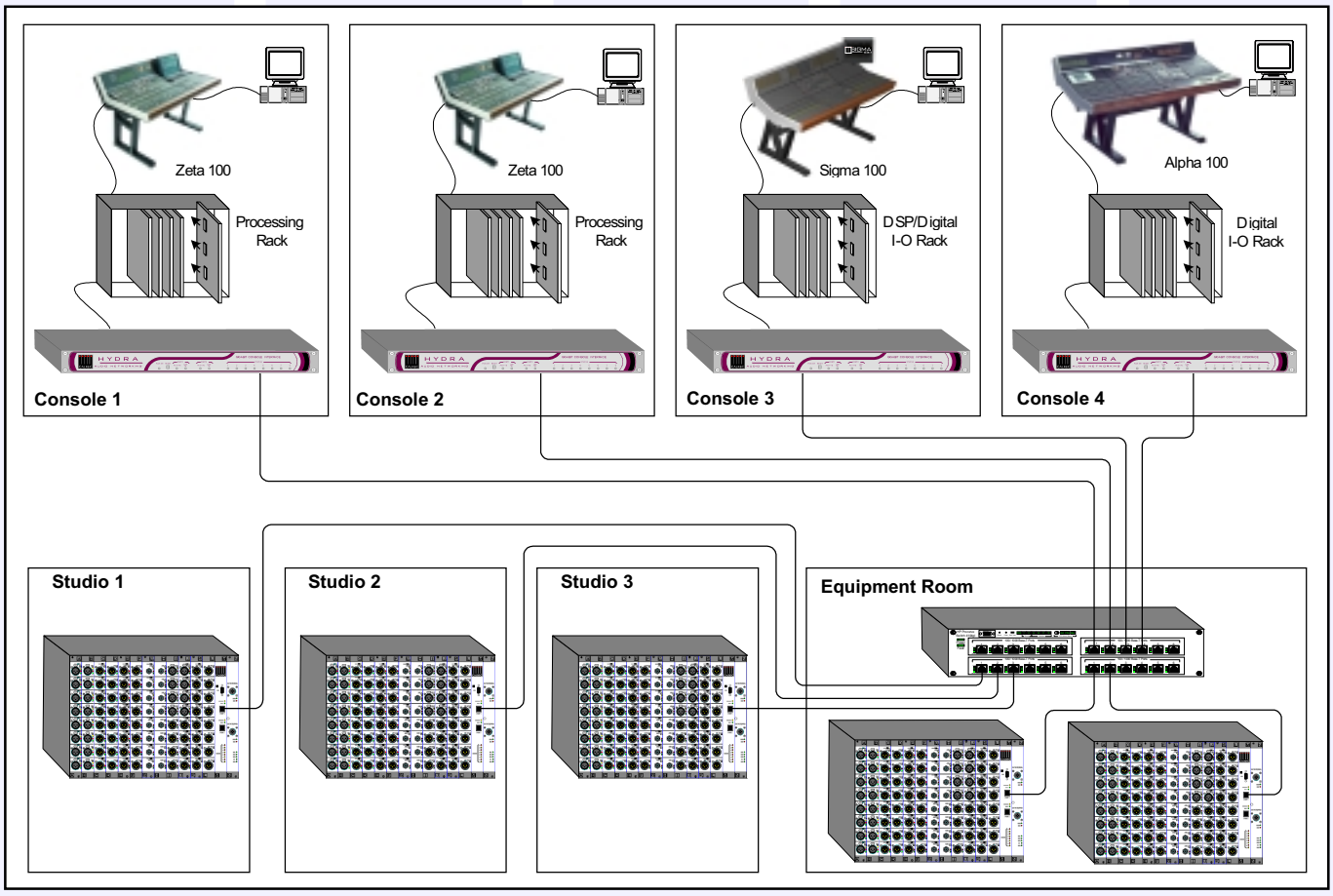
MADI



The rack mounted MADI unit contains two independent AES10 MADI compatible interfaces, and is available as an option. The two ports are interfaced to the Alpha 100 system via a Wide Area Bulk (WAB) card, which occupies one of the AES card slots in the Digital I/O rack. Each MADI interface can operate in either 56 or 64 channel mode and can transmit over a coaxial AND optical medium and receive over a coaxial OR optical medium. A switch allows receiver selection. There is no sample rate conversion available on MADI inputs or outputs therefore, all the equipment connected via MADI must be synchronised to the same source as the console.

HYDRA

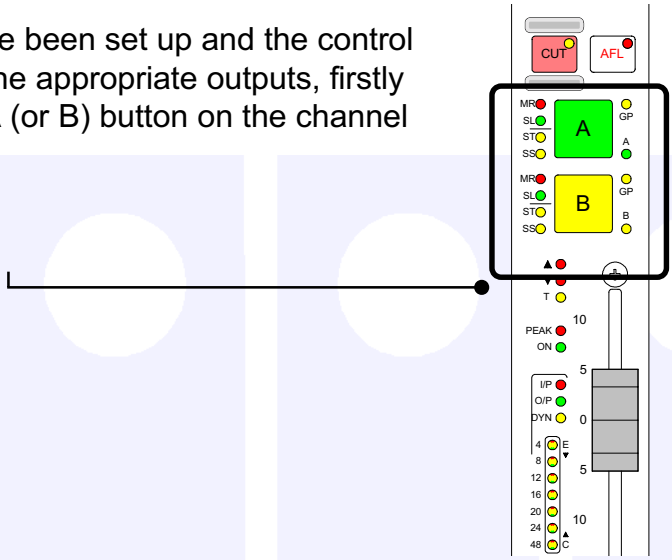
The Hydra audio networking system provides a powerful network for sharing of I/O resources and control data between Calrec digital consoles. Remote I/O units, with up to 96 inputs/outputs, analogue or digital, may be connected onto the network, providing remotely located sources and destinations that can be used by any or all mixing consoles. The Alpha 100 system interfaces to the Hydra gigabit interface unit shown above, via a Wide Area Bulk (WAB) card, which occupies one of the AES card slots in the Digital I/O rack.



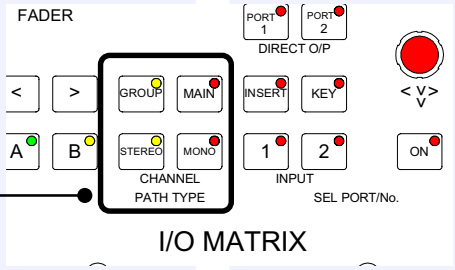
GETTING STARTED

As a safety measure, ensure that all faders are minimised, and the control room level control is no more than half way up.

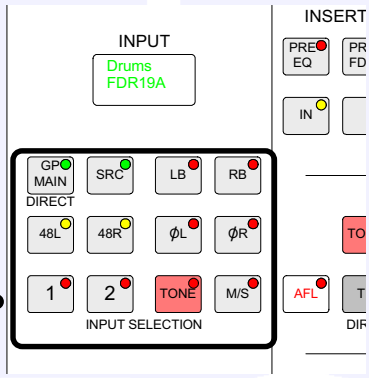
Assuming that the basic system ports have been set up and the control room monitor speakers are connected to the appropriate outputs, firstly choose a **channel fader** by pressing the A (or B) button on the channel fader panel.



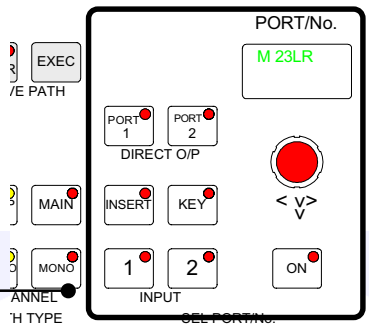
Next, go to the **I/O Matrix** panel and, if a path type is not already indicated, press either the mono or stereo buttons to assign a mono or stereo channel to the fader.



Next, go to the **Input/Output** panel and select Input 1.



Return to the **I/O Matrix** panel and also select Input 1 in order to assign a port to it. Do this by turning the selector control knob to scroll through the available ports. Pressing the knob down and turning it will switch to another list of input ports. Once you have arrived at the port you want, press the ON button to connect it. (This is like inserting the patch cord).

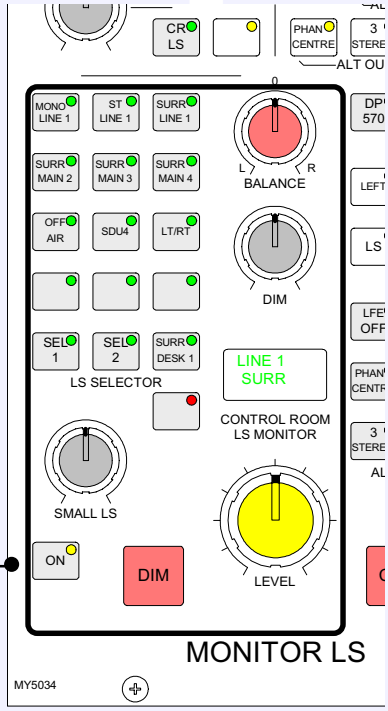


I/O MATRIX

Set the input gain, panning, etc, on the Input/Output panel, the EQ and Dynamics on their respective panels, and route the signal, to Main 1 say, on the Routing panel.

Now fade up the Main 1 fader and select **ST Line 1** on the LS selector (**Monitor LS** panel). If the channel fader and LS volume controls are set correctly you should hear the signal.

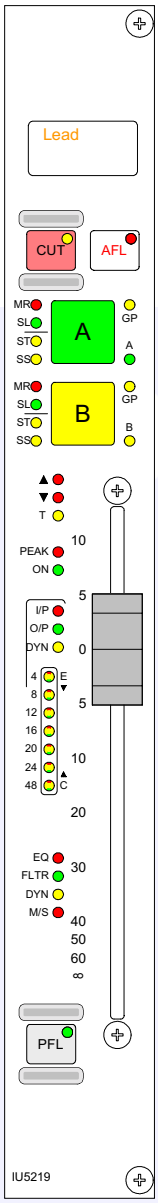
Refer to the descriptions of the individual control panels and screens to see what else can be done.



MONITOR LS

Fader Area

"CHANNEL" FADERS



Channel and group paths are controlled by the console's "Channel" faders. Each fader can control two independent audio signal paths, named A and B. Any fader can control any channel or group path. Main paths are controlled by their dedicated faders on the Main Outputs panel.

The A & B buttons are used to select either of the two channel paths A & B. Selecting a path will "call" the fader to the Assign panels. Any changes made to the Assign panels will affect the selected path only. When switching between the two paths, the indicative displays and fader position will change to match the settings of each path.

The label in the display is the name associated with the input assigned to the path, or the group number if the path is a group. The input labels default to the Port ID unless a name is entered via the PC. Path A's label is shown in the top half of the display, and path B's label is shown in the bottom half of the display. The colour of the display indicates the active path. If path A is active, the label will be green. If path B is active, the label will be amber. If no path is assigned to the fader, the display will remain blank.

The CUT button cuts the channel or group. Its effect is the same as fading out the channel or group. Alternatively, there can be ON buttons instead, which switch the channel on.

AFL will be heard through the monitor loudspeakers (main or small).

Assign Button LEDs

- **MR** - The fader path is a master of a VCA style group.
- **SL** - The fader path is a slave within a VCA style group.
- **GP** - A group is assigned to the path.
- **ST** - The path is a stereo channel or group.
- **SS** - Not Used.
- **A** - Path A is active
- **B** - Path B is active

To create a VCA style group, hold down the Assign button of the fader you wish to be the master, then select the Assign buttons of the fader or faders you want as slaves.

The ▲ and ▼ Null LEDs will only illuminate when the position of the fader is not the same as the level of the audio. For example, if a VCA master is moved away from the `0' position, the null leds on the slaves will light. When illuminated they indicate whether the audio is above or below the position of the fader.

The **T** LED indicates that the console has recognised that the fader has been touched. The PEAK LED will illuminate if the channel or group signal is within 3 dB of the clipping level. The ON LED illuminates when the audio level is not at the ∞ position.

The fader bargraph indicates the level at the channel input (post the input gain & switching and the tone switching), the channel direct output, or the gain reduction of the dynamics, indicated by the three LEDs. Selection is made either on the Functions panel, or using the PC.

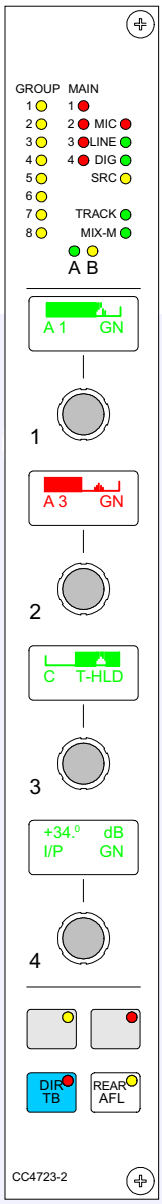
The EQ, FLTR, DYN and M/S LEDs indicate that these functions are active.

PFL is provided on the fader overpress and on the button. It will be heard on the small LS (or the main LS if PFL to Mon is selected), or PFL LS (depending upon how the monitoring is configured).

"CHANNEL" CONTROL

The "Channel Control" section is situated directly above the channel fader section. A set of LED's provide indication of :

- Routing to groups and mains
- The currently selected input type (mic, analogue line, or digital)
- If the Sample Rate Convertor (SRC) is switched in (for digital inputs)
- Routing to any track
- Whether the direct output is being fed with a mix minus feed
- The currently active fader path A or B



This section houses four Wild controls per fader. Almost any assign panel rotary control for the selected path can be assigned to a Wild control, including:

- Input Gain
- Direct Output Level
- EQ
- Dynamics
- Aux Send Level
- Pan and Balance
- Track Output Level
- Stereo Width

Wild controls are assigned either using the Functions panel or the USER - CHAN screen.

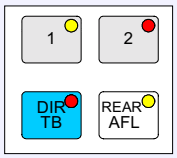
Once assigned, the four Wild controls "FLIP" with the fader providing the same function for each of the two paths. The A & B faders may also be assigned to a Wild control, in which case it will be the opposite fader which is being controlled. The colour of the Wild control display will show which fader the control is related to: Green for A, Amber for B.

Wild Control Push-Switch Option

If a wild control has the Aux Send or Front Pan controls assigned to it, the user can control the ON/OFF or IN/OUT status of these controls using the Wild control push-switch. This feature is optional, so it can be enabled or disabled using the Options - Misc screen.

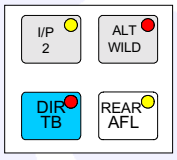
Button Options

Depending on the options purchased, the two buttons beneath the rotary controls can perform different functions.



Option 1

Each channel path can select between two inputs using buttons 1 and 2. There are buttons on the Input/Output panel to allow selection between inputs 1 and 2, but as an option, these buttons can be duplicated on this panel. This can be either two buttons (shown left), or just one (shown below).

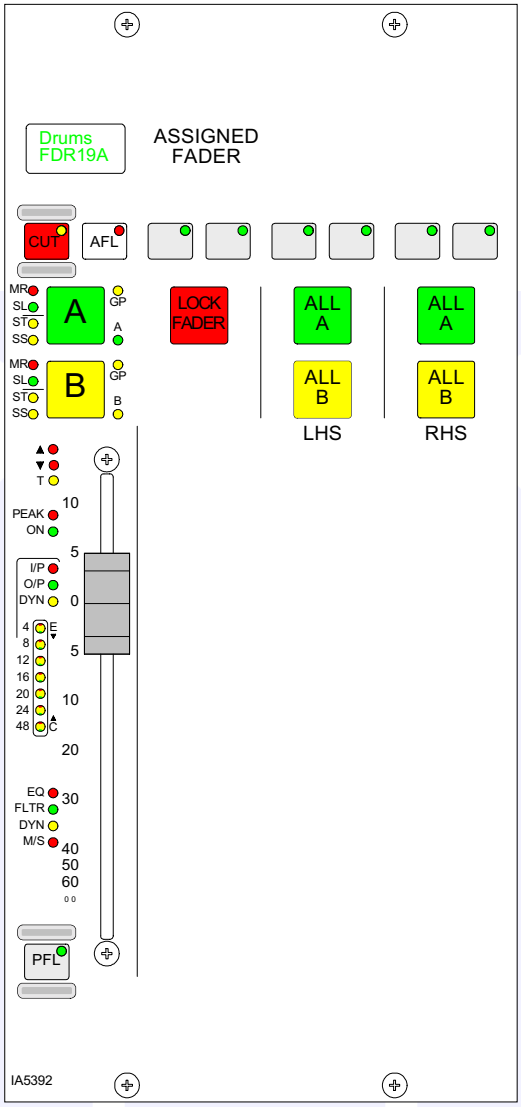


Option 2

The ALT WILD button allows switching between two complete sets of alternate Wild settings. This would then allow up to 8 available Wild controls per fader. I/P 2 allows selection between inputs 1 and 2 with just one button. Input 1 is selected when the button LED is off, and input 2 is selected with the button LED on.

Talkback is available to direct outputs using the DIR TB button. All Talkback buttons are subject to On-Air inhibits, set up on the TX/REH screen.

ASSIGNABLE FADER

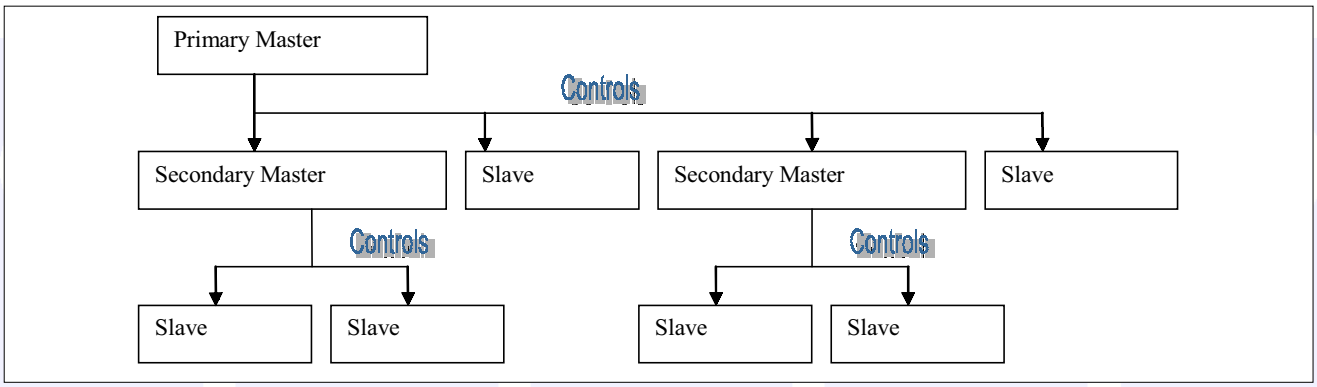


The Assignable Fader is positioned towards the centre of the console, in the optimum listening position, and works in parallel with the currently assigned channel or group fader. Alternatively, LOCK FADER allows it to be fixed to a specific path.

The ALL A and ALL B buttons switch all the channel faders to display either their A path or their B path. Using the ALL A and ALL B buttons is like moving to a different section of a single layer design.

VCA GROUPING

VCA groups allow the audio level, CUT, AFL and PFL functions of several slave faders to be controlled from one master fader. A VCA group is made or edited by holding down the Assign Button (A or B) of the fader to be master and pressing the Assign Buttons of faders to be added or removed as slaves. It is possible to select a VCA master as a slave of another VCA group. When this happens, the slave master is known as the secondary master, and it's master is known as the primary master.



When the level of a primary master is adjusted it will change the audio level of its slaves and the levels of its secondary master's slaves by the same amount. The CUT, AFL and PFL settings will also be applied to all the slaves, secondary masters and their slaves.

When the level of a secondary master is adjusted the audio level of all its slaves changes by the same amount. It's adjustment will not affect the level of the primary master or *its* slaves. Changing the CUT, AFL or PFL of a secondary master will also apply the settings to the secondary master's slaves only.

The number of slaves in a VCA group with a primary master would include all the primary master's slaves and the slaves of all its secondary masters. There can be up to 48 members of a VCA group.

It is possible to create the primary or secondary group in any order. A slave can be made into a secondary master by adding slaves to it. The path on that fader will be removed from primary master and become a slave of the secondary master. If a slave added to the VCA group is already a master it will become a secondary master.

The MR and SL LED's next to the Assign buttons on the fader panel indicate the VCA group status of that fader. A secondary master fader has both the MR and SL LED lit.

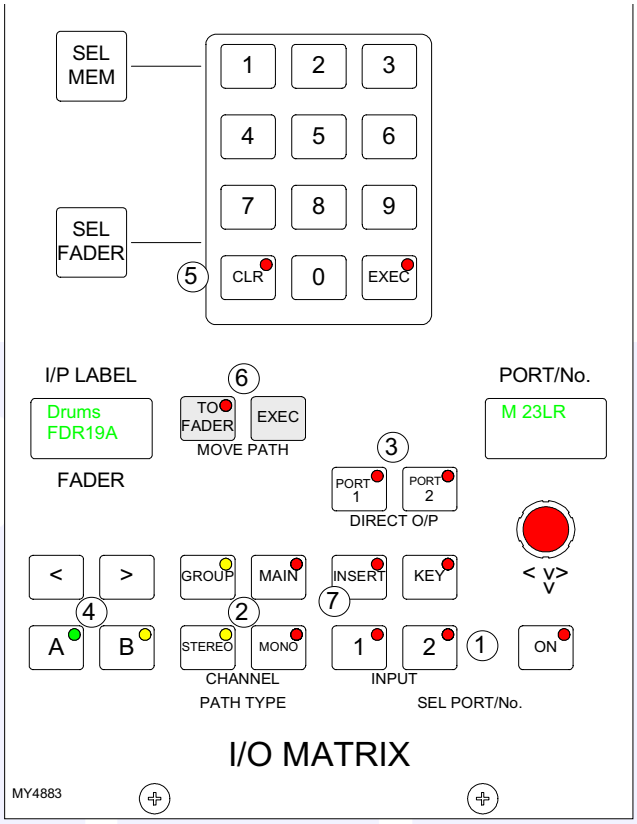
Interrogation provides a clear way of indicating VCA group assignments. Interrogation is performed by holding down the Assign button of a VCA group member. Interrogation of a primary master will light the Assign buttons of its primary slaves and secondary masters. Interrogation of a secondary master will light the Assign buttons of its secondary slaves, and the primary master's Assign button will flash.

The editing of VCA groups can be enabled and disabled using the PC. This provides protection against accidental changes.

Assign Panels

I/O MATRIX

Each channel path can select between two input ports. Ports are assigned to inputs 1 and 2 for the currently assigned fader using the I/O Matrix.



(1) Port Assignment

- Press 1 or 2 to select an input.
- Use the rotary control to scroll through the lists of available input ports.
- Upon reaching the desired input port, press the ON button to assign the chosen input port to the input 1 or 2.
- Pressing ON again will de-assign the port .

Lists
Pressing and turning the rotary control gives access to lists of other types of input port which are set up during installation of the console. Each port can be allocated to one of a number of lists to allow I/O which is wired for similar purposes to be grouped together for selection.

It is possible to determine which lists of input ports appear for selection on the I/O Matrix panel using the Options-Misc screen. Making only the relevant lists available for selection makes it easier to find the ports you want.

Port assignment can also be done using the I/O screens.

(2) Path Type Selection

The GROUP, STEREO and MONO buttons select the path type for the currently assigned fader. If the path is to be a group, its number is selected using the rotary control & ON button. The path type can also be selected using the USER-CHAN screen.

(3) Direct Output Ports

Ports can be connected to channel and group direct outputs, first by selecting PORT1 or PORT2, and using the rotary control and ON button to choose and select ports. (Two ports can be connected to each direct output). When scrolling through the lists of output ports, those that are in use will display “IN USE”.

(4) Fader Path Selection

In addition to the Assign buttons on the fader panels (A & B), fader paths can be called to the Assign panels using the nudge buttons to scroll through the faders, and the A and B buttons to choose the path. This is for use when pressing the fader assign button is not convenient, or should a fault develop on the fader strip. Paths can also be selected by pressing SEL FADER and entering the fader number on the keypad.

(5) Clearing Paths
Channels can be cleared off the fader by pressing SEL FADER, CLR and EXEC. This will clear all settings and port assignments from the channel.

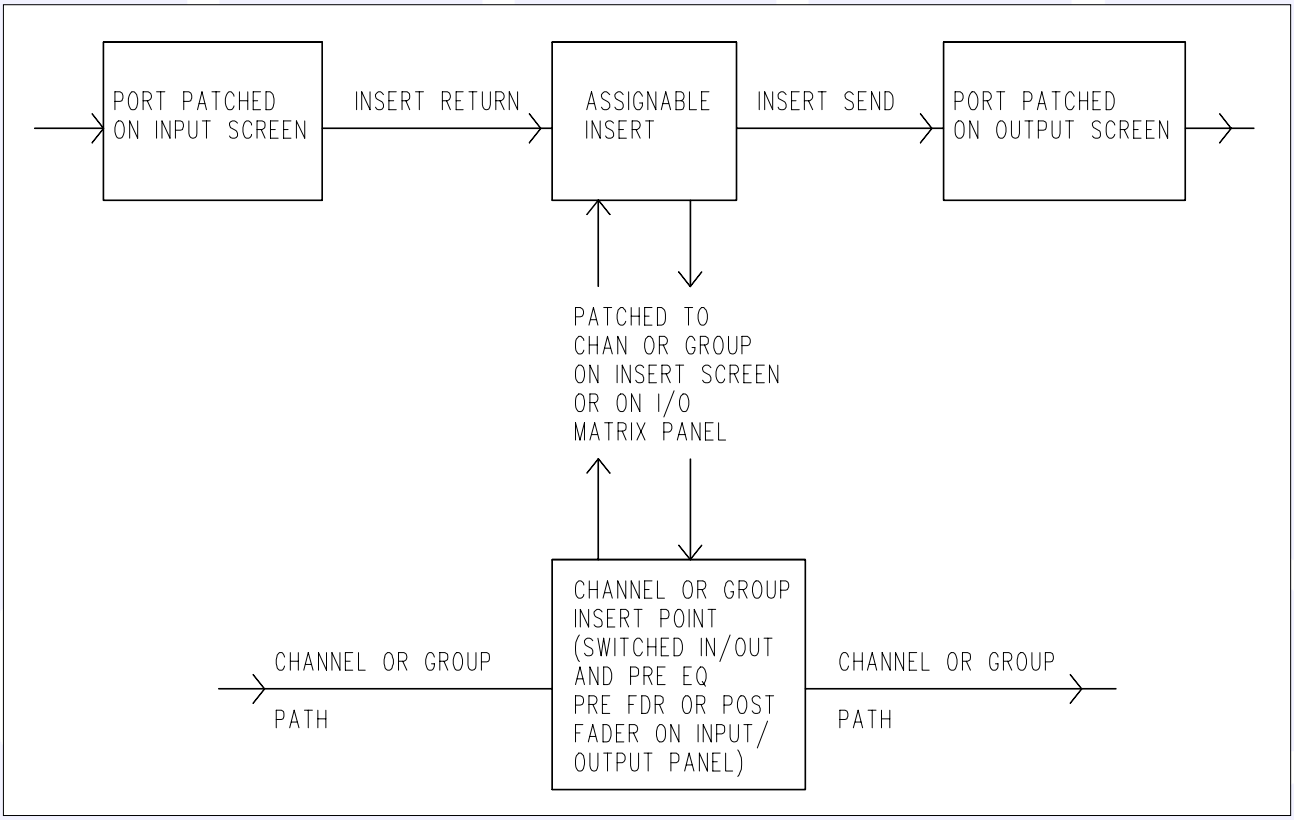
(6) Moving Paths
Paths can be moved or swapped from one fader to another, using the MOVE PATH buttons. To move paths, select the assign button of the path you wish to move, and press TO FADER (the assign button will flash). Then select the assign button of the destination fader, and press EXEC to move the path. This function is also available using the USER-CHAN screen.

(7) Channel & Group Inserts
The system provides up to 24 L-R pairs of assignable inserts which can be used in the stereo and mono channels and groups. In addition, the main outputs and control room LS monitor have their own dedicated inserts.

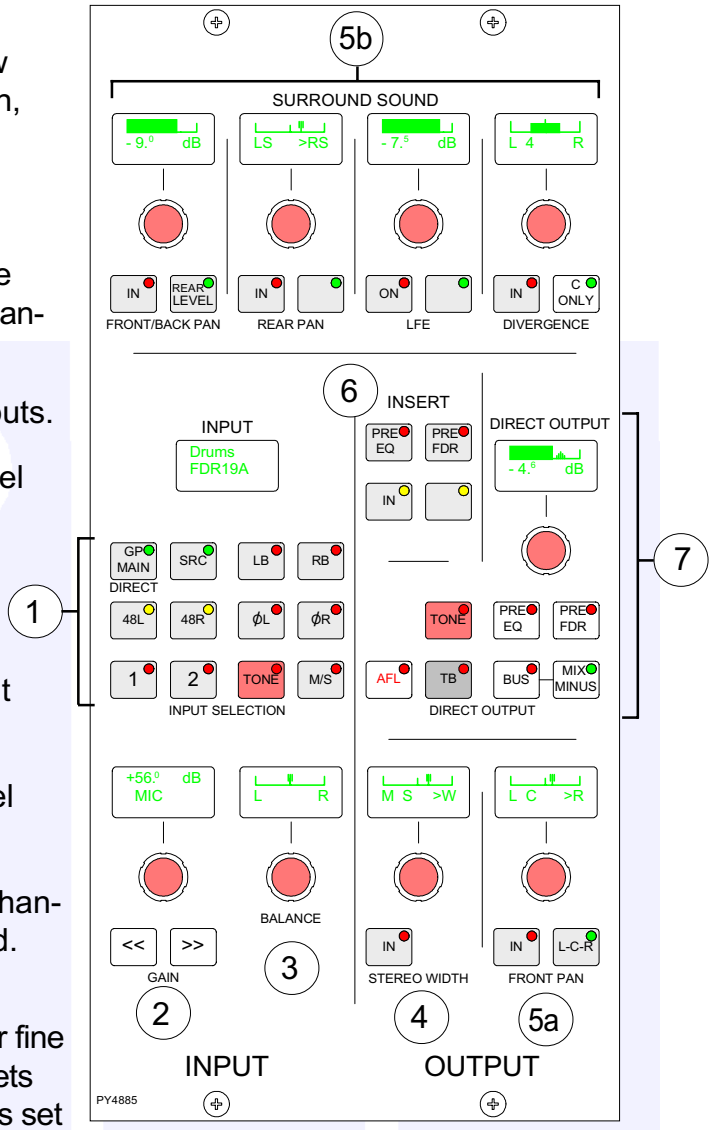
Assignable inserts are designed to be pre-connected to send and return ports which are in turn pre-wired to insertable devices or to an insert patchbay (normally there would be some assignable inserts of each type). The Input and Output screens allow send and return ports to be set up for the assignable inserts.

