# Alpha 100

OPERATORS MANUAL (Product V1.11)

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Whilst the Company take the utmost care in ensuring that all details in the publication are correct at the time of publication, we are constantly striving for improvement and therefore reserve the right to alter specifications & equipment without notice.

This publication is for International usage.

*Please also refer to 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 modules, 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.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## IMPORTANT HEALTH AND SAFETY INFORMATION

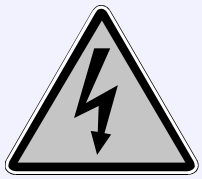
- **This equipment must be EARTHED.**
- **Only suitably trained personnel should service this equipment.**
- **Please read and take note of all warning and informative labels.**
- **Before starting any servicing operation, this equipment must be isolated from the AC supply (mains).**
- **Fuses should 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.

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### CONTROL PANELS



 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

*Continued...*

**OPERATIONAL SCREENS**



**OPTIONS SCREENS**

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
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Tel: +44 (0) 1422 842159
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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

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## 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.

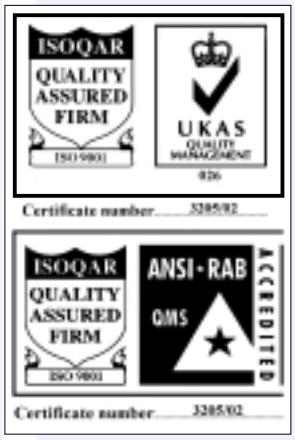
## STANDARD OF SERVICE

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.

## 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.



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# 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, 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.

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Please see pages 75-79 for details of important operational changes from earlier versions of this product.

## PRINCIPAL FEATURES

- **Format**
  Up to 96 faders, with A & B layers of control, plus 4 dedicated Main Output faders.
  Up to 96 Stereo or Mono Channels plus 34 Mono Channels.
  Comprehensive Surround Panning and Monitoring.

- **Channel / Group Facilities**
  All channels have 4-band EQ, 2-band Filters, Compressor/Limiter and Expander/Gate.
  Up to 20 Auxiliary Outputs which can be 20 Mono or 10 Stereo.
  All groups have Compressor and Expander/Gate.
  There is a pool of assignable Inserts and a pool of Direct outputs for channels and groups.
  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 - a centrally assigned fader is also motorised.

- **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, Auxs and Mix-Minus busses.

- **System**
  On board Flash ROM memory system offers 99 memories
  PC backup allows an unlimited number of memories
  Independent DSP operation ensures audio continuity even during PC or control reset
  Console & racks boot from power on in less than 21 seconds
  Automatic change over to hot spares for PSU's, Control cards & DSP cards
  Hot plugging of every card and module

## IMPORTANT CONCEPTS

If you are at all familiar with sound mixing consoles, you should find the Alpha 100 very easy to operate. To help with this, there are just a few basic concepts which need to be explained:

## LAYERING

Each Fader can control two independent audio signal paths, named A and B. These signal paths can be either Channels, Groups ***or Main Outputs***, 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.

This arrangement means there is less need for the operator to have to move around a large work-surface. Channels towards the ends of the control surface can be accessed more quickly than on a conventional, single layer design.

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

The B layer does not need to be used if there are sufficient faders using just the A layer.

## ASSIGNABLE CONTROL

Each fader has an "Assign" button (sometimes called the "Show Me" button) for each audio path (A & B). Pressing this causes the central control modules (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. Also, accessing a control on a channel is usually faster using this method than on a conventional console.

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 type of audio path on each fader is completely assignable.
The operator can choose which faders to use for the mono Channels, which for the stereo Channels, and which for the Groups ***and Main Outputs***. See the I/O Matrix panel section for details of this.

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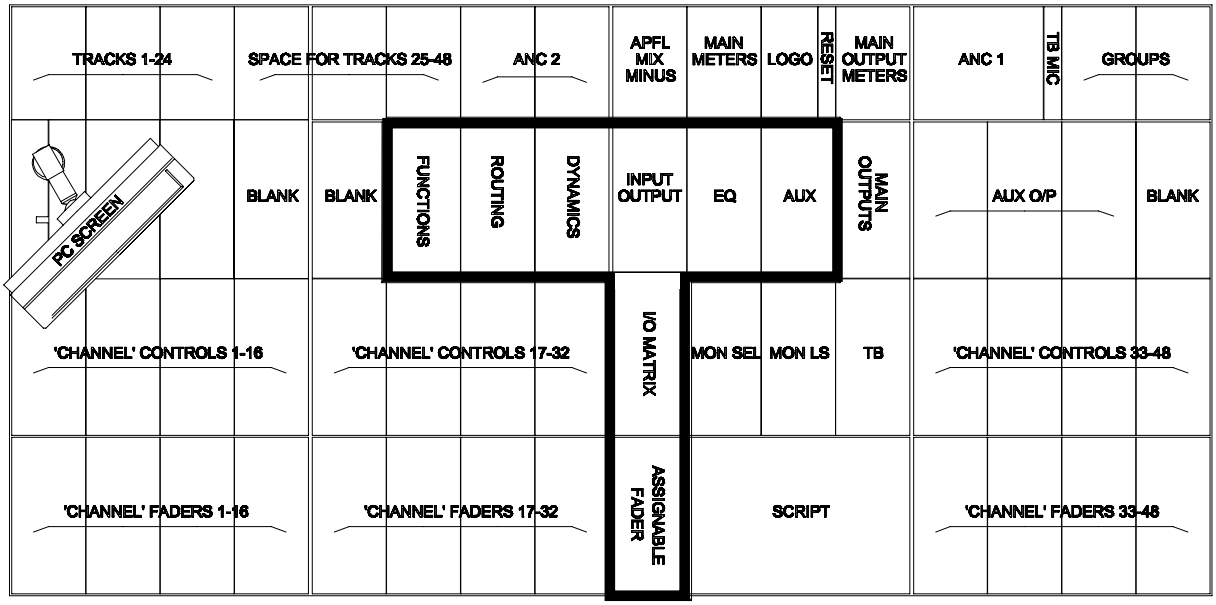
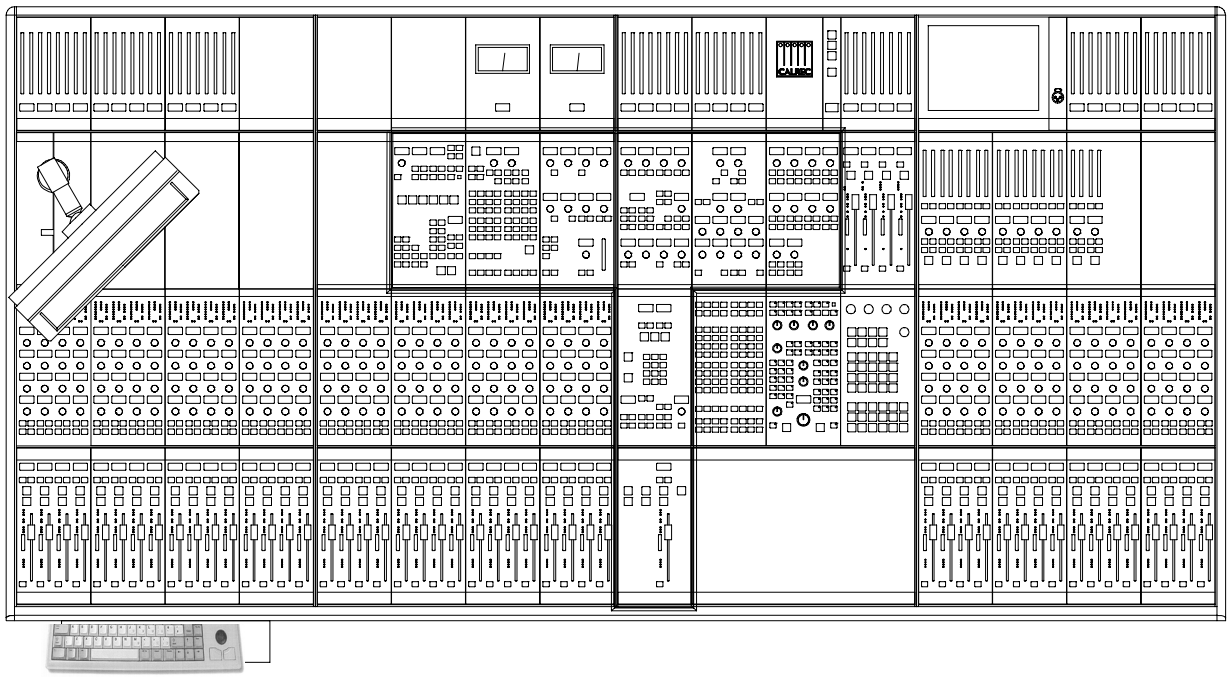
## 48 FADER FRAME STANDARD LAYOUT

### Key to the bottom diagram



Bold border denotes the
area of the “ASSIGN PANELS”

(920-543)

## PATHS AND PORTS

Digital consoles, by necessity, incorporate features which may seem, at first sight, to be a nuisance.

The main difference which falls into this category, is the way in which audio signals get from the outside world into the channels within the desk.

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 three basic types of input: Mic, Analogue Line, and Digital. However, all three types of input are not provided for every channel. This is because, since only one type will be used at once, to provide all three for each channel would increase the cost, size and power consumption of the desk unnecessarily.

Instead, a "pool" of each type is provided, plus an internal matrix to allow any of them to be connected to any channel. This is actually an advantage in that it is more flexible than the analogue desk approach. The matrix can be thought of as an electronic patch-bay with the bonus that any connections made will be stored with the console's memories.

Each channel can select from two inputs (1 & 2), switched on the Input Output panel. These can be Mic and Line (as on an analogue desk), two Mics, Mic and Digital, two Digital's, etc. Both inputs can be set up independently using the input matrix.

The two inputs also have separate input controls which include input gain, phase reverse and phantom power, etc. The switching between the two inputs takes place after these controls.

A similar matrix and "pool" is provided for the outputs. This is also stored with the memories.

The basic terminology is that Channels, Groups and Mains, etc are referred to as "Paths" and the Inputs and Outputs are referred to as "Ports" which the audio signals have to pass through. The Ports are connected to the Paths via the Matrix.

Most matrix connections should have been preset by the "house technician" using the PC screen.

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## 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.

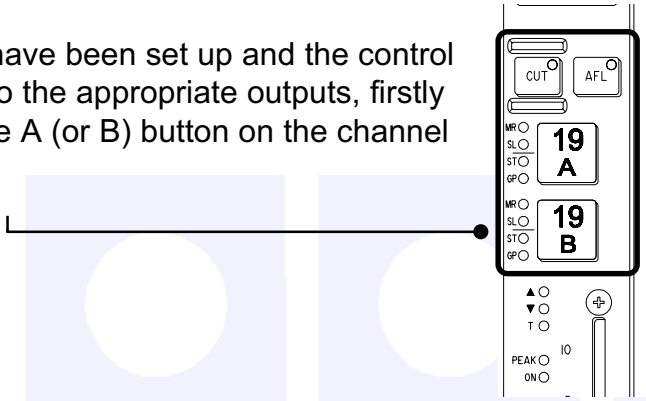
There are separate lists for inputs (12 off) and outputs (8 off). Each list can contain a mixture of normal I/O (labelled in pairs) and I/O dedicated to mono signals.

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.

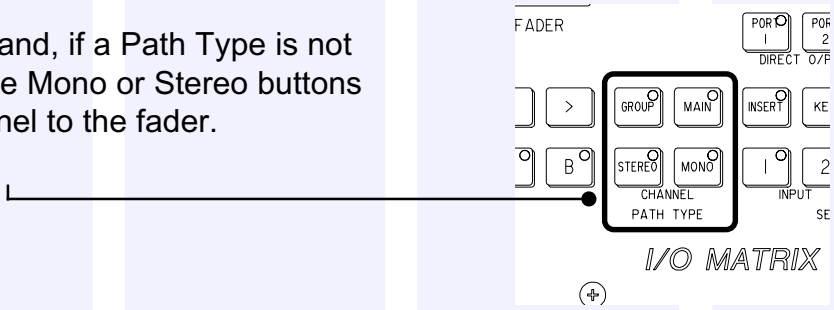
## GETTING STARTED

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

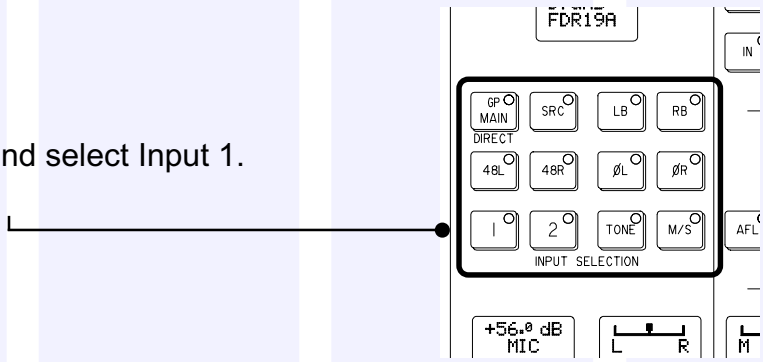
Assuming that the basic system ports have been set up and the control room monitor speakers are connected to the appropriate outputs, firstly choose a **channel fader** by pressing the A (or B) button on the channel fader module.




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** module and select Input 1.

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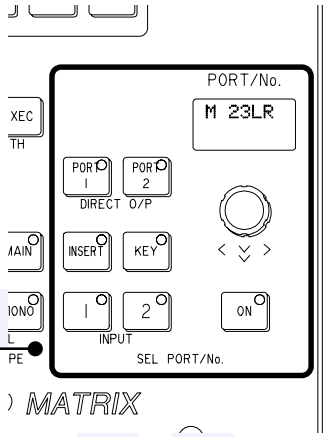
## GETTING STARTED

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).

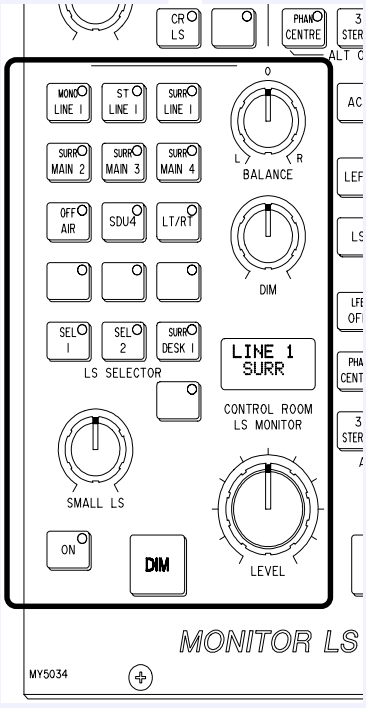



You are now ready to use the channel as you would on any other desk.

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.



## SIGNAL PATHS

As can be seen from the diagram, the Alpha 100 can have up to 96 Stereo or Mono, plus 48 Mono channels.

The 8 groups can each be designated as stereo or mono (see the Busses screen in the User screens group). 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 (see User - Busses screen). If they are 5.1 Surround, a mono rear is derived at the output to allow them to be used as LCRS mains. 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 two 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 (see User - Busses screen).

## INSERTS

There is a pool of insert send/return paths which can be used for channels and groups (in pairs for Stereo channels and groups).

This is in addition to the insert send/returns for main outputs.

The ports for these insert paths will be pre-configured at the time of installation.