Pressing the INSERT button allows the rotary control and ON button to control selection of inserts on channels and groups. This selection can also be made using the Insert screen. The insert is then patched in and out of the channel or group path using the buttons on the Input/ Output panel.

The assignable inserts can be divided into up to 4 lists in a similar way to input and output ports. This separates them for selection on the pot-switch.



INPUT/OUTPUT CONTROLS



The INPUT controls in the Input/Output section allow separate settings for the two channel inputs and gain, and ON/OFF for the group & main direct inputs.

(1) Input Settings

Each channel path can switch between two input ports using buttons 1 and 2. Optionally, each fader can have dedicated selection buttons for inputs 1 and 2 on its channel control panel.

SRC switches the sample rate converter on AES inputs.

48L & 48R switch phantom power on Mic/line channel inputs. 48L is used for mono channels.

LB & RB provide Left to Both & Right to Both on stereo channels and groups.

M/S converts a sum & difference (mono/stereo) input to L & R on stereo channels.

ØL and ØR buttons reverse the phase of the channel inputs. ØL is used for mono channels.

The TONE button switches tone to the input of the channel or group, from where it can be routed as required.

(2) Gain Adjustment

Comprises 2 buttons for coarse ranging plus a knob for fine adjustment. Pressing both buttons at the same time sets the gain to 0 dB. For a group or main path, the controls set the gain of the direct input. Gain is adjustable from -18dB to +78dB for mic/line inputs, -18dB to +24dB for digital inputs, and ∞ to +10dB for direct inputs.

It is possible to link the gains of inputs 1 and 2. When the gains are linked, if either gain is adjusted, the change in gain is applied to both inputs. The lower and upper level endstops still apply, and are dependant upon the input type. If one of the inputs reaches an endstop during adjustment, this will stop both gains going any lower or higher.

(3) Balance Control

Operates on stereo channels only. When LB & RB are selected, the balance control acts as an input pan control.

(4) Width Control

Operates pre fader on stereo channels and groups. The rotary control adjusts the width from mono, through stereo, to wide. The control is switched in and out of the path using the IN button.

(5a & 5b) Stereo and Surround Panning

Stereo and surround panning is provided for channels and groups. Signals can be panned to both stereo groups and 5.1 outputs simultaneously. AFL can be heard in surround, post the pan controls, provided that the monitoring is surround. Stereo and surround panning controls are strengthened with the inclusion of the optional motorised joystick panel.

The Front Pan allows the front signal to be panned from left, through center, to right. On stereo channels and groups, the L-R PAN acts as a balance control.

The Front/Back pan control pans the signal between Front and Back. When Rear Level is switched IN, the levels to the rear and front are controlled seperately. This allows signal to be fed to the rear without affecting the balance of the mix in the front speakers. Also, the front signal can be turned off and a level set to the rear which is different to that being sent to any stereo groups or mains which the path is feeding.

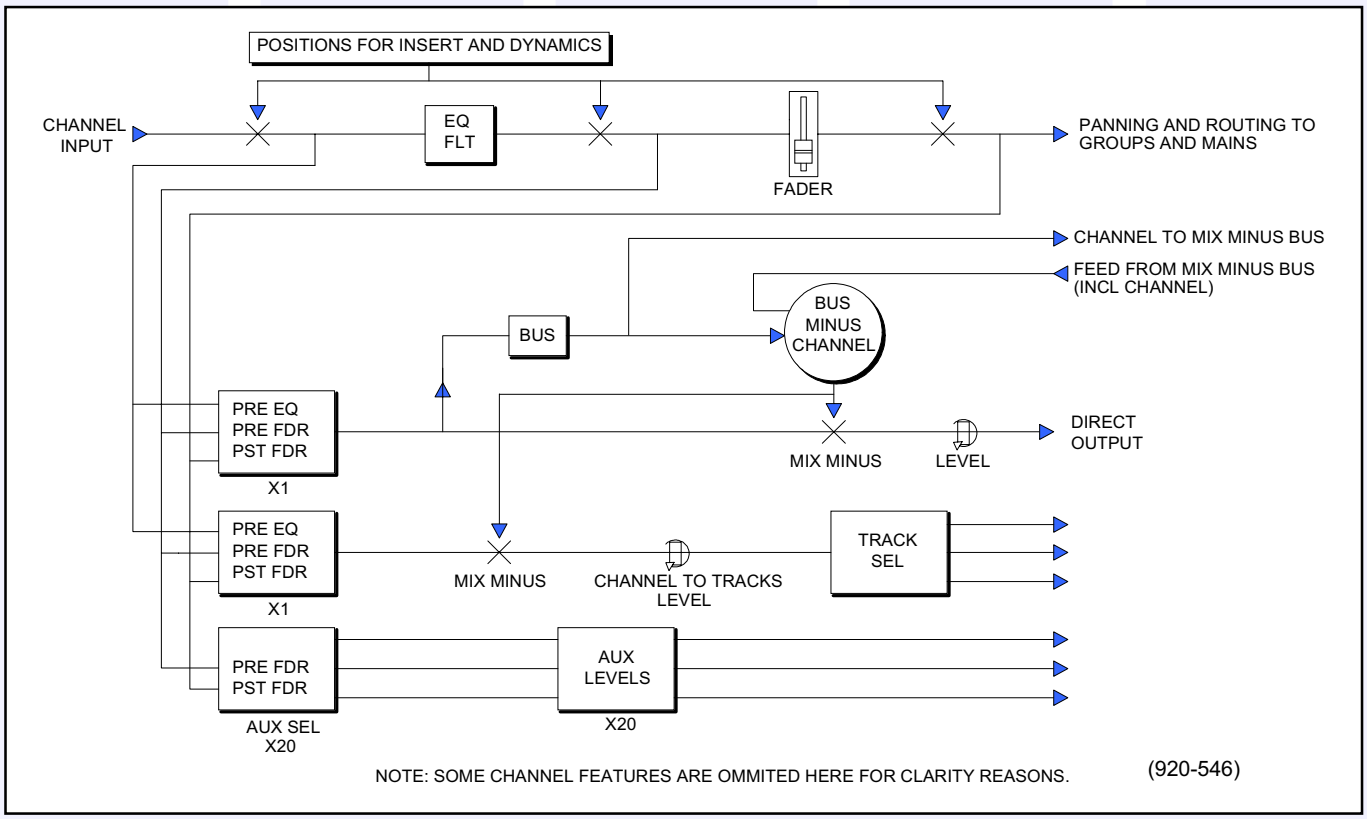
The divergence controls set an amount of the centre signal to also feed L & R. Divergence does not operate on stereo channels and groups. The C ONLY button connects the channel output to the centre BUS only. All other panning controls are disabled. The channel is fed to both L & R of stereo busses. On stereo channels and groups, C ONLY feeds a mono reduction of the stereo signal to the centre bus only.

(6) Inserts

Assignable inserts can be patched in and out of the channel path using the IN button. The buttons allow the insert to be patched post fader, pre fader or pre EQ. Assignable inserts must first be set up using the I-O Matrix panel or I-O screens.

(7) Direct Output and Mix Minus

In the direct output section, the BUS button feeds the direct output signal to the mix minus bus. The output of the mix minus bus feeds back into the channel (or group) where the channel's signal is subtracted. The MIX MINUS button then feeds the resulting signal to the direct output. Therefore, every channel can produce a mix minus output which is a mix of all the channels routed to the bus apart from itself. MIX MINUS & BUS are independent buttons, so the track routing selector and the direct output can be fed with the mix minus bus, even if the channel is not feeding the bus.



FUNCTIONS CONTROLS

(1) Assigning Wild Controls

The Wild controls are assigned using this panel, or from the USER-CHAN screen. All the Assign panel rotary controls incorporate a switch which is operated by pushing the control. These switches are used to assign the control to a Wild control as follows:

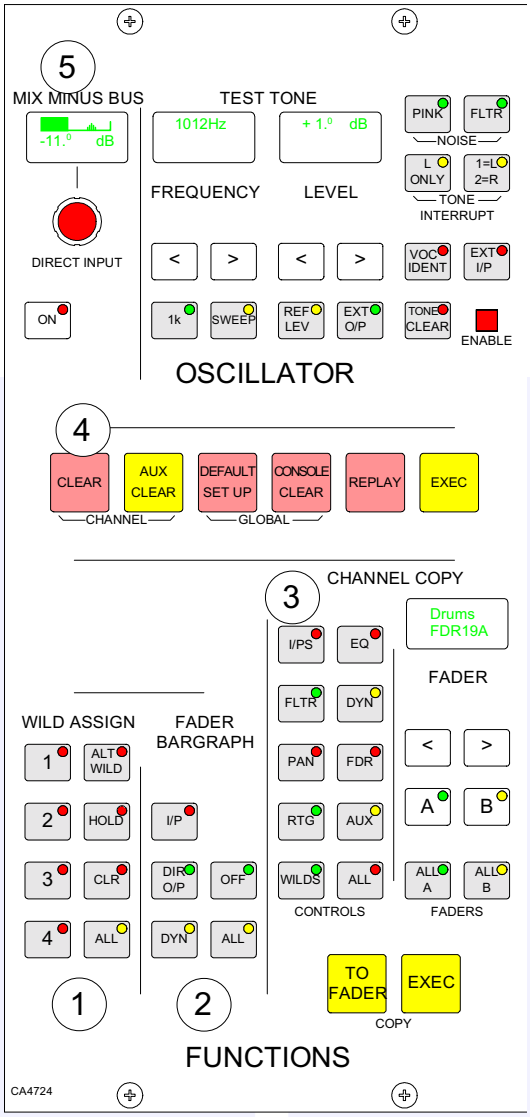
- Select the required fader by pressing it's Assign Button (A or B).
- Select WILD ASSIGN 1, 2, 3 or 4.
- Push one Assign panel rotary control. For example, Aux 1 Send.

CLR will clear the selected Wild control from it's assignment.

It is possible to assign controls to more than one fader path at a time, either by selecting individual fader assign buttons (A or B), or by defining a "block" or "Region" of faders.

After selecting Wild 1, 2, 3 or 4, press HOLD, then a number of fader paths can be selected individually by pressing their fader assign buttons (A or B). Pushing an Assign panel rotary control will assign that control to all selected faders.

A block or region of faders can be defined by holding down HOLD and then pressing the fader assign buttons of the first and last fader path in the required region. Pushing an Assign panel rotary control will assign that control to all fader paths in the selected region.

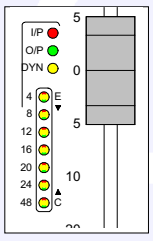


It is possible to assign the same control to Wilds 1, 2, 3 or 4 for all fader paths by selecting ALL before pushing the required Assign panel rotary control.

The gains of the two inputs 1 and 2 can be assigned seperately to Wild controls, by holding down the required input button on the Input/Output panel before pushing the gain adjustment rotary control.

The ALT WILD button allows switching between two complete sets of Wild controls. This would then allow up to 8 available Wild controls per fader.

Aux output controls cannot be assigned to Wild controls. If the fader is touched instead of pushing an Assign panel rotary control, then the fader for the alternate layer will be assigned to the Wild control. If the track output level control is assigned to a block of Wild controls, each fader's Wild control will have a different numbered track output level control, beginning with the track currently selected on the first fader in the block.



(2) Fader Bargraph Assignment

Buttons I/P, DIR O/P, DYN and OFF on this panel will set the function of the fader bargraph for the currently assigned fader, to either the channel input (post the input gain & the tone switching), the channel direct output, or the gain reduction of the dynamics. If ALL is pressed first, all fader bargraphs will be set to the selected function. Fader Bargraph assignment is also definable on the USER-CHAN screen.

(3) Channel Copy

Nine sections of a channel or ALL together can be copied to another channel or channels using this panel. The nudge buttons (< and >), plus A & B, can select the channel to be copied by calling it to the Assign panels.

TO FADER (flashes) allows the destination/s to be chosen. Multiple destinations can be selected using the Assign Buttons, or by using the ALL A or ALL B buttons.

The nudge buttons (and the keypad on the I/O Matrix panel) can select an individual destination, which can be in addition to any multiple destinations set. Once all the destinations have been chosen, the EXEC button executes the copy.

If a stereo channel's settings are copied to mono channels, only the relevant settings will be copied. Other settings on the mono channels will be reset to the cleared down state. If groups or main outputs are included in the selected destinations, they will simply be ignored.

- I/Ps copies the LB, RB, ∅L, ∅R, M/S & balance settings (only ∅ for a mono channel) for inputs 1 & 2, and also the input gains, SRC or phantom power when the inputs are of the same type.
- EQ and FLTR copy the EQ and filter settings including IN/OUT, alternate and assignment (CH or DYN) settings.
- DYN copies the dynamics settings but not whether the EQ or filters are switched in the dynamics.
- PAN copies pan and width settings as appropriate.
- FDR copies the fader and CUT switch settings but not PFL or AFL selections. It does not copy VCA group assignments.
- RTG copies the routing to main outputs and groups but not the routing to tracks.
- AUX copies the routing and levels to the auxiliaries.
- WILDS copies the Wild assignments but not their settings.
- ALL copies all of the above.

Copy functions can also be executed using the Copy screen.

(4) Console Functions

Clear, Aux Clear, Default Set-up and Console Clear flash when pressed and require the EXEC button to be pressed before the operation is carried out. It is recommended that settings are saved to memory before these functions are used. Channel Clear clears the currently assigned channel from all settings apart from the port assignment.

The Default set-up will usually be created upon installation of the Alpha 100 using the TECH-INFO screen. This is a default memory, which could contain the fixed port set-ups which match the studio wiring, and any other settings which hardly ever change. It could have all channel settings OFF or flat, with no routes made, and would be available as a start up memory, from which more specific memories could be created.

(5) Mix Minus Bus & Direct Input

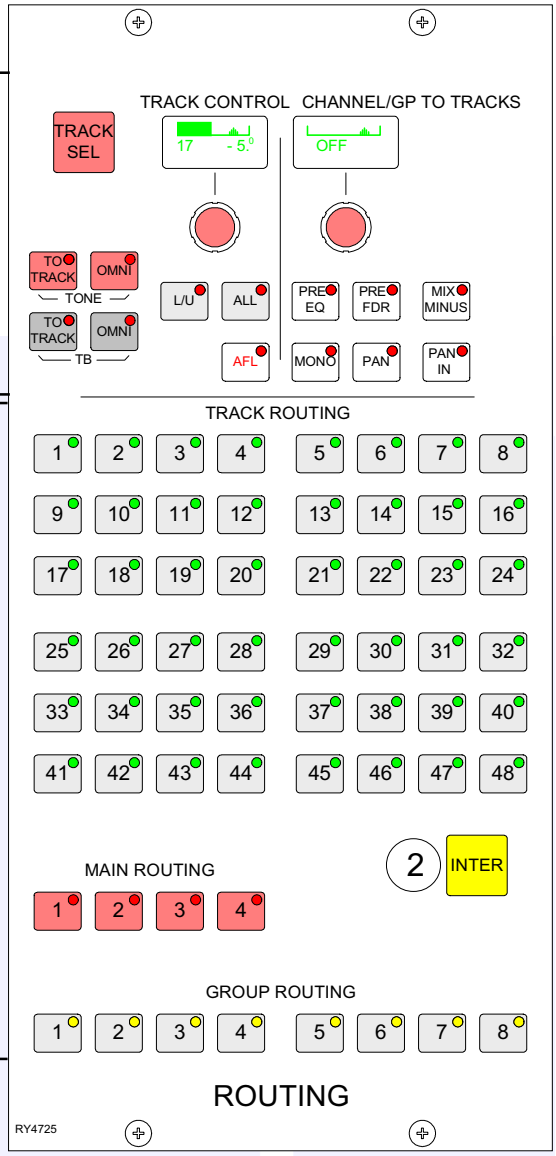
The mix minus bus and the direct input are switched ON or OFF using the button, and a rotary control is provided for level adjustment. The port for this is patched on the I-O Input screen.

The Oscillator - The Oscillator controls are described on page 51.

ROUTING

Routes for the selected channel can be made or removed by pressing the numbered buttons on the routing panel.

To route several adjacent channels to one bus, the nudge buttons (on the Functions or I/O Matrix panel) can be used to quickly select the channels.



(2) Interrogate Mode

It is possible to discover which fader paths are feeding each of the routing busses by putting the panel into "Interrogate" mode. This is done by pressing the INTER button. If any of the routing buttons (groups, mains, tracks) are held down, the fader assign buttons of all the paths feeding that bus will light. This button can also be used to interrogate mix minus feeds using the BUS button on the Input/Output panel.

Reverse Routing - Paths can be added or removed from the bus under interrogation, by selecting or de-selecting their fader assign buttons.

(3) Tracks (General Purpose Bus Outputs)

The Channel/Group to Tracks section controls the signal, from the channel or group, feeding the track routing selector.

PAN makes the control into a Pan control (Balance on stereo paths). Routing is left to odd-numbered tracks, right to even-numbered tracks.

On stereo paths, the mono button monos the signal after the balance control. The mono signal can then be routed to any track. This allows the mix of L & R to mono to be adjusted for when the signal is dual mono.

The mix minus, pre-EQ and pre-fader buttons act as a cancelling set. When none are selected the signal is sent to the track routing selector Post-Fader. Mix Minus feeds the Mix Minus signal of the channel or group, as set up on the direct output section of the Input/Output panel, to the Track Routing selector.

The Track Control section of the Routing panel, controls the output to the multi-track, after the track mix. These outputs can also be used as IFB or general purpose bus outputs. 48 optional bargraphs can be fitted to monitor the output level.

The track output being controlled is selected by the Track Sel button plus the track routing buttons 1-48. ALL makes the control a Master, controlling all the tracks at once.

Tone or Talkback can be fed to the selected track output. The OMNI buttons feed tone or talkback to all the track outputs.

TALKBACK

Talkback is available to all groups, mains, auxes and 8 external sources (via relay switching) using the buttons on this panel. Talkback is also available to direct outputs and individual tracks using the buttons on the channel control panels, Input/Output panel and Routing panel.

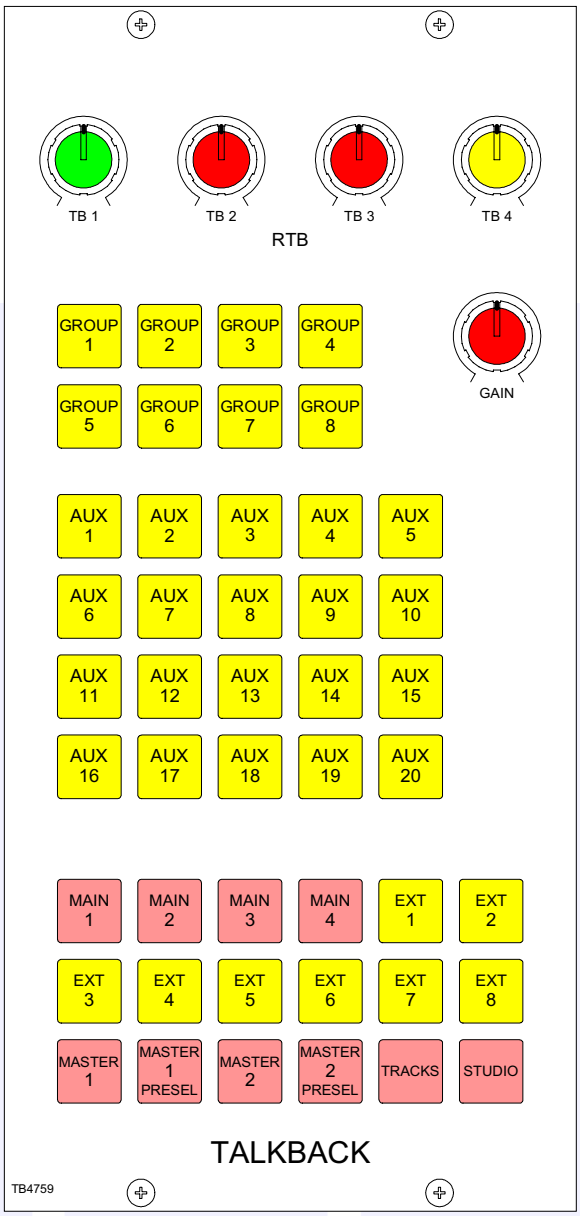
MASTER 1 and 2 operate all the TB buttons which have been preselected by the respective PRESEL button.

All Talkback buttons are subject to On-Air inhibits, set up on the TX/REH screen.

The GAIN control sets the level of the talkback microphone.

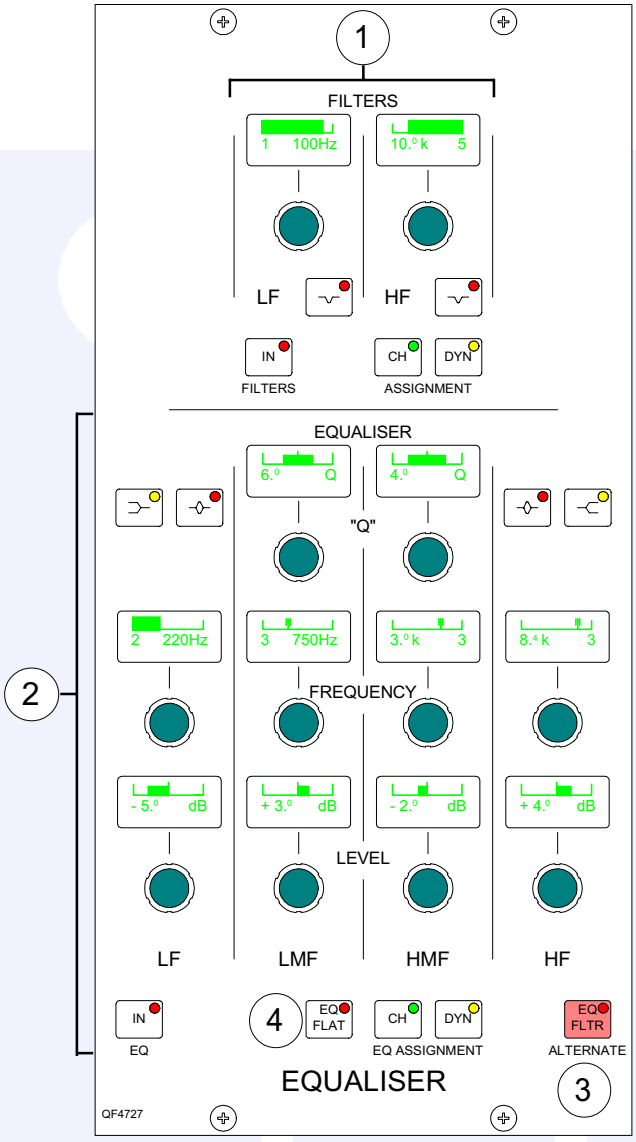
TB1 to TB4 set the level of 4 RTB (Reverse Talkback) signals.

There can be a mix of all four signals to feed a single loudspeaker. This can mix with the PFL feed to the PFL loudspeaker.



EQ AND FILTERS

The Equaliser panel controls EQ & Filters on the channel paths only. Excessive control ranges are deliberately avoided to simplify operation. Once a channel has been selected by pressing it's Assign button (A or B), it's frequencies can be adjusted using the following controls.



(1) Filters

LF 12dB/octave plus notch, 20Hz to 330Hz
HF 12dB/octave plus notch, 3.3kHz to 20kHz

(2) Equaliser

LF 30Hz to 470Hz, shelf or bell (Q of 1)
LMF 160Hz to 2.4kHz, Q from 0.3 to 10
HMF 500Hz to 7.5kHz, Q from 0.3 to 10
HF 1kHz to 16kHz, shelf or bell (Q of 1)

EQ level controls are adjustable by ±15dB

EQ and Filters are switched in and out of the signal path using the IN buttons in each section.

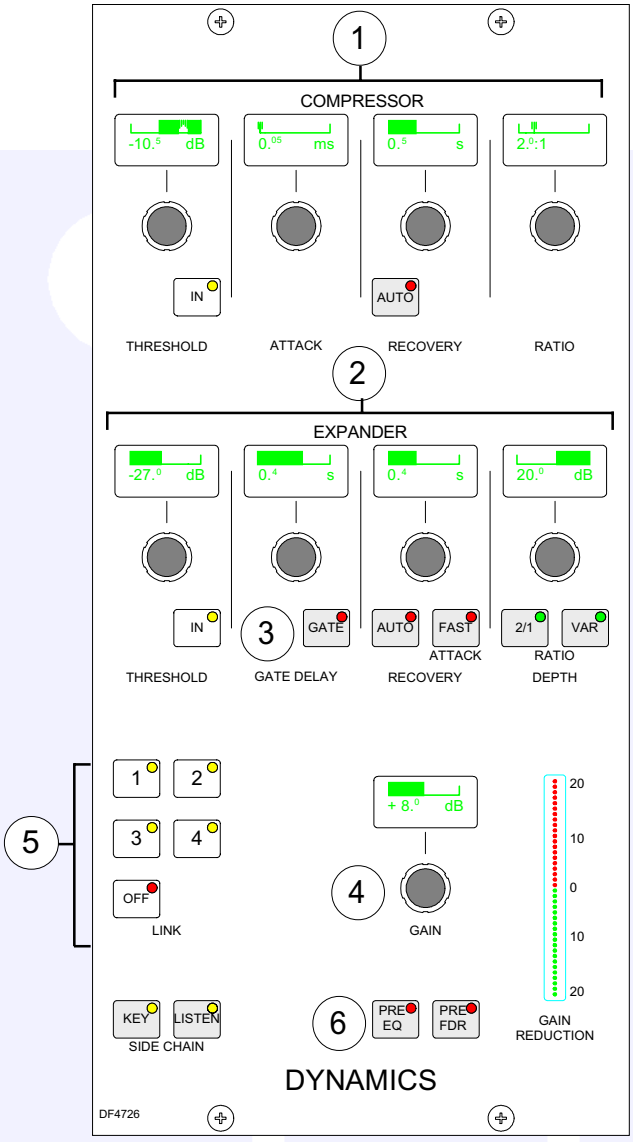
The EQ and Filter sections each have two assignment buttons. The CH buttons ensure that the EQ and Filters are switched into the assigned channel's path, and the DYN buttons allow the EQ and Filters to be switched in and out of the dynamics of the assigned channel. These buttons are not mutually exclusive, EQ and Filters can either be in the channel path or the dynamics, but not both at the same time. Selecting DYN will de-select CH and vice-versa.

(3) The ALTERNATE EQ FLTR button allows switching between two complete sets of EQ and Filter controls.

(4) EQ FLAT will clear any EQ settings to flat.

DYNAMICS

The Dynamics panel controls Compressor and Expander or Gate, on channels and groups, and Compressor on main outputs. Once a channel has been selected by pressing it's Assign button (A or B), it's dynamics can be adjusted using the following controls.



(1) Compressor:

Threshold +20dB to -20dB

Recovery 75ms to 4 sec + AUTO
Ratio 1 to 50
Attack 50µs to 5ms

(2) Expander:

Threshold 0dB to -40dB
Recovery 75ms to 4 sec + AUTO
Depth 0dB to 40dB
Fast attack 300µs (normal 16ms)
Ratio 2/1 and VAR (variable - according to level)

(3) Gate:

Threshold 0dB to -40dB
Recovery 75ms to 4 sec + AUTO
Depth 0dB to 40dB
Fast attack 300µs (normal 16ms)
Gate delay 0 to 1 sec in addition to 6dB hysteresis

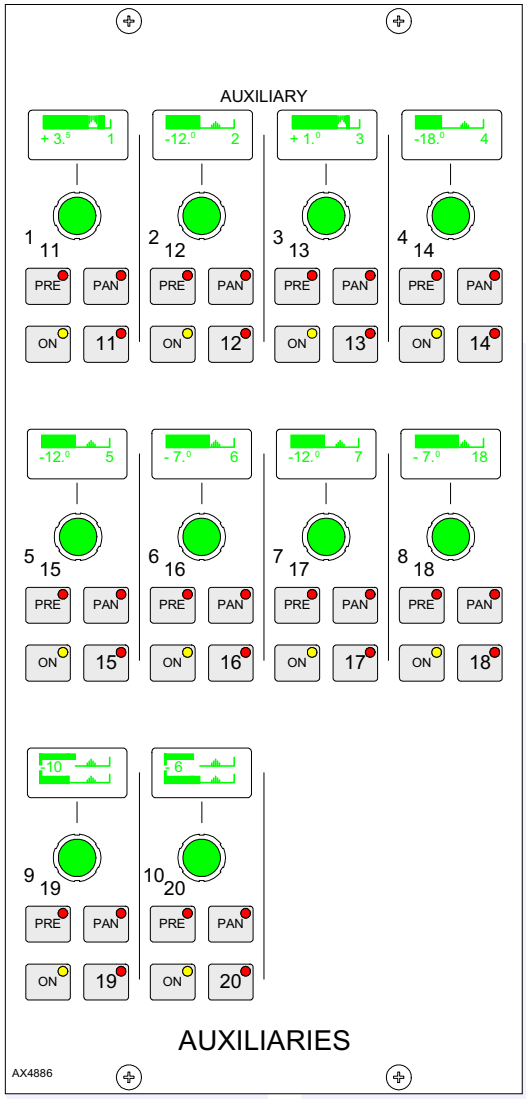
(4) Make up gain is adjustable from 0dB to +20dB.

(5) It is possible to have the dynamics of many channels linked by assigning them to one of four available link busses. This is useful for when the same dynamics settings need to be applied to more than one channel, for example, when 4 channels represent a 5.1 signal. With the channel selected, press 1, 2, 3 or 4 to assign the channel to the bus.

(6) The dynamics can be applied Pre EQ or Pre Fader. The Pre EQ button will not function on group & main paths.

A 0dB setting on the dynamics equates to the chosen reference level for the console.

AUXILIARY CONTROL



The Auxiliaries panel controls the feeds from the channels or groups to the auxiliary output busses.

The ON button switches the feed from the currently assigned channel or group to that auxiliary output buss. Each feed is post the channel or group fader, but can be pre fader, selected using the PRE button.

There are 20 mono auxiliary output busses, which can be paired up to be used as stereo auxiliary output busses. The busses are pre-set to be mono or stereo on the USER-BUSSES screen. If, for example, aux 9 is set to be stereo, then aux 19 will not be available (and Aux 19 will not work on the Monitor Selector panel). When a pair of auxes are changed in this way, all settings of the pair are cleared.

On mono auxiliaries, buttons 11 to 20 switch the control to that numbered aux send.

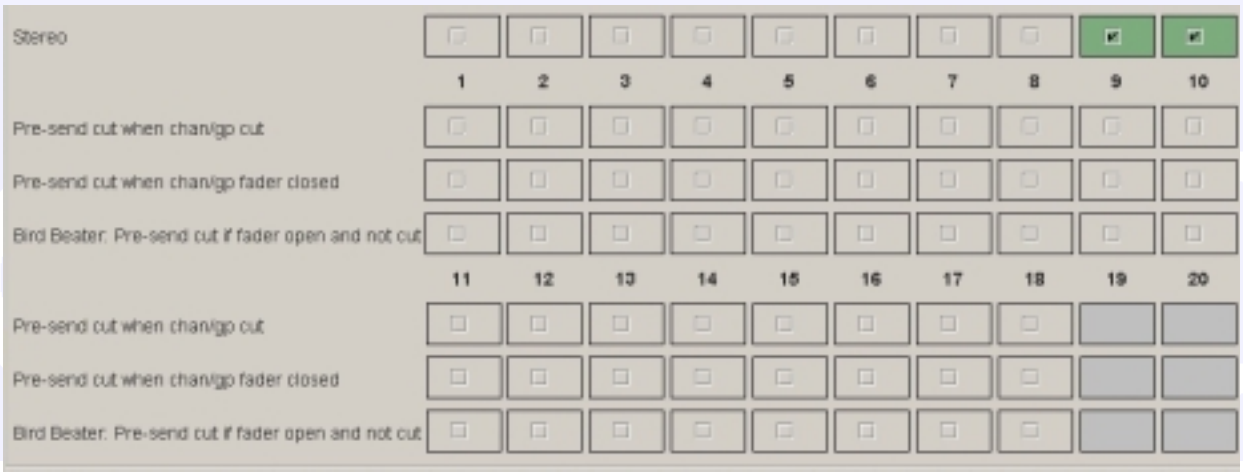
On stereo auxiliaries a dual level display will be shown. For example, aux 9 & 10. Here buttons 19 & 20 will be inoperative.

PAN makes the control into a Pan control (balance on stereo channels). Any pan offset will be shown as an offset between the two bars of the display.

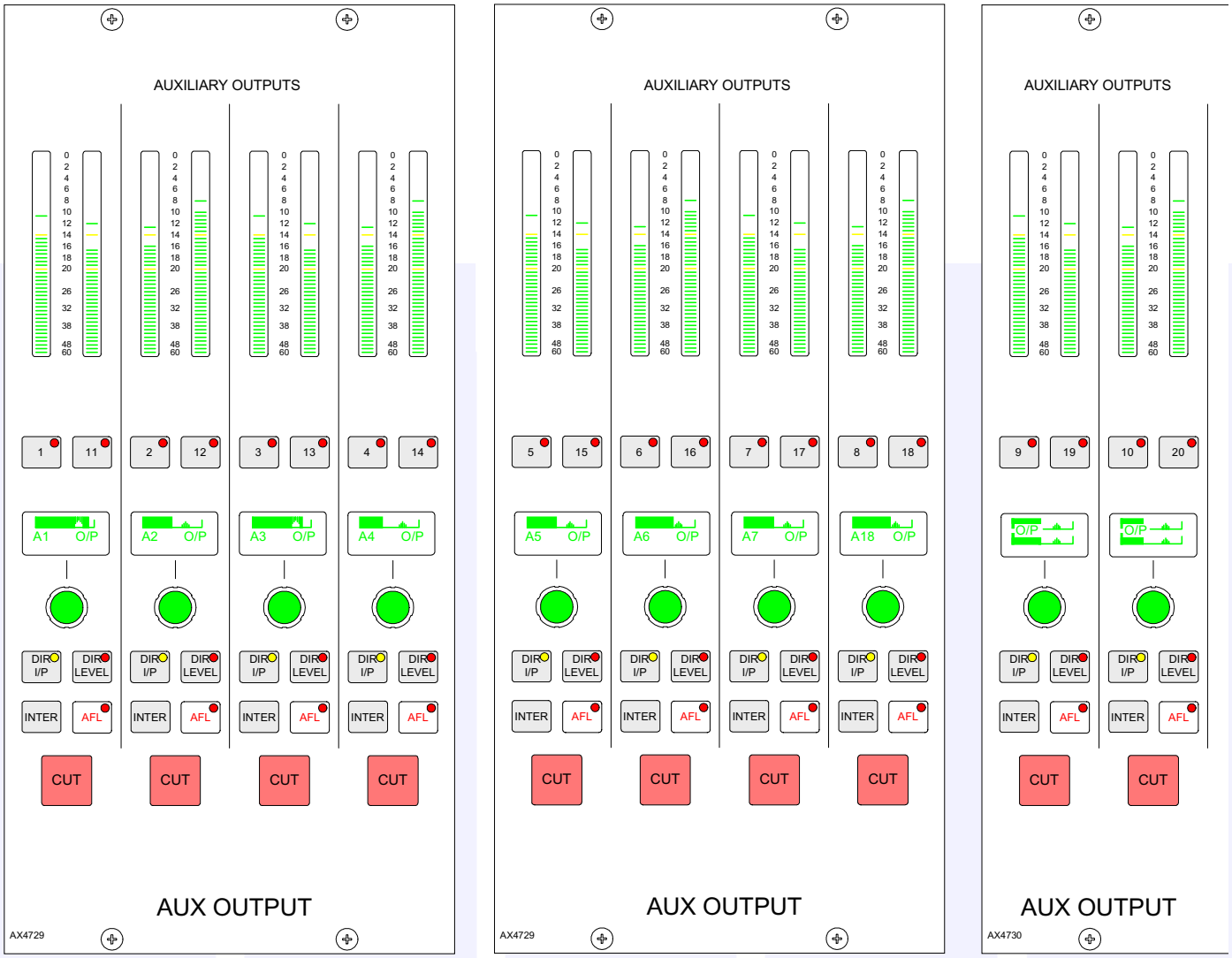
The auxiliary output levels and direct input switching and levels are controlled on the Auxiliary Output panels.

On the USER-BUSSES screen, options are available for the pre-send to be cut:

- when the channel or group is cut
- when the channel or group fader is closed
- when the fader is open and not cut (Bird Beater). This option cancels the other two pre-send cut options.



AUXILIARY OUTPUTS



These panels control the auxiliary outputs.

The displays above each rotary control show what is being controlled (e.g O/P or DIR) until they are adjusted, when the level is then displayed. A short time after the adjustment has been made, the display will show the label again.

On stereo auxiliaries a dual level display will be shown, for example, aux 9 & 10. Here buttons 19 & 20 will be inoperative. There cannot be a level offset on the output display.

It is possible to discover which fader paths are feeding each of the aux output busses by holding down the Interrogate button (momentary). The fader assign buttons of all the paths feeding that bus will light. Paths can be added or removed from the bus under interrogation, by selecting or de-selecting their fader assign buttons.

DIR I/P switches on the direct input to the auxiliary bus.

DIR LEVEL makes the Aux output control into the direct input level control.

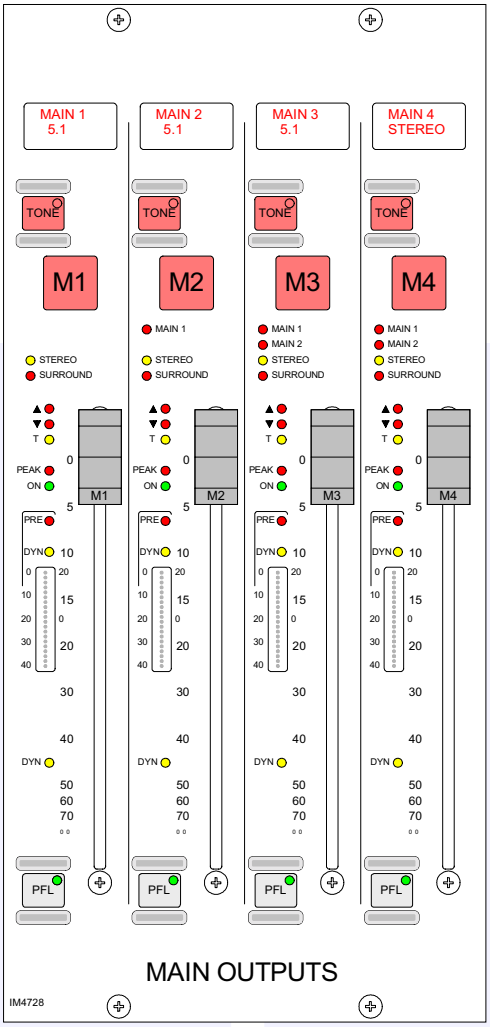
MAIN OUTPUT FADERS

The Assign button (M1, M2, M3, M4) on each main fader calls the main output to the Assign panels to allow; routing (of one main to another - indicated on the routing leds above the faders), insert ON/OFF, and control of the Compressor and direct input.

Each main output can be pre-set to be either surround or stereo. Surround mains are 5.1 plus a rear downmix to allow a simultaneous LCRS. There is also a stereo downmix and a mono downmix (potentially 10 outputs for each surround main).

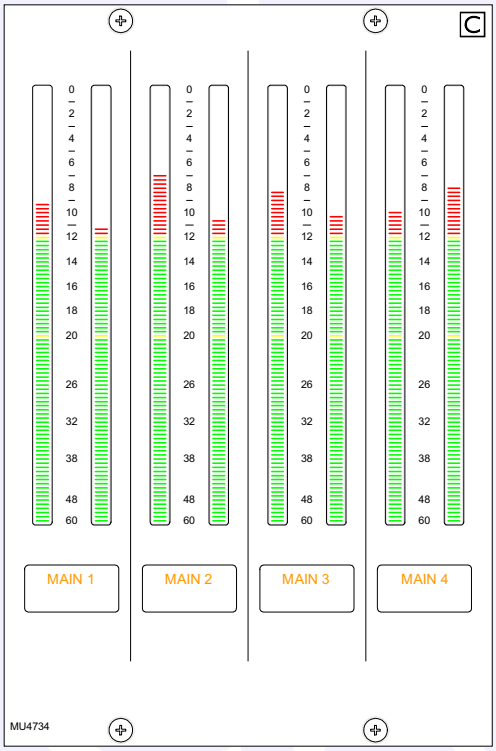
The insert and direct input are also surround.

If a surround main is routed to a stereo main, the stereo downmix will be routed.



MAIN OUTPUTS

MAIN OUTPUT METERS



The main output meters display the stereo downmix if the output is surround.

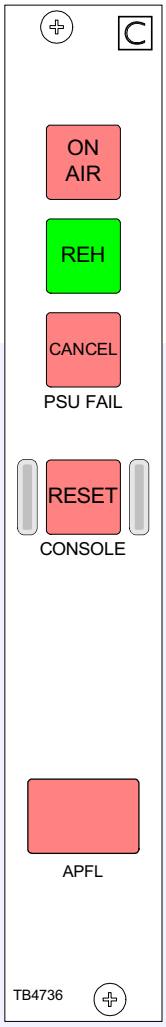
If the main line monitor is set to be fed back from the studio distribution via external inputs to the desk, then the meters will display this instead.

BROADCAST FACILITIES

Condition Switching

There are three modes which the system can be in: Transmit (TX or On Air), Rehearse, or neither. These are controlled from the ON AIR and REH buttons or from external inputs set up on the OPTO screen.

The TX REH screen allows the condition switching for the system to be set up, whereby many different functions can be set to be active, or not, in any of the three states. This can significantly reduce the risk of human error, making the whole system a more robust, less stressful, user friendly environment for operators to work in.



Power Supply Monitoring

The rack mounted PSU monitor module monitors the power supplies for failures, and ensures automatic changeover to the spare should there develop a fault. The PSU FAIL Indicator/Cancel button on this panel will flash if any one PSU fails (the hot spare PSU would prevent the desk from being affected). Pressing this button will change the flashing to a steady lit condition. In this mode, in the unlikely event of a second PSU failing, the light will begin to flash again, although depending on the function affected by this second failure, other effects may be apparent.

AWACS

If a problem does develop, the PC will report this on the Automatic Warning and Correction System (AWACS) screen. The AWACS icon will flash to draw attention to the report.

Because the system has many back-up features, such as automatic change over to hot spares for power supplies, control cards & DSP cards, it is possible to continue operating after errors are reported. Message history is saved to the PC's hard disk for future analysis.

Console Reset

Pressing the CONSOLE RESET button resets the control system only. Independent DSP operation ensures audio continuity during console reset. The most recent console settings will be fully restored in less than 15 seconds.

As the console operates independantly of the PC, rebooting or failure of the PC will affect neither the audio nor the operation of the console.

MONITORING, METER SELECT AND LS CONTROL

The Monitor and Meter Selectors are used to select the source to monitor, and what to display on the meters. Selectors 1 & 2 are sub-selectors which feed the other selectors. All Selector external inputs can be mono, stereo, or 5.1. Mono inputs are fed to L + R.

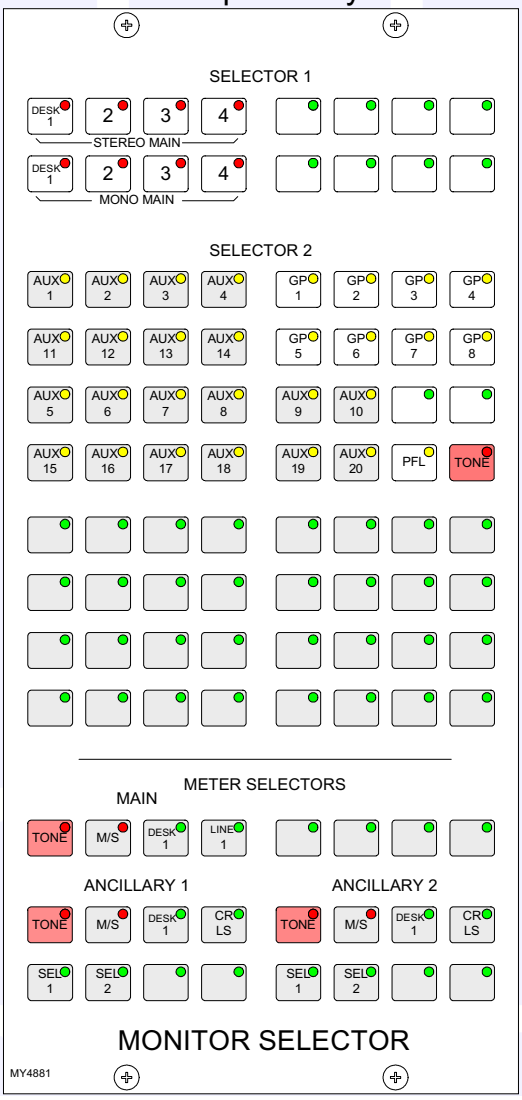
The SMALL LS level control is in series with the Main LS level control. The ON button diverts the monitor output to the small LS for near field, or domestic check, monitoring. Both main and small LS can be stereo, 3 stereo, or 5.1 independently.

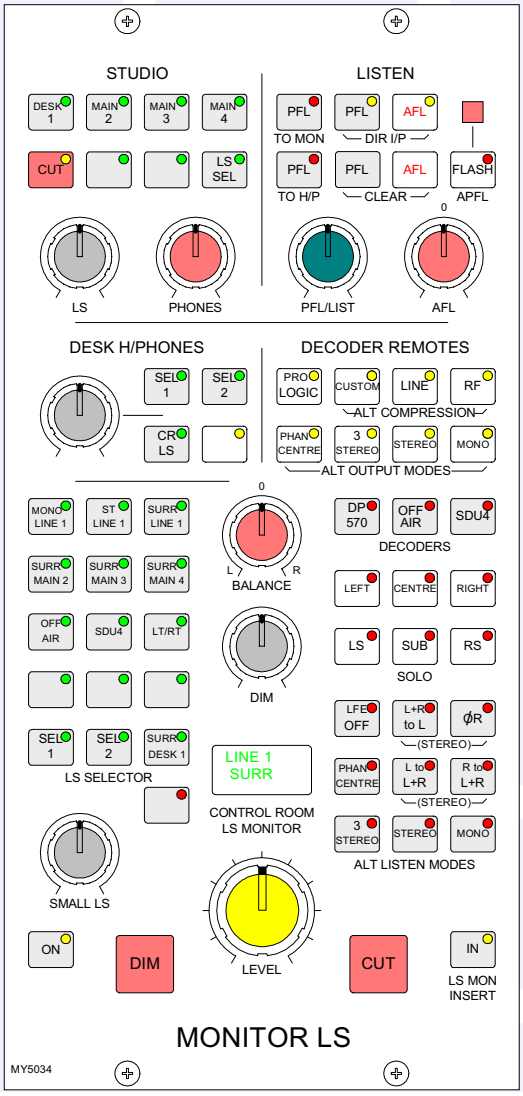
DIM, CUT & SOLO operate on both sets of loudspeakers. DIM & CUT can be externally operated. DIM can be controlled from the TB (See Condition Switching (TX/REH) screen).

If a surround signal is monitored on a stereo loudspeaker or meter, a stereo downmix will be created and monitored. If the loudspeaker system is surround, stereo and mono sources will be heard in stereo and mono, with no signals on the other speakers.

If a main output is surround, the stereo monitor buttons for that main output will monitor the stereo (downmix) output of that main output. If a main output is stereo, the surround monitor buttons for that main output will be disabled.

For Studio LS, two parallel LS outputs are provided, post the level control, with separate Mic Open cuts. These can be independently either stereo, 3 stereo or 5.1.





Meter Selectors

The main meter is in addition to the four stereo main output meters, which display the stereo downmix of the main output, if the main is surround.

The Ancillary 1 meter would normally be used to meter the Control Room LS monitor selection, but can also be selected to Main 1 Desk, Sel 1 or 2, or 2 external inputs.

Both the main and Ancillary 1 meters have a Tone switch to send Tone directly to the meter. They can both be stereo only, surround only, or surround plus stereo, with an optional separate M/S (L-R sum/difference) meter.

The Ancillary 2 meter can be selected to meter the Control Room LS monitor selection, Main 1 Desk, Sel 1 or 2, or 2 external inputs. It is stereo only with an optional separate M/S (L-R sum/difference) meter. When metering surround signals, it displays the stereo downmix.

Alternative Listening Modes

All off indicates NORMAL (mono, stereo or surround depending on the source selected and the LS arrangement).

3 STEREO with Phan Centre ON is the same as STEREO except the LFE is optional.

ØR, L+R to L, L to L+R, and R to L+R will work in any mode, but are really designed for use in STEREO mode or when monitoring stereo sources.

MONO feeds L, C, R, LS & RS to L + R.

AFL & PFL

AFL feeds the Control Room LS outputs (post the surround panning controls), overriding the LS SEL. PFL can also do this if PFL TO MON is selected (overrides AFL). If PFL to MON is not selected, PFL can override the small LS (if it has been set to do this during the setup application). Alternatively, there can be a separate stereo PFL LS output. An external RTB input can mix with PFL to the PFL LS output.

PFL to H/P feeds the PFL signal to the headphones.

PFL clear & AFL clear, clear any latched buttons.

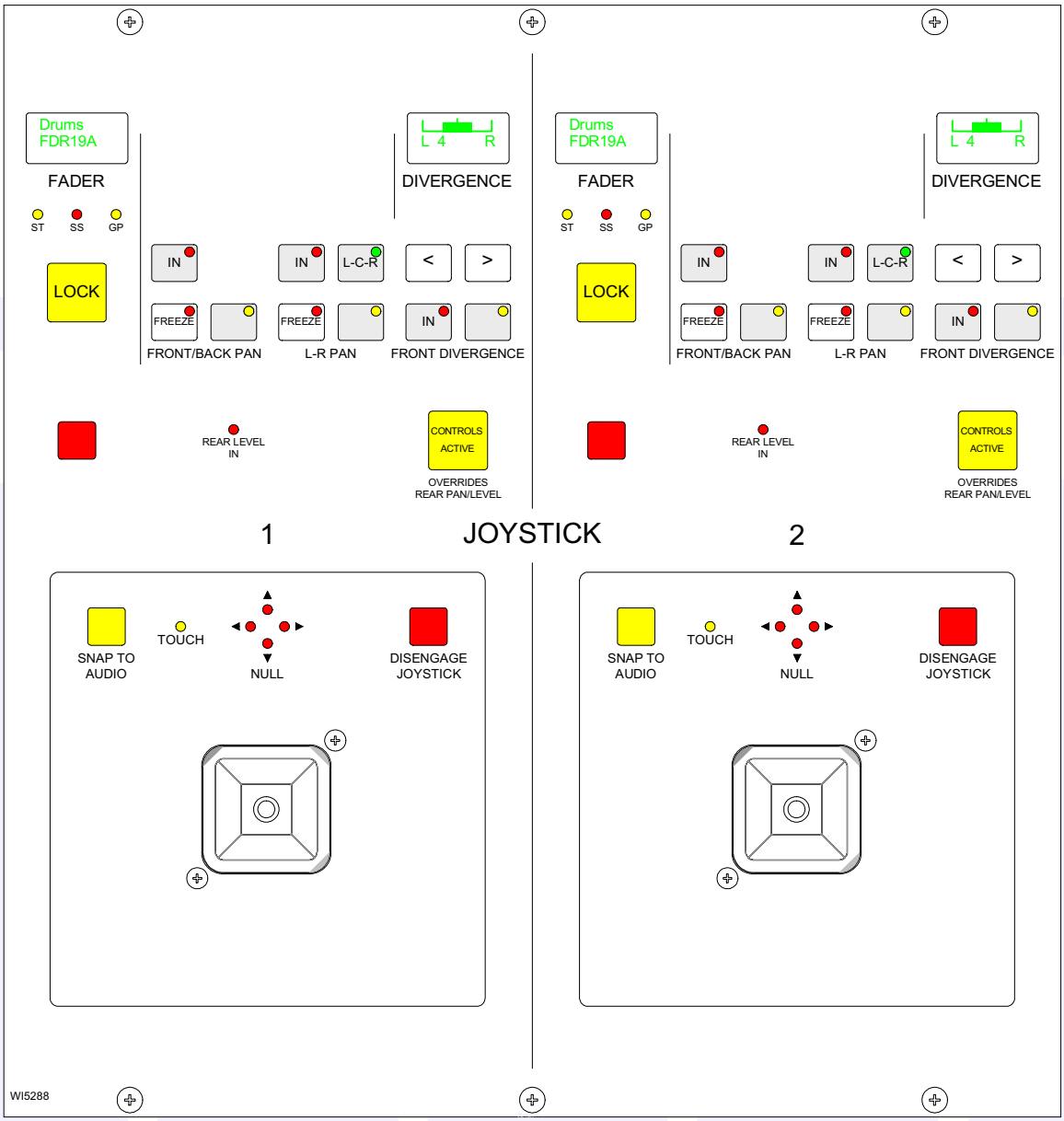
PFL from surround mains is a stereo downmix of the surround signal.

Decoder Remotes

The DECODER REMOTE buttons control whichever Decoder is currently selected. (Other Decoders remain in their previously set state). The buttons are shown engraved for a Dolby DP570.

- 4 buttons for Alternate Output Modes (all off indicates Full surround).
- 3 buttons for Alternate Compression Modes (all off indicates no compression and no dialogue normalisation).
- 1 button for Pro Logic mode. It is assumed that the DP570 will be set on the unit, to Dolby Digital mode either in manual or auto detect mode.
- When controlling a Dolby SDU4, LT/RT decoder, only the stereo and mono output mode buttons will function.

MOTORISED JOYSTICK PANEL (OPTIONAL)



The joystick panel is available as an option, and can be either a single joystick, or twin joysticks as shown above. The joysticks allow accurate stereo and surround panning of the channel, group or main path.

The joysticks are touch-sensitive, and the Touch LED will light when the joystick is touched. In normal operation, the joystick controls the currently selected fader path (Chosen by pressing A or B on the fader panel). LOCK allows the joystick to be fixed to a specific path. Pressing LOCK again will unlock the panel. The fader display shows the path currently assigned to the joystick panel.

LEDs show the type of path being controlled:

SS - Indicates a surround sound main.
ST - Indicates a stereo source.
GP - Indicates a group.

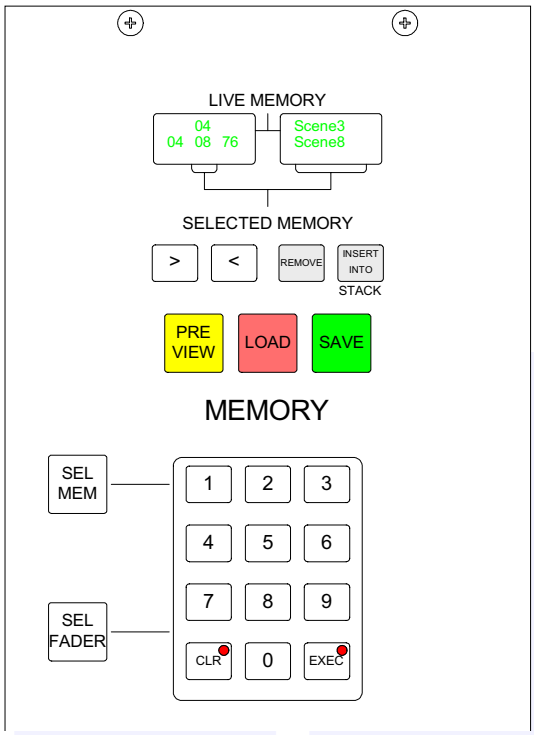
Front/Back pan, L/R Pan and Front Divergence each have a set of dedicated controls. Each has an IN button to enable the function. The IN buttons and L-C-R button work in parallel with the buttons on the Input/Output panel. The blank buttons are there so that additional features can be implemented in the future.

Controls Active must be selected for the joystick controls to take effect. When Controls Active is selected, the joystick moves to the position set by the Front Pan and F-B controls (including IN/OUT status). If the joystick is being touched when Controls Active is selected, then the audio will move to the position of the joystick. Any Rear Pan and Rear Level settings are disabled, and the Rear Pan and Rear Level displays on the Input/Output panel and any Wild Controls show “JOYSTK”. De-selecting Controls Active does not restore any previous Rear Level or Rear Pan controls, but leaves the Rear Level switched out, and the Rear Pan at the same setting and IN/OUT status as the Front Pan.

If a blank fader or a main path is assigned, Controls Active is disabled. The divergence display will be blank and the buttons should be all off. If the joystick is engaged, it will default to the central position, unless it is being touched, in which case it will stay where it is. Similarly, if a path is assigned where Controls Active is off, the joystick (if engaged) will default to the central position, unless it is being touched, in which case it will stay where it is.

FREEZE	:	When freeze is pressed on either axis, the joystick ceases to alter that axis. Freeze does not affect the Input/Output panel or Wild controls, they can still alter the frozen axis. The null LEDs show which direction the joystick must be moved to match the audio.
DISENGAGE	:	Disengages the joystick only. When the joystick is disengaged, it does not control or move to follow the audio. This is to protect against accidental changes. The null LEDs will still indicate the direction in which the joystick must be moved to match the audio. When Disengage is de-selected, the joystick will move to the position of the audio, unless it is being touched, in which case, the audio will move to the position of the joystick.
SNAP TO AUDIO	:	Pressing this button will cause the joystick to snap to the position of the audio.

MEMORY CONTROLS



99 memories can be held in the Flash ROM for different console arrangements. In addition to this, the PC back-up can allow an unlimited number of memories, which can be called into the Flash ROM quickly and easily. Memories can be stored to removable media such as floppy disk. This can be useful for when many different operators use the same console (for example an Outside Broadcast vehicle), or when the console is used to broadcast many different weekly productions.

Live and Selected Memories

The display at the top of the panel shows the “Live Memory” on the top half, and the “Selected Memory” on the bottom half.

The Live Memory shows the last memory loaded onto the console. Changes made since this memory was loaded will not be stored in this memory number unless it is re-saved. They will be stored in the “Hidden” memory so that they are restored after a power down.

The buttons on this panel will affect the Selected Memory. The Selected Memory can be thought of as the “Ready” position, where the operator can place the next required memory until it is needed.
Pressing LOAD will launch the Selected Memory into the Live Memory position, overriding the previous console settings.

Choosing the Selected Memory

With SEL MEM lit, enter the two digit memory number followed by EXEC to call up any memory. The Selected Memory can also be chosen by selecting the required memory in the Flash ROM list on the left of the Memory Screen.

Clearing a Memory

The contents of the Selected Memory can be cleared by pressing SEL MEM + CLR + EXEC on the keypad or selecting CLR MEM on the screen.

Saving Memories

The Save button will save console settings to the Selected Memory. Therefore, the memory to which you want to save must be in the Selected Memory position when Save is pressed. Alternatively, SAVE+Memory Number + EXEC will save into that memory number.

To create a new memory, choose an empty memory by pressing SEL MEM and typing it’s number on the keypad, or by selecting it from the list on the left of the Memory screen. If however, you wish to simply update changes you have made to the Live Memory, it must be showing as both the Live Memory and the Selected Memory in the display. The PC can be used to change the title of the memory being saved.

Preview Memory
When the Preview button is pressed, the Selected Memory's settings will be displayed on the control surface. The Assign panel displays will be blanked out. Upon release of the Preview button, the control surface will display the live settings again.

Stacked Memories
The memories can be arranged into a Pre-set list, known as a stack. This can be useful for setting up an easy-to-access shortlist of specific memories for use during a show. Stacks can be saved to the hard disk or removable media as sessions.

To allow the stack to use the Selected Memory position, any memory which has been selected manually, and is not part of the stack (shown in inverse text), must first be removed from the Selected Memory position, by pressing REMOVE.

If REMOVE is pressed while a stack memory occupies the Selected Memory position, it will be removed from the stack. A second press will remove it from the SELECTED MEMORY position.

The > and < buttons scroll through the stack. Pressing both > and < together, will reset the position so that the last number loaded is back in the central position. To add a memory to the stack, ensure it is in the Selected Memory position, and press INSERT INTO STACK. Pressing REMOVE will remove a stacked memory from the stack, or will remove a non-stack memory from the Selected Memory position. Inverse text in the display indicates that the memory is not part of the stack.