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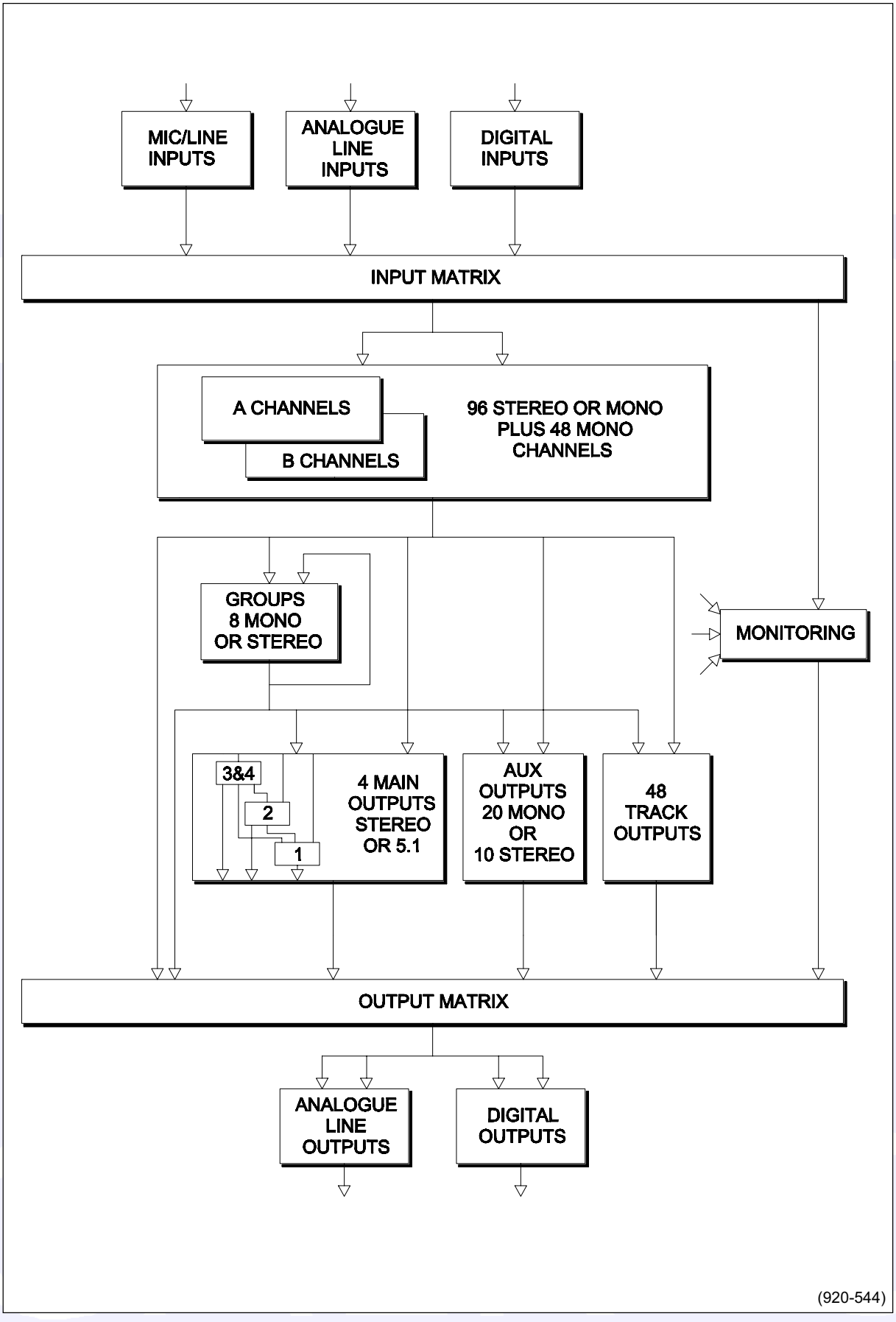
## SYSTEMS DIAGRAM



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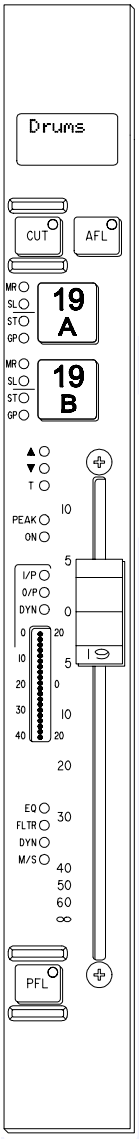
# CONTROL PANELS

## "CHANNEL" FADERS




Channel and Group Paths are controlled by the console's "CHANNEL" FADERS.
Any "Channel" Fader (A or B) can control any Channel or Group Path.
The Main Paths are controlled by the faders on the Main Outputs Module.

The label in the display at the top of the fader module is the name associated with the channel Input selected (or the Group number). These channel input labels default to the Port ID unless a name is entered via the PC.
The text shows the 'A' path in the top and the 'B' path in the bottom of the display.
The colour of the label will show which fader is active at any one time: Green for A, Amber for B. This is in addition to the A & B leds above the top display on the "CHANNEL CONTROL" module (situated above the "Channel" Fader).

In addition to switching between the two Paths, the A & B buttons also "CALL" the "Channel" Fader to the Assign Panels.

The CUT button cuts the channel or group. Its effect is the same as fading out the channel or group. ON buttons can be fitted instead of CUT buttons.

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

The MR & SL led's next to the Assign buttons indicate the Masters and Slaves of the VCA style group.

The ST & GP led's next to the Assign buttons indicate Stereo Channels (ST) or Groups and Group Faders (GP).

The $\wedge$ and $\vee$ led's are normally off. They will only illuminate when the position of the fader knob 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 the direction the knob must be moved to match the audio level.

The T led indicates that the console has recognised that the fader has been touched.

The PEAK led will light if the channel, main or group signal is within 3 dB of the clipping level.

The ON led lights when the audio level is not at the $\infty$ 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 led's. Selection is made on the Functions Panel.

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).

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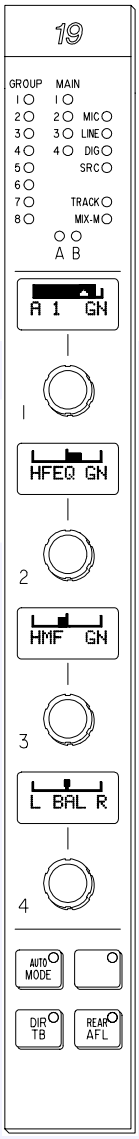
## "CHANNEL" CONTROL




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

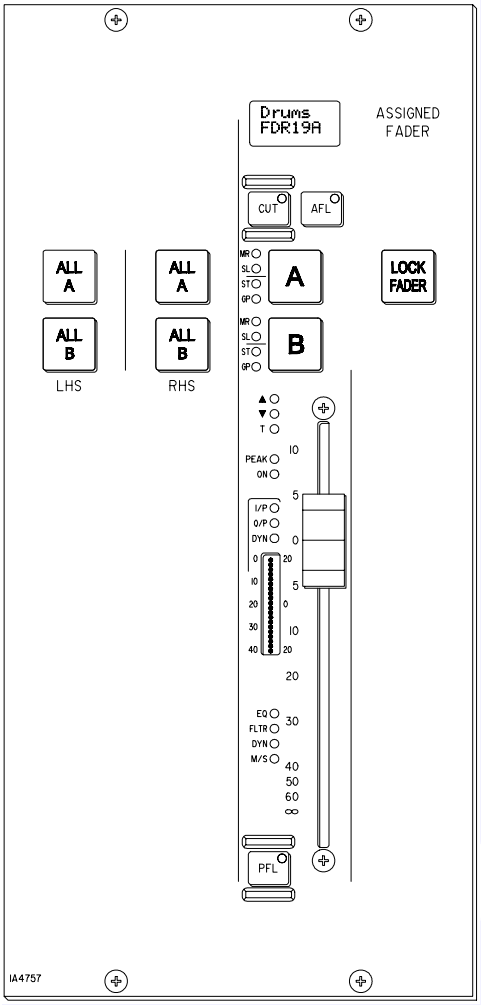
- Routing to groups and mains
- The currently selected input type (Mic, Analogue Line, or Digital)
- If the Sample Rate Convertor (SRC) is switched in (for digital inputs)
- Routing to any track
- Whether the Direct output is being fed with a Mix Minus feed

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 can be assigned either using the Functions Panel or the USER-CHAN screen. Instructions on how this is done are given on their respective pages.

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.

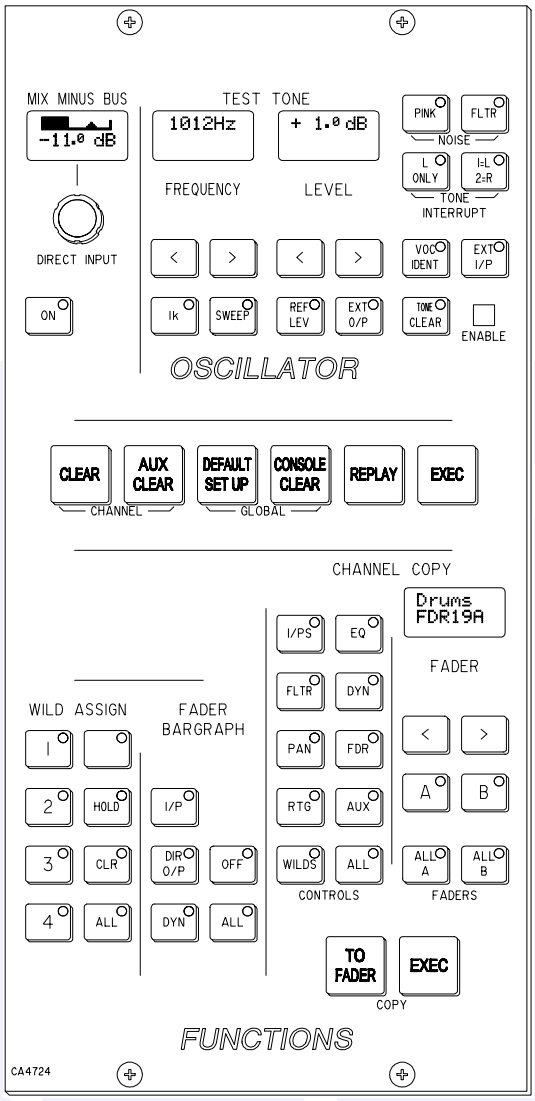



### ASSIGNABLE FADER

The ASSIGNABLE FADER is positioned towards the centre of the console, in the optimum listening position, and works in parallel with the last "Channel" Fader selected.

Alternatively, LOCK FADER allows it to be fixed to a specific path.

## FUNCTIONS PANEL




MIX-MINUS BUS, DIRECT INPUTcan be switched ON or OFF, and a rotary control is provided to adjust its level. The port for this is patched on the Direct Input Ports Screen.

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.

The DEFAULT SET-UP will usually be created upon installation of the Alpha 100. 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.

## ASSIGNING WILD CONTROLS

The Wild controls are assigned either from this module, 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:

1) Call a Fader to the Assign Panels by pressing its Assign Button.

2) Select WILD ASSIGN 1, 2, 3 or 4 on the Functions Panel.

3) Optionally, it is possible to carry out <u>one</u> of the following:

   a) Select HOLD (hold flashes), then select other Assign Buttons.

   b) Press and hold HOLD, select first and last of block of Assign Buttons, then release HOLD.

   c) Select ALL.

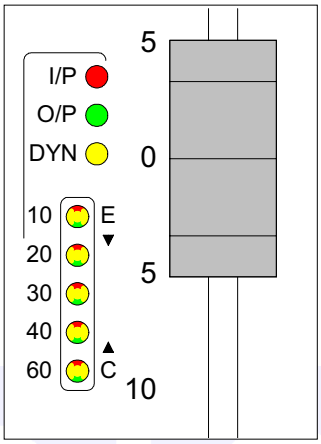
4) Push one Assign Panel rotary control. For example, Aux 1 Send.

Notes:

- Aux output controls cannot be assigned to Wild controls.
- If, at 4, the fader is touched, 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.

 <u>Please Note:</u> Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## 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 on the Functions Panel will 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 done using the USER-CHAN screen.

## CHANNEL COPY

Also controlled from the FUNCTIONS module is Channel Copy. Nine sections of a channel or ALL together can be copied to another channel or channels. 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 on 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.
(Vice-versa for Mono to Stereo).
If Groups or Mains 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 copies the settings including the In/Out, Alternate and Assignment (CH or Dyn) settings.

DYN copies the Dynamics settings but not whether the EQ or Filters are 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.

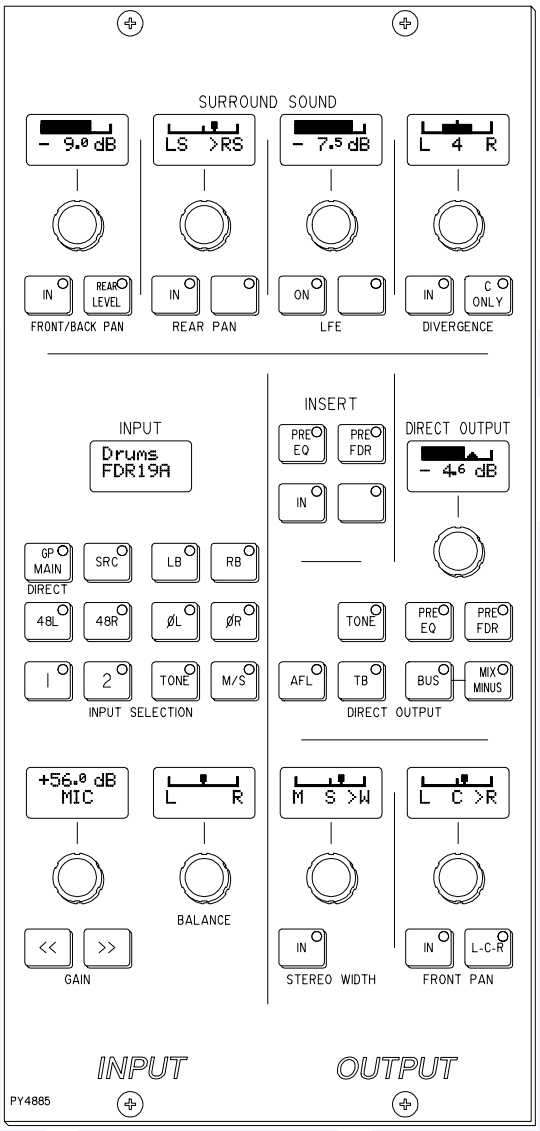
RTG copies the routing to Mains and Groups but not the routing to Tracks.

AUX copies the routing and levels to the auxiliaries.

WILDS copies the Wild assignments but not their settings.

ALL copies all of the above.

## INPUT/OUTPUT CONTROLS




The INPUT controls on the Input/Output module allow separate settings for the two channel inputs, plus Gain and On/Off for the Group & Main direct inputs.

SRC switches the sample rate converter on digital 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.

The BALANCE control operates on Stereo channels only. The control is disabled when LB or RB is selected. When LB & RB are selected, the BALANCE control acts as an input pan control. 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.

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 from -18dB to +78dB for Mic/line inputs, -18dB to +24dB for Line and Digital inputs, and ∞ to +10dB for Direct inputs.

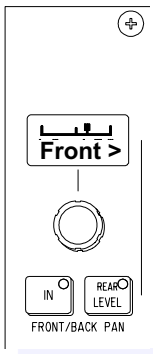
A WIDTH control operates, pre fader, on Stereo channels and groups. It adjusts the width from mono, through stereo, to wide.

Stereo and Surround panning is provided for channels and groups. Signals can be panned to both Stereo and 5.1 outputs simultaneously. AFL can be heard in surround, post the pan controls, if the monitoring is surround.

On Stereo channels and groups, the L-R PAN acts as a balance control.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

The FRONT/BACK pan can be switched to be a rear level control. When the REAR LEVEL is not in circuit, the Front/Back pan control pans the signal between Front and Back. When the Rear Level control is IN, the level to the Front remains as set by the Front/Back pan but the level to the Rear is now solely controlled by the Rear Level control. 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 LFE (Low Frequency Effects) signal has an optional Low Pass filter for each 5.1 Main output.***

The DIVERGENCE sets 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.

The Direct Output is covered under Mix Minus, on page 29.

## EQ & FILTERS

The Equaliser module controls EQ & Filters on the Channels. 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.

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

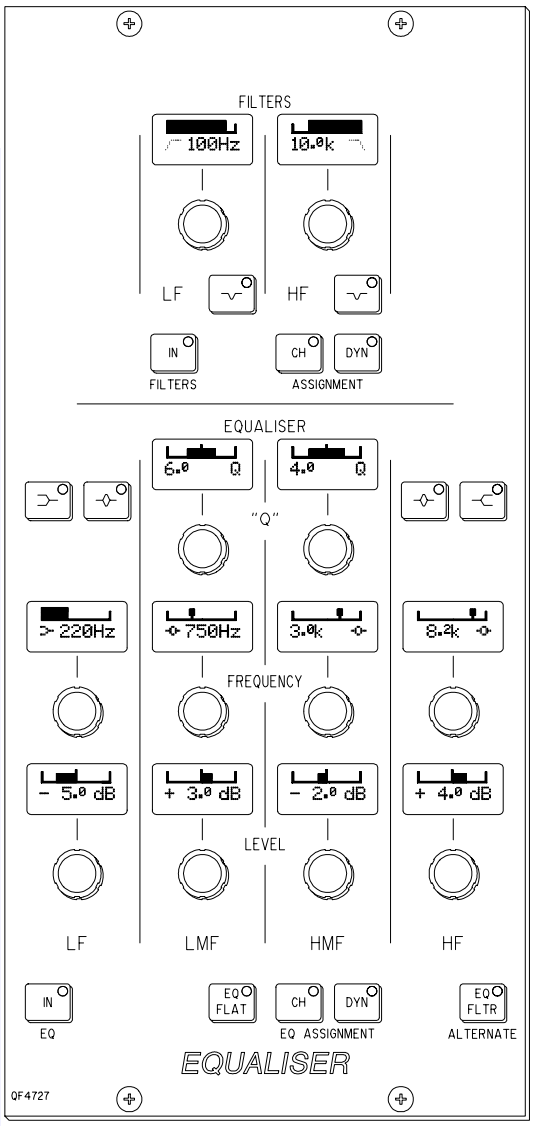
Equaliser:
LF 30Hz to 470Hz, shelf or bell (Q of 1.5)
LMF 160Hz to 2.4kHz, Q from 1 to 10
HMF 500Hz to 7.5kHz, Q from 1 to 10
HF 1kHz to 16kHz, shelf or bell (Q of 1.5)

EQ level controls are ±15dB

"Q" can be adjusted between 0.3 and 10.