AUTO > or < automatically moves the stack to the next position after each LOAD.

Memory Screen
This panel is accompanied by a screen which duplicates the memory functions available on this panel. It also allows management of stored memories and stacks (sessions). Memories and sessions can be backed up and recalled using the Memory screen.

When a stored memory is recalled onto the console from disk, the system checks that the current desk configuration matches that of the stored memory. If there are discrepancies, a warning that the memory may not work correctly will be given.

Isolation
Some console settings can be isolated from memory recall, so that they will not be over-written when a memory is loaded onto the console. This is done using the MEM-ISOL screen.

Partial Memories
Partial memory mode allows components of console settings to be saved to memories in the same way as full console snapshot saves. The partial memories screen provides a mechanism for selecting channels or sub-components of channels to be saved in a partial memory. The save buttons on the control surface and screen are used to save partial memories in the same way as full console snapshot memories. When a partial memory is recalled, only the specified settings will be updated.

Partial memories mode is enabled and disabled using a button on the partial memories screen. When enabled, all memory saves are partial memory saves. When disabled, all saves are full console snapshot saves.

INPUT DELAY (OPTIONAL)

The Input Delay panel is available as an option, and allows the user to apply specific amounts of delay to each channel path.

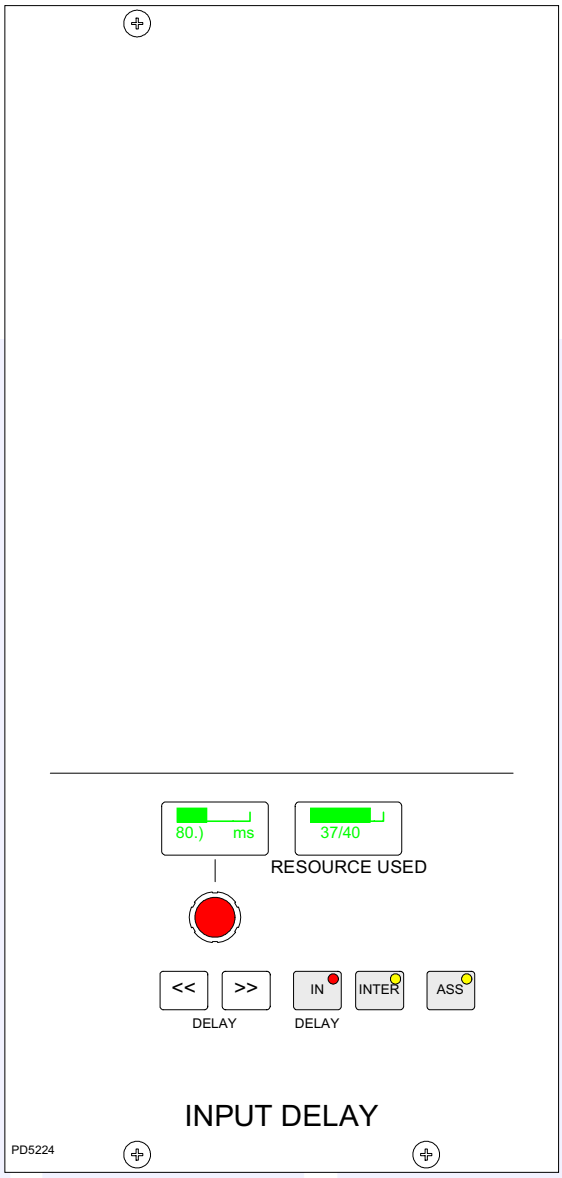
There are 42 legs of delay available for channel assignment. Stereo channels use two legs. Each leg provides up to 250 ms of delay, adjustable in 0.1ms steps using the rotary control, and 10ms steps using the nudge buttons.

The RESOURCE USED display shows how many legs are already assigned.

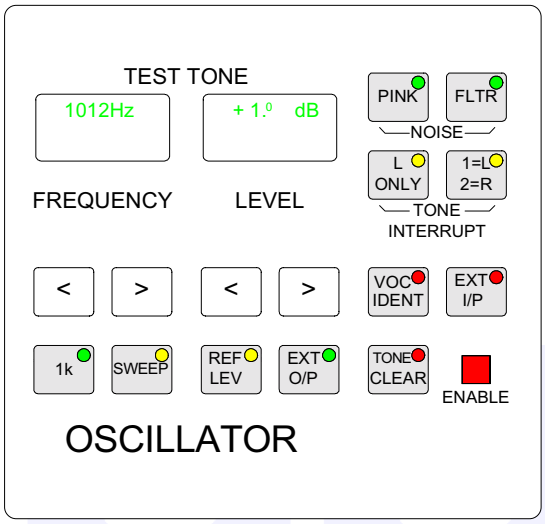
ASS : To Assign delay to a channel, select the fader path by pressing it's assign button (A or B), and then press ASS on the Delay panel. Once delay is assigned to a channel, a delay value can be set using the rotary control or nudge buttons.

IN : Switches the set value of delay in and out of the channel's path.

INTER : Holding down the interrogate button will indicate the channels which have delay assigned by lighting their fader assign buttons.



OSCILLATOR CONTROLS



The Oscillator controls are located above the Fucnctions controls, and are used to generate test tones for alignment and testing

The frequency of the tone can be adjusted from 20Hz to 20KHz in in incremental steps using the nudge buttons, or set to 1KHz using the 1K button. Alternatively, the sweep button will set the oscillator to sweep through all frequencies.

The level of the test tone can be adjusted from -60dBFS to 0dBFS using the nudge buttons, or set to the reference level using the REF LEV button.

The Tone Interrupt buttons are useful for testing paths. They allow the tone to be interrupted on the left side only, or on the left and right sides in an alternating pattern.

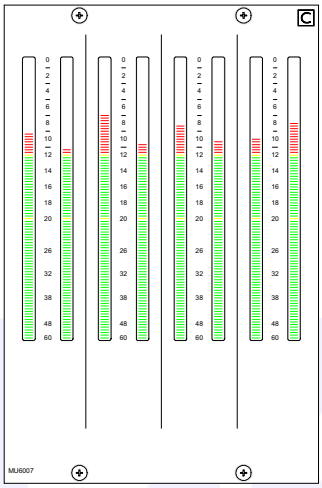
EXT I/P when pressed replaces the tone with a mono or stereo external source of your choice. This allows for external oscillators to be used if preferred. The ports for this are set up on the Options - Mon, I/P and TB screens.

TONE CLEAR clears all oscillator routes made, providing an easy way of removing test tones from signal paths.

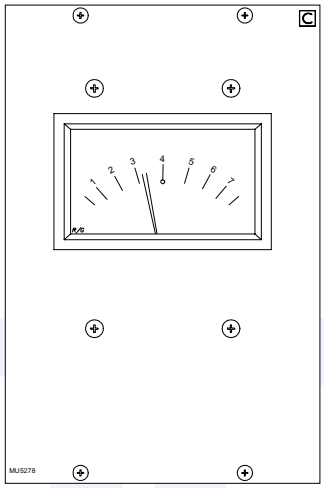
The Enable LED is lit to show that the Oscillator controls are enabled.

Oscillator controls are also adjustable using the Oscillator screen.

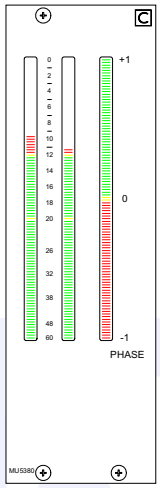
METERING OPTIONS



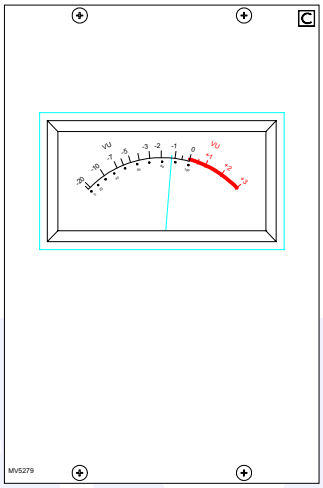
4 x Twin Bargraph



PPM Meter R/G (A/B)



Phase Meter Bargraph & Stereo Bargraph



VU Meter

The MAIN and ANCILLARY 1 meters can be stereo only, surround only, or surround plus stereo (displaying a downmix of the surround signal). There can be a separate M/S meter (fed from the same downmix). They can be PPM's, VU's, bargraphs, phase display incorporating bargraphs, or a mixture of these.

The Main meters are fed from the Main meter selector which is on the Monitor Selector panel. It can select either Main 1 or 2 Desk (pre Tone & TB), Main 1 or 2 Line (which can be an external input), or Tone.

In addition to the Main and Ancillary 1 meters, a comprehensive set of optional meters are available:

- Track Bargraphs displaying the track output levels, post Tone and Talkback.
- ANCILLARY 2 Meter: This is stereo only. It can be PPM's, VU's or bargraphs.
- Stereo APFL or surround AFL Bargraph. AFL is monitored post the channel/group panning and is in surround. The APFL meter will display the stereo downmix of these signals.
- MIX MINUS: Displays signal on the mix minus bus (mono).
- GROUPS: 8 stereo bargraphs for the groups. For mono groups, the meter will display the eft bar only.

Calrec can supply either bargraphs, Moving Coil VU or PPM meters. (except for the Aux output meters, which are always bargraphs). All Calrec meters, including moving coil types, are fed directly from the meter processor.

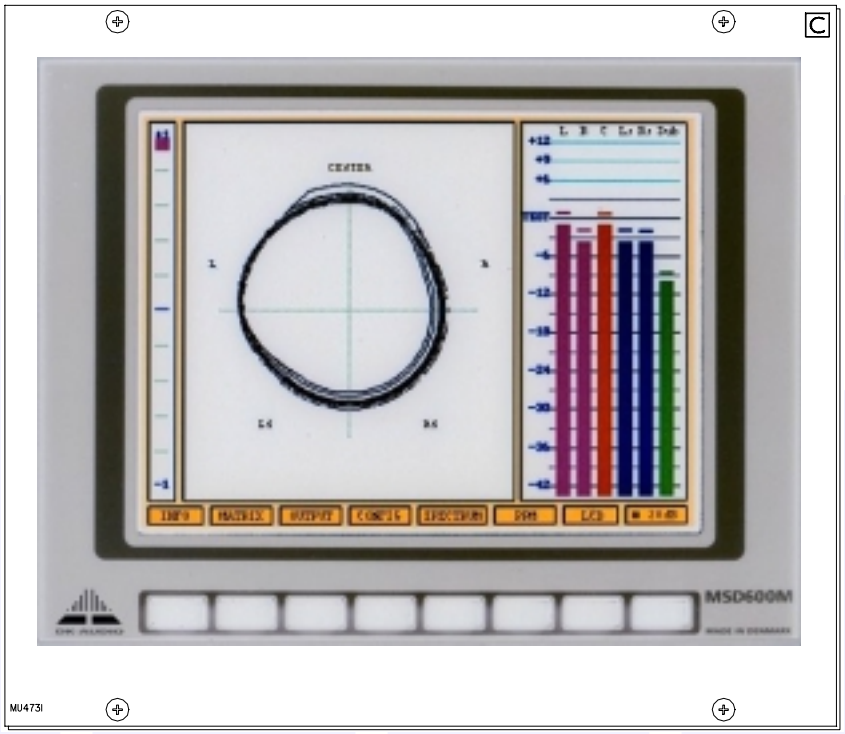
Calrec bargraphs provide a bar which can be either VU or PPM. In addition, there can be a True Peak spot (which incorporates a long release time). Together, these allow the operator to see the level of the signal using a familiar meter and at the same time to see how close the peaks of the signal are to the digital maximum.

The bargraphs can have yellow markers at specified points (to mark the "nominal" and "peak" levels). The top of the bargraph always equals full scale digital level. The scale on the bargraph is normally 0 (at the top) to -60 in dB. Other scales can be provided to special order.

The meter bridge is continental height allowing alternative European bargraph meters to be fitted. These would require audio outputs from the I/O Rack.

THIRD PARTY METERING (OPTIONAL)

It is possible to incorporate third party metering options into the Alpha 100 design, such as the DK Audio MSD600M shown here. This would require audio outputs from the I/O Rack.

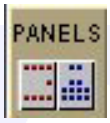


PC Screen Operation

PC SCREEN USAGE AND LAYOUT

The Alpha 100 is designed to minimise the need for the operator to use the screen once the console has been preset. A logical user interface provides easy and quick access to the functions and information on the touch screen. Failure of the screen's computer has no effect on the operation of the control surface or the audio.

The Alpha 100 screens are divided into groups which are accessed using the buttons along the bottom of the display. There are groups for:



PANELS — Operational reproductions of the console panels for off-line work or in case of a panel failure.

STATES — Sets the current state of various functions (these are not stored with the memories or options - only in the live (hidden) memory.)

USER — Operational screens which enhance the controls on the console and for setting options which are stored with the memories.

MEM — Memory control screens to supplement the panel controls.

I/O — Set up and display of all the I/O connections stored with the memories.

TECH — Entry to and control of password-protected operational modes, trouble-shooting screens.

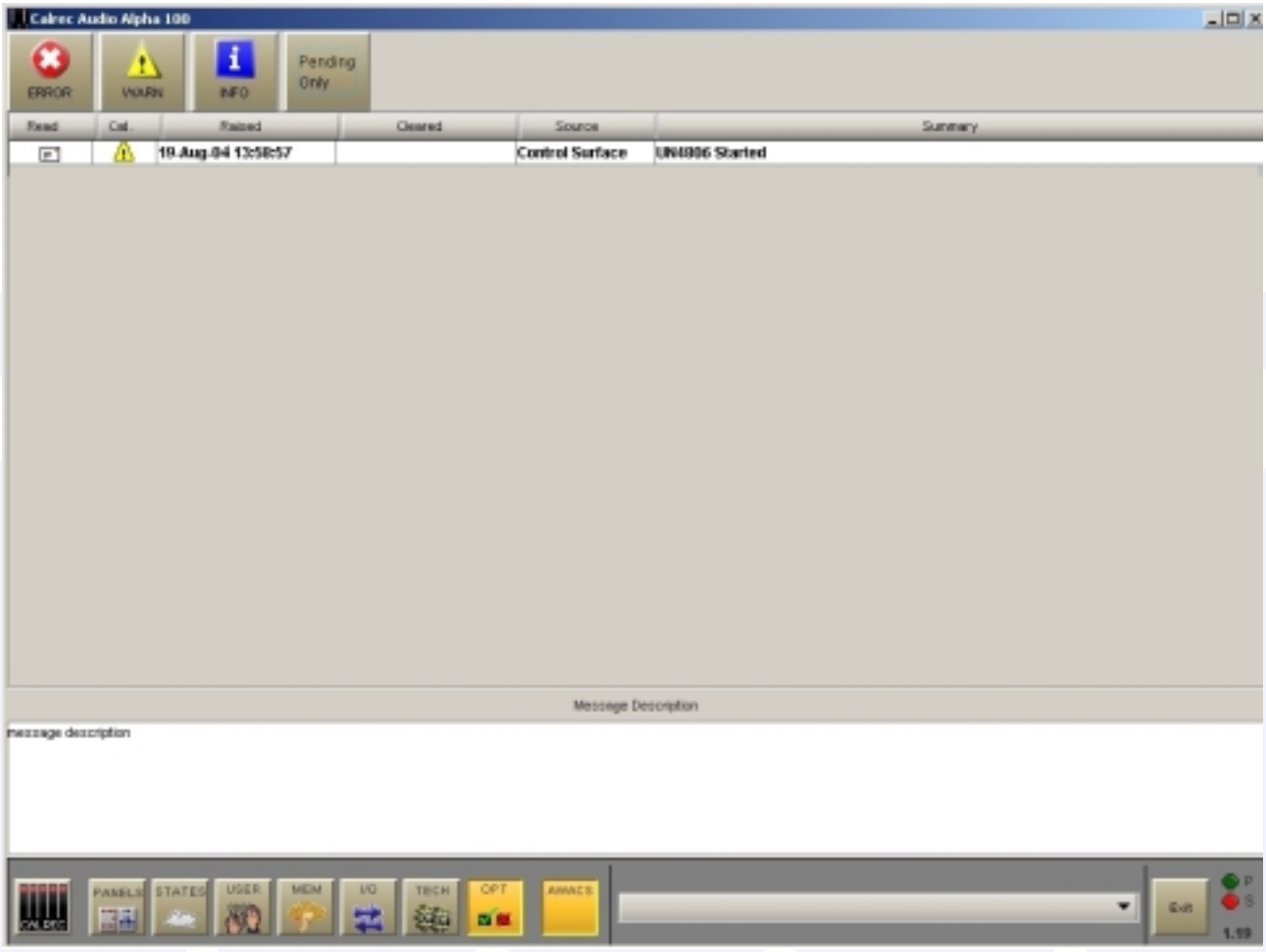
OPT — Options screens for pre-set items which are not stored with the memories.

NET — Screens for setup and control of an audio network system (Only visible if the Hydra audio networking system is installed).

Within each group there are a number of screens accessed by buttons up the left side of the display. On some screens, there are drop boxes or additional buttons to access sub-sets of the screen's function. The action buttons on each screen are context sensitive so will only be enabled when their operation is appropriate.

The "EXIT" button at the bottom corner of the screen will exit the application. Next to this button are two indicators which show the status of the primary and secondary control processors. During normal operation, the primary processor will be in use, and its indicator will be green. When busy, the processor's indicator will be amber, during which time, no changes can be made to the control screens, (Although changes to the console's control surface can be made, and will take immediate effect).

ERROR MESSAGES (AWACS)



If a problem does develop, messages will be delivered on the Automatic Warning and Correction System (AWACS) screen. The AWACS button at the bottom of the screen will flash to alert the user that a message has been reported. Selection of this button will open the AWACS page, where messages can be viewed. Selecting a message will reveal a more detailed description. Message history is saved to the PC's hard disk for future analysis.

Three types of messages are reported:


Information messages, eg "Control Surface UN4806 processor started successfully"

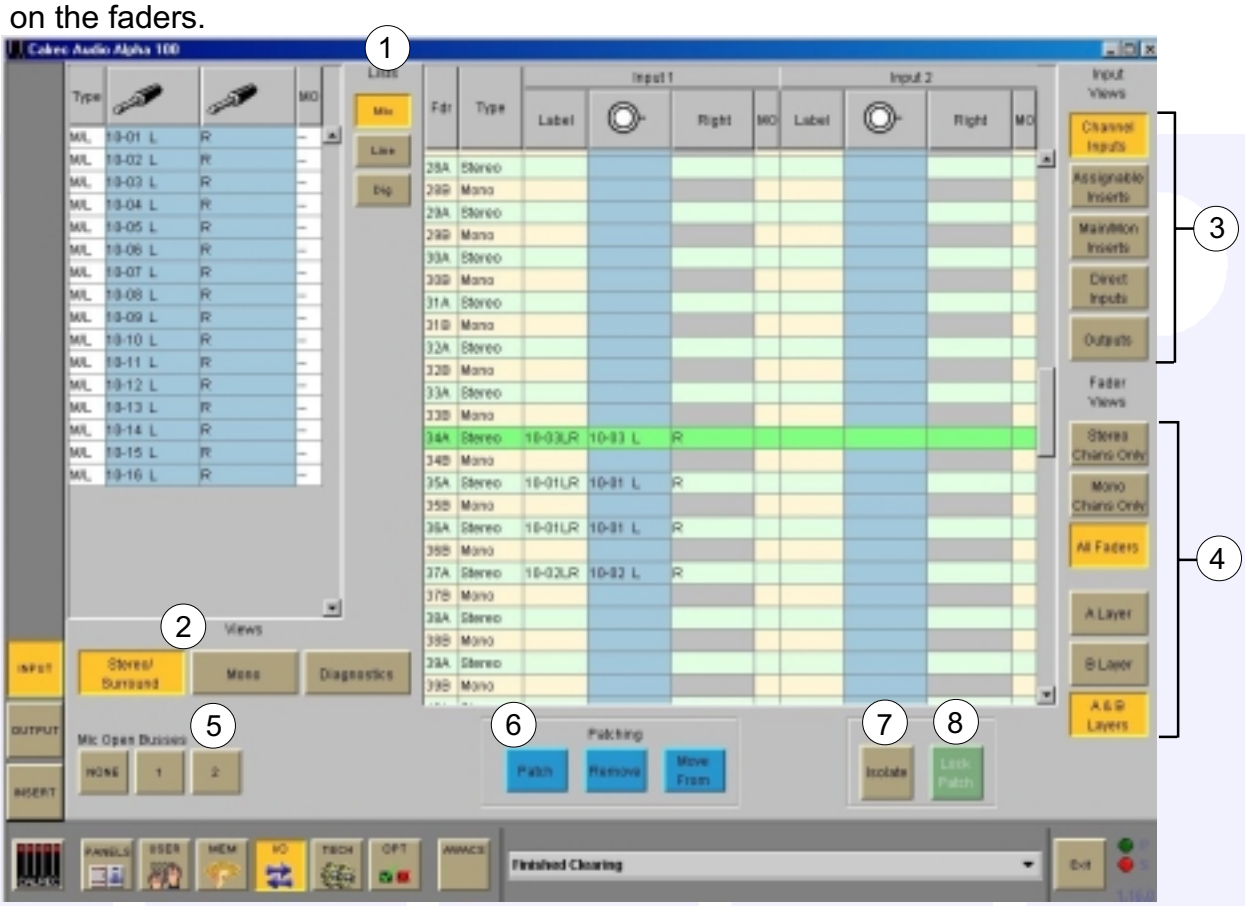

Warning messages, where the system back-up has taken over


Fatal Error messages, where the system cannot recover by itself (perhaps because the back-up is already in use)

Because the system has many back-up features, it is possible to continue operating after errors are reported. If un-cleared errors are still present, an icon will flash in the AWACS button. Selecting this button at any time will switch back to the AWACS screen. Information messages can be cleared by selecting them and then leaving the AWACS screen. Warning and Fatal Error messages can only be cleared by clearing the error and restoring the system to its normal operational state.

INPUT PORTS SET-UP

This screen is the Input Ports Screen and is used for “patching” input sources to channel inputs, insert returns, direct inputs or outputs. Ports are normally assigned using the I/O Matrix panel, but these screens provide an alternative set of controls, which can be useful if the control surface were to develop a fault. The screens automatically scroll to follow the Assign button (A and B) presses on the faders.



(1) Source Lists

All of the available input ports can be grouped into suitable lists at the time of installation. These lists can then be displayed on the left of this screen, ready to be patched to channels. Different lists are accessed using the selection buttons.

(2) Viewing Options

The sources can be viewed as pairs (best for patching to stereo or surround paths), individual (best for patching to mono paths), or individual with the actual rack number, card slot and input shown (for diagnostic purposes).

(3) Input Views

These buttons select the different console path types which can have input ports attached (channel inputs, insert returns, direct inputs or outputs). They will then be displayed in the main section of this screen. Selecting a source from the source list and a channel, insert return or output, then selecting PATCH will assign that source to the channel.

(4) Fader Views

It is possible to choose which set of faders are to be available on and altered by this screen.

(5) Mic Open Busses

Each input port can be assigned to either of the two MIC OPEN busses by firstly selecting the input and then selecting BUSS 1 or BUSS 2. Then, if the input is patched to a channel input, it will operate the mic open circuit when that channel is faded up and routed to the programme output.

If a pair of inputs are patched to a stereo channel, the channel will operate the buss to which the left of the pair is assigned. Each buss can be set to automatically cut the studio loudspeaker output (two separately cut outputs are provided, one for each buss) and/or fire a relay. These are set on the Options screens: TX/REH and RELAY.

(6) Patching

Assignment is made by selecting a source,  and an input or output,  and selecting Patch. 

The input source label will appear in the channel input label field, and on the fader display (if that input, 1 or 2, is currently selected on the Input/Output panel). By selecting the label cell, the input name can be edited using the keyboard. The new name is stored with the channel input and replaces the source label on the fader display.

Once patches are made, they can be removed when selected by clicking REMOVE.

Connections can be moved between channel inputs when selected using the MOVE FROM button. The label field will be highlighted and the PATCH, REMOVE and MOVE FROM buttons will be replaced with MOVE TO, and CANCEL. Upon selection of a new patch point, pressing MOVE TO will move the connection. CANCEL will cancel the operation.

Multiple Patching - It is possible to patch regions of sources to a region of inputs.

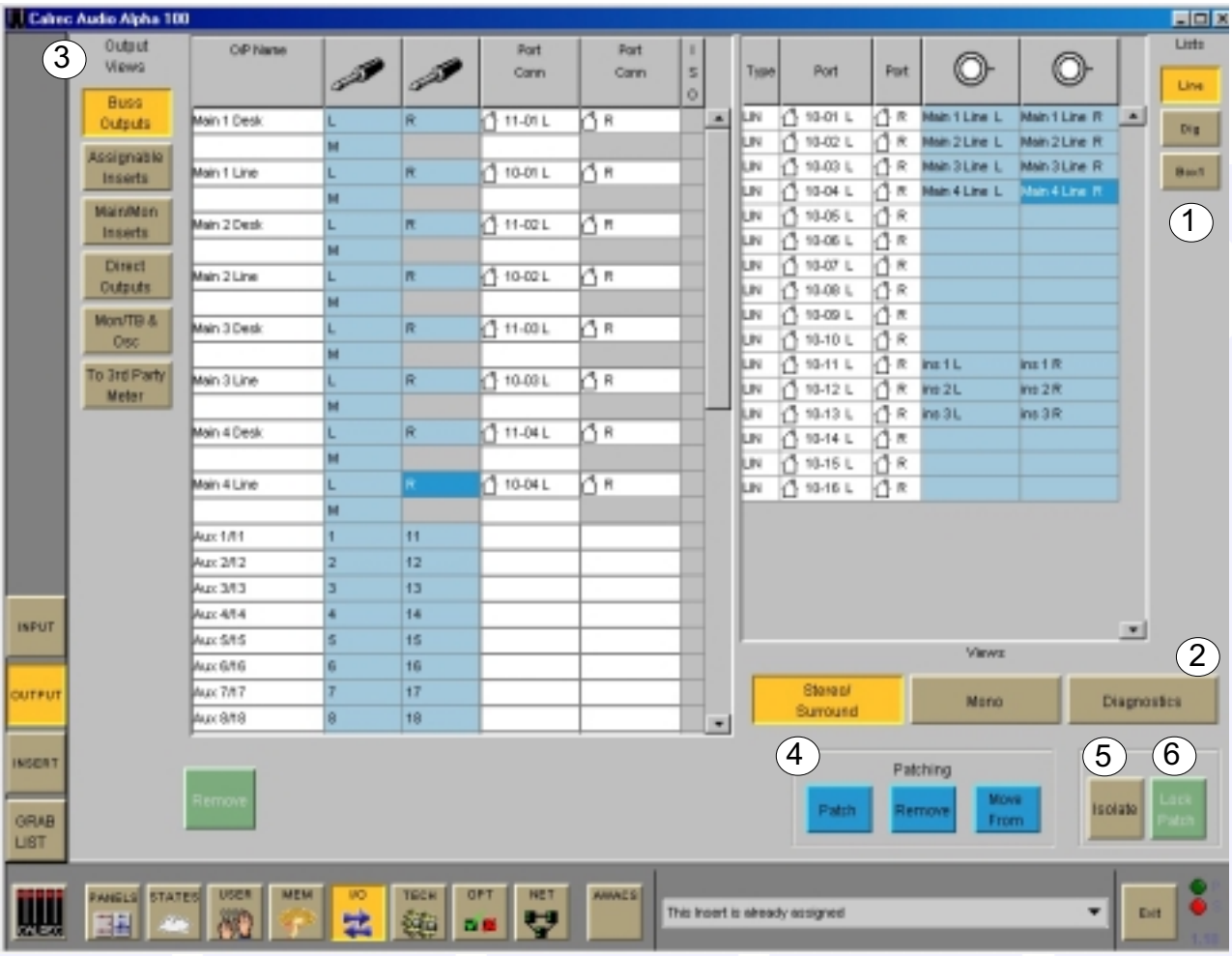
- Select a list of input ports using the trackball by dragging down the column
- Select the fader to start patching to
- Select Patch

(7) Port Isolation

The ISOLATE button allows the selected port connection to be isolated from memory recall, so that it's current settings will not be over-written by what is in the memory. Clicking the button a second time will de-isolate the connection. A brown cell in the label column indicates that a port has been isolated. Other console settings can be isolated using the Isolate screen.

OUTPUT PORTS SET-UP

This screen is used for “patching” console output signals to main, auxiliary and track output ports, insert sends and direct outputs. The screens automatically scroll to follow the Assign button (A and B) presses on the faders. The screen below shows the patching for “Buss Outputs”.



(1) Output Ports Lists

All of the available output ports can be grouped into suitable lists at the time of installation. These lists can then be displayed on the right of this screen, ready to have console output signals patched to them. Different lists are accessed using the selection buttons.

(2) Viewing Options

The ports can be viewed as pairs (best for patching to stereo outputs), individual (best for patching to mono outputs), or individual with the actual rack number, card slot and output shown (for diagnostic purposes).

(3) Output Views

These buttons select the different categories of console output signals which can be patched to output ports (e.g. buss outputs, insert sends, direct outputs, monitoring outputs, Talkback outputs, oscillator outputs, external meter outputs). They will then be displayed in the main section of this screen. Selecting a source from the source list and a channel, insert return or output, then selecting PATCH will assign that source to the channel.

(4) Patching

Assignment is made by selecting an output signal,  and an output port,  and selecting Patch 

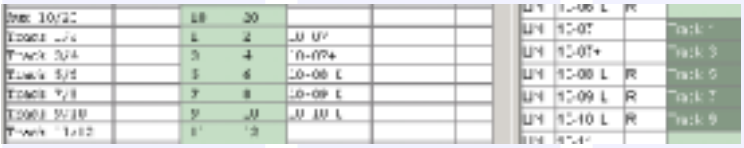
Connections can also be made using the I/O Matrix panel, available as an option for those who would prefer a set of controls on the control surface.

Output signals can be patched to any number of output ports by repeating this procedure. (If groups are set to be mono, only the left output will have a signal on it).

Once patches are made, they can be removed when selected using the REMOVE button.

Connections can be moved between channel outputs when selected using the MOVE FROM button. The Name field will be highlighted and the PATCH, REMOVE and MOVE FROM buttons will be replaced with MOVE TO and CANCEL. Upon selection of a new patch point, pressing MOVE TO will move the connection. CANCEL will cancel the operation.

Multiple Patching - It is possible to patch many Outputs in one operation:



- Select first source point
- Select the output ports by dragging down the column, these have to be all in the same column
- Select Patch

(5) Port Isolation

The ISOLATE button allows the selected port connection to be isolated from memory recall, so that it's current settings will not be over-written by what is in the memory. Clicking the button a second time will de-isolate the connection. A brown cell in the Label column indicates that a port has been isolated. Other console settings can be isolated using the ISOLATE screen.

(6) Output Port Locking

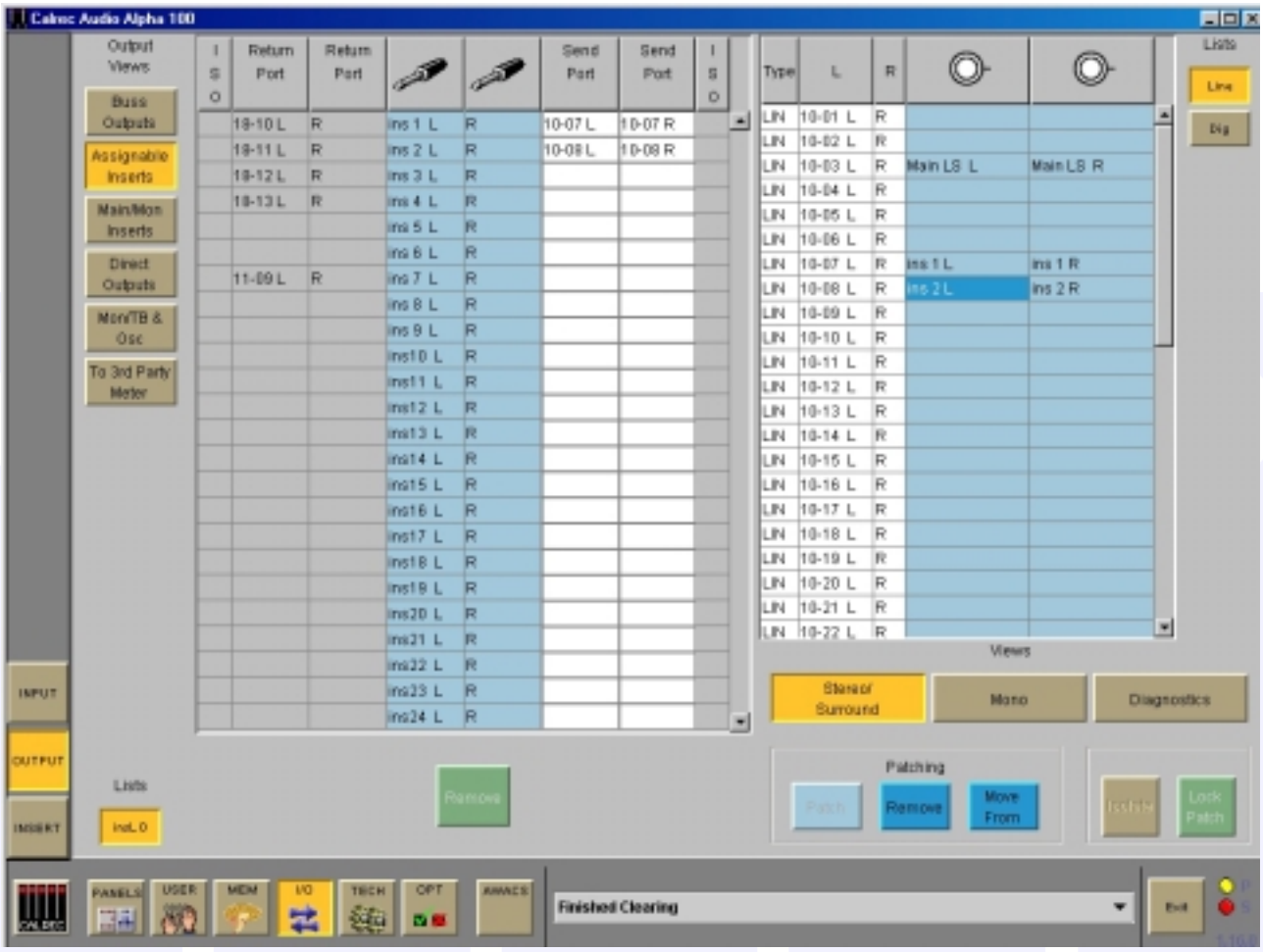
Some output ports may need to be 'locked' once they have been set up to avoid accidental removal. For example - a technician may assign the mixing console's Main 1 output signal to a particular output port. If this were the main studio transmitter output, it would be very undesirable to allow the assignment to be easily changed during normal operation. For this reason, Calrec provides a system of software locks to protect critical parts of each configuration. The console can be in one of three modes, "User", "Technician" and "Supervisor". Operation of the locking system is only available in "Technician" or "Supervisor" mode which are password protected to add an extra layer of security. Modes are selected using the TECH - User Mode screen.

To lock an output port assignment, select an output port which has a source assigned to it (click on the green patch point column), and select the Patch LOCK button.

Provided that the desk is in "Technician" mode, the lock state will be toggled. If the lock is active, the port name will be highlighted in bright green text, otherwise the text will be shown in black.

Once a patch has been locked, any attempt to patch over it, move it, or remove it will cause an error dialog box to display "Patch locked!"

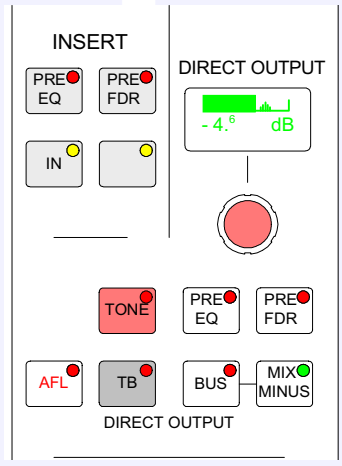
ASSIGNABLE INSERT SENDS



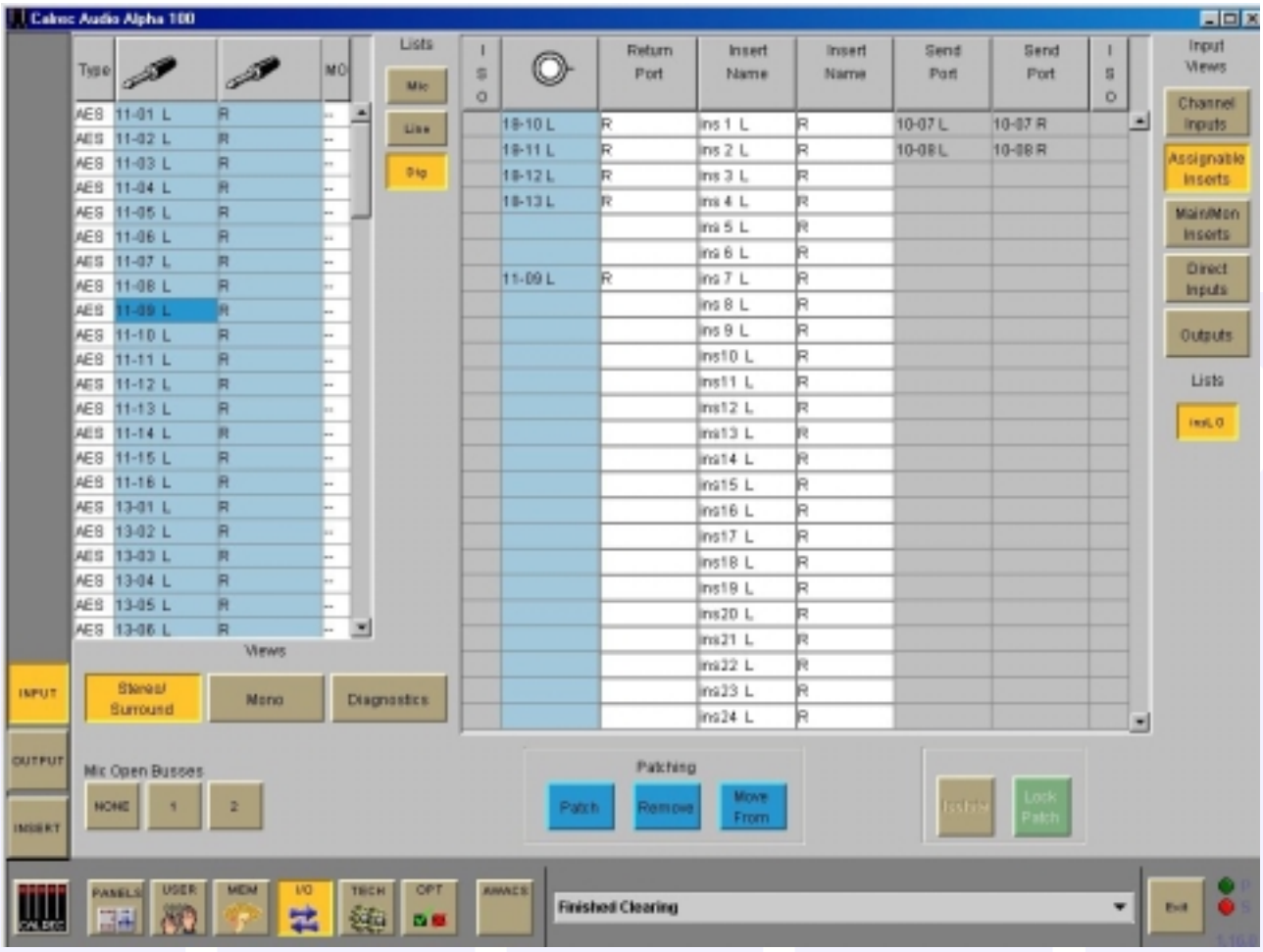
The assignable insert sends are set up on the Output Ports screen, by selecting “Assignable Inserts” from the list of Output Views. The output ports for assignable insert sends can be patched, moved and removed here in the same way that buss outputs are patched.

The input ports connected to the insert return can also be seen. These are set up on the Input Ports screen.

Once this is done the insert can be connected to any channel or group via the Insert screen or by using the I/O Matrix panel on the control surface. Once connected, the insert is switched into the channel path using the buttons on the Input/Output panel (shown).



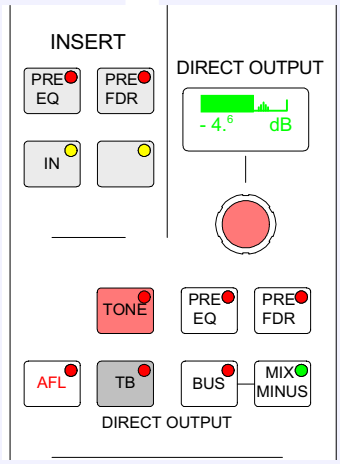
ASSIGNABLE INSERT RETURNS



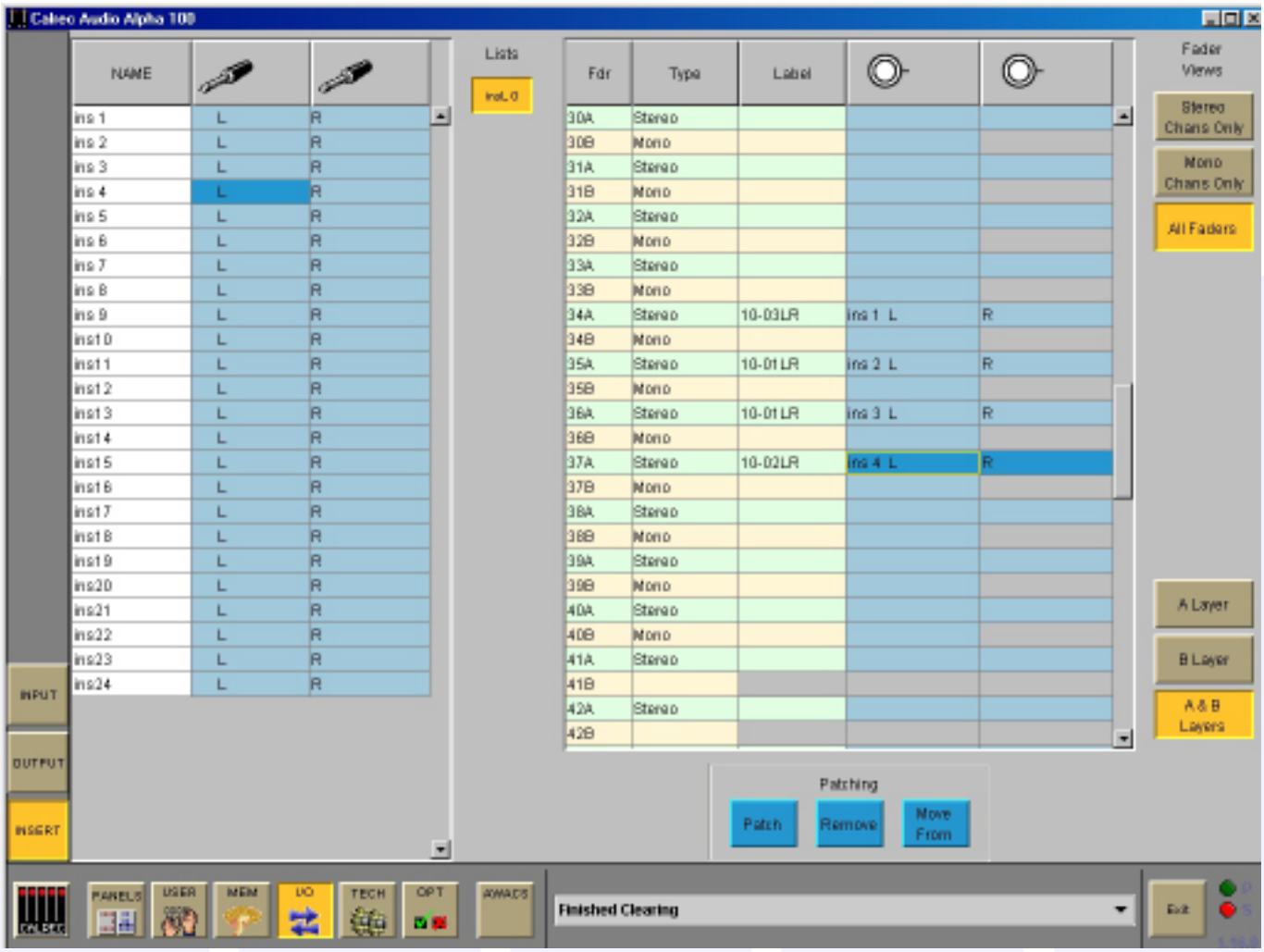
The assignable insert returns are set up on the Input Ports screen, by selecting “Assignable Inserts” from the list of Input Views. The input sources for assignable insert returns can be patched, moved and removed here in the same way that channels inputs are patched.

The output ports connected to the insert send can also be seen. These are set up on the Output Ports screen.

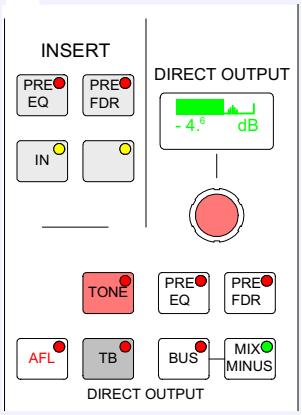
Once this is done the insert can be connected to any channel or group via the Insert screen or by using the I/O Matrix panel on the control surface. Once connected, the insert is switched into the channel path using the buttons on the Input/Output panel (shown).



INSERT SCREEN



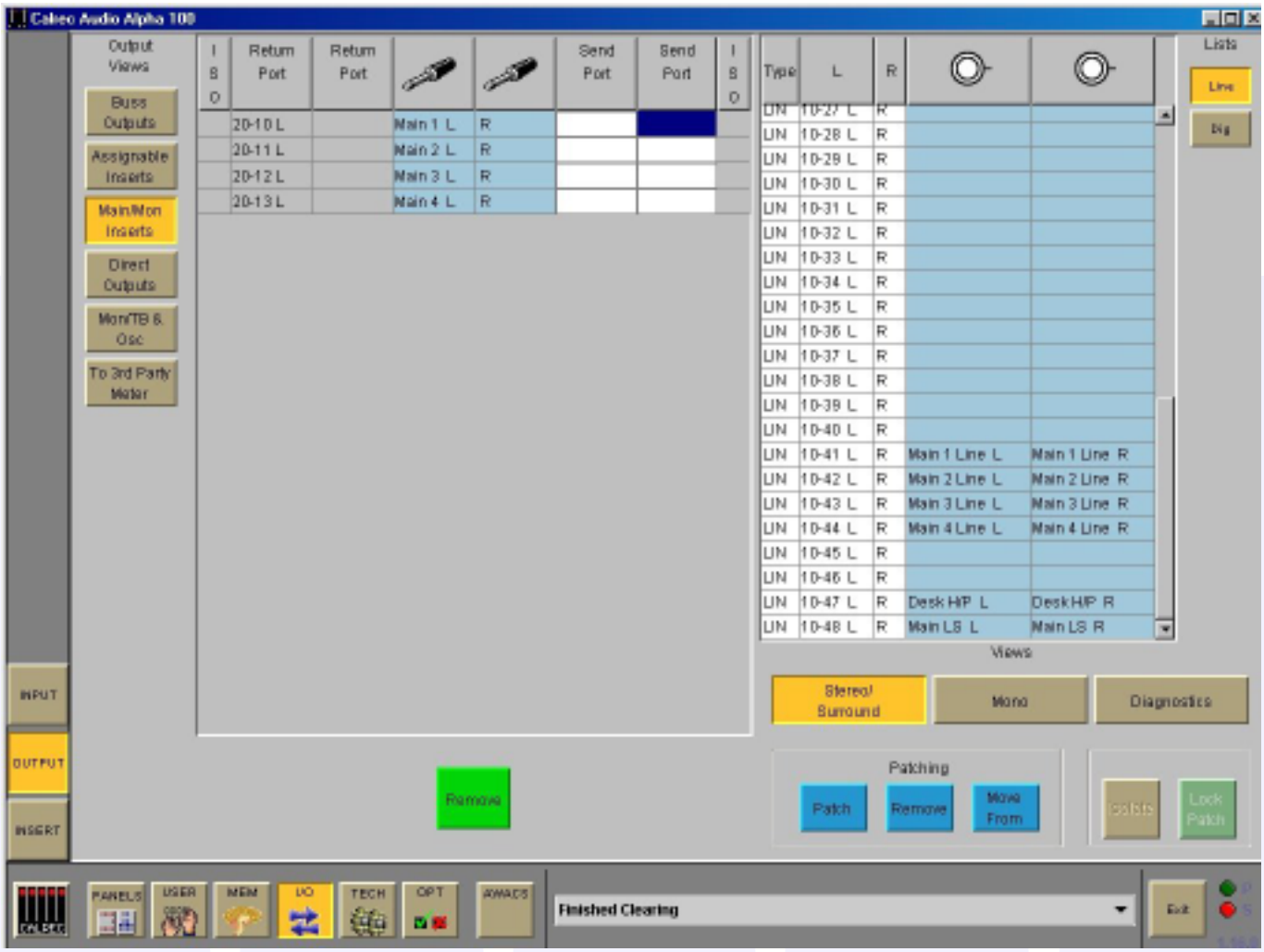
Once the assignable insert sends and returns have been set up on the Input and Output screens, they can be patched here to channels and groups, in the same way that channel inputs are patched. The Fader View buttons select which paths are on display. The assignable inserts can also be patched to channels and groups by using the I/O Matrix panel. Once connected, the insert is switched into the channel path using the buttons on the Input/Output panel (shown).



All the inserts can be accessed on the left hand side of the screen. Most inserts are treated as pairs in the labelling. L and R are used to distinguish the two halves of the pair. This makes it easier for them to be used as a stereo insert but does not necessarily mean they are stereo. The two halves of the pair can be used for separate mono signals. The inserts can be viewed as pairs (best for patching to stereo paths) or individual (best for patching to mono paths).

Note: If groups are set to be mono, only the left insert will have a signal on it.

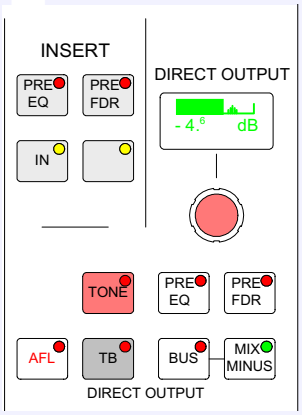
MAIN AND MONITOR INSERT SENDS



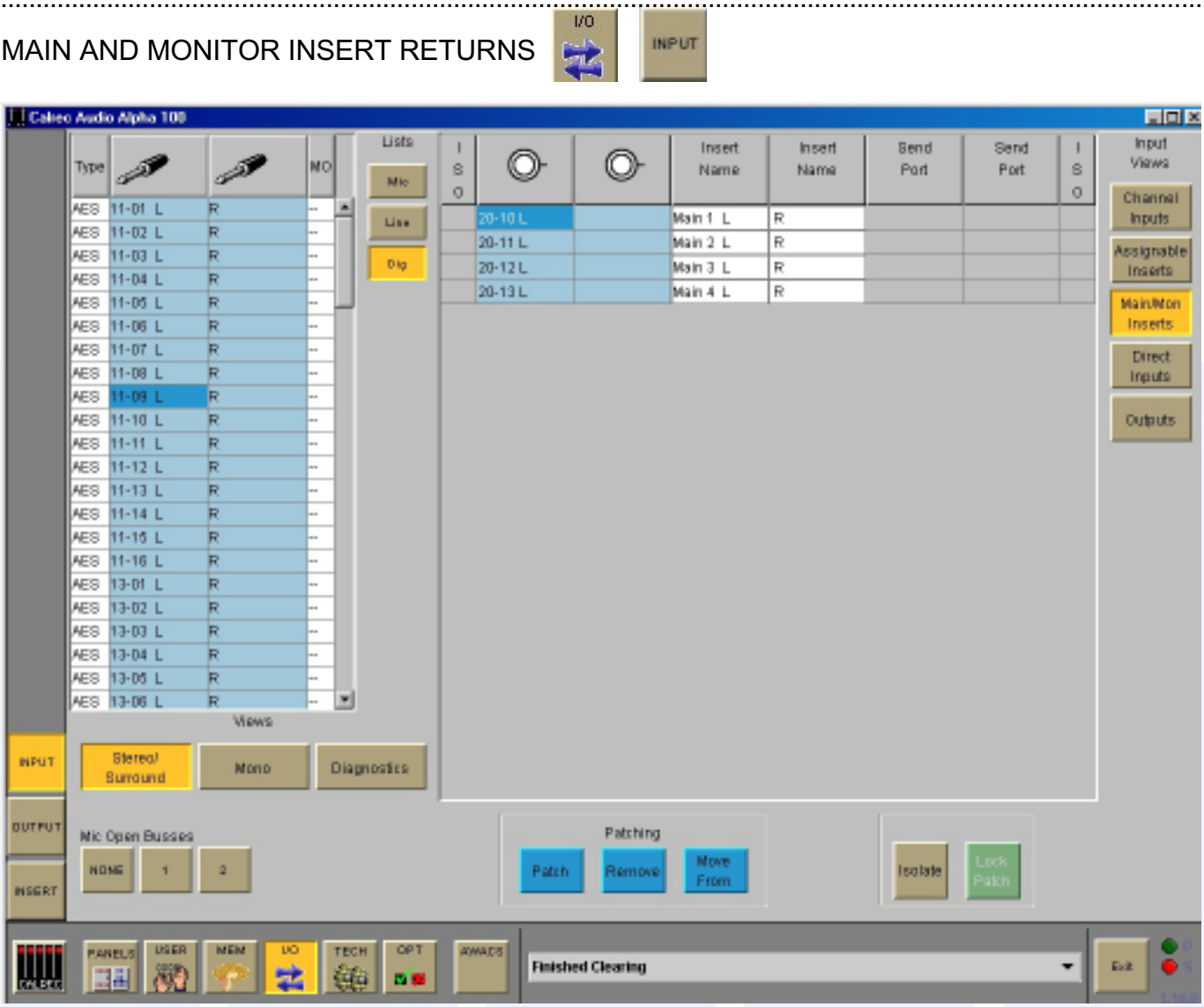
The main and monitor insert sends are set up on the output ports screen, by selecting “Main/Mon Inserts” from the list of output views. The output ports for main and monitor insert sends can be patched, moved and removed here in the same way as buss outputs are patched.

The input ports connected to the insert return can also be seen. These are set up on the Input Ports screen.

The main inserts are dedicated to the main outputs. Once the ports have been set up the insert can be switched into the main path using the buttons on the Input/Output panel (shown).



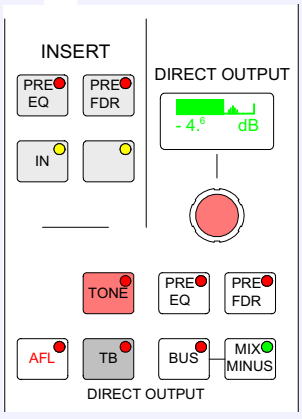
MAIN AND MONITOR INSERT RETURNS



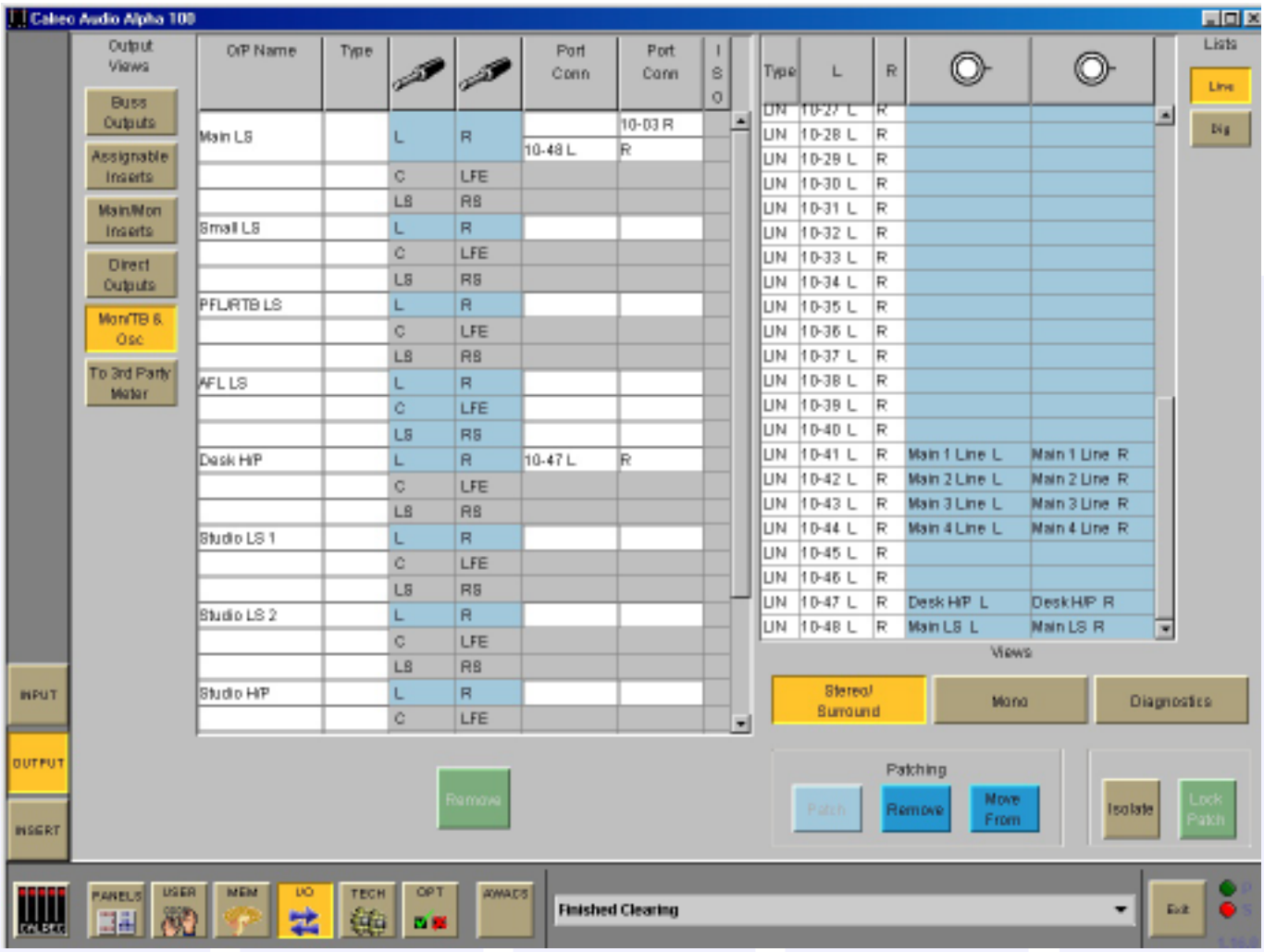
The main and Monitor insert returns are set up on the Input Ports screen, by selecting “Main/Mon Inserts” from the list of Input Views.The input sources for main insert returns can be patched here in the same way that channel inputs are patched.

The output ports connected to the insert send can also be seen. These are set up on the Output Ports screen.

The main inserts are dedicated to the main outputs. Once the ports have been set up the insert can be switched into the main path using the buttons on the Input/Ouput panel (shown).



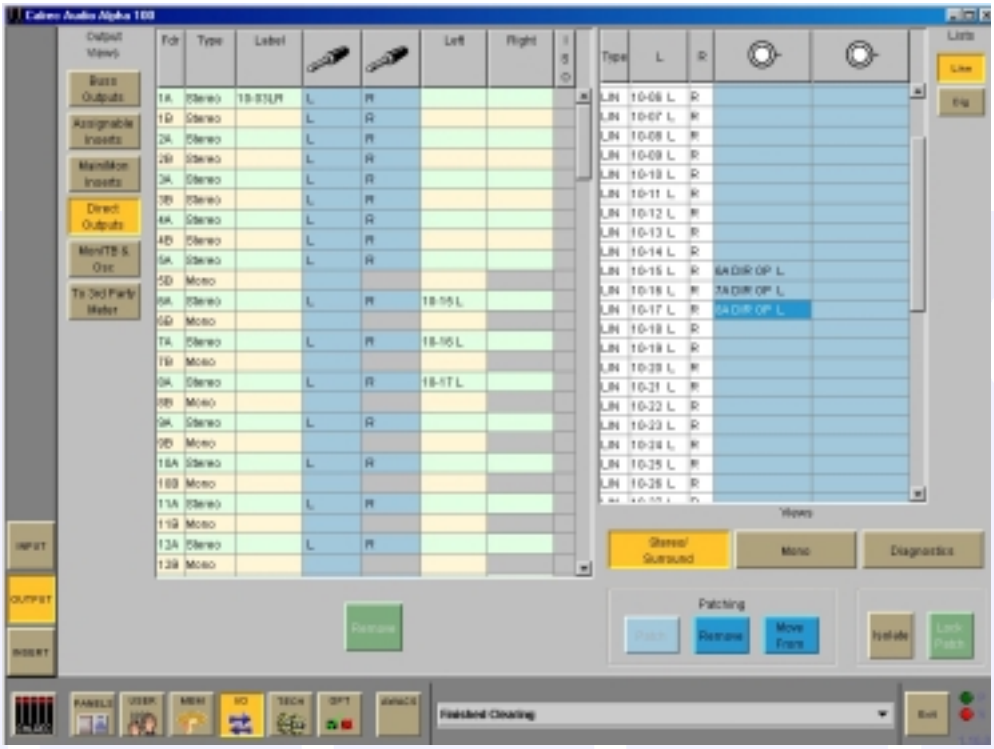
MONITORING, TALKBACK AND OSCILLATOR OUTPUTS



The output ports for the monitoring, Talkback and Oscillator outputs can be patched on the Output Ports screen, by selecting “Mon/TB & Osc” from the list of Output Views.