The ALTERNATE EQ FLTR button allows switching between two complete sets of alternate settings.

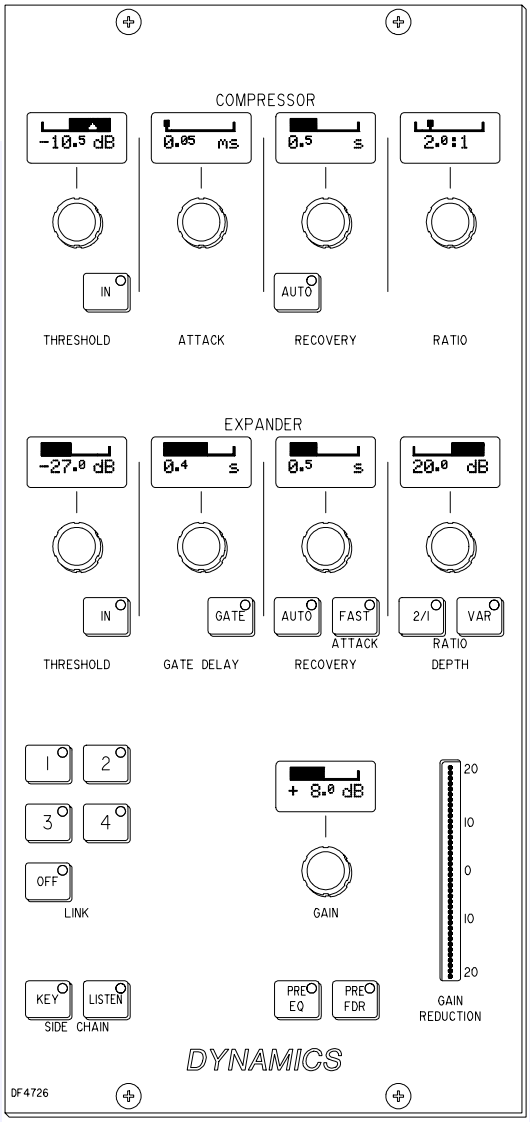
The DYN button allows the EQ and Filters to be switched in and out of the dynamics of the assigned channel.




 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## DYNAMICS

The Dynamics module 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.




Compressor:

Threshold +20dB to -20dB
Recovery 75ms to 4 sec + AUTO
Ratio 1 to 50
Attack 50µs (0.05 ms) to 5ms

Expander:

Threshold 0dB to -40dB
Recovery 75ms to 4 sec + AUTO
Depth 0dB to 40dB
Fast attack 50µs (normal 4ms)
Ratio 2/1 and VAR (variable - according to level)

Gate:

Threshold 0dB to -40dB
Recovery 75ms to 4 sec + AUTO
Depth 0dB to 40dB
Fast attack 50µs (normal 4ms)
Gate delay 0 to 1 sec in addition to 6dB hysteresis.

Make up gain 0dB to +20dB

The Pre EQ button will not function on Group & Main as there is no EQ.

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 two channels which represent the right and left legs of a stereo pair. With the channel selected, press 1, 2, 3 or 4 to assign the channel to the bus.

***SIDE CHAIN KEY & LISTEN are not available in this product release.***

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

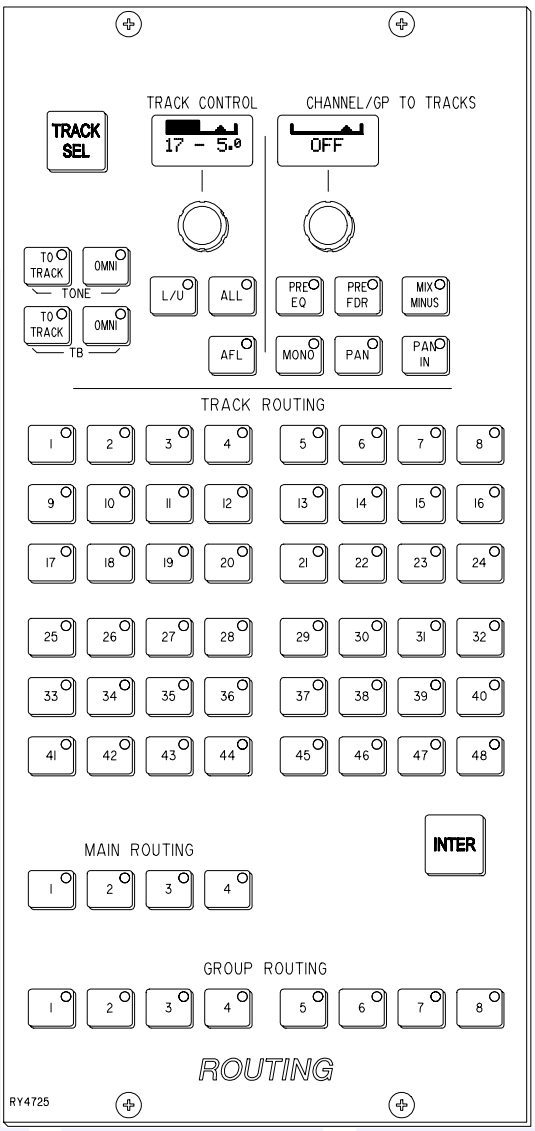
The EQ and Filters can be switched into the Dynamics.

## 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 module) can be used to quickly select the channels.

When INTERROGATE is selected, pressing any numbered routing button will indicate all the paths feeding that bus by lighting their fader Assign Buttons.




## TRACKS (GENERAL PURPOSE BUS OUTPUTS)

The TRACK CONTROL section of the Routing module, controls the output to the multi-track, after the track mix. These outputs can also be used as IFB or general purpose bus outputs. The number of outputs available will depend on the option fitted. 48 optional bargraphs can be fitted to monitor the output level.

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

The OMNI buttons feed Tone or Talkback to all the track outputs.

The CHANNEL/GP TO TRACKS section controls the signal, from the channel or group, feeding the track routing selector.

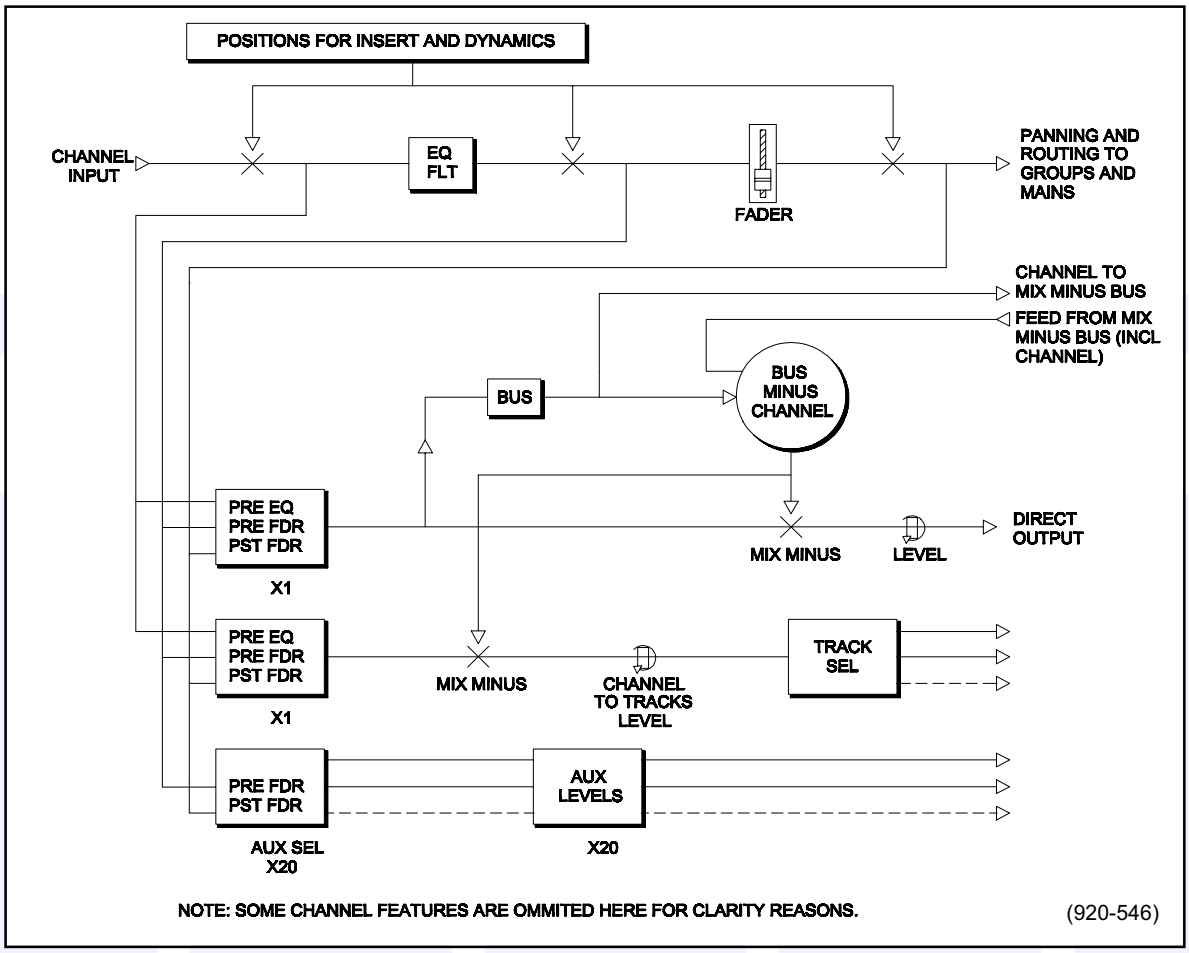
PAN makes the control into a Pan control (Balance on stereo paths). Routing is Left to Odd tracks, Right to Even tracks.

On Stereo paths, MONO switches the Balance control off. The Mono signal can then be routed to any track.

Mix Minus, Pre-EQ and Pre-Fader act as a cancelling set. When none are selected the signal is sent Post-Fader. On the ROUTING Panel, MIX MINUS feeds the Mix Minus signal of the channel or group, as set up on the Direct Output section of the Input/Output module, to the Track Routing selector. The Simple Channel Schematic shows this.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## SIMPLE CHANNEL SCHEMATIC



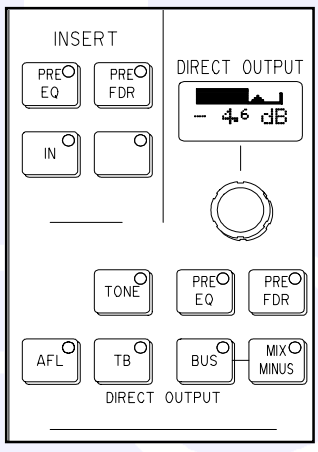

## MIX MINUS

On the Input/Output module, BUS 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.

MIX MINUS 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.

Bus will light the fader assign buttons of all the paths feeding the Mix Minus Bus when INTERROGATE is flashing (on the Routing Panel).



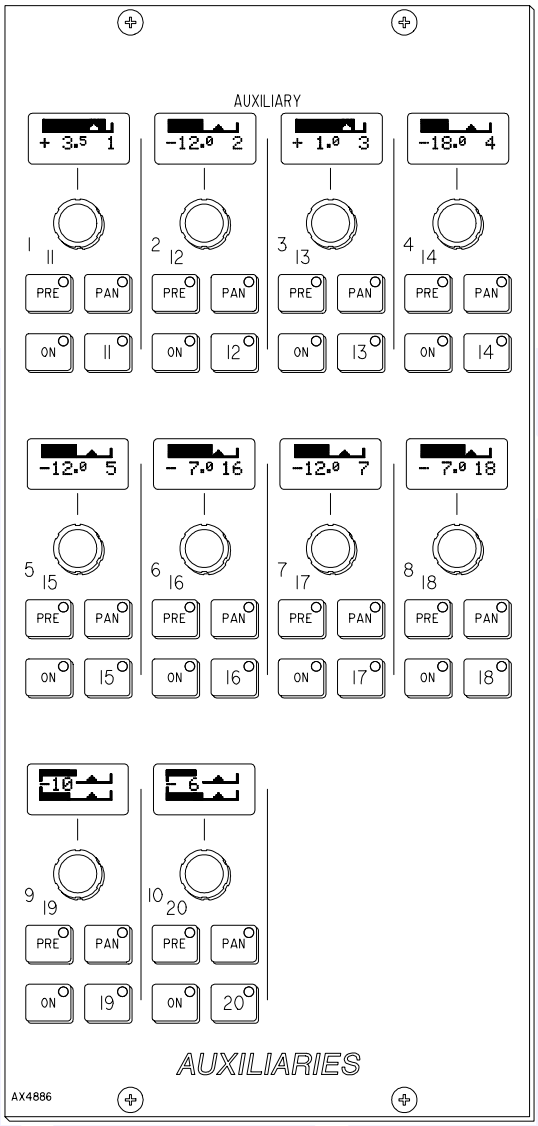
## AUXILIARIES

This module controls the feeds from the channels or groups to the auxiliary output busses. Each feed can be Pre or Post the channel or group fader.

The Auxiliary buses are pre-set to be mono or stereo via the PC. If, for example, aux 9 is stereo, then aux 19 will not be available (and Aux 19 will not work on the monitor selector).

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.

On mono auxiliaries, buttons 11 to 20 switch the control to that numbered aux send. The Pan button will be inoperative.




 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## AUX OUTPUT

These modules control the Auxiliary outputs.

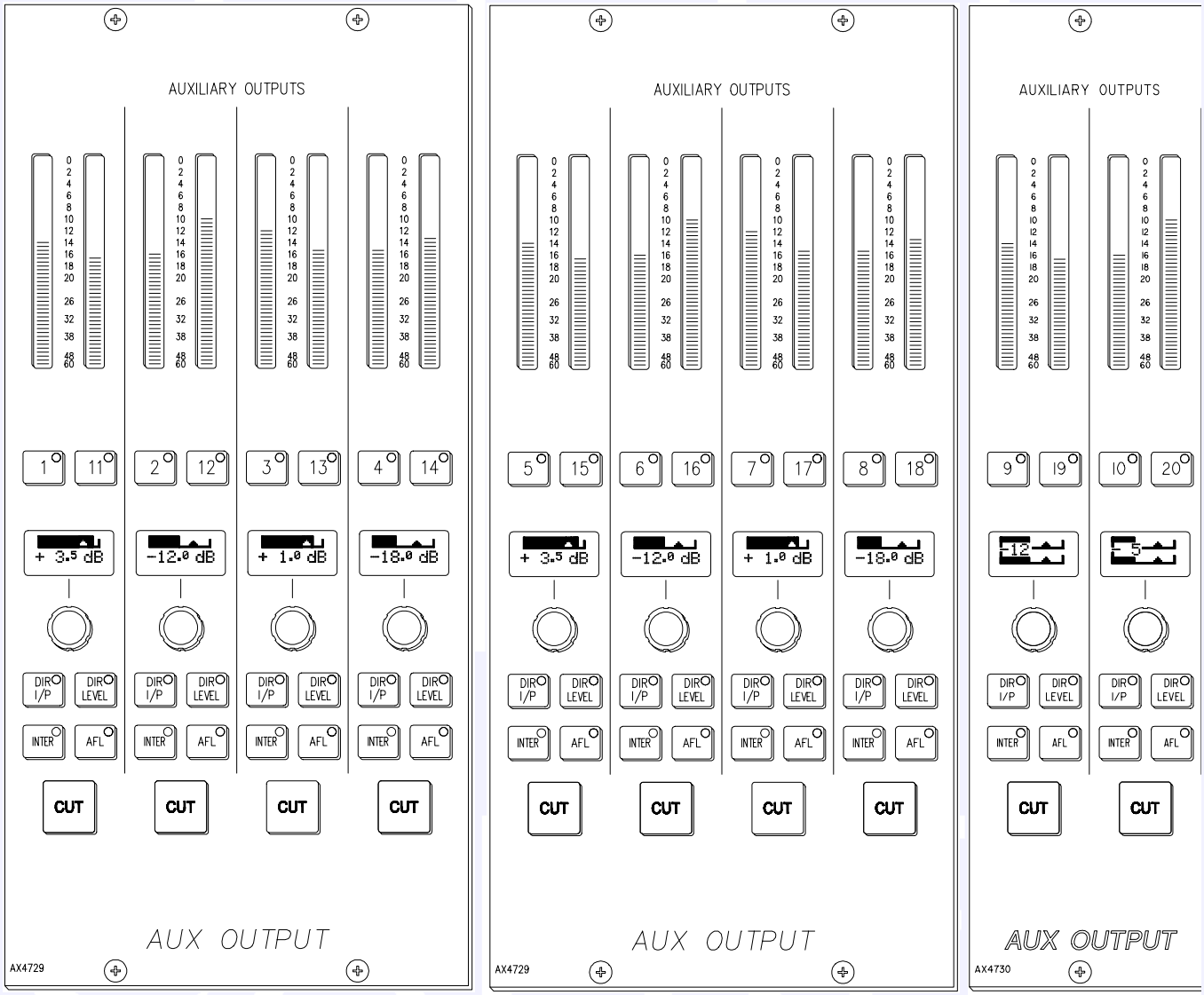
The displays above each rotary control show what is being controlled (e.g O/P or DIR) until they are adjusted, when the level is then displayed. A short time after the adjustment has been made, the display will show the label again.