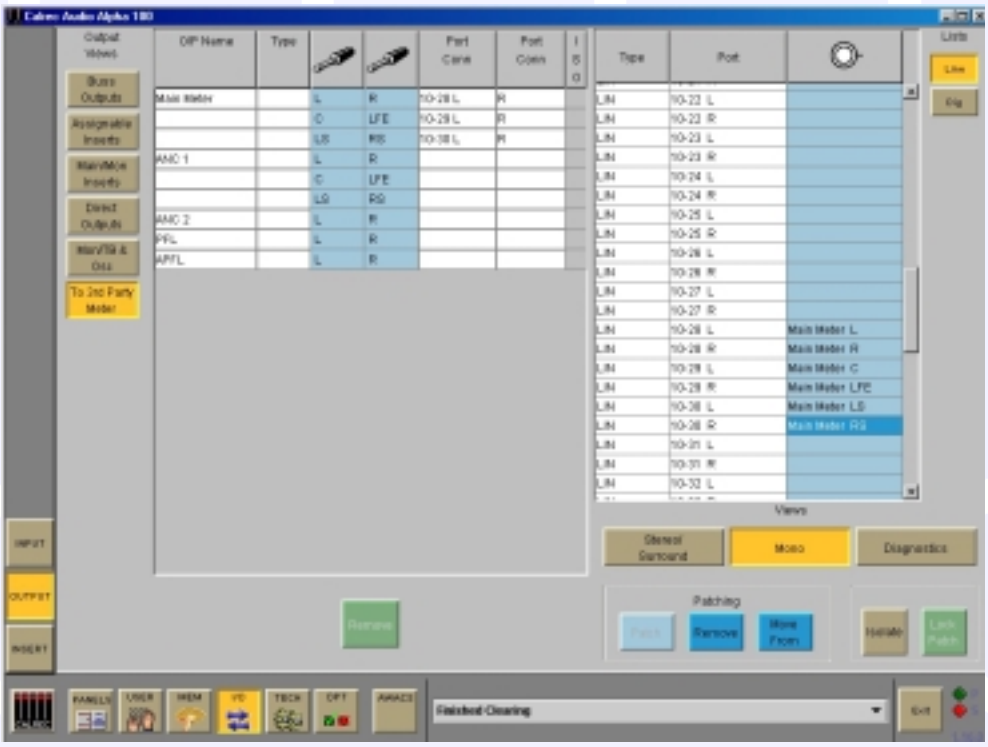
DIRECT OUTPUT PORTS

The output ports for the direct outputs, can be patched on the Output Ports screen, by selecting “Direct Outputs” from the list of Output Views.



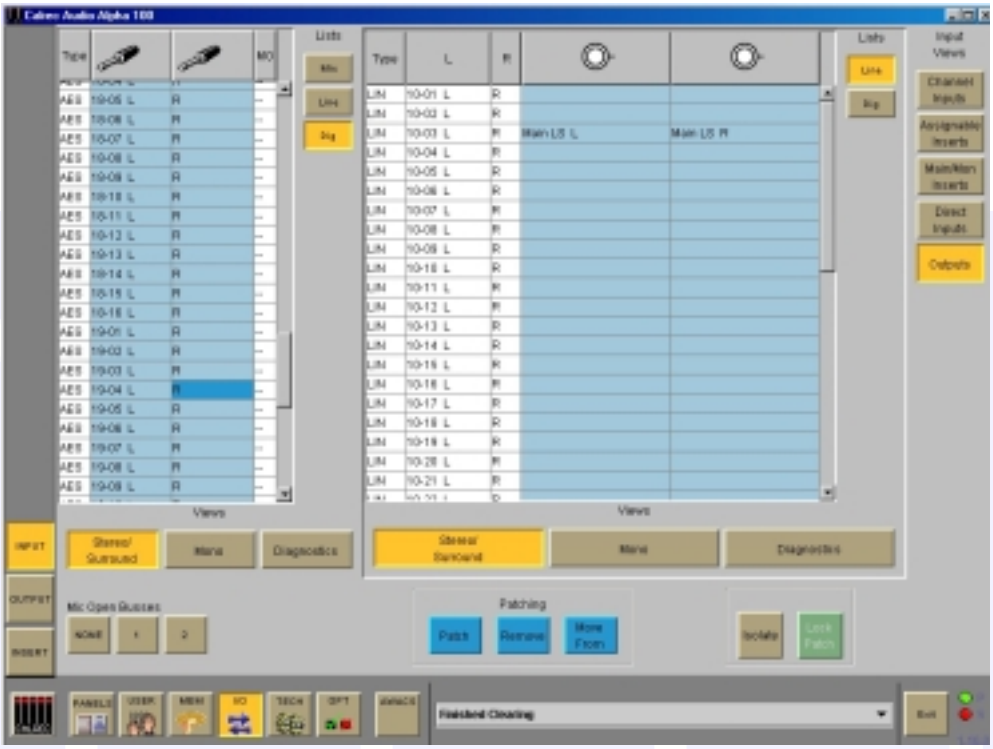
EXTERNAL METER OUTPUT PORTS

The output ports for external meters, such as a DK phase scope, can be patched on the I/O - Output screen, by selecting “To 3rd Party Meter” from the list of Output Views. Most of the meters on the console are driven internally and do not require output ports.



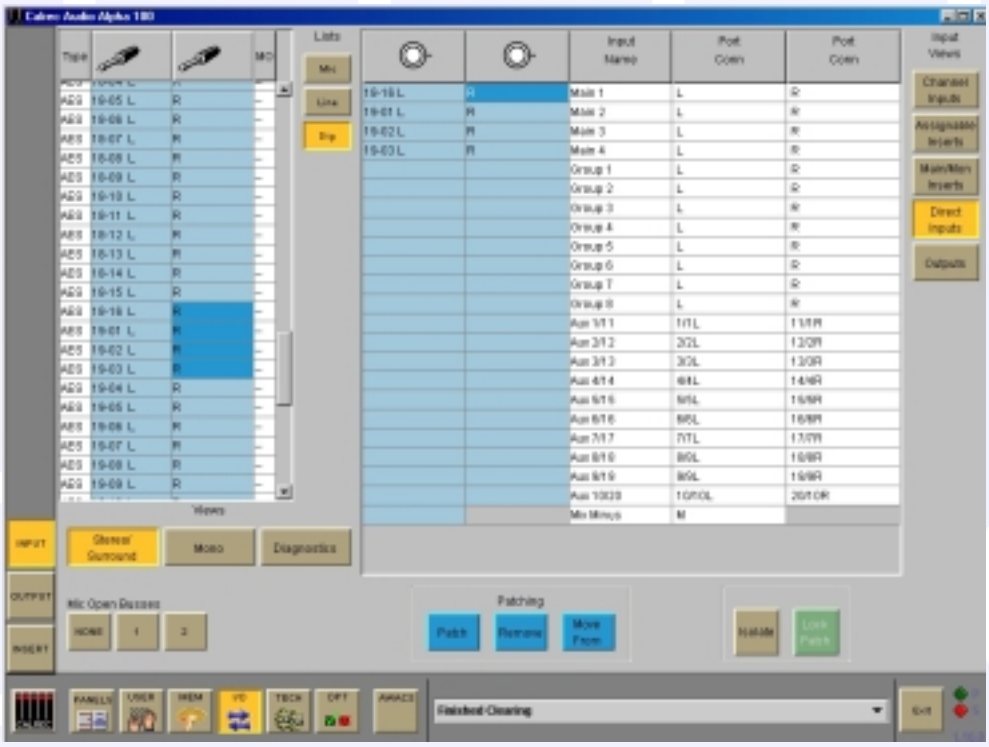
INPUT-OUTPUT PORTS

Input ports can be patched directly to output ports on the I/O - Input screen, by selecting “Outputs” from the list of Input Views.



DIRECT INPUT PORTS

Input ports can be patched to direct inputs on the I/O - Input screen, by selecting “Direct Inputs” from the list of Input Views.

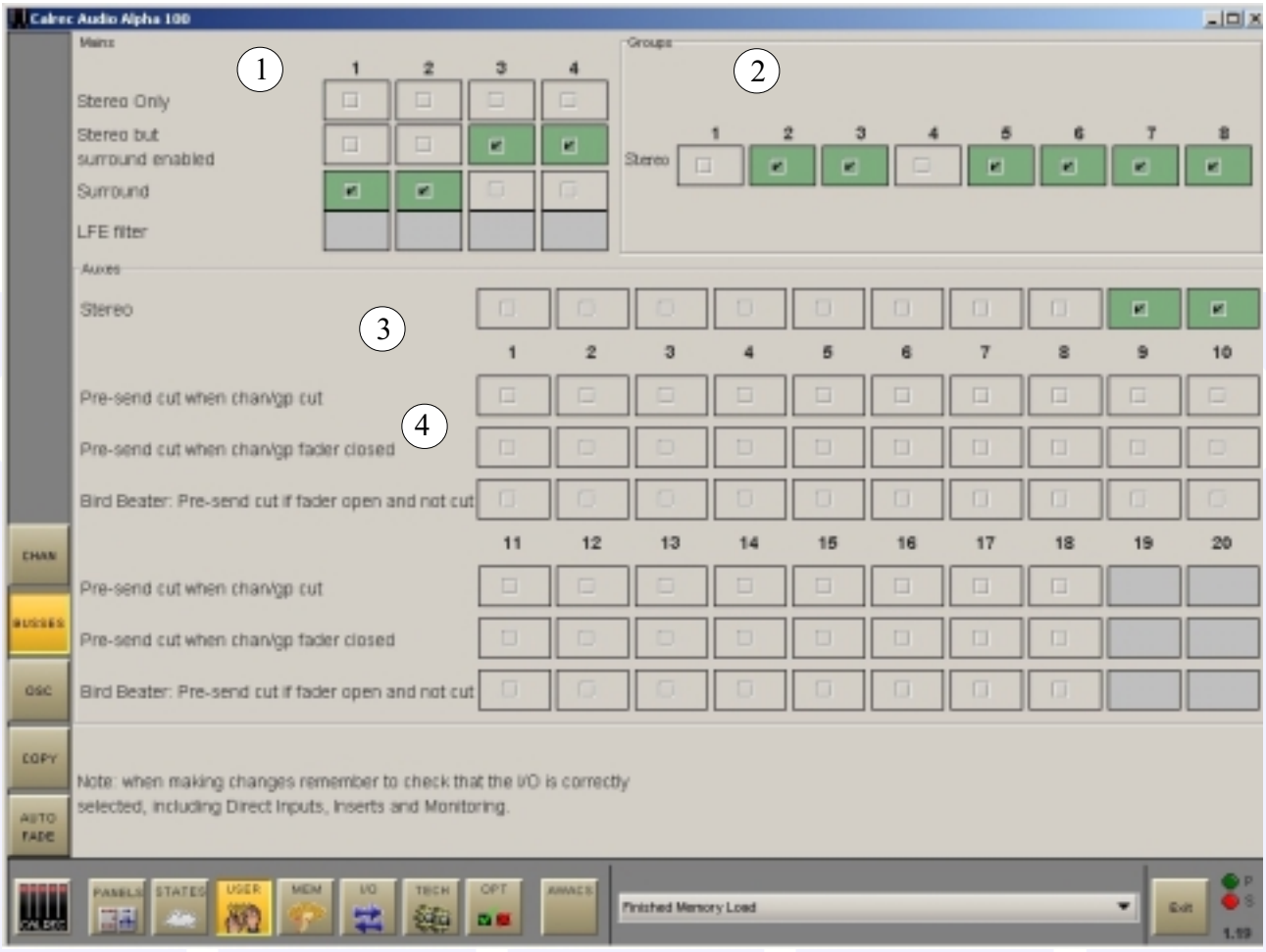


PANELS

This screen works in parallel with the console Assign Buttons and the Routing panel. It provides alternative controls for the routing, which can be useful when it is not convenient to use the panel, or incase the panel develops a fault.

The right side of the screen shows the channels with buttons for paths A and B. To make changes, select the required channel path and use the controls on the left side of the screen to choose the routing.

USER- BUSSES SCREEN



(1) Main Busses
The type of main output (stereo/surround) has to be set up on this screen.

(2) Group Busses
Group busses can be selected to be mono or stereo. Stereo channels feed a mix of L + R to mono groups. mono channels pan L/R to stereo groups.

(3) Auxiliary Busses
Mono Aux busses can be paired up to make stereo auxes or vice-versa. When a pair of auxes are changed in this way, all settings of the pair are cleared. Options are available for pre-send cut to be enabled.

(4) Pre-send Cut
Options are available for the pre-send to be cut :

- when the channel or group is cut
- when the channel or group fader is closed
- when the fader is open and not cut (Bird Beater). This option cancels the other two pre-send cut options.

The bird beater option mutes the auxiliary pre-fader send when it's fader is open and not cut. Therefore, closing the fader or using the cut switch enables the auxiliary pre-fader send. One use of this feature is to give the producer a feed to the "cue speaker" when the announcer or commentator microphones are closed during a commercial or other break in a live broadcast.

USER-CHAN SCREEN

This screen provides alternative controls for channel functions already available on the control surface.

(1) Selections

The right side of the screen shows the fader paths A and B. To make changes, click on the required fader path and use the controls on the left side of the screen.

(2) Path Type

The path type can be selected as mono or stereo using the mono and stereo buttons, or as a group using the buttons 1-8. These controls are in addition to the I/O Matrix panel controls.

(3) Path Operations

Paths can be moved and cleared using this screen, these controls are in addition to the I/O Matrix controls on the control surface.

(4) Assigning Wild Controls from the USER-CHAN Screen

The Wild controls are assigned from either the Functions panel, or from the USER-CHAN screen. All the Assign panel rotary controls incorporate a switch which is operated by pushing the control. These switches are used to assign the control to a Wild control as follows:

- Select a Fader Path by pressing its Assign Button (A or B).
- Select WILD ASSIGN 1, 2, 3 or 4 on the USER-CHAN screen.
- Push one Assign panel rotary control. For example, Aux 1 Send.

The control is now assigned and changes will show in the display. The colour of the Wild control display will show which fader the control is related to: Green for A, Amber for B.

It is possible to assign controls to more than one fader path at a time, either by selecting individual fader assign buttons (A or B), or by defining a “block” or “Region” of faders. Clicking on the button above HOLD will toggle between SELECT mode and REGIONS mode.

In SELECT mode, click HOLD, then a number of fader paths can be selected individually by pressing their fader assign buttons (A or B). Pushing an Assign panel rotary control will assign that control to all selected faders.

In REGIONS mode, a block or region of faders can be defined by clicking HOLD and then pressing the fader assign buttons of the first and last fader path in the required region. Pushing an Assign panel rotary control will assign that control to all fader paths in the selected region.

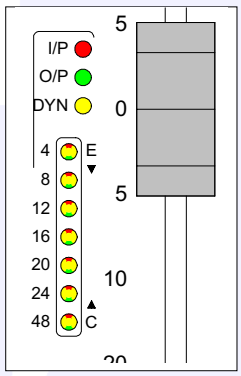
It is possible to assign the same control to Wilds 1, 2, 3 or 4 for all fader paths by selecting ALL before pushing the required Assign panel rotary control.

The gains of the two inputs 1 and 2 can be assigned seperately to Wild controls, by holding down the required input button on the Input/Output panel before pushing the gain adjustment rotary control.

CLR will clear the selected Wild control from it’s assignment.

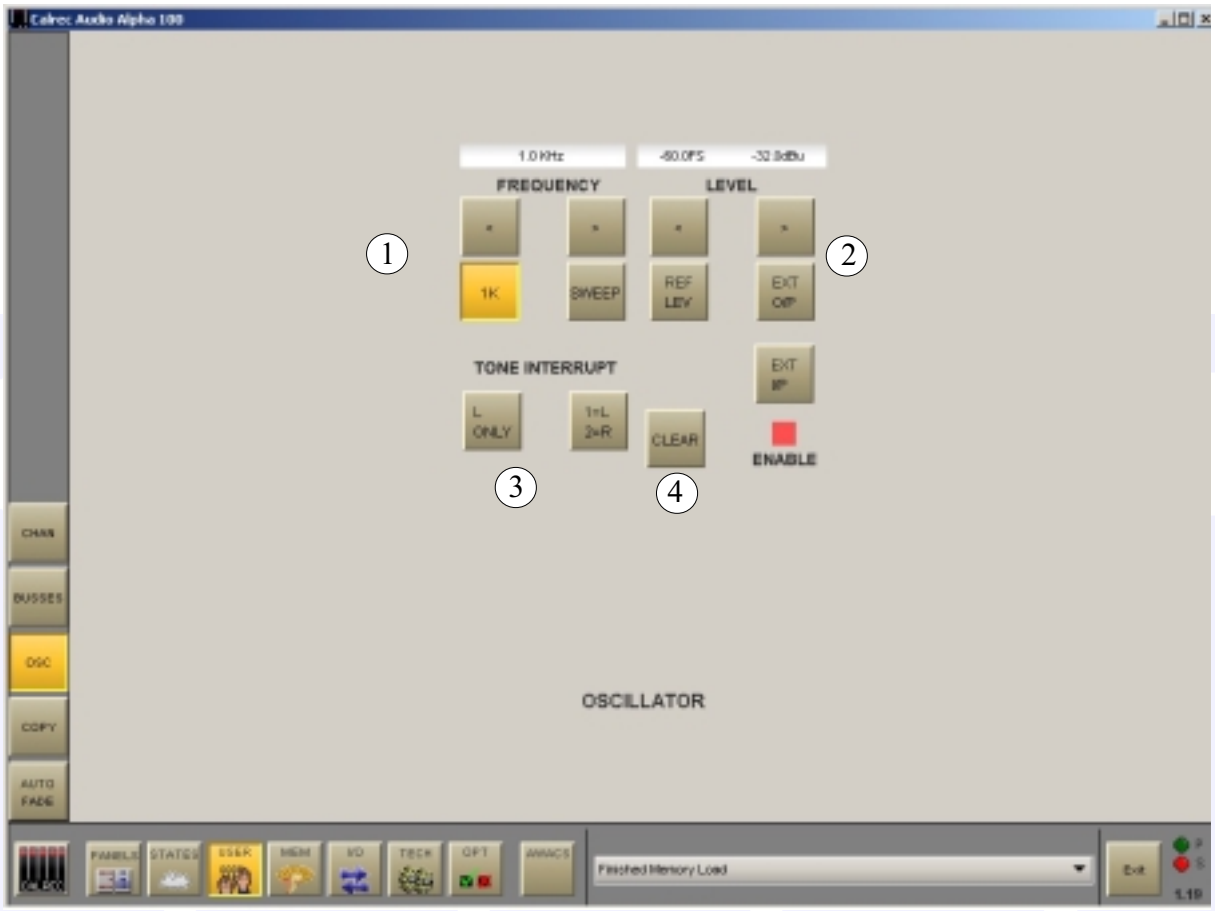
(5) Fader Bargraph Assignment

The fader bargraph can indicate the level at the channel input (post the input gain & switching and the tone switching), the channel direct output, or the gain reduction of the dynamics. Buttons I/P, DIR O/P, DYN and OFF set the function of the fader bargraph on the currently assigned fader. If ALL is pressed first (flashes) all fader bargraphs will be set to the selected functions.



Fader Bargraph assignment can also be altered using the Functions panel

OSCILLATOR SCREEN



This screen provides alternative controls for the oscillator controls already available on the control surface. It provides a back-up set of controls, which can be used when using the panel is not convenient, or should the control surface develop a fault. The Enable indicator shows that the oscillator controls are enabled.

(1) Frequency

The frequency of the tone can be adjusted from 20Hz to 20KHz in in incremental steps using the nudge buttons, or set to 1KHz using the 1K button. Alternatively, the sweep button will set the oscillator to sweep through all frequencies.

(2) Level

The level of the test tone can be adjusted from -60dBFS to 0dBFS using the nudge buttons, or set to the reference level using the REF LEV button.

(3) Tone Interrupt

The Tone Interrupt buttons are useful for testing stereo monitoring and metering. It allows the tone to be interrupted on the left side only, or on the left and right sides in an alternating pattern.

(4) Clearing Oscillator Routes

CLEAR clears all oscillator routes made, providing an easy way of removing test tones from signal paths.

COPY SCREEN

In addition to the controls on the Functions panel, nine sections of a channel or ALL together can be copied to another channel or channels using this screen.

First select the fader path you wish to copy, either from the screen or by pressing its fader assign button. Next, use the selection buttons to select the components of that path you want to copy. Then select TO FADER (flashes) which allows the destination/s to be chosen. Multiple destinations can be selected using the ALL A or ALL B buttons. Once all the destinations have been chosen, select EXEC to execute the copy.

If a stereo channel's settings are copied to mono channels, only the relevant settings will be copied. Other settings on the mono channels will be reset to the cleared down state. If groups or main outputs are included in the selected destinations, they will simply be ignored.

- I/Ps copies the LB, RB, ∅L, ∅R, M/S & balance settings (only ∅ for a mono channel) for inputs 1 & 2, and also the input gains, SRC or phantom power when the inputs are of the same type.
- EQ and FLTR copy the EQ and filter settings including IN/OUT, alternate and assignment (CH or DYN) settings.
- DYN copies the dynamics settings but not whether the EQ or filters are switched in the dynamics.
- PAN copies pan and width settings as appropriate.
- FDR copies the fader and CUT switch settings but not PFL or AFL selections. It does not copy VCA group assignments.
- RTG copies the routing to main outputs and groups but not the routing to tracks.
- AUX copies the routing and levels to the auxiliaries.
- WILDS copies the Wild assignments but not their settings.
- ALL copies all of the above.

MEMORY SET-UP SCREEN  

This screen works in parallel with the Memory controls on the console. From here, memories can be backed up to the PC's hard disk, re-named, and cleared.

99 memories can be held in the Flash ROM for different console arrangements. In addition to this, the PC back-up can allow an unlimited number of memories, which can be called into the Flash ROM quickly and easily. Memories can be stored to removable media. This can be useful for when many different operators use the same console (for example an Outside Broadcast vehicle), or when the console is required to broadcast many different weekly productions.

The display at the top of the panel shows the Live Memory which is the current memory loaded onto the console. The Selected Memory is shown in the centre of the screen.

(1) Memory List

Selecting the required memory in the Flash ROM list on the left of the memories screen will call it into the Selected Memory position. Memories will be shown as empty if they have not yet been used.

(2) Loading, Saving and Clearing Memories

LOAD, SAVE and CLR MEM are duplicate the controls on the control surface. Upon activating these controls, a confirmation box must be accepted before the action is carried out. When a

stored memory is recalled onto the console from disk, the system checks that the current desk configuration matches that of the stored memory. If there are discrepancies, a warning that the memory may not work correctly will be given.

When the Preview button on the Memory panel is pressed, the Selected Memory's settings will be displayed on the control surface. The Assign panels' displays will be blanked out. Upon release of the Preview button, the control surface will display the Live Memory again.

When a stored memory is loaded onto the console from disk, the system checks that the current desk configuration matches that of the stored memory. If there are discrepancies, a warning that the memory may not work correctly will be given.

(3) Stacked Memories

The memories can be arranged into a Pre-set list, known as a Stack. This can be useful for setting up an easy-to-access shortlist of specific memories for use during a show. Stacks can be saved to the hard disk or removable media as sessions. The Selected memory and the memories immediately before and after it in the stack will be highlighted. The two memories either side of the selected memory will appear in the windows either side of the Selected memory window in the centre of the screen.

(4) Adding and Removing Memories to and from the Stack

To add a memory to the stack, ensure it is in the Selected Memory position, and select INSERT INTO STACK. Inverse text on the control surfsce display indicates that the memory is not part of the stack.

If REMOVE FROM STACK is selected while a stack memory occupies the Selected Memory position, it will be removed from the stack. A second press will remove it from the Selected Memory position. If the Selected Memory is not part of the stack (shown in inverse text on the control surface display), it must be removed from the Selected Memory position before the stack can use the Selected Memory position.

With the Auto > or Auto < check box ticked, the next memory in the stack will automatically move to the Selected Memory position after the previous Selected Memory has been loaded from the stack.

(5) Backing Up Flash ROM Memories to Hard Disk

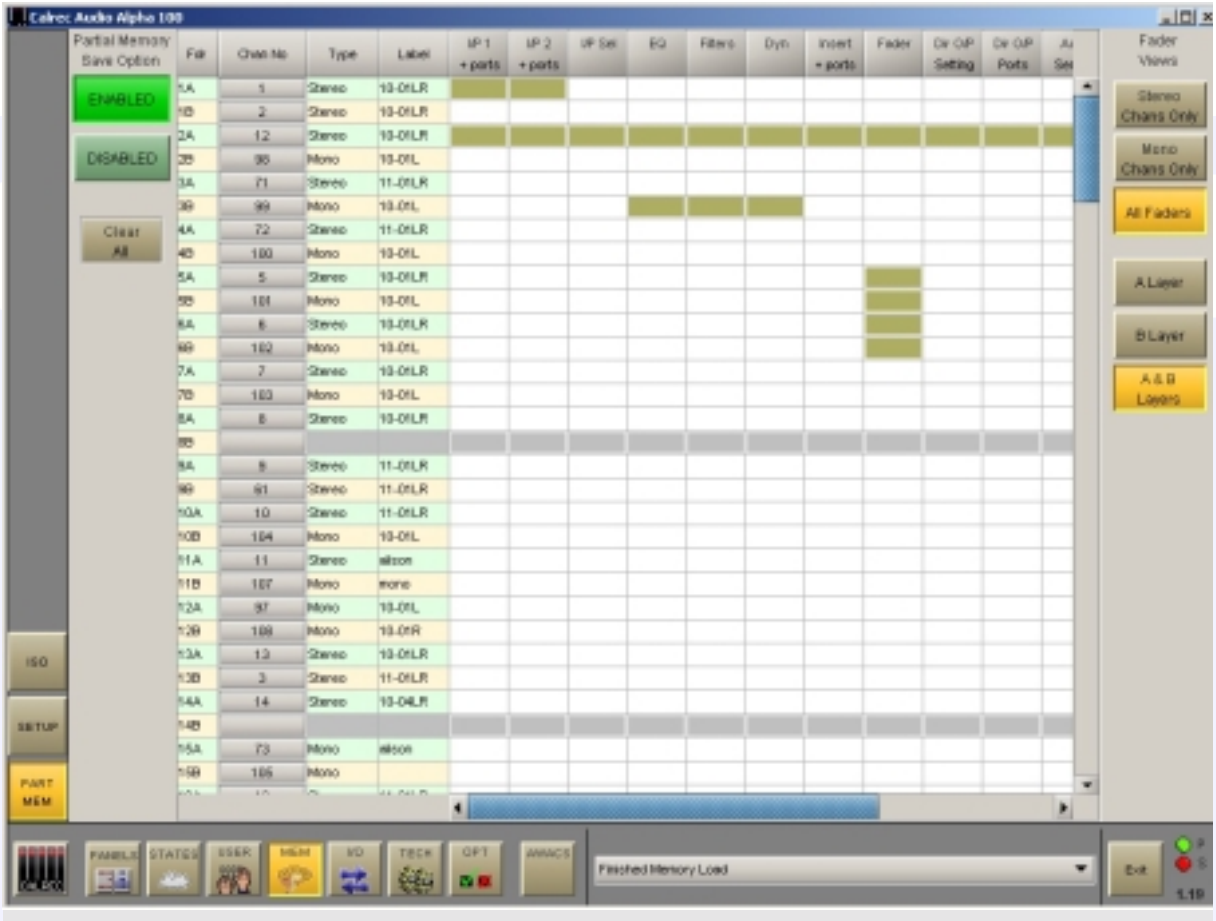
BACK UP MEMORIES, backs up all the memories both stack and non-stack, to the hard disk. RESTORE MEMORIES allows previously backed up memories to be restored. Memories can be re-named by selecting RE LABEL MEMORY. CLEAR ALL MEMORIES will remove all memories from the Flash ROM.

(6) Backing Up Stacks as Sessions

Stacks can be saved to the hard disk or removable media as sessions. BACK UP SESSION, backs up the Stack and all the memories in it. RESTORE SESSION allows previously backed up sessions to be restored. Scene labels can be applied to positions in the stack by highlighting a stacked memory and selecting SET SCENE. CLEAR STACK will remove all stacked memories from the stack.

PARTIAL MEMORIES

The partial memories screen allows components of console settings to be saved in the same way as full console memories. When a partial memory is recalled, only the settings saved will be updated. The partial memories screen provides a mechanism for selecting channels or sub-components of channels to be saved in a partial memory.



Partial memories mode is enabled and disabled using a button on the partial memories screen. When enabled, all memory saves are partial memory saves. When disabled, all saves are full console snapshot saves. Once partial memory mode is active, the save buttons on the screen and control surface are used to save partial memories in the same way as full console snap-shot memories.

The partial memory screen contains a table with rows of channel numbers and columns of partial memory components. The sequence of the channels is in fader number order. Partial memory component selections are made by selecting the intersection of a channel and a console setting. The Channel Number field in the fader table is a selectable button, which selects or deselects ALL partial memory components for the channel occupying that fader.

Partial memory selections are stored and are recalled if a console reset occurs.

A partial memory only loads those channels or components on the control surface that were selected using the partial memory selections. A partial memory load does not affect the currently assigned fader and the A/B layer assignments.

ISOLATE SCREEN

The Isolate screen allows some console settings to be isolated from memory recall. This means their current settings will not be over-written by what is in the memory when it is loaded.

The majority of the screen allows whole channels/groups or parts of channels/groups to be isolated from memory recall.

The buttons allow selection of a variety of console wide settings, including channel inputs, EQ and Filter settings, Dynamics, Routing and Wild assignment.

If an output connection in the memory cannot be made because it needs to use an isolated port, this will be reported via AWACS.

When an input is isolated or de-isolated, it's port will also be isolated or de-isolated. However, the Input and Output ports screens allow port isolation to be turned on and off independantly .

Isolated ports will be highlghted in brown on the Input and Output ports screens.

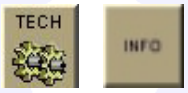
If an isolated port connection is changed, any isolation setting will be cleared, unless one of the console-wide isolation options is selected and contains that port.

TECH SCREEN

The TECH screens are for the studio technician and Calrec Support Engineers to diagnose problems, access system information such as lists and rack card configuration, save the default studio memory and enter password protected modes in order to lock critical parts of the system.

The Tech-User Mode screen allows the studio technician to enter the password protected "Technician" or "Supervisor" Modes allowing him or her to operate the locking system, and set up passwords for other "Technicians" or "Supervisors".

The Tech-MSGS screen reports messages, which form a history which can be used by Calrec engineers to diagnose any problems which may arise.



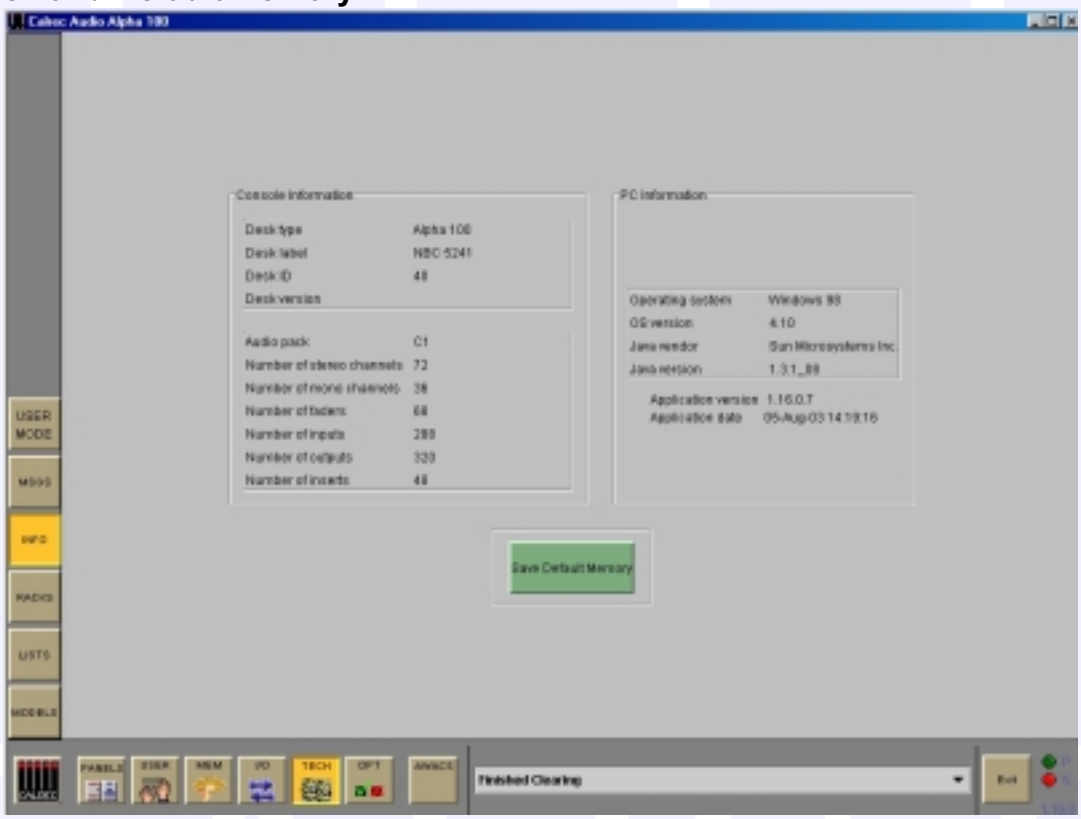
The Tech-Info screen (shown below) displays system information and allows the Default Memory to be saved.

The Tech-Racks screen gives details of the systems rack configuration.

The Tech-Lists screen shows the contents of the lists of inputs, outputs and inserts which are available on the I/O Matrix and I/O screens. These will have been set up during installation.

The Tech-Models screen shows fader and path models for the system.

Info Screen and Default Memory



The Default Memory will usually be created upon installation of the console using the Save button on this screen. This default memory could contain the input port set-ups which match the studio wiring, and settings for relays, optos, and running levels. It could have all channel settings OFF or flat, with no routes made, and would be available as a start up memory, from which more specific memories could be created. It is recalled using the Default Set Up button on the Functions panel.

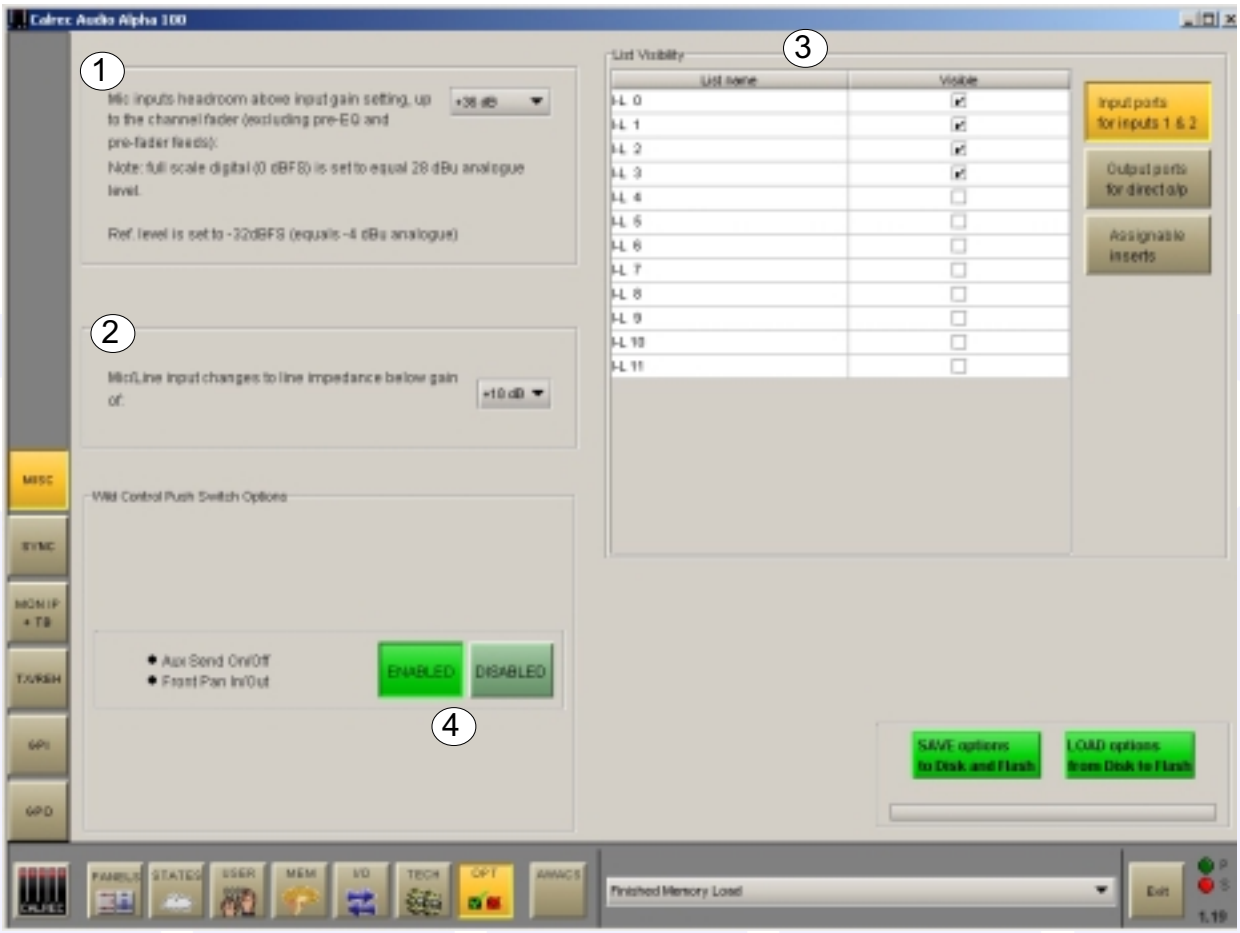
Options Screens

The Options screens are used to pre-set the system to the studio's required settings. These settings are not stored in the individual console memories but are saved and loaded separately using the buttons on each Options screen. This allows options to be changed without invalidating any saved memories.

Changes to options take effect as soon as they are made. However, if they are not saved, the next time the desk boots up the options will revert to their previous settings.

Upon loading the options settings from the file on the hard disk, any changes made will be over-written unless they have been saved. This allows changes to be tried out without losing the original settings and these original settings can be restored without having to re-boot the system.

MISCELLANEOUS SCREEN



(1) Mic Input Headroom

This area allows the channel mic input headroom to be set. This is the headroom available above the input gain setting, up to the channel fader. For example, if the input gain is set to 40 dB and the mic input headroom is 36 dB, then the channel will handle up to -4 dB up to the fader which can be backed off to avoid clipping of the programme output. Obviously, any pre-fader insert or pre-fader feeds to auxes, tracks, or direct outputs will not handle this level and so these should not be used where this headroom is needed. Please be aware that selecting a high headroom value will compromise the noise specification slightly but this should not be noticeable in practice.

(2) Mic/Line Input Impedance

The point at which the Mic/Line input Impedance changes can be set here.

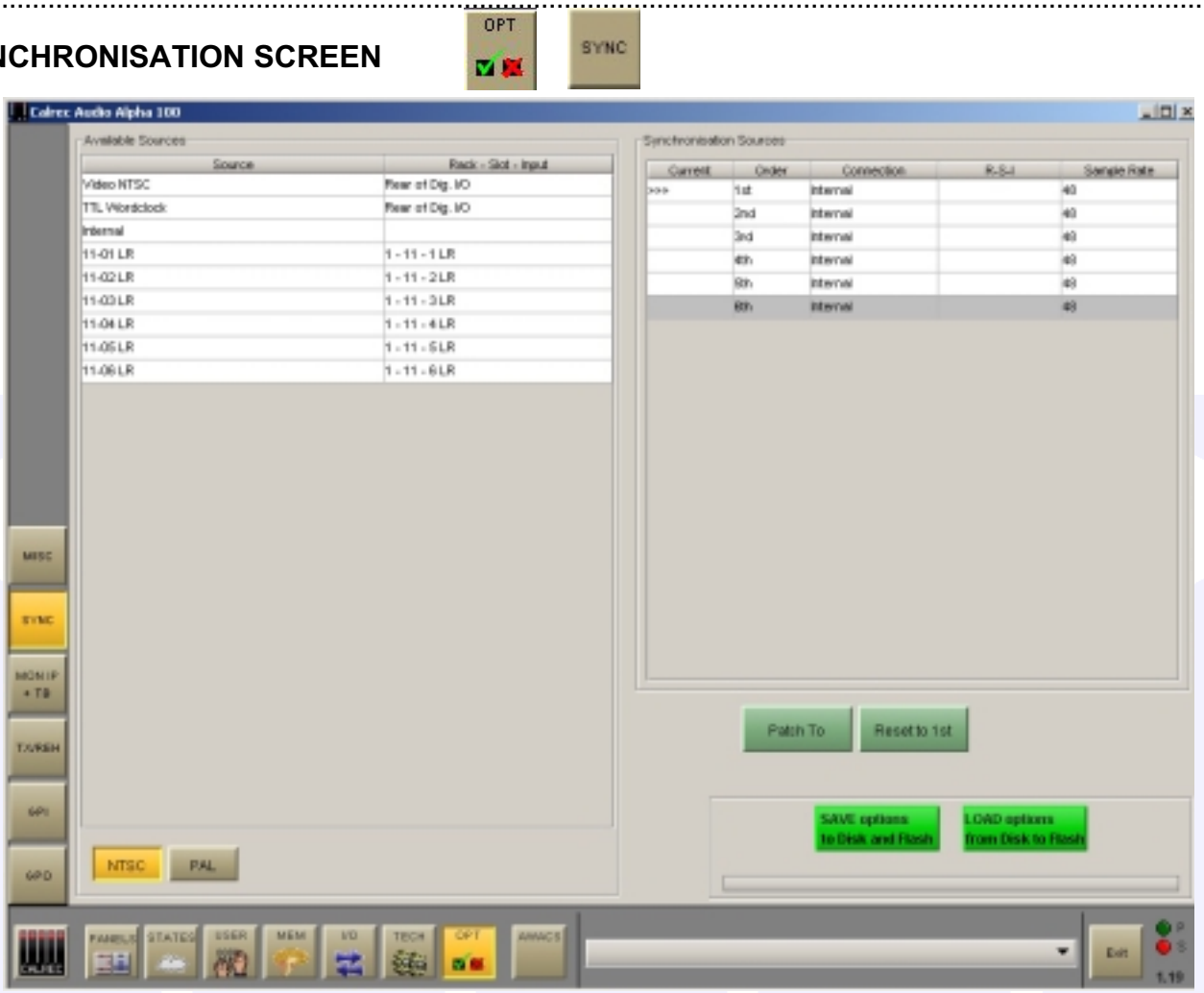
(3) I/O Matrix Panel List Visibility

This allows the studio engineer to set which port and insert lists can be accessed on the I/O Matrix panel. All lists are always available on the PC screens. For example, output ports which are only used for Buss outputs or Monitoring outputs, etc could be assigned to their own lists (in the Setup application) and those lists made invisible to the direct output ports selection on the I/O Matrix panel.

(4) Wild Control Push-Switch Option

If a Wild control has the Aux Send or Front Pan controls assigned to it, the user can control the ON/OFF or IN/OUT status of these controls using the Wild control push-switch on the channel control module. This feature is optional, so it can be enabled or disabled using the buttons on this screen.

SYNCHRONISATION SCREEN



Patching Synchronisation Sources

The system can be pre-set with up to five external sync sources, plus internal, such that if the 1st source fails, it will automatically switch to the 2nd, and so on. One of the external sources can be Video, (PAL or NTSC). TTL wordclock is another possible external source. Sources are patched from the list of available sources on the left of the screen, to the sync sources list on the right, using the Patch button.

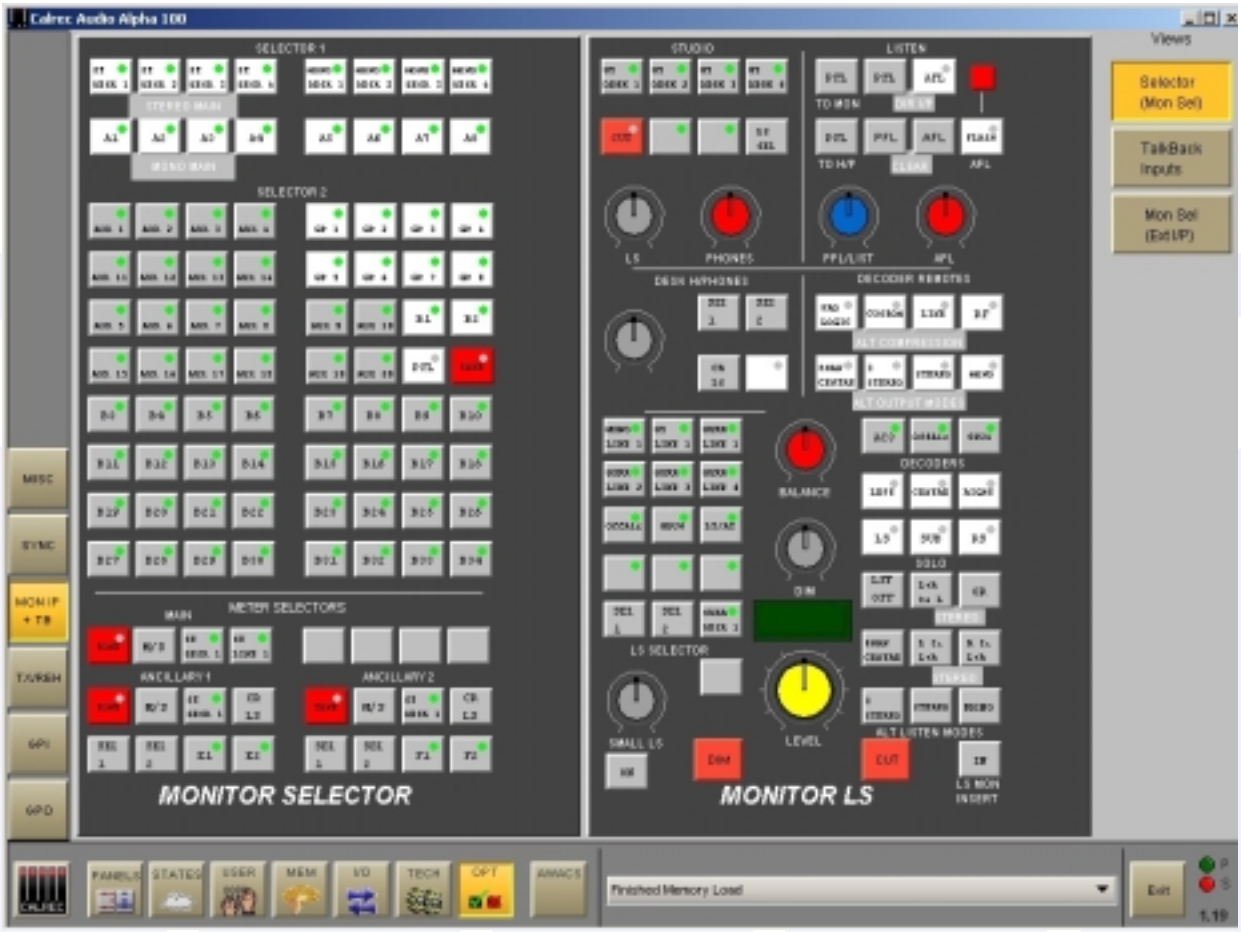
Locking to External AES Sources

AES inputs on the console can also be used as an external source. Please note that the facility for locking to external AES sources is restricted to the first six inputs of each AES card in the console. These can be patched to the five selections using the Patch button. When using a digital input or wordclock as a source, the system will tolerate a variation of up to +/- 100 Hz in the frequency of the source.

Reset to 1st

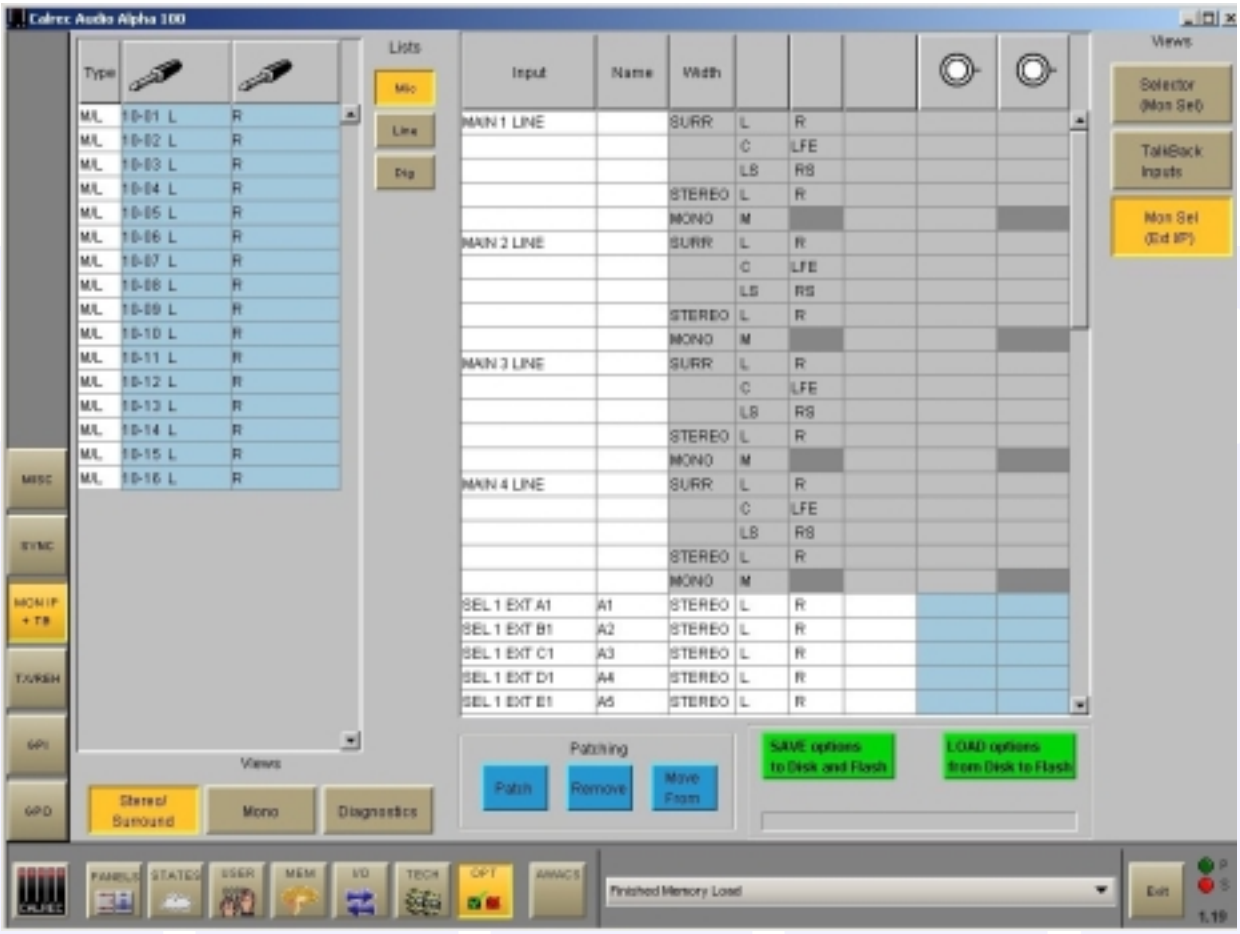
If the system is running on any of the selections 2 to 6, because the lower numbered ones have failed, and the 1st source is repaired, the system can be RESET TO 1ST during any convenient off-air period.

MONITOR INPUTS AND TALKBACK SCREEN - MONITOR SELECTOR VIEW



This screen gives a confirmation of how the Monitor Selector panel buttons have been set up.

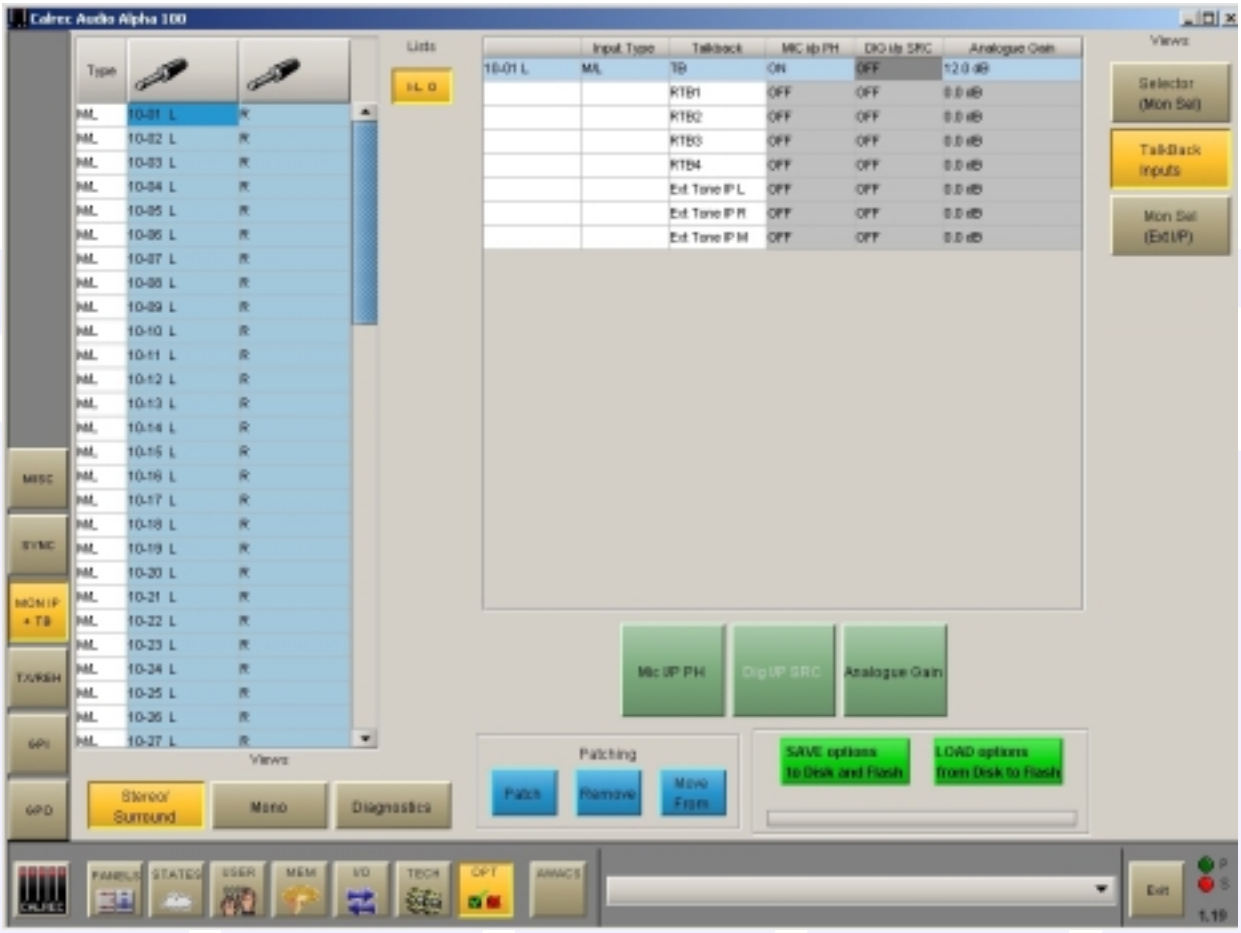
MONITOR INPUTS AND TALKBACK SCREEN - EXTERNAL PORTS VIEW



The input sources for external monitor inputs can be patched here in the same way that channel inputs are patched. The NAME of the external input will correspond to the text on the button as shown on the Monitor Selector View.

The main line monitor inputs are applicable when the main line output monitor is set to be returned into the desk via an external distribution. Otherwise, the main line monitor points are taken from the main outputs within the desk, before they have passed though the output ports.

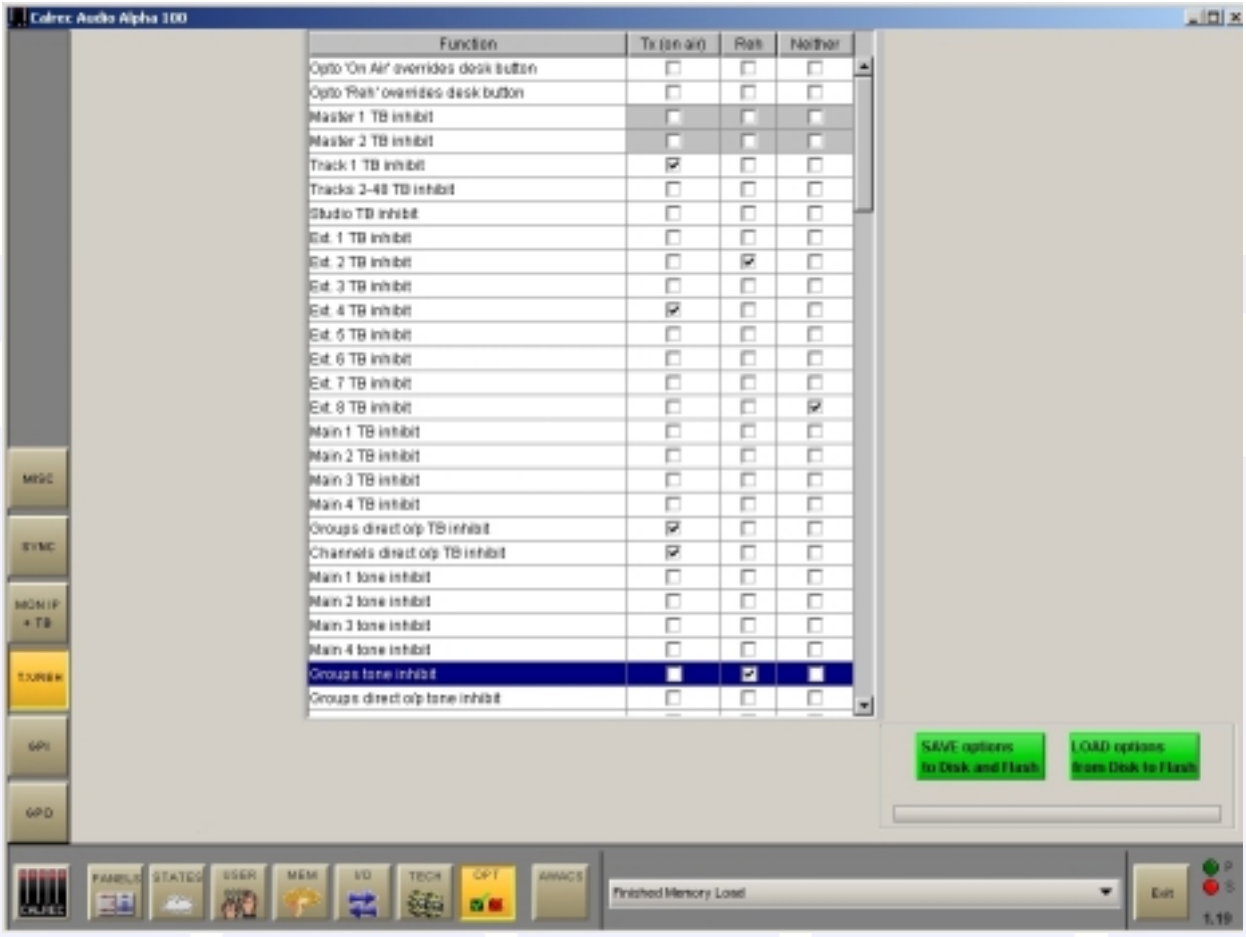
MONITOR INPUTS AND TALKBACK SCREEN -
TALBACK INPUT PORTS VIEW



The input sources for Talkback and Reverse Talkback can be patched here in the same way that channel inputs are patched. Talkback input ports can be any kind of port.