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.

INTER (momentary) displays which paths are feeding the auxiliary by lighting their fader Assign Buttons.

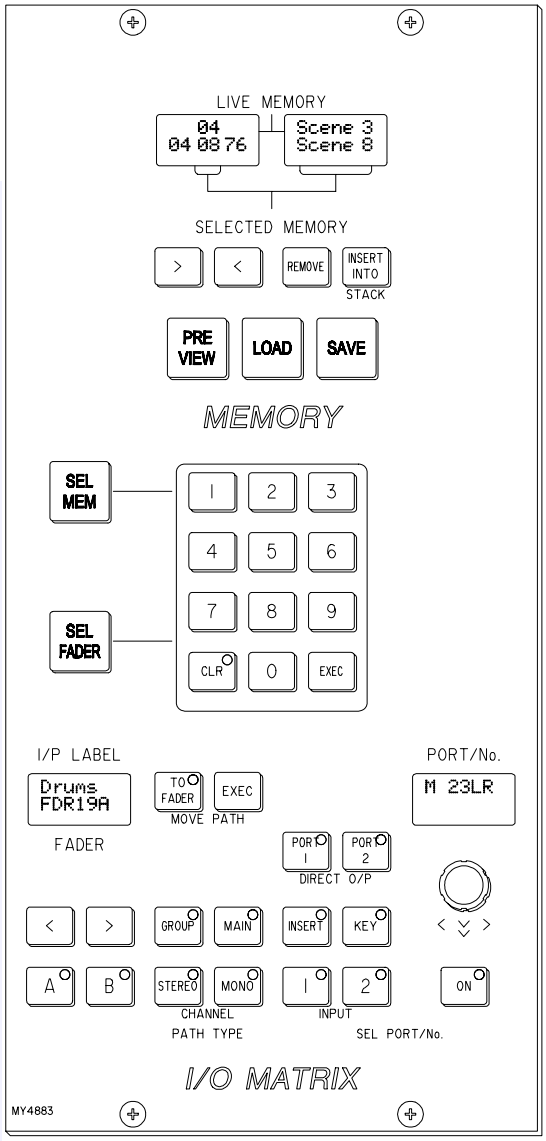
DIR I/P switches on the direct input to the auxiliary bus.

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



## MEMORY & I/O MATRIX PANEL

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.




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 is the current memory loaded onto the console. 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 instantaneously launch the SELECTED MEMORY into the LIVE MEMORY position, overriding the previous console settings.

The Selected Memory can be chosen in different ways. SEL MEM plus the keypad, allows any memory number to be called into the Selected Memory position. Press SEL MEM, and enter the two digit memory number followed by EXEC to call up any memory. The Selected Memory can also be chosen by clicking on the required memory in the Flash Rom list on the left of the Memories Screen (See PC Screens section). The contents of the Selected Memory can be cleared by pressing SEL MEM + CLR on the keypad or clicking on Clear Memory on the screen.

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. To create a new memory, choose an empty memory from the list on the left of the Memory screen, either by clicking on it, or by pressing SEL MEM and typing it’s number on the keypad. 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.

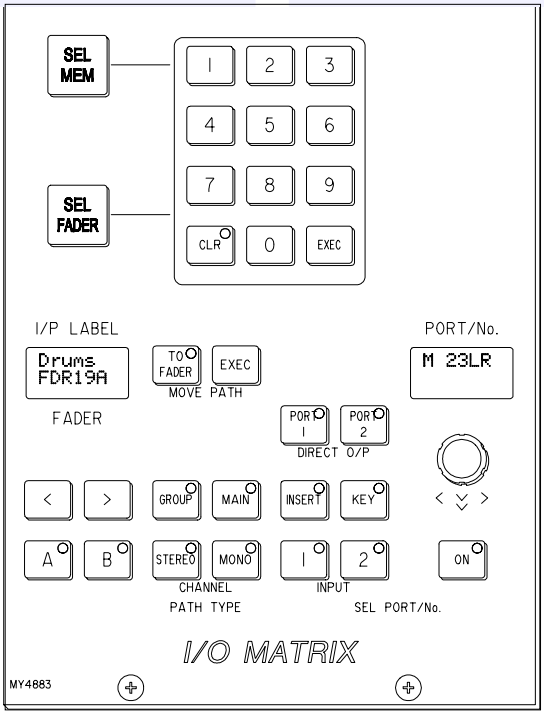
 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## 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. 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 Stack memory from the Stack, or in the case of a non-stack memory will remove it from the Selected Memory position. Inverse text in the display is used to indicate that the memory is not part of the Stack.

## I-O MATRIX

Ports can be connected to Channel INPUT 1 and 2 for the currently assigned fader. First press 1 or 2 to select an input, then use the rotary control to scroll through the lists of available input ports. Pressing the ON button will assign the chosen input to the port. Pressing the rotary control gives access to lists of other types of input port.




The GROUP, ***MAIN,*** STEREO and MONO Channel buttons select the path type for the currently assigned fader. If the channel is to be a Group or ***Main,*** it's number is selected using the rotary control & ON button.

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).

Pressing the INSERT or ***KEY*** buttons allows the rotary control and ON button to control selection of INSERT (on channels and groups) ***and KEY input*** connections.

Faders can be called to the Assign Panels, via the <, >, A and B buttons and by pressing SEL FADER and entering the fader number on the keypad. This is for use when pressing the fader assign button is not convenient, or should a fault develop on the fader strip. Faders can be cleared of information by pressing SEL FADER, entering the fader number on the keypad, and pressing CLR.

Paths can be moved or swapped from one fader to another, via the MOVE PATH buttons.

## MAIN OUTPUTS

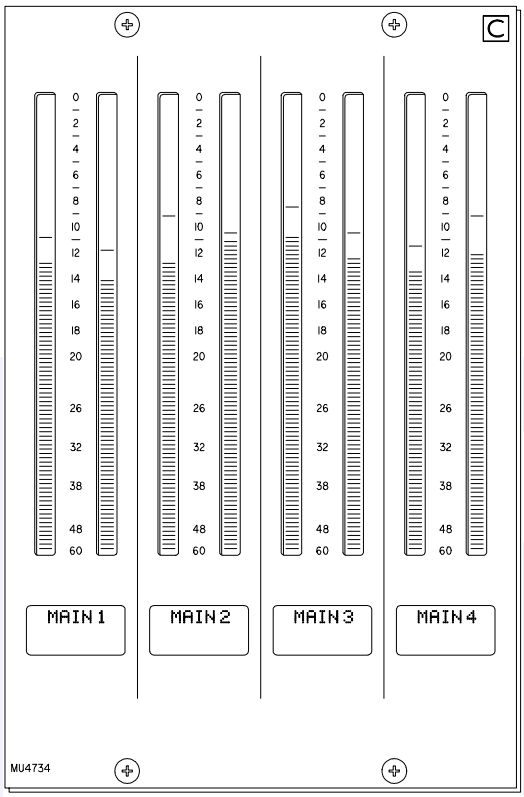
The ASSIGN BUTTON on each Main fader calls the Main output to the Assign Panels to allow; routing (of one Main to another - indicated on the routing leds above the faders), Insert on/off, and control of the Compressor and Direct input.

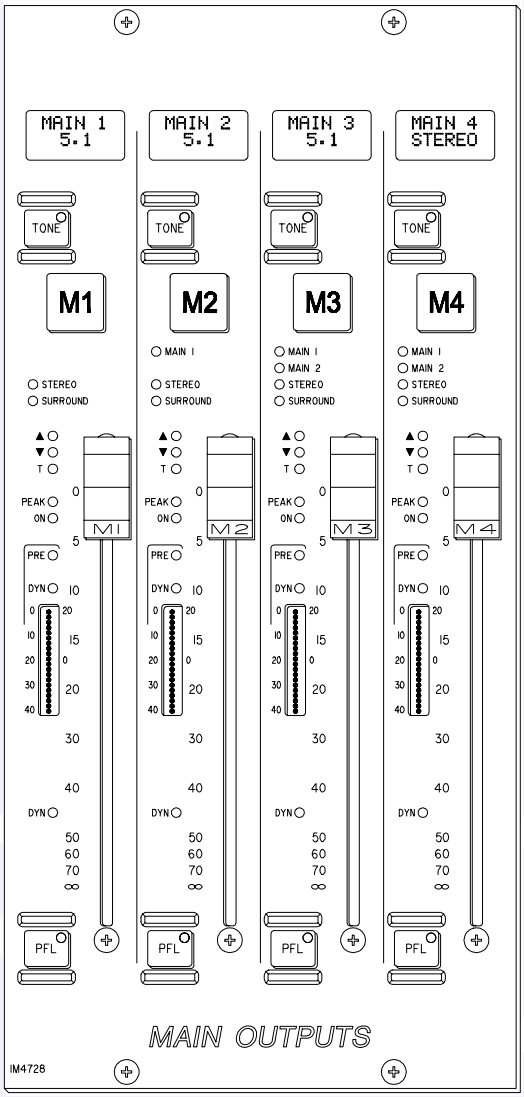
Each Main output can be pre-set to be either Surround or Stereo. Surround Mains are 5.1 plus a Rear downmix to allow a simultaneous LCRS. There is also a Stereo downmix and a Mono downmix (potentially 10 outputs for each Surround Main). Output cards will only be fitted for the signals which a Customer wants to use. The Insert and Direct Input are also Surround.

If a Surround Main is routed to a Stereo Main, it will be the Stereo downmix which is routed.

The Main Output Meters display the stereo downmix if the output is Surround.

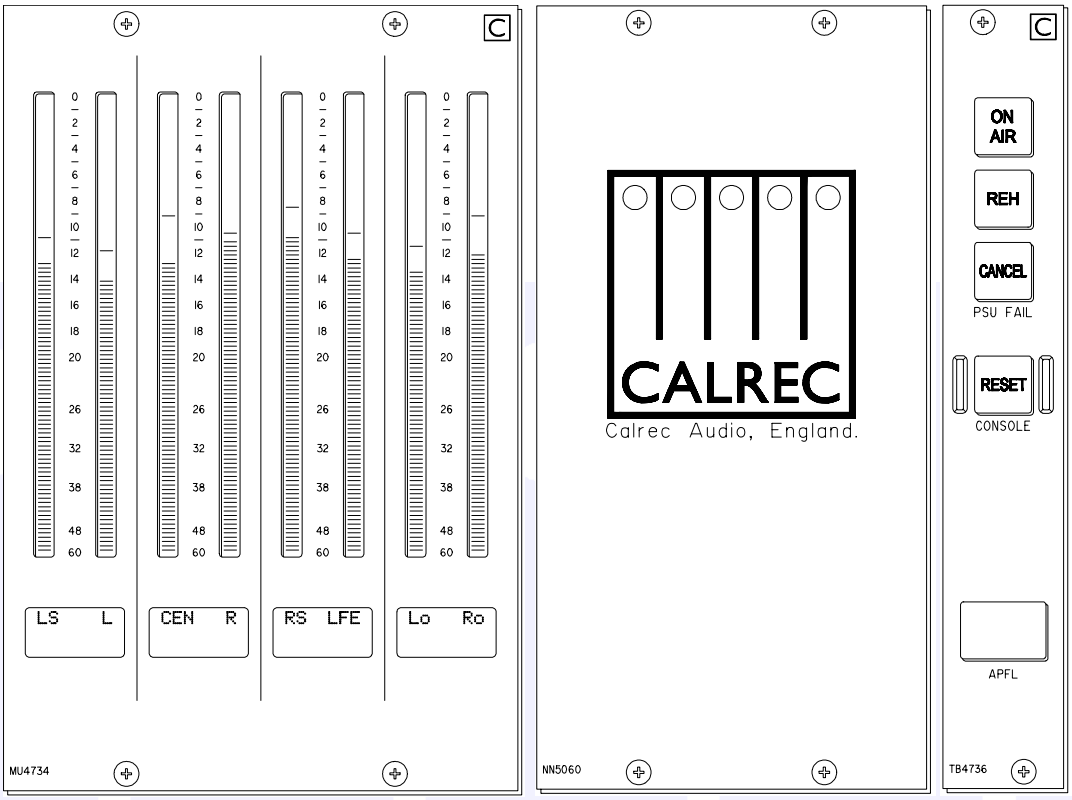
If the Main Line Monitor is set to be fed back from the Studio Distribution via external inputs to the desk, then the meters will display this instead.



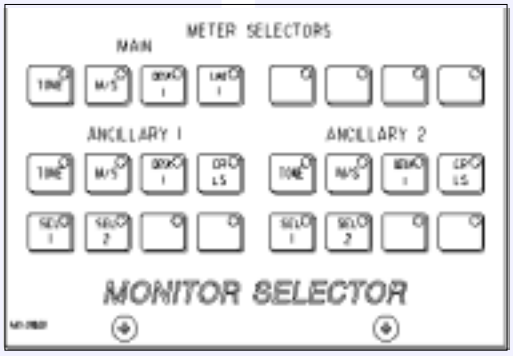

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## MAIN METERS




The MAIN 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 meter selector is on the Monitor Selector module. 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.




All meters in the meter bridge, including moving coil types, are fed directly from the meter processor, except for any Phase Displays which will require audio outputs from the I/O Rack. The Meter Bridge is continental height allowing alternative European bargraph meters to be fitted. These would need additional audio outputs from the DSP.

The PSU FAIL Indicator/Cancel button will flash if any one PSU fails (the optional hot spare PSU would prevent the desk from being affected). Pressing the 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.

The CONSOLE RESET resets the Control System only.

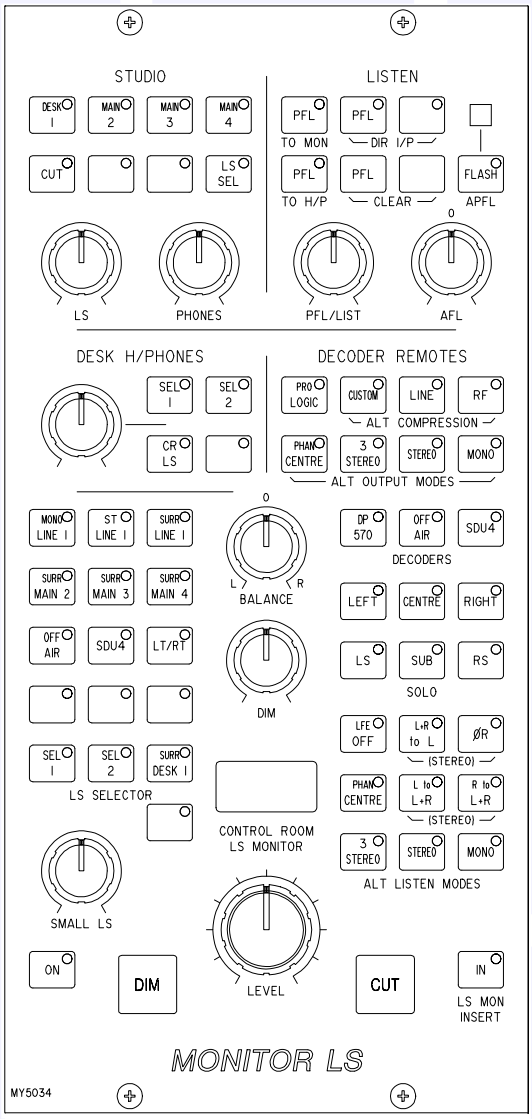
## MONITOR SELECTOR & LS

All SELECTOR external inputs can be Mono, Stereo, ***LCRS***, or 5.1.
Mono inputs are fed to L + R.
SEL 1 & SEL 2 are sub-selectors which feed the other selectors.

The SMALL LS level control can be in series with ***or seperate from*** 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.

If the LS system is Surround, Stereo and Mono sources will still be heard in Stereo and Mono, with no signals on the other speakers. If a surround signal is monitored on a stereo LS or Meter, a downmix created in the monitoring will be monitored. If a Main o/p is stereo, the stereo monitor buttons for that Main o/p will work but the surround ones will not.

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

***An INSERT point is provided after the LS SELECTOR, for a Dolby DP570. Any of the selector signals can be fed through this.*** Alternatively, the DP570 can be wired to the Main LS output, before the LS amplifiers.