The parameter buttons provide controls for analogue gain control (coarse), Phantom Power (if mic/line) and SRC switching for the input (if digital). When selecting Analogue Gain, a box will appear where the gain can be selected. Selecting Mic i/p PH will turn phantom power on for the selected input. Selecting Dig i/p SRC will switch SRC on for the selected input.

CONDITION SWITCHING (TX/REH) SCREEN

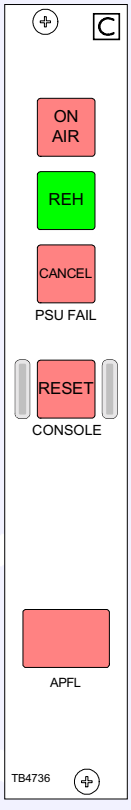


This screen provides a mechanism for the system's condition switching to be set up.

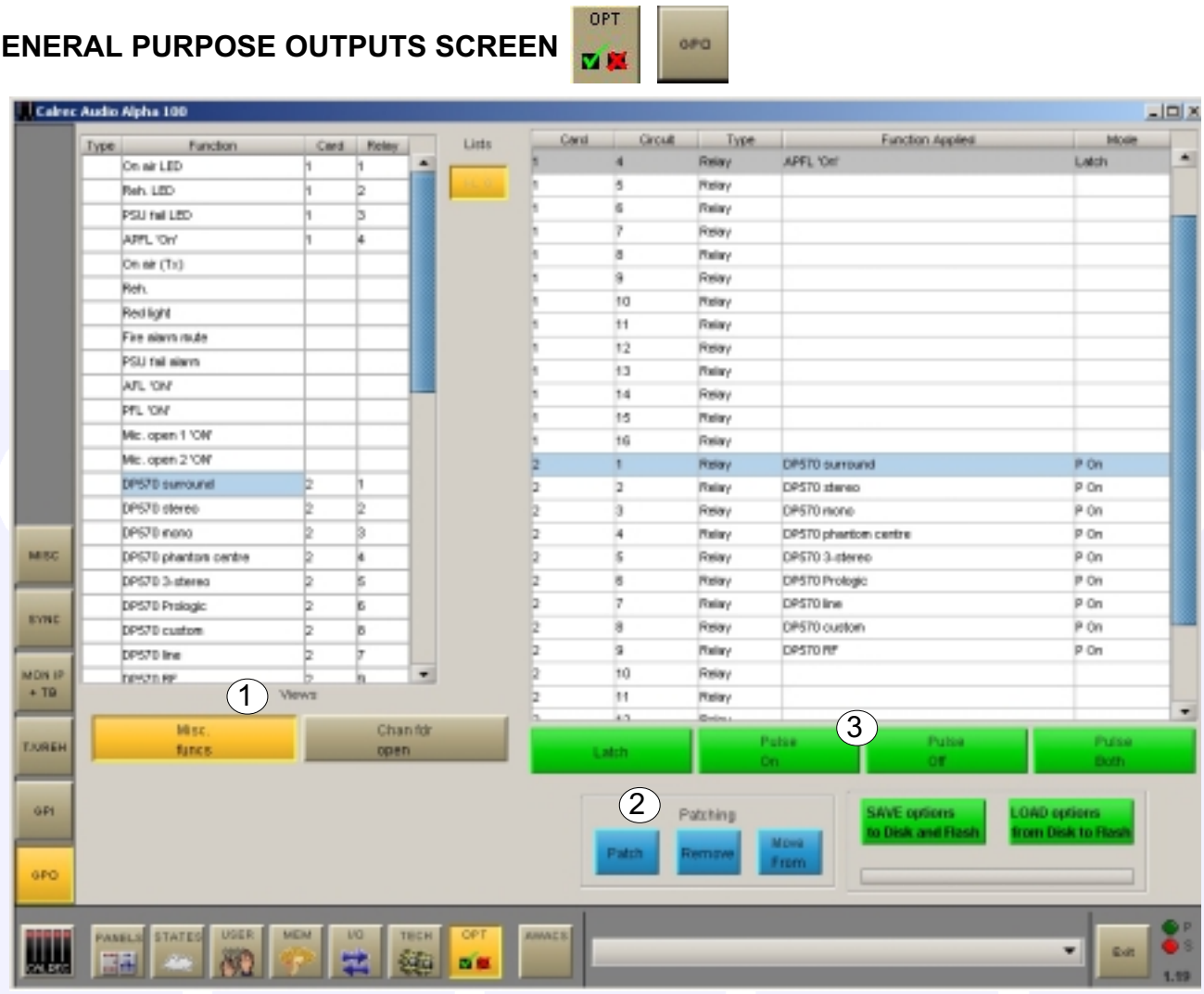
There are three modes which the system can be in: Transmit (TX or On Air), Rehearse, or Neither. These are controlled from the ON AIR and REH buttons on the console or from external inputs set up on the OPTO screen.

Each function can be set to be active, or not, in any of the three states (except for the "On Air" and "Reh" optos which can only override the desk buttons or not).

The functions provided are to cater for different requirements. Therefore some combinations of settings will seem invalid.



GENERAL PURPOSE OUTPUTS SCREEN



(1) Views

The relay-isolated outputs can have various console functions assigned (with “Misc Functions” selected), or they can be set to operate when particular faders are opened (with “Channel Fader Open” selected). Console functions can be assigned to more than one relay.

(2) GPO Assignment

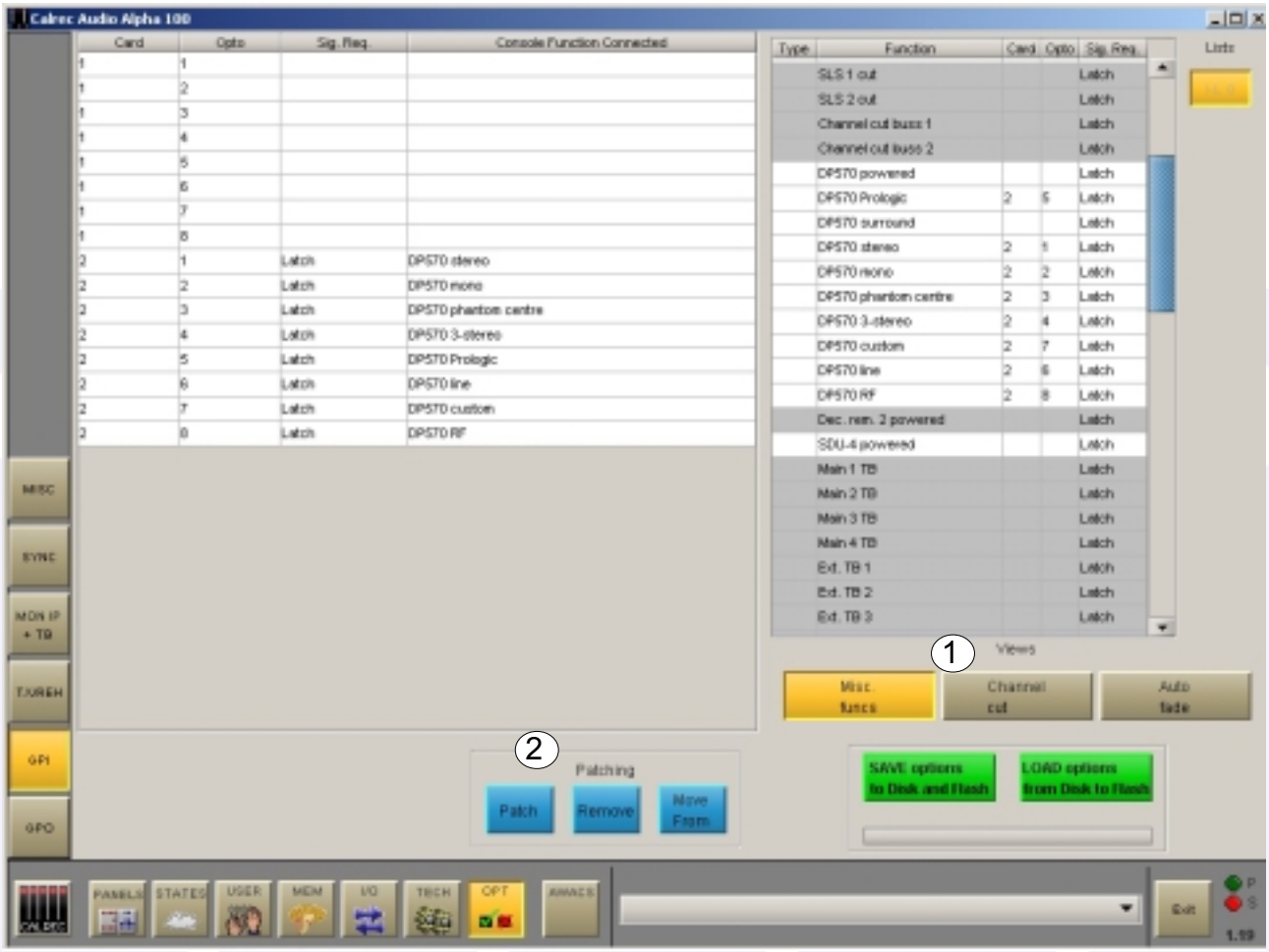
To make an assignment, select a function (left side of screen), and a relay-isolated output (right side of screen), and select Patch. Assignment can also be moved and removed, in a similar way to port connections.

(3) Latch or Pulse

The relay can be set to latch or pulse for 100 ms, when the console function is activated. When setting the relay to pulse, there are three different options.

Pulse On	-	The relay is set to pulse when the function is activated.
Pulse Off	-	The relay is set to pulse when the function is de-activated.
Pulse Both	-	The relay is set to pulse once when the function is activated, and again when the function is de-activated.

GENERAL PURPOSE INPUTS SCREEN



(1) Views

The opto-isolated inputs can be assigned to various console functions (with “Misc Functions” selected), or they can be set to cut channels (with ‘Channel Cut’ selected). With “Auto Fade” selected, the opto-isolated inputs can be assigned to auto-faders to allow automatic cross-fading (see page 90).

(2) GPI Assignment

To make an assignment, select an opto-isolated input (left side of screen), and a function or channel (right side of screen), and select Patch. Assignment can also be moved and re-moved, in a similar way to port connections.

If optos are patched to input ports, when fired externally, they will cut any channel to which that input port is connected.

AUTOMATIC CROSS-FADING

This feature allows the user to automatically fade channel and group faders in or out under the control of an external signal. Cross-fades may be achieved by driving two or more optos with one fader being faded out while a second fader is being faded in.

Assignable Auto-Faders

32 assignable “auto-faders” are provided. Each auto-fader provides the ability for one path to be faded up to and down from the current fader level.

Each auto-fader can be assigned to any one opto input. An auto-fader without an assigned opto will remain inactive, its operation will have no effect on the audio but it may still be assigned to a path. The association of the auto-faders to opto inputs is stored in the Options file.

Any single channel/group path may be assigned to an auto-fader. The association of channel/group paths to auto-faders will be stored in the console memories.

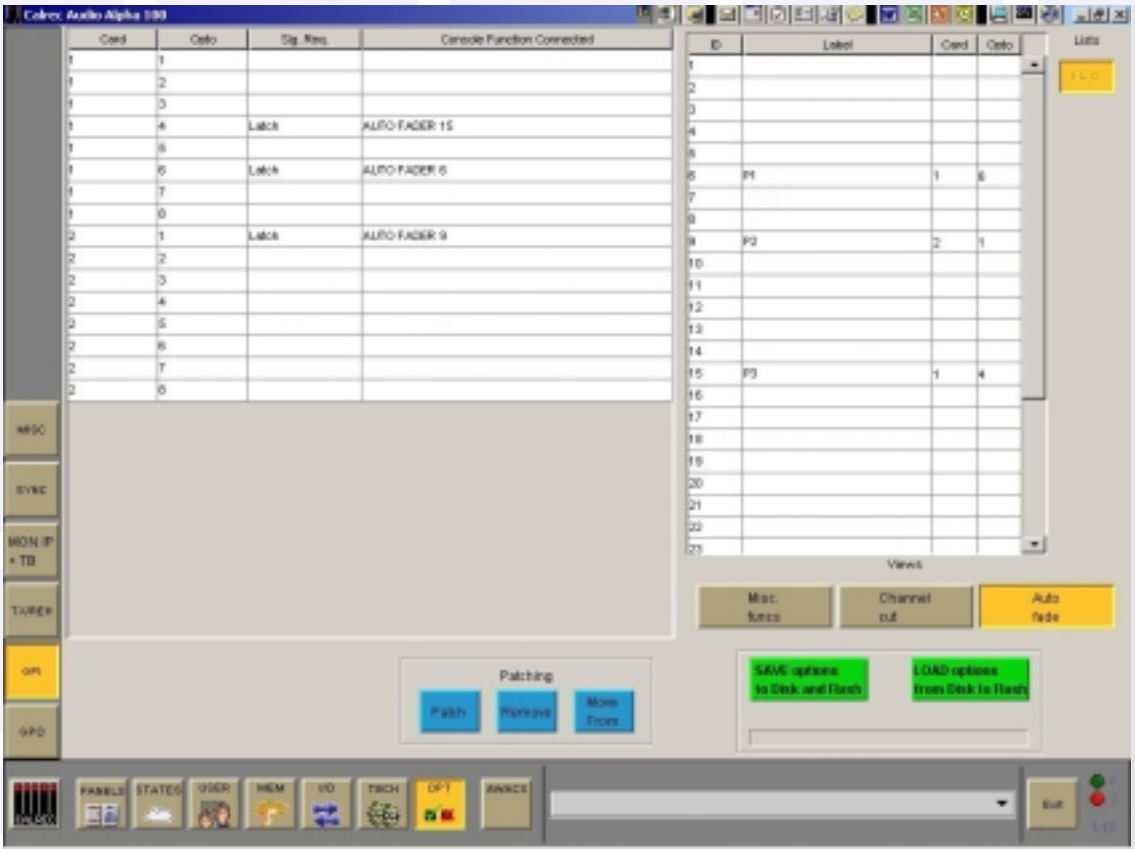
Operation

Once an autofader has been assigned to an opto input, and has a channel or group path assigned, it is possible to automatically fade in or out the assigned channel or group fader under the control of the assigned opto input. When the opto input is fired, the path connected to the opto will be automatically faded in to the current fader level (after taking into account any VCA fader adjustment). When the opto is not fired, the fader connected to the opto will be automatically faded out.

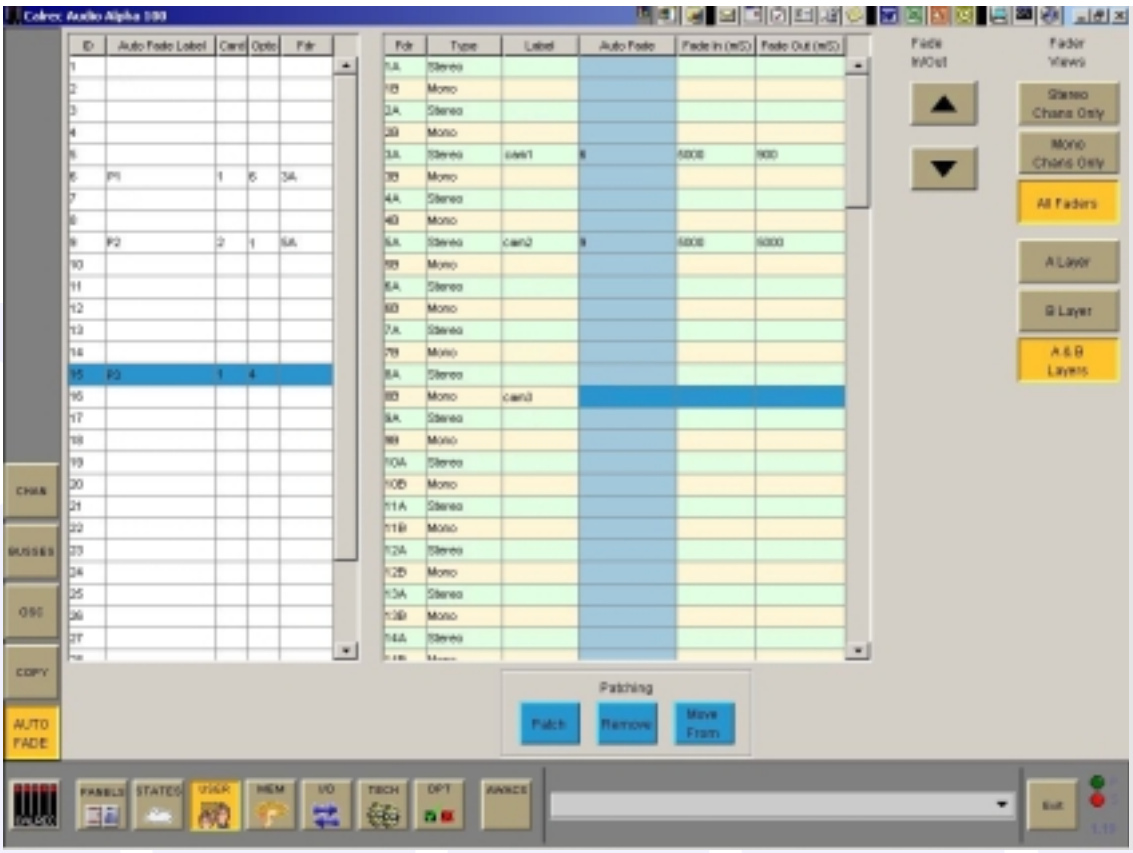
Options Screen

Optos are assigned to auto-faders using the Options-GPI screen below. To assign an opto to an auto-fader, select an opto from the available list on the left, and an auto-fader from the auto-fader list on the right, and then select "Patch".

Each autofader has a 6 character user editable label.



Auto-Fade Screen



The User-Auto Fade screen is used to allow assignment of each auto-fader to a channel/group fader. A list of auto-faders is on the left hand side of the screen, and shows auto-fader number, auto-fader label, assigned Opto card and circuit, and assigned fader number.

Only faders with valid channel or group paths will be available for assignment although other faders may be displayed.

Fade In/Out Times

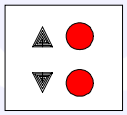
The nudge buttons allow fade in/out time adjustment for each auto-fader assignment. The fade in and out times of each auto-fader are individually selectable. The range for both parameters are 10 ms to 5secs, as follows:

- 10ms to 100ms in 10ms steps
- 100ms to 1sec in 100ms steps
- 1sec to 5s in 500ms steps

The fade in and fade out times are stored in the console memories.

Auto-faders are assigned to channel and group paths by selecting an auto-fader and a channel or group from the available lists, and selecting "Patch".

Indication of an auto-fade is provided by illuminating the down NULL LED on the fader strip when the fader is or is currently being faded out.



Important Operational Changes from Earlier Product Versions

IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT VERSIONS

Please note that some version numbers are not generally released for all products, and are therefore not documented here.

V1.8 included:

A change to the way Port Lists are selected on the I/O Matrix panel.

The previous method of just pressing the control down will now have no effect. Instead, to change to a different list you should press and turn the control. Turning clockwise will scroll down the lists and anticlockwise will scroll up. When the required list is displayed simply release the control to select it.

V1.9 included:

The addition of the surround main outputs option. AFL is also in surround.

A change to the keypad on the I/O Matrix panel such that it now defaults to SEL MEM after any SEL FADER operation.

The balance control on stereo channels works with LB + RB pressed.

The CR LS pre signal can feed an o/p port - Accessed on the Mon, TB & Osc. Output Ports Screen.

The PFL signal, post level control, can be fed to an o/p port - Accessed on the Mon, TB & Osc. Output Ports Screen. PFL also operates to small LS.

The direct output ports can be selected on I/O matrix panel.

The port lists which appear on the I/O Matrix panel can be set on the OPT - MISC screen.

A Mix Minus meter is available.

Channels can be isolated from Memory recall - Accessed on the MEM - ISOL screen.

Aux Pre Cut when chan cut and Aux Pre Cut when chan off options.

Main PFL and Aux O/P AFL.

V1.10 included:

Input port to output port routing. Set on the INPUTS screen (Outputs Tab).

Copy INPUT now copies the input gains, phantom power and SRC settings (where the inputs are the same type).

Addition of a delay before the first slave can be assigned to a VCA group (to prevent accidental group creation).

Mains, groups, Auxes & Mix Minus direct inputs. The ports are set on the INPUTS screen (Direct Inputs Tab).

Tone to direct output (including group direct output).

IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT VERSIONS

V1.10 included: (Continued...)

Surround main outputs now produce a stereo (Lo Ro) downmix. Outputs for these are set on the OUTPUTS screen (Buss outputs Tab). If a main path is set to "stereo but surround enabled" (on the User - Busses screen), the Lo Ro outputs will still work (and will be the same signals as the L & R outputs). This avoids having to re-patch the ports to the L & R outputs. The stereo monitor buttons will monitor the Lo Ro of a surround main path. If a main path is stereo, any surround monitor buttons for that main will monitor silence (No Bus)

Mains routing to mains. The routing is done using the Routing panel when the main faders are called to the assign panels. If a surround main is routed to a stereo main, it will be the stereo downmix (Lo Ro) which will be routed. If a stereo main is routed to a surround main, the stereo signal will mix to the L & R of the surround main.

Downmix options (in setup application) for main LS, small LS, desk headphones, studio LS & studio headphones outputs. Any of these monitor outputs can be independently set to be 5.1 (with or without LFE and phantom centre), 3 stereo (L-C-R), or stereo.

3 stereo, stereo, mono, LFE off, & phantom centre, Alt Listen Modes on main LS, small LS & desk headphones outputs. If all three outputs are set to stereo (in the setup application), the 3 stereo mode will be inoperative and the LFE off & phantom centre will be locked ON.

Option in setup application for PFL not to override Small LS (so that separate PFL LS can be used). The ports for the separate PFL LS are set on the OUTPUTS screen (Mon, TB & Osc Outputs Tab).

PFL in stereo instead of mono on meter and LS outputs (surround main PFL downmixes in PFL mix). Previously, PFL was only mixed in mono. Now it is a stereo mix.

CR LS feed to meter sels to be pre PFL & AFL level controls (when APFL active to CR LS). This allows the APFL level to be accurately metered if separate APFL meters are not in use.

Stereo APFL (pre level controls) output for Ext meter feed (surround AFL downmixes to this output). This is a new output.

Main meter, Anc 1 & Anc 2 meter types (B/G, moving coil, VU, PPM) set in Setup application. This only applies to the Calrec meters and should be set to match the meter types required.

Main output, group, track & Aux meter types set in Setup application. This only applies to the Calrec meters and should be set to match the meter types required.

APFL, CR LS & Mix Minus meter types set in Setup application. This only applies to the Calrec meters and should be set to match the meter types required.

VU & PPM moving coil meter reference levels set in Setup application. This only applies to the Calrec meters and should be set to match the reference levels required.

VU & PPM moving coil meter responses improved.

IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT VERSIONS

V1.10 included: (Continued...)

M/S function for main, Anc 1 & Anc 2 meter sels (Calrec, internal meters only). The L & R meters can now by switched to display M & S (mono & stereo difference signals) using the M/S buttons on the meter selectors.

Separate M/S meter signal for main & Anc 1 meter sels (Calrec, internal meters only). Additional meters could be fitted to display M & S signals at the same time as the other meters are displaying L & R.

Dolby DP570 control via relays/optos (from the left hand decoder remote button). This allows remote switching for Pro Logic, Alt Compression (Custom, Line, or RF), and Alt Output Modes (Phantom Centre, 3 stereo, stereo or mono).

Dolby SDU4 control via relays/optos (from the right hand decoder remote button). This allows remote switching for Alt Output Modes (stereo or mono).

Default memory - on Tech screen (Also clears isolate settings). This should be set by the Studio Technicians on the Tech screen. It can be recalled using the Default Set Up button on the Functions panel.

99 memories (instead of 50) in on-board flash ROM. Memory locations 51 to 99 are now operational.

AWACS changed from pop-up box to separate screen with history. This allows more information to be provided in the AWACS system.

AWACS system responds to console processor hot-swap. Previously, this was notified separately.

Stereo pan display shows L-R difference in dB. This is for the channel/group Front pan control on the Input/Output panel, when not in L-C-R mode.

Q controls range extended to 0.3 (from 1). The control is now from 0.3 to 10.

Less savage boost and cut controls on EQ. The range in dB remains the same but the control is smoother to operate.

Improved default dynamics settings. Previous default settings required more control adjustment to achieve typically required settings.

Improved resolution of compressor ratio control between 1 & 2. The range of the control is unchanged.

IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT VERSIONS

V1.11 included:

Dynamics Link Busses. There are four available busses to link channels to, using the numbered buttons on the Dynamics panel.

Ability to Isolate more functions. It is now possible to isolate direct outputs, inserts and port connections from memory recall.

The default studio memory will now store and recall isolate settings.

Rear AFL button on Channel Control panel is now functional.

Talkback panel functional.

Talkback port options increased. Introduction of Talkback screen allowing selection of Phantom Power (if port is mic/line) & SRC (if digital) and feed to output port.

Talkback to direct output (including group direct output) + inhibits.

Talkback to Auxes, tracks, groups, mains and Studio + inhibits.

Talkback to EXT (using GPI card relays to switch the talkback output to external destinations) + inhibits.

Four RTB inputs with level control and optional mix with PFL to PFL LS output.

RTB to PFL LS options in set-up.

Oscillator: Variable Frequency and Level, Sweep, External output and Tone Clear.

On Air & Reh switching from Optos.

Downmix for Ancillary 2 meter (internal and external).

No Restriction on number of analogue inputs which can be used simultaneously.

Synchronisation from AES inputs to work from any of the first six inputs on each AES card.

Three options for pulsed relays, Pulse On, Pulse Off and Pulse Both.

Tone to groups.

Memory panel allows “Save/Load-Number-Exec” as well as “Number-Exec-Save/Load”.

Memory panel displays feedback of it’s progress, e.g Saving, Saved OK, etc.

PFL LS output in mono (option).

IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT VERSIONS

V1.12 included:

Increased number of channels to 130, (96 stereo & 34 mono).

Indication of which ports are in use for direct outputs, when selecting on I-O Matrix panel.

Reverse Routing is now possible when in Interrogate Mode.

Bird Beater option on Aux 1. Cuts pre send if the fader is open and not cut.

PFL to Headphones now available using button on Monitor LS panel.

AFL & PFL “ON” relays included, which fire when AFL or PFL are active.

V1.13 included:

Motorised Joystick (Optional)

Input Delay and control panel (Optional)

Oscillator controls and accompanying screen.

Copy screen.

TTL Wordclock can now be used as an external synchronisation source.

The desk can be put into “User”, “Technician” and “Supervisor” password protected Modes.

Locking of output port assignments in “Technician” Mode.

V1.16 included:

New PC front end Application, with new colour scheme, faster start up time, fadter memory load time, multiple patching on I/O screens, Replacement of drop-down boxes with buttons which are easier to use on a touch screen, New JRE for improved performance.

Bird Beater now available on all Auxes (previously available only on Aux 1)

Input 1/2 switching option on one or two buttons on the channel control panel.

Preview Memory - Memories can be previewed on thee channel strips and non-assignable panels. When the preview button is pressed, the Selected Memory’s settings will be displayed on the control surface.

When a stored memory is loaded onto the console from disk, the system checks that the current desk configuration matches that of the stored memory. If there are discrepancies, a warning that the memory may not work correctly will be given.

Support for the MADI interface option.

A warning will now appear to prevent the front end application being launched twice.

IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT VERSIONS

V1.16 included: (Continued...)

The Oscillator's External inputs (stereo and mono) are now available.

The Oscillator's L ONLY Tone interrupt is now operational.

Stereo tone feeds all stereo outputs (instead of mono tone)

PFL is prevented from feeding more than one set of loudspeakers at once. i.e. PFL to small LS or to PFL LS to be off if PFL to Mon. Also, off if PFL to Sel 2 & Sel 2 to Mon.

Sel 1 & 2 is now available on the SLS selector, via the Setup application.

Revised metering selection system to allow more choice of signals, different types of meter on the same signal, metering of any external input, and up to three stereo phase meters (requires new hardware).

Modifications to the track send so that the MONO function comes after the Track Balance (Pan) control on stereo channels/groups. Previously, mono inhibited PAN IN.

V1.17 Not Released

V1.18 Not Released

V1.19 includes:

Partial Memories - In addition to full console memories, this function allows only certain components of settings to be saved and recalled. New front end screen under the Memory screen tab.

Automatic Cross Fading - To provide cross-fades from GPI opto inputs, with user-definable fade out and in times. New screen under Options tab for configuration.

Wild control push-switch option - Allows Aux send ON/OFF and Front Pan IN/OUT to be controlled using the Wild control push-switch on the channel control module. Enabled using the Options-Misc screen.

Input 1 & 2 gains on separate Wild Controls - Allows input 2 gain to control a separate analogue port which can be patched directly to an output (in parallel), for use as a tape send where input 1 is the tape return.

Linking gains of inputs 1 and 2 - Option to link input 1 & 2 gains so that back-up mic gain can track changes to main mic gain. Link works both ways, maintaining the offset between the two gains.

Enhanced VCA grouping system allowing VCA masters to be used as slaves in another VCA group.

Hydra Audio Networking option - allows dynamic routing to and from Remote I/O Units. New set of front end screens added for Network configuration.

NOTES:

USER REGISTRATION

Please complete this end user registration form as soon as you receive this manual. This will allow us to not only provide you with any manual update sheets &/or modification information, but also with information on new product developments which may be of interest to you. Completion of this registration form will ensure that we send all technical correspondence directly to you at the address you have indicated.

The form, once completed should be returned to Calrec at the following address.

User Registrations
Calrec Audio Ltd
Nutclough Mill
Hebden Bridge
West Yorkshire
HX7 8EZ
England
UK

or alternatively it can be faxed back to us on +44 (0) 1422 845244

Console Type: Alpha 100

Serial Number (located on the base panel): .....
Date Received: .....
Name: .....
Department: .....
Company: .....
Address: .....
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.....
Post/Zipcode: .....
Tel No: .....
Fax No: .....
Email: .....

Customer comments:.....
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(926-078 Iss.7)