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). Alternatively, there can be a separate stereo PFL LS output. An external RTB input can mix with PFL to the PFL LS output. PFL clear & AFL clear, clear any latched buttons.

PFL from Surround Mains is a stereo downmix of the surround signal.

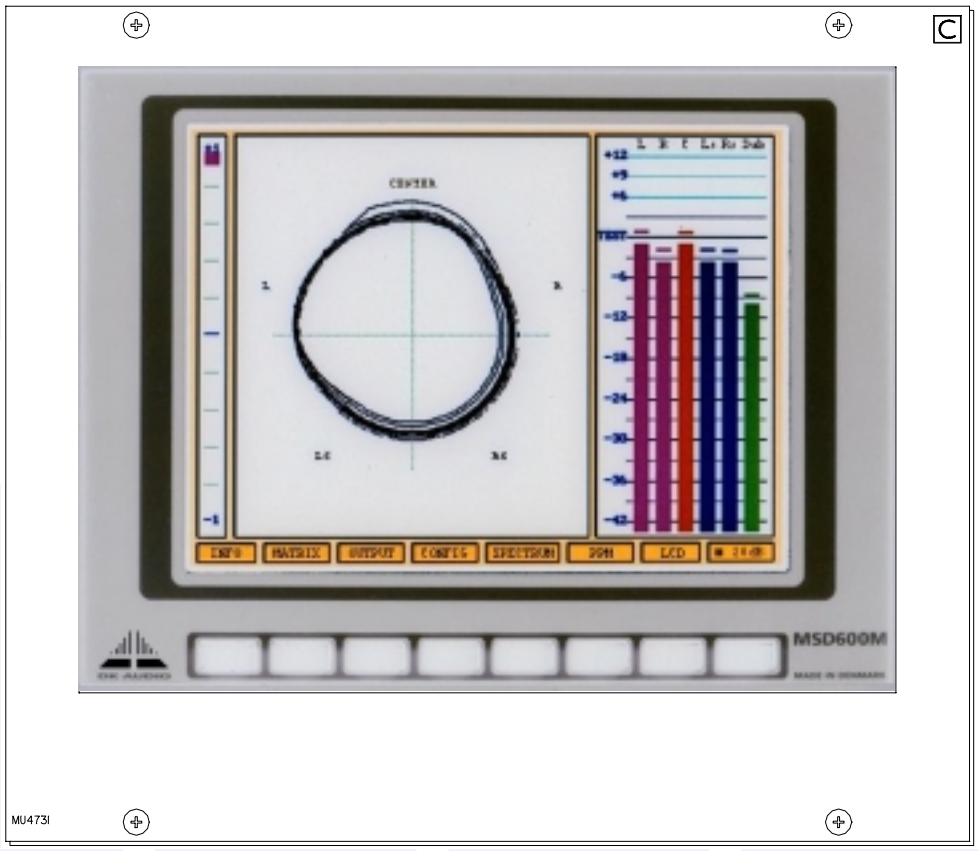
The DECODER REMOTE buttons control whichever Decoder is currently selected. (Other Decoders remain in their previously set state). The buttons are shown engraved for a Dolby DP570.

- 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.

***The Off Air decoder button does not function in this product release.***

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.

## OPTIONAL THIRD PARTY METERING

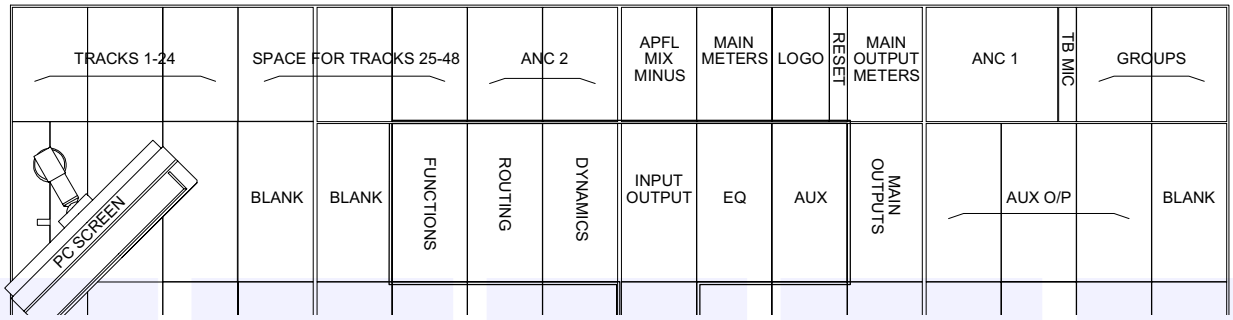



It is possible to incorporate third party metering options into the Alpha 100 design, such as the DK Audio MSD600M shown above.

This meter 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.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## OTHER METERS




A comprehensive set of optional meters are available:

- Track Bargraphs displaying the Track output levels, post Tone & TB.
- ANCILLARY 2 Meter: Stereo only, it can be PPM's, VU's or Bargraphs.
- Stereo APFL bargraph (displaying a mixed AFL & PFL signal pre the APFL level controls).
- MIX MINUS: Single Bargraph displaying signal on the Mix Minus bus (Mono).
- GROUPS: 8 Stereo bargraphs for the Groups. For Mono groups, the meter will display the left bar only.

It is possible to rearrange the meters to put the Group meters further to left at the expense of the positions of the other meters.

All meters in the meter bridge, including moving coil types, are fed directly from the meter processor, except for any Phase Displays which will require audio outputs from the I/O Rack.

The Meter Bridge is continental height allowing alternative European bargraph meters to be fitted. These would need additional audio outputs from the DSP.

Aux Output Bargraphs are provided on the Aux Output Modules.

Bargraphs are also provided on the faders, which can be set to monitor the input level, the direct output or the dynamics applied to the channel. This is set on the Functions Panel or the USER-CHAN screen.

**TALKBACK**

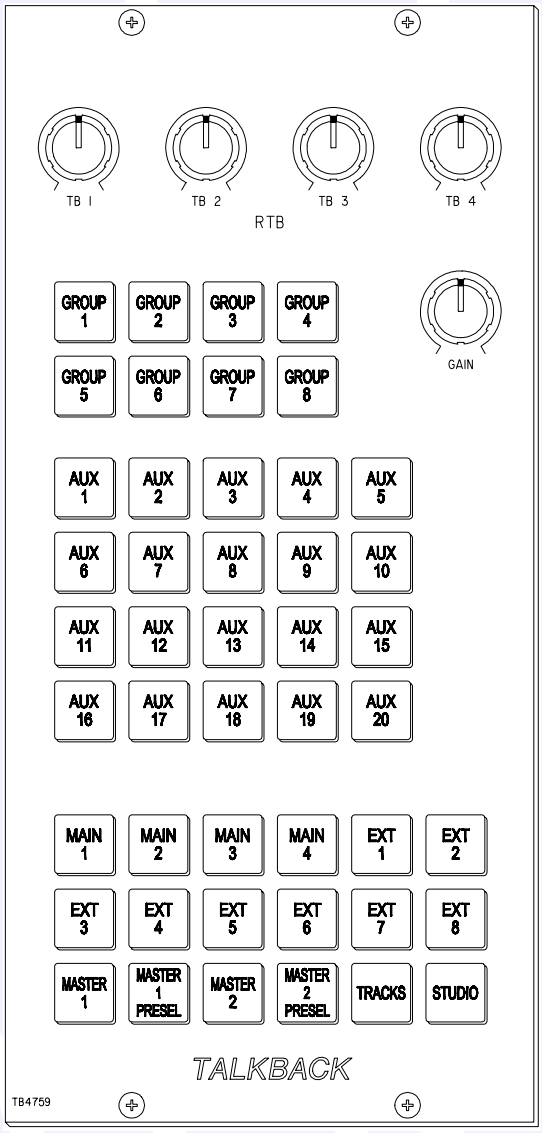
MASTER 1 and 2 operate all the TB buttons which have been preselected by the respective PRESEL button.

All Talkback buttons are subject to On-Air inhibits, set up via the PC.

The GAIN control sets the level of the TB Mic.

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 ***LS and/or switch onto the Desk Headphones output (requires external RTB ON signal).***



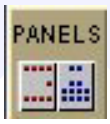

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

# OPERATIONAL SCREENS

## SCREEN USAGE & LAYOUT

The Alpha 100 is designed to minimise the need for the operator to use the screen once the console has been preset. The use of menus has been minimised to provide easier and quicker access to the functions and information on the 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.


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 — Trouble-shooting screens for the "house technician".

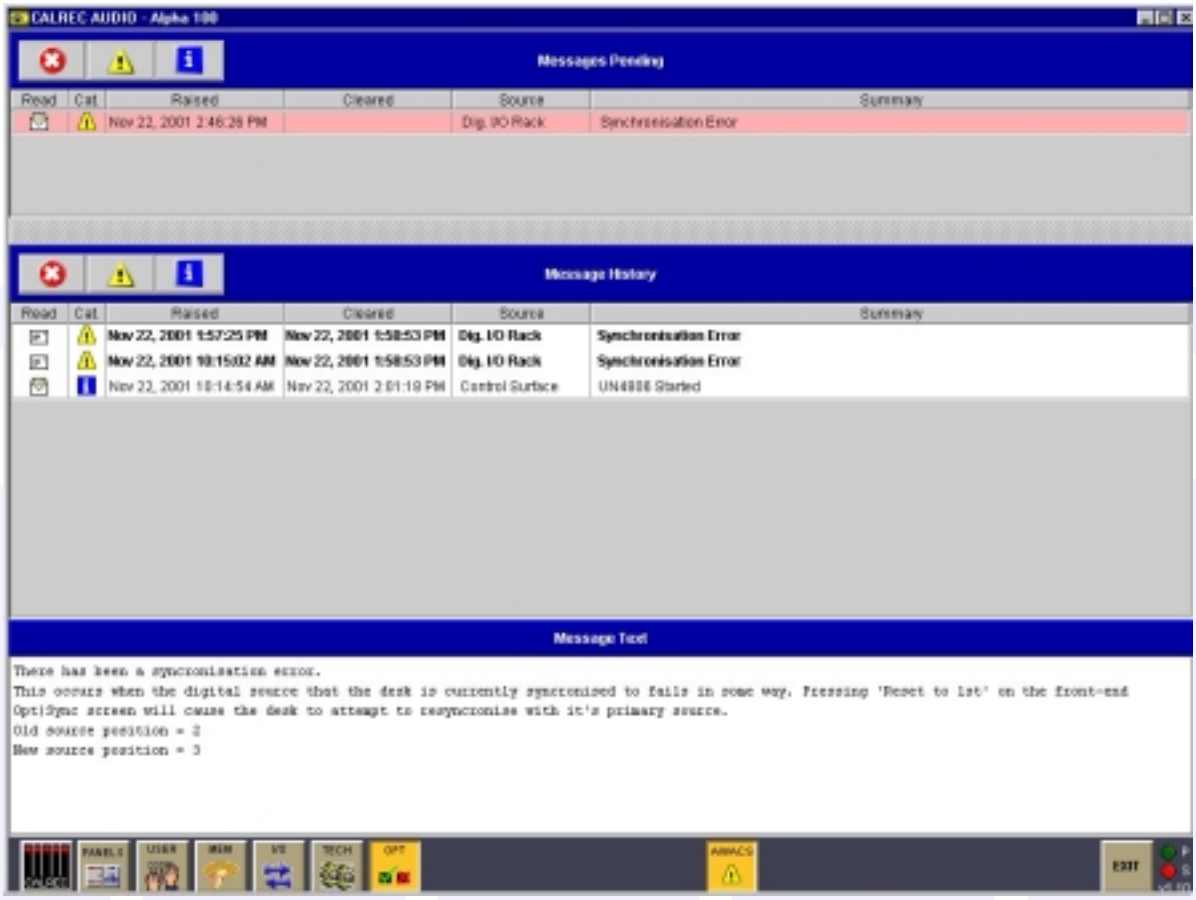

Opt — Options screens for pre-set items which are not stored with the memories.

Within each group there are a number of screens accessed by buttons up the left (or optionally, the right) side of the display. On some screens, there are drop boxes or additional buttons to access sub-sets of the screen's function.


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 it's 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).

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## ERROR MESSAGES




If a problem develops, such as the failure of the primary external synchronisation signal, the PC will switch to the Automatic Warning and Correction System (AWACS) screen. The Messages Pending section at the top of the screen will contain a list of un-cleared errors. Selecting an error message will reveal a more detailed description of that error in the Message Text section, at the bottom of the screen. The Message History section in the centre of the screen will contain a history of errors cleared since the last time the console was reset or re-booted. The history is also saved to the PC's hard disk. Three types of messages are reported:

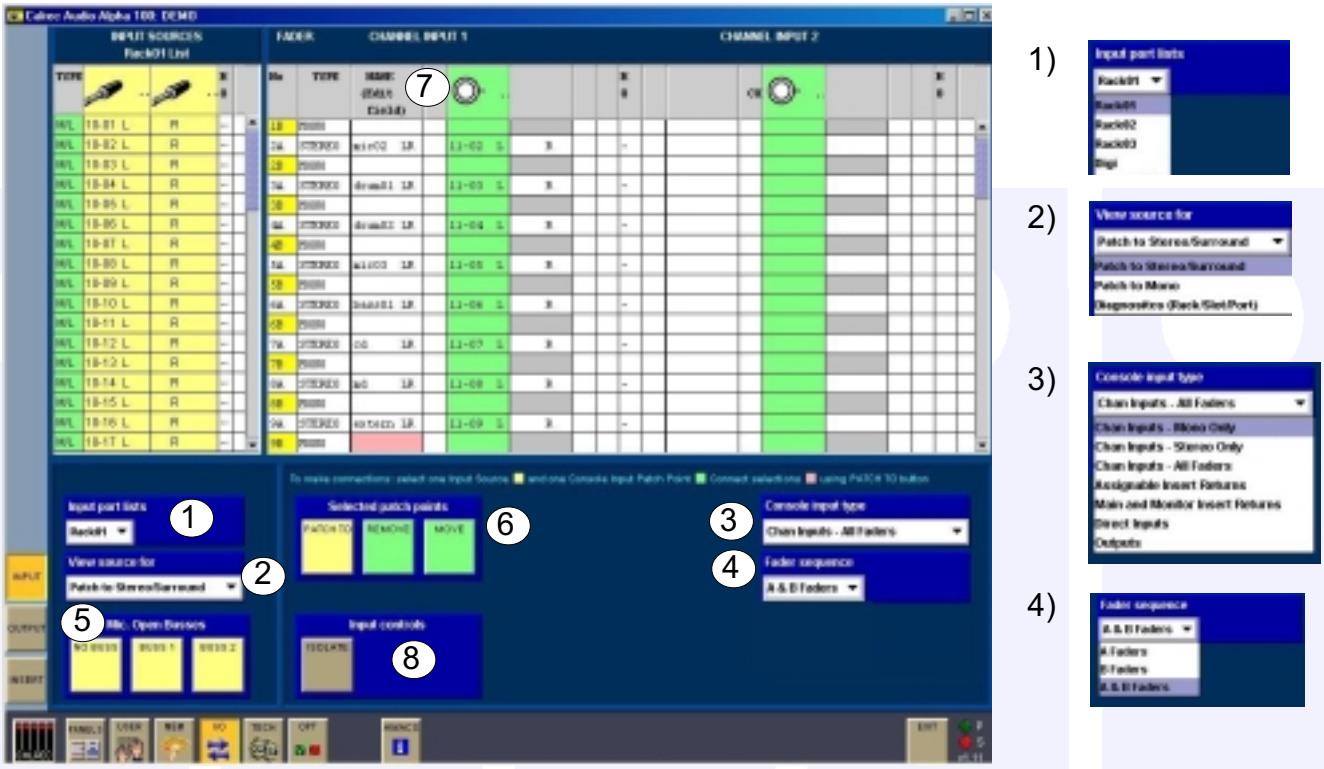
Information ( **i** ) messages, such as "Control Surface UN4806 processor started successfully"
Warning ( **!** ) messages, where the system back-up has taken over, and
Fatal Error ( **X** ) messages, where the system cannot recover by itself (perhaps because the back-up is already in use)

Because the system has many back-up features, it is possible to continue operating after errors are reported. Clicking on the AWACS button at the bottom of the screen will return the PC to the screen being displayed prior to the error occurring. 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 (by pressing the AWACS button). Warning and Fatal Error messages can only be cleared by clearing the error and restoring the system to its normal operational state.

## I/O - INPUT - INPUT PORTS SCREEN


In addition to the I/O Matrix Panel, other Port connections, which will rarely need to be changed by the operator, are preset via the PC.




The I/O screens are very similar, connections are made in the same way for all paths. Drop-down lists are used to select which input source list and path type to display. Connections can then be made between the two as required.

(1) All the inputs (mic, line or digital) can be accessed on the left hand side of the INPUT screen. They will have been labelled and grouped into lists at the time the Alpha was installed. These input source lists can be chosen from the drop-down list of input ports. Most inputs 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 input but does not necessarily mean they are stereo. The two halves of the pair can be used for separate mono signals.

(2) 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) This drop box selects the different console path types which can have input ports attached. They will be displayed on the right side of this screen.

(4) On the Channel Input screens, it is possible to choose which set of faders, are to be available on and altered by this screen.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

(5) 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 loud speaker output (two separately cut outputs are provided, one for each buss) and/or fire a relay. These are set on the OPT screens: TX/REH and RELAY.

(6) TO MAKE CONNECTIONS

During a programme, Channel Input patching would normally be done on the I/O MATRIX panel on the console. Connections can also be made on this screen by selecting an Input Source  and a Channel Input  and pressing PATCH TO.

The Input Source label will appear in the Channel Input NAME field and on the fader on the console (if that input, 1 or 2, is selected on the Input/Output panel).

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

Connections can be moved between channel inputs when selected, by clicking MOVE. The Name field will be highlighted and the PATCH TO, REMOVE and MOVE buttons will be replaced with REPATCH. Upon selection of a new patch point, pressing REPATCH will move the connection.


(7) By clicking on one of the Name cells, the input name can be edited. The PC keyboard slides out from the front of the console. After pressing Return on the keyboard, the new name is stored with the channel input and replaces the Source Label on the fader display, whichever source is connected.

(8) 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.

## I/O - OUTPUT


The I/O screens are very similar, connections are made in the same way for all paths. Drop-down lists are used to select which input source list and path type to display. Connections can then be made between the two as required.


The output ports for the Main, Aux and Track outputs can be patched on this screen. Each pair of auxes can be two mono outputs or a stereo output as set up on the USER - BUSSES screen.

(1) OUTPUT PORTS - All the output ports can be accessed here

(2) OUTPUT PORT LISTS - The different output lists can be accessed via this drop box. The ports can be viewed as pairs (best for patching to stereo outputs), individual (best for patch ing to mono outputs), or individual with the actual rack number, card slot and output shown (for diagnostic purposes).

(3) CONSOLE OUTPUT SIGNAL - This drop box selects the different categories of console output signals which can have output ports attached.

(4) TO MAKE CONNECTIONS - Select an Output  and an Output Port  and click PATCH TO. The connection will be made. 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).

(5) 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.

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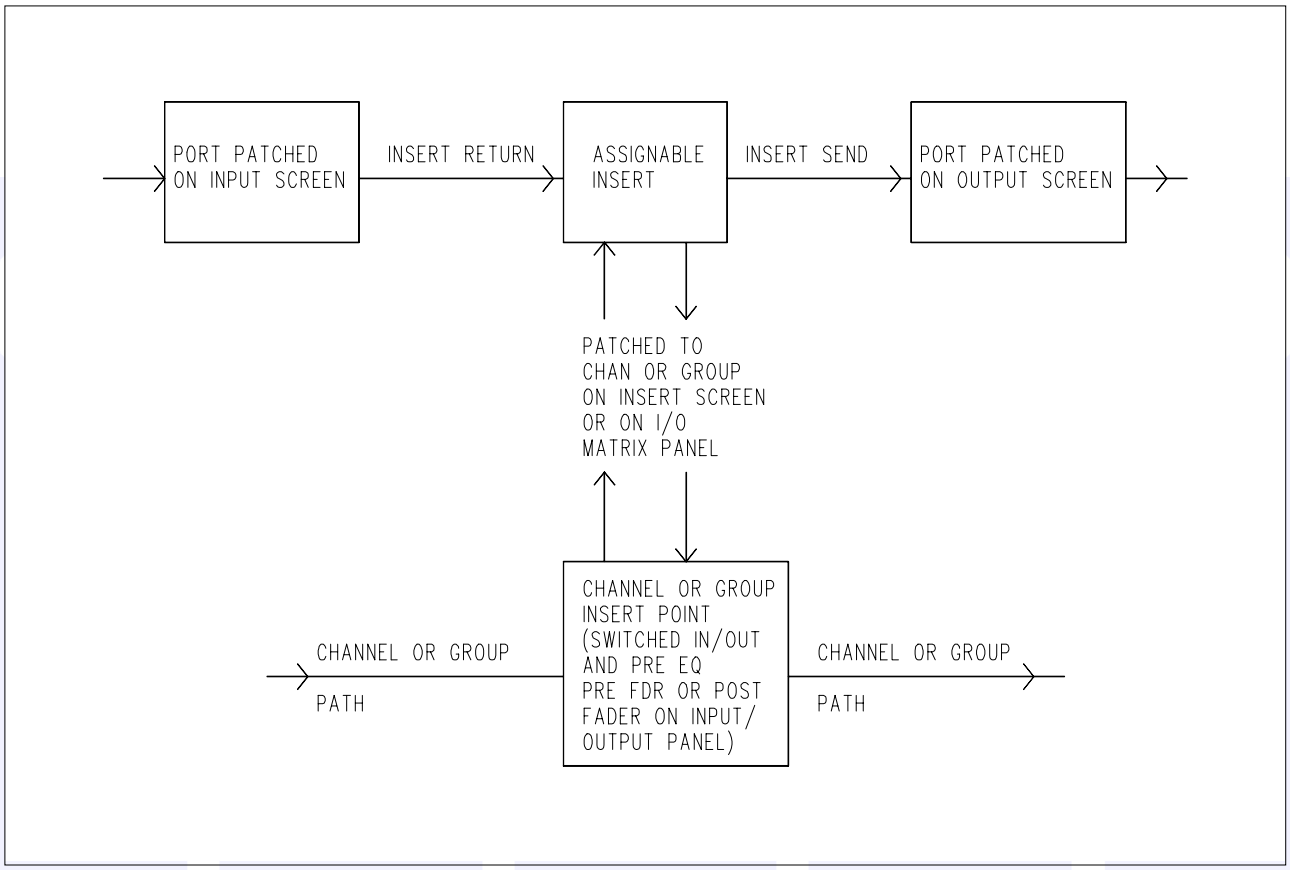
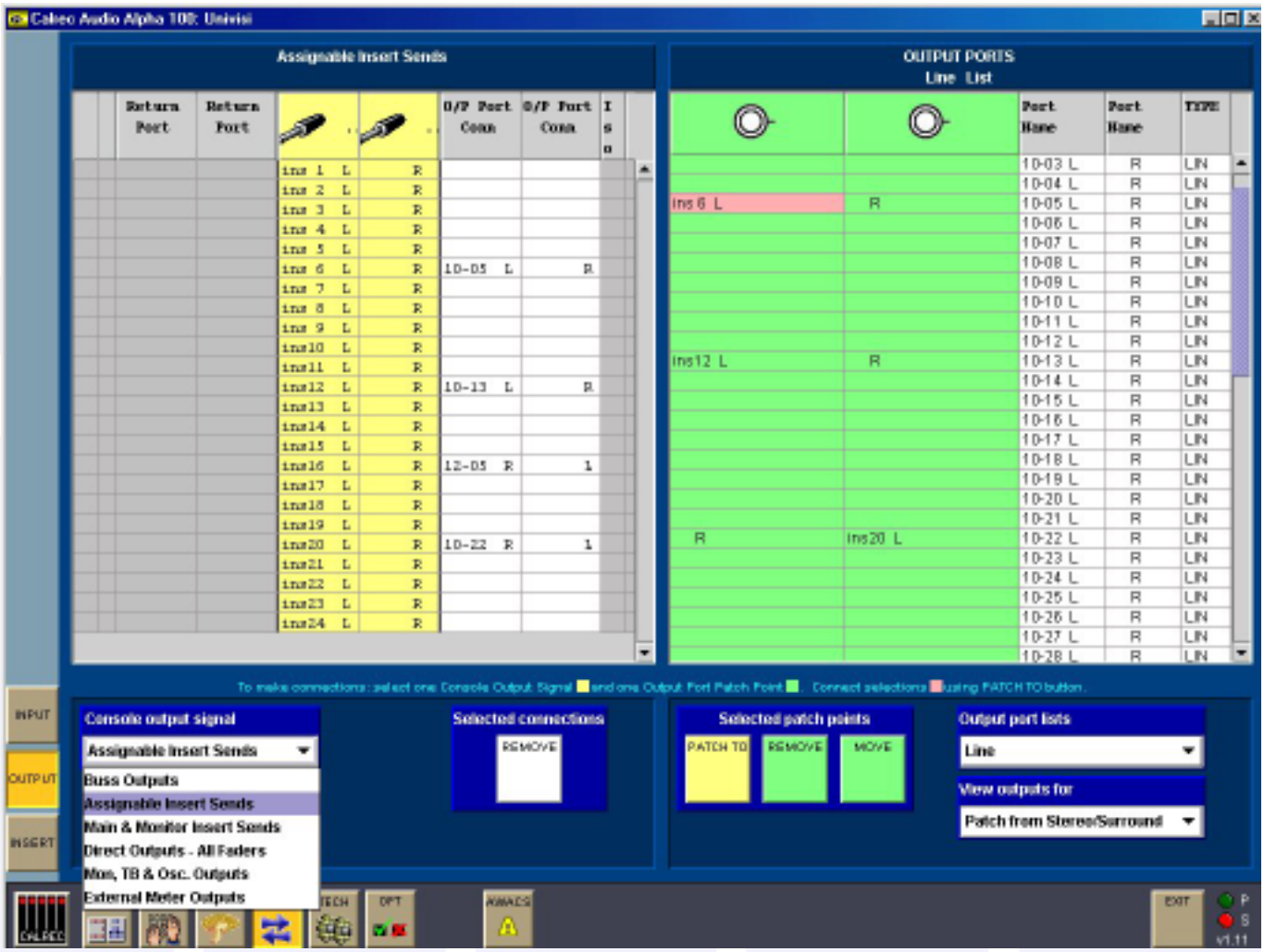
## I/O - ASSIGNABLE INSERTS

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). They can then be patched into channels or groups as required.




The system is as shown in the above diagram. This allows for the rapid patching of Devices into channels and groups on the I/O Matrix panel.

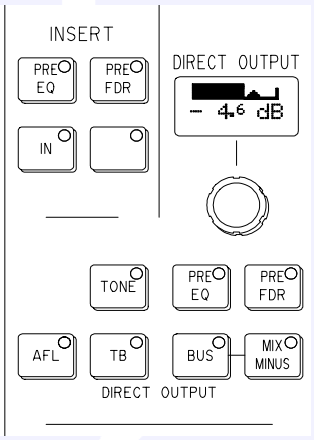
## I/O - OUTPUT - ASSIGNABLE INSERT SENDS




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 screens.

The send and return ports will usually be pre-set. 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 console. Once connected, the Insert is switched into the channel path using the buttons on the INPUT/OUTPUT module.




 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

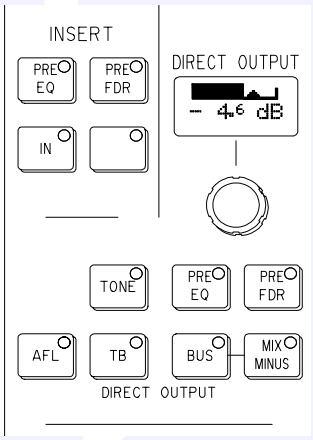
## I/O - INPUT - ASSIGNABLE INSERT RETURNS



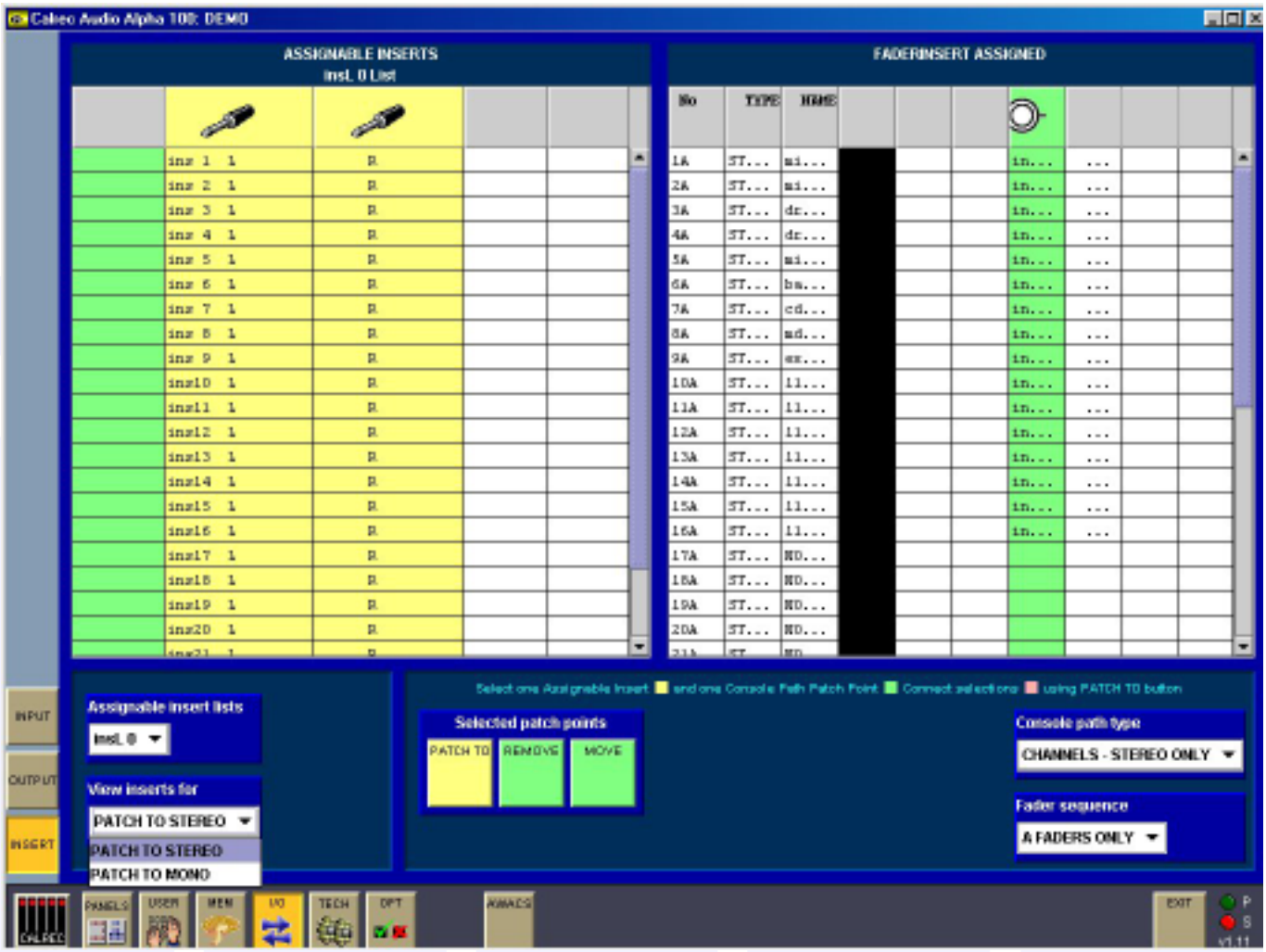
The Input Sources for Assignable Insert Returns can be patched, moved and removed here in the same way that channel inputs are patched.

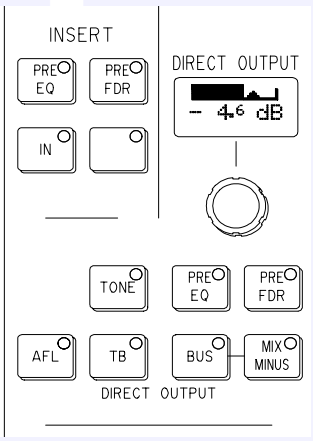
The Output ports connected to the Insert Send can also be seen. These are set up on the OUTPUT screens.

The send and return ports will usually be pre-set. 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 console. Once connected, the Insert is actually switched into the channel path using the buttons on the INPUT/OUTPUT module.



## I/O - INSERT




The Assignable Inserts can be patched here to channels and groups, in the same way that channel inputs are patched. The CONSOLE PATH TYPE and the FADER SEQUENCE select which paths are on display. The send and return ports should have been pre-set on the OUTPUT & INPUT screens. The Assignable Inserts can also be patched to channels and groups by using the I/O MATRIX panel on the console. Once connected, the Insert is switched into the channel path using the buttons on the INPUT/OUTPUT module.

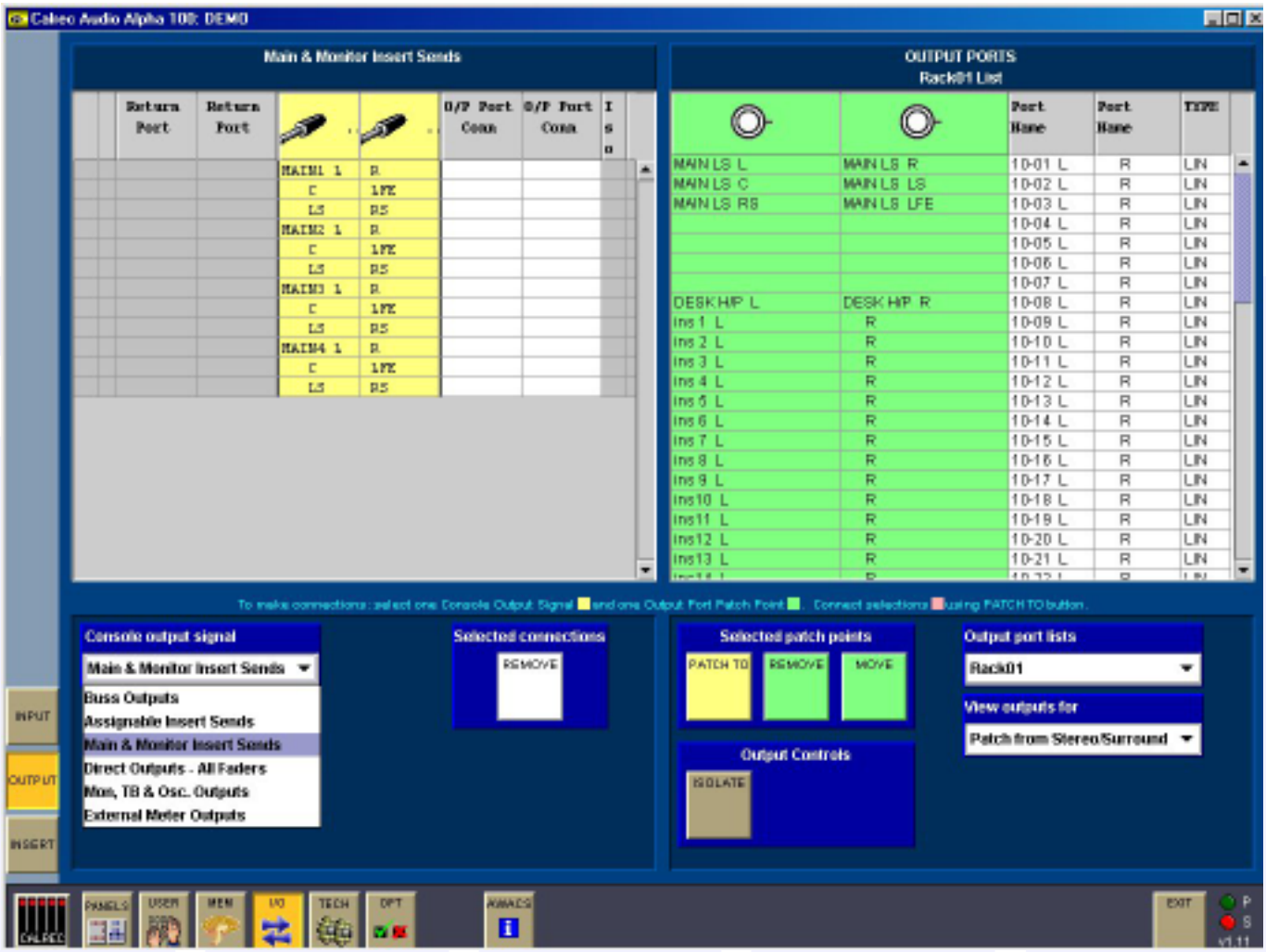
All the Inserts can be accessed on the left hand side of the INSERTS screen. They will have been labelled and grouped into lists at the time the Alpha was installed. Most inserts are treated as pairs in the labelling. L and R are used to distinguish the two halves of the pair. This makes it easier for 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.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## I/O - OUTPUT - MAIN & MONITOR INSERT SENDS

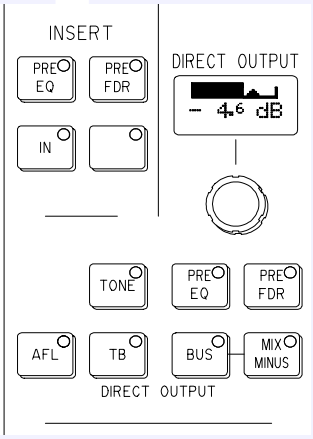




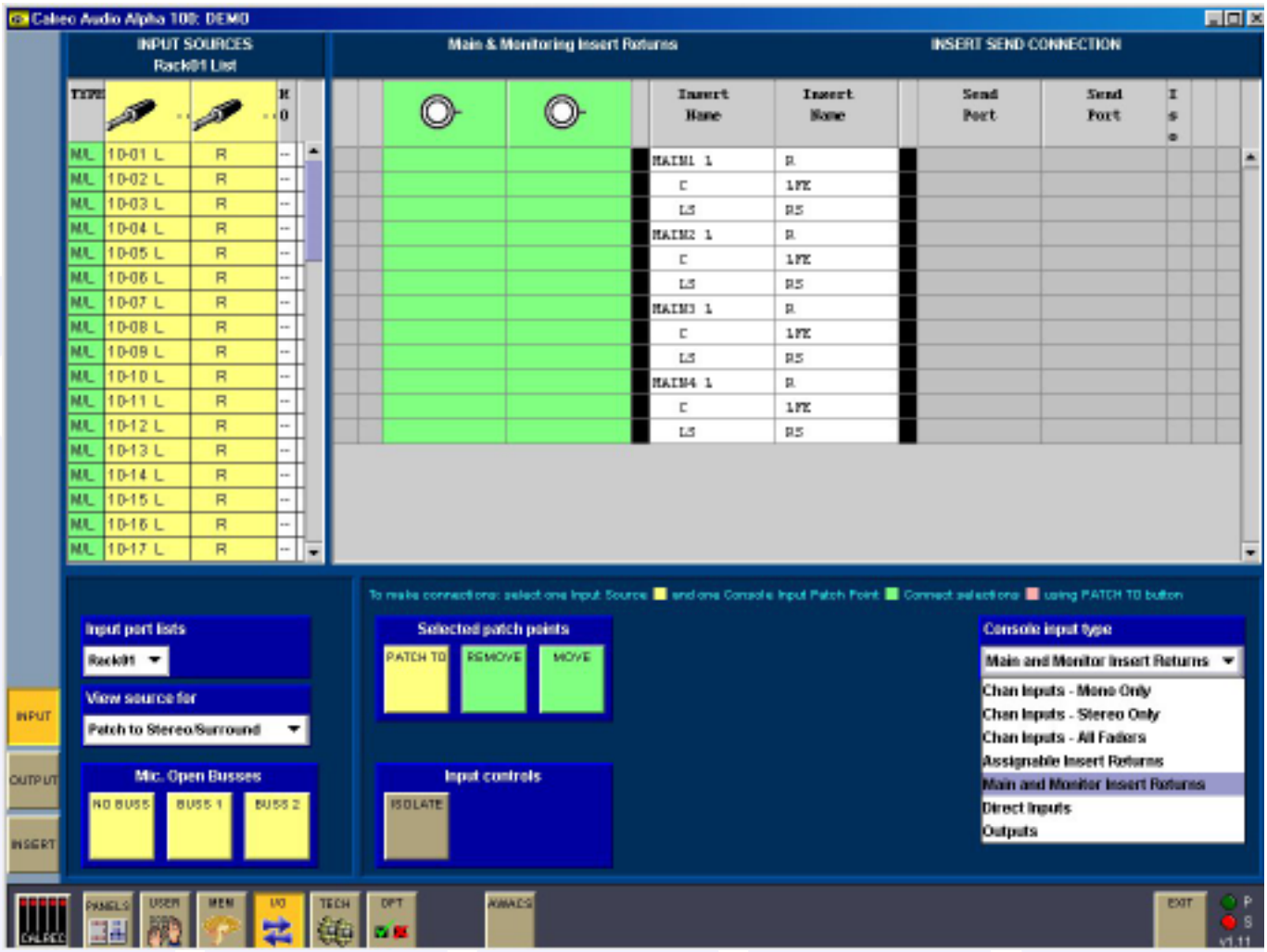

The Output Ports for Main Insert Sends can be patched, moved and removed here in the same way as buss outputs are patched.

The Input ports connected to the Insert Return can also be seen. These are set up on the INPUT screens.

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 module.



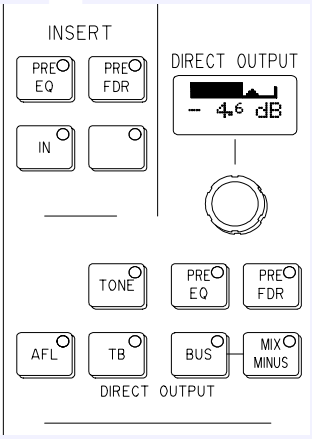
## I/O - INPUT - MAIN & MONITOR INSERT RETURNS




The Input Sources for Main Insert Returns can be patched here in the same way that channel inputs are patched.

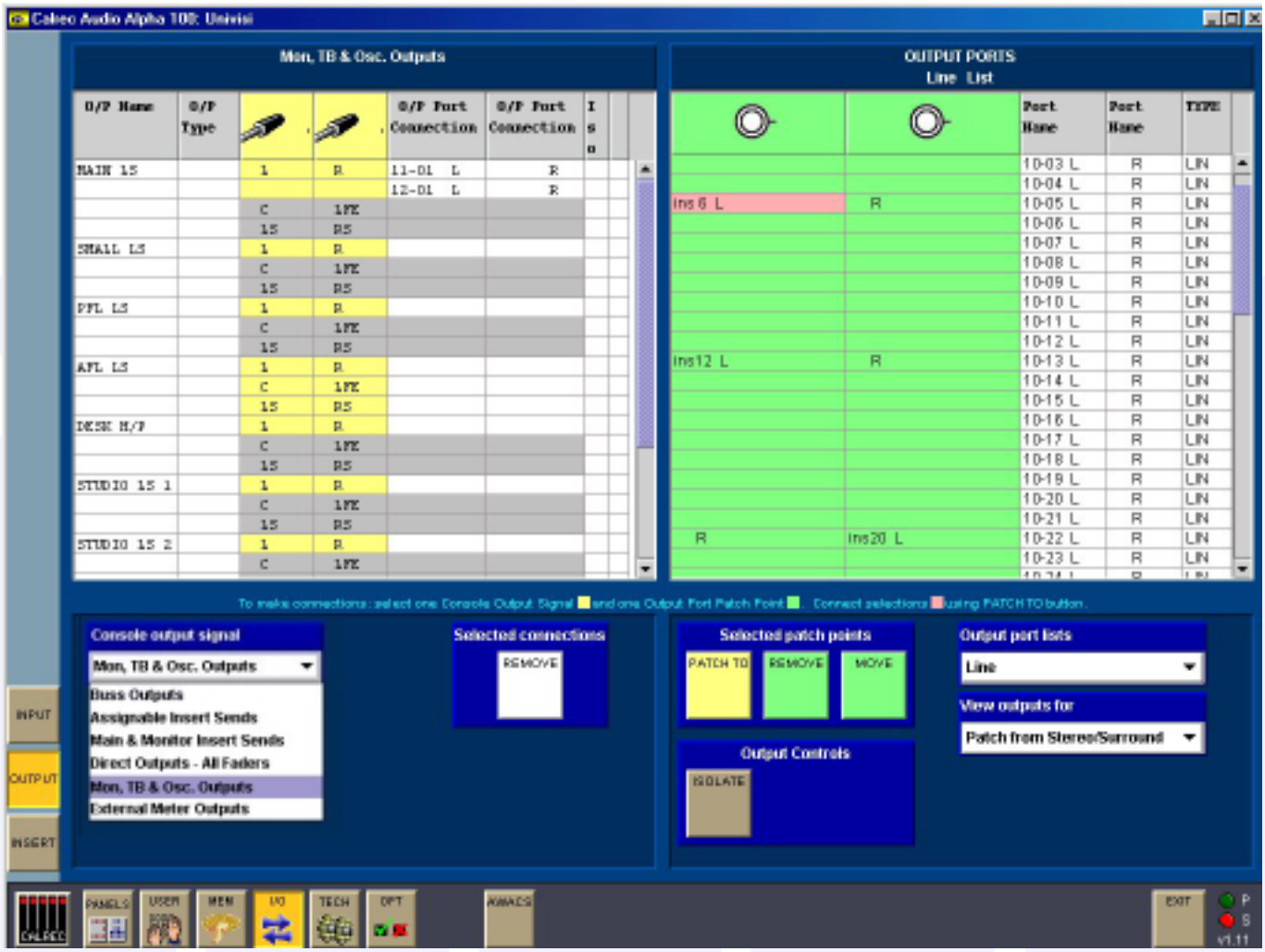
The Output ports connected to the Insert Send can also be seen. These are set up on the OUTPUT screens.

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 module.




 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

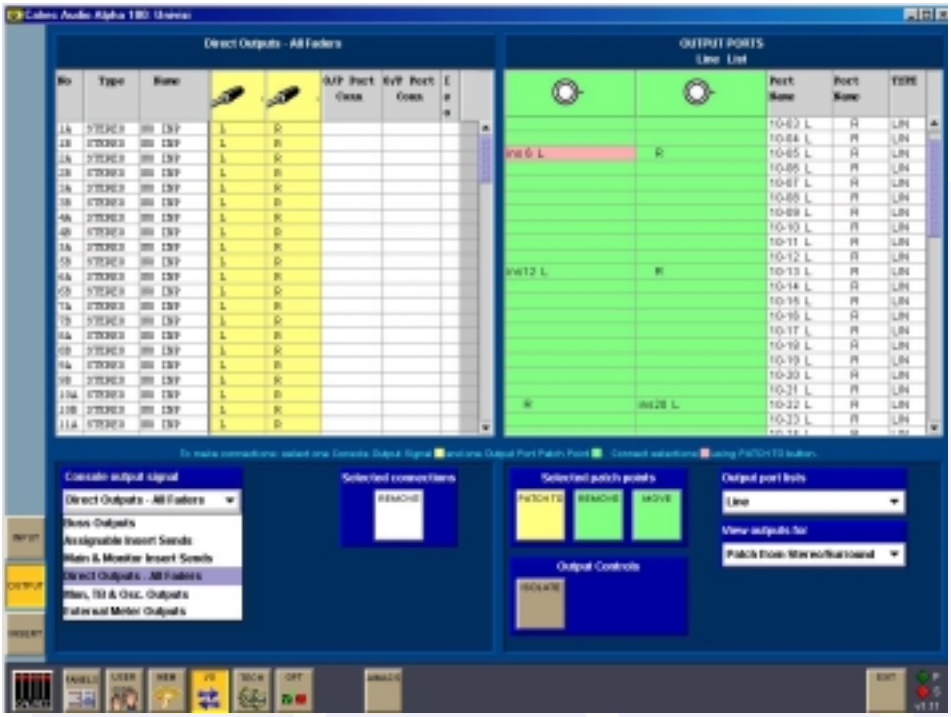
## I/O - OUTPUT - MONITORING, TALKBACK AND OSCILLATOR OUTPUTS




This screen is reached by selecting “Mon, TB & Osc Outputs” from the drop-down list of Console Output Signals.The output ports for the Monitoring can be patched here in the same way that buss output ports are patched.

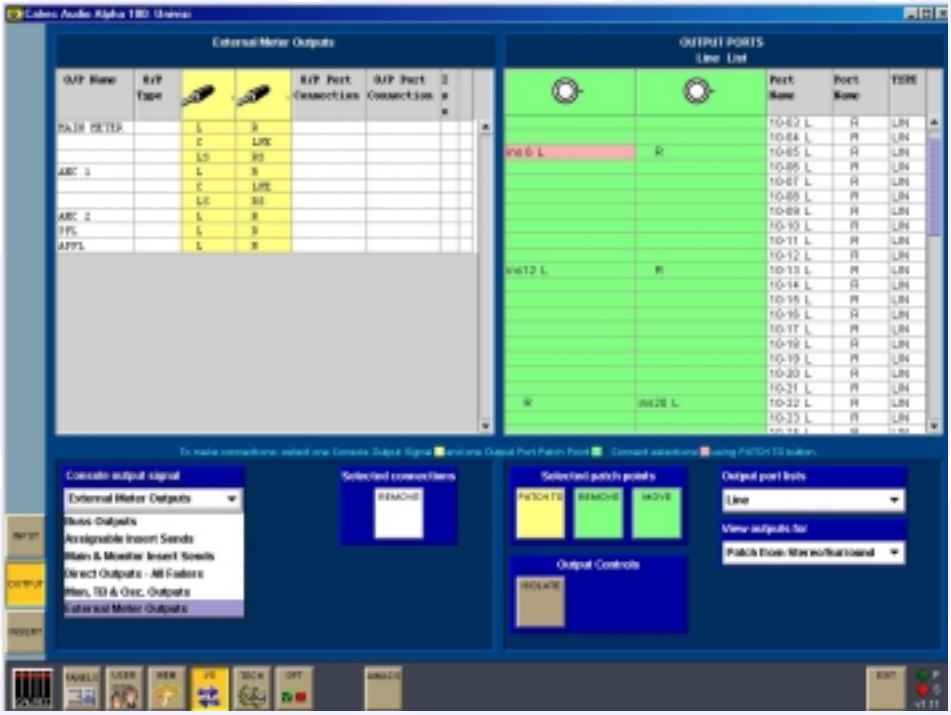
## I/O - OUTPUT - DIRECT OUTPUTS


This screen is reached by selecting “Direct Outputs - All Faders” from the drop-down list of Console Output Signals. The output ports for the Direct Outputs can be patched here in the same way that buss output ports are patched.




## I/O - OUTPUT - EXTERNAL METER OUTPUTS

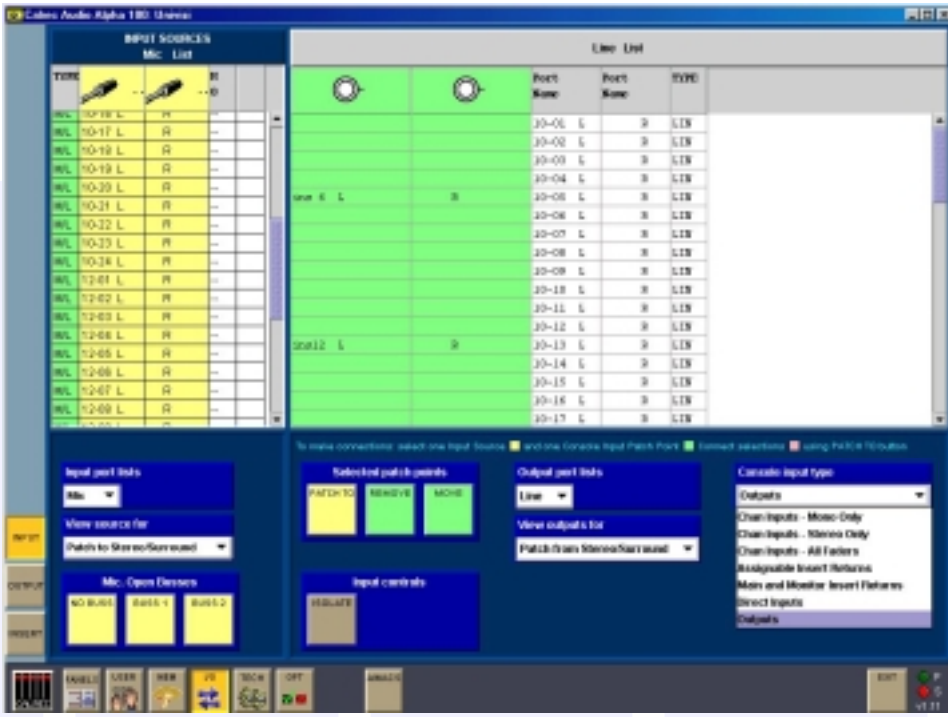

This screen is reached by selecting “External Meter Outputs” from the drop-down list of Console Output Signals. The output ports for the External Meters, such as a DK phase scope, can be patched here in the same way that buss output ports are patched. Most of the meters on the console are driven internally and do not require output ports.




 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

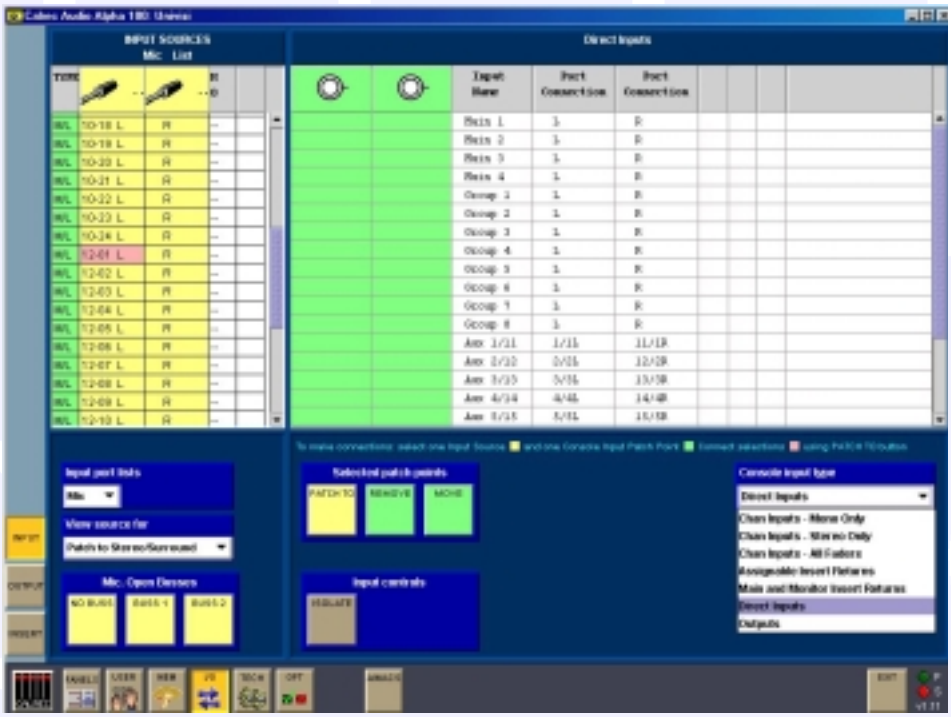
## I/O - INPUT - OUTPUTS


This screen is reached by selecting “Outputs” from the drop-down list of Console Input Types. Input ports can be patched directly to output ports on this screen.

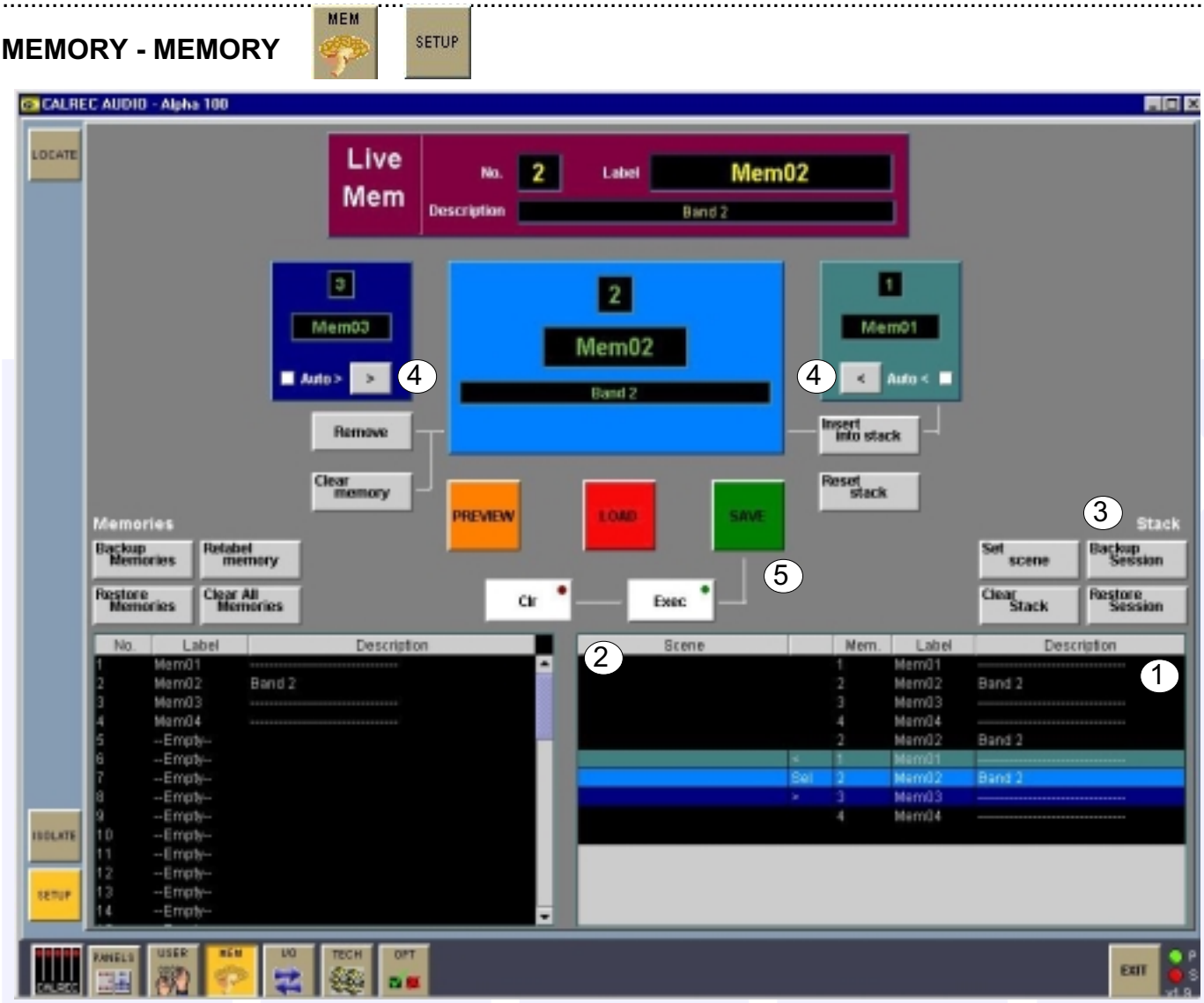


## I/O - INPUT - DIRECT INPUTS


This screen is reached by selecting “Direct Inputs” from the drop-down list of Console Input Types. Input ports can be assigned to Direct Inputs on in the same way that channel inputs are patched.



## MEMORY - MEMORY




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

(1) The STACK is shown here.

(2) Scene labels can be applied to positions in the stack.

(3) Backing up the Session, backs up the Stack and all the memories in it, to the hard disk.

(4) With the Auto > or Auto < check box ticked, the next memory in the stack will automatically move to the Sel Mem position after the previous Sel Mem has been loaded (provided that this was a stack memory).

(5) SAVE+EXEC saves the current settings into the Selected Memory. The title of the memory being saved can be changed.

***PREVIEW is not available in this product release.***

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## MEMORY - ISOLATE




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.

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

(2) This section allows console-wide isolation for a variety of 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. There is an option on the Ports screen however, to turn the port isolation on and off independantly .

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.

## PANELS - ROUTE


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 should the Routing Panel develop a fault.

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

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## USER - BUSSES


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

(2) GROUPS - 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) AUXES - 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.

## USER - CHAN


This screen provides alternative controls for channel functions already available on the control surface. It provides a back-up set of controls, which can be used should the control surface develop a fault.

(1) The right side of the screen shows the channels with buttons for paths A and B. To make changes, click on the required channel path and use the controls on the left side of the screen.

(2) The path type can be selected as Mono or Stereo, normally selected on the I/O Matrix panel.

(3) Routing to groups can be controlled from here in addition to the Routing panel.

(4) The ability to Move paths is available, found also on the I/O Matrix panel. Paths can also be cleared altogether.

(5) & (6)Wild Assignment and choice of information for display on the fader bargraphs are selectable from this screen in addition to the controls found on the Functions panel.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## ASSIGNING WILD CONTROLS FROM THE USER-CHAN SCREEN

The Wild controls are assigned from either the Functions Panel, or 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:

1) Select a Fader Path by pressing its Assign Button (A or B).
2) Select WILD ASSIGN 1, 2, 3 or 4 on the USER-CHAN screen.
3) Select HOLD on the USER-CHAN screen
4) 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.

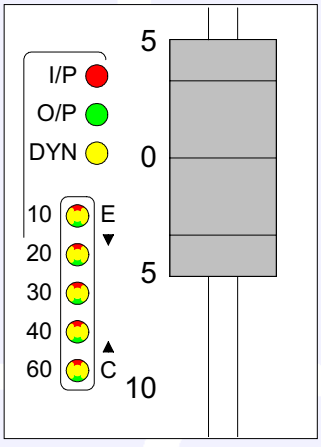
In REGIONS mode, a block or region of faders can be defined by clicking HOLD and then pressing the fader assign buttons of the first and last fader path in the required region. Pushing an Assign Panel rotary control will assign that control to all fader paths in the selected region.

It is possible to assign the same control to Wilds 1 or 2 for all fader paths. By selecting 1 or 2, then ALL before pushing the required Assign Panel rotary control.

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

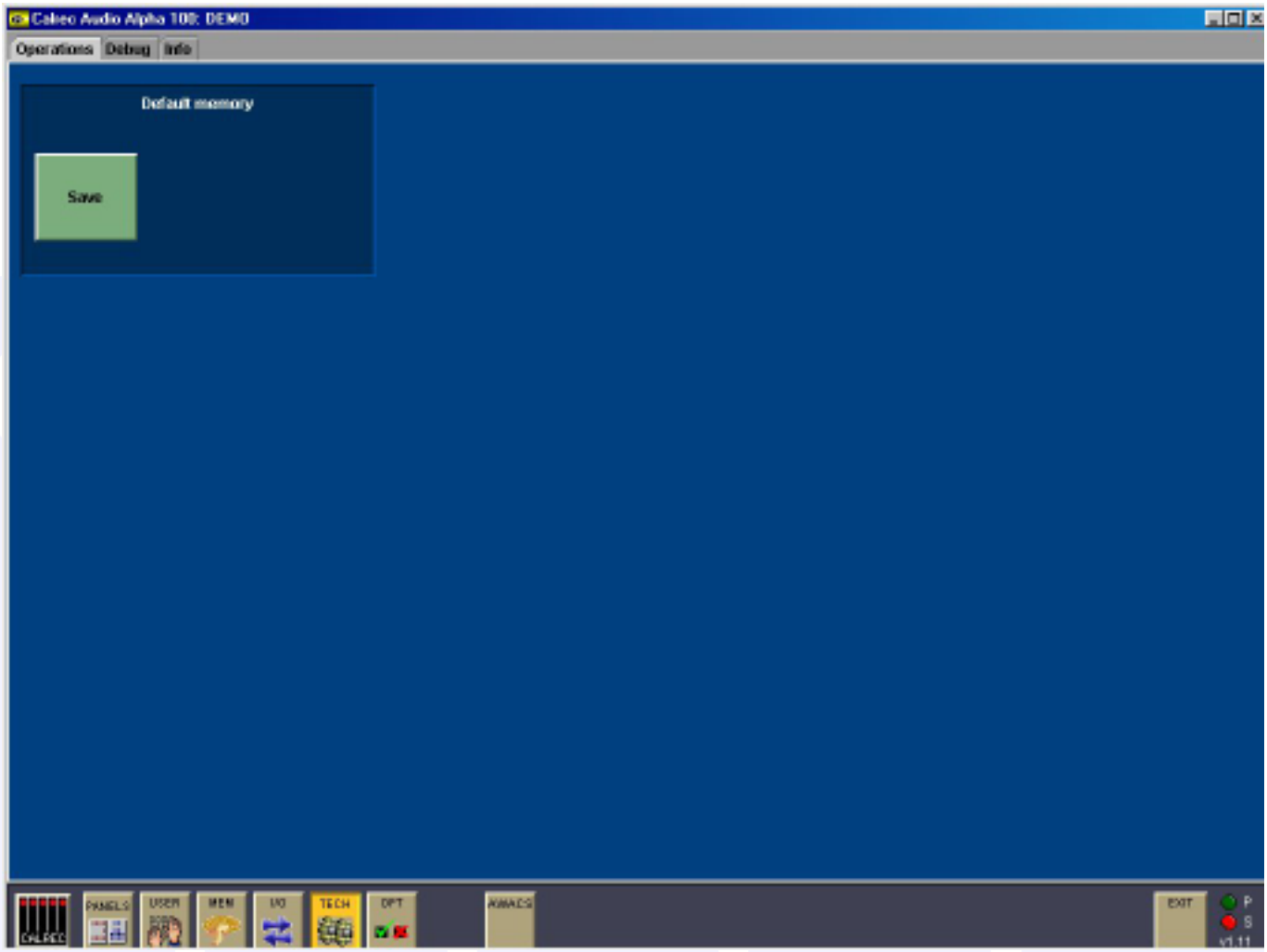
## FADER BARGRAPH ASSIGNMENT

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 on the USER-CHAN screen will 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 done using the Functions Panel

## TECH SCREEN 


The TECH Screen has three tabbed pages within it

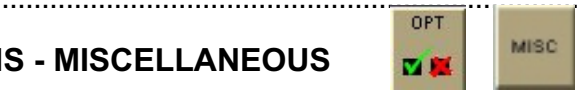
| | | |
|---|---|---|
| OPERATIONS | - | SAVE allows the user to update the default studio settings to those currently active. |
| DEBUG | - | Allows Calrec engineers to tackle any problems which may arise. |
| INFO | - | System Information. |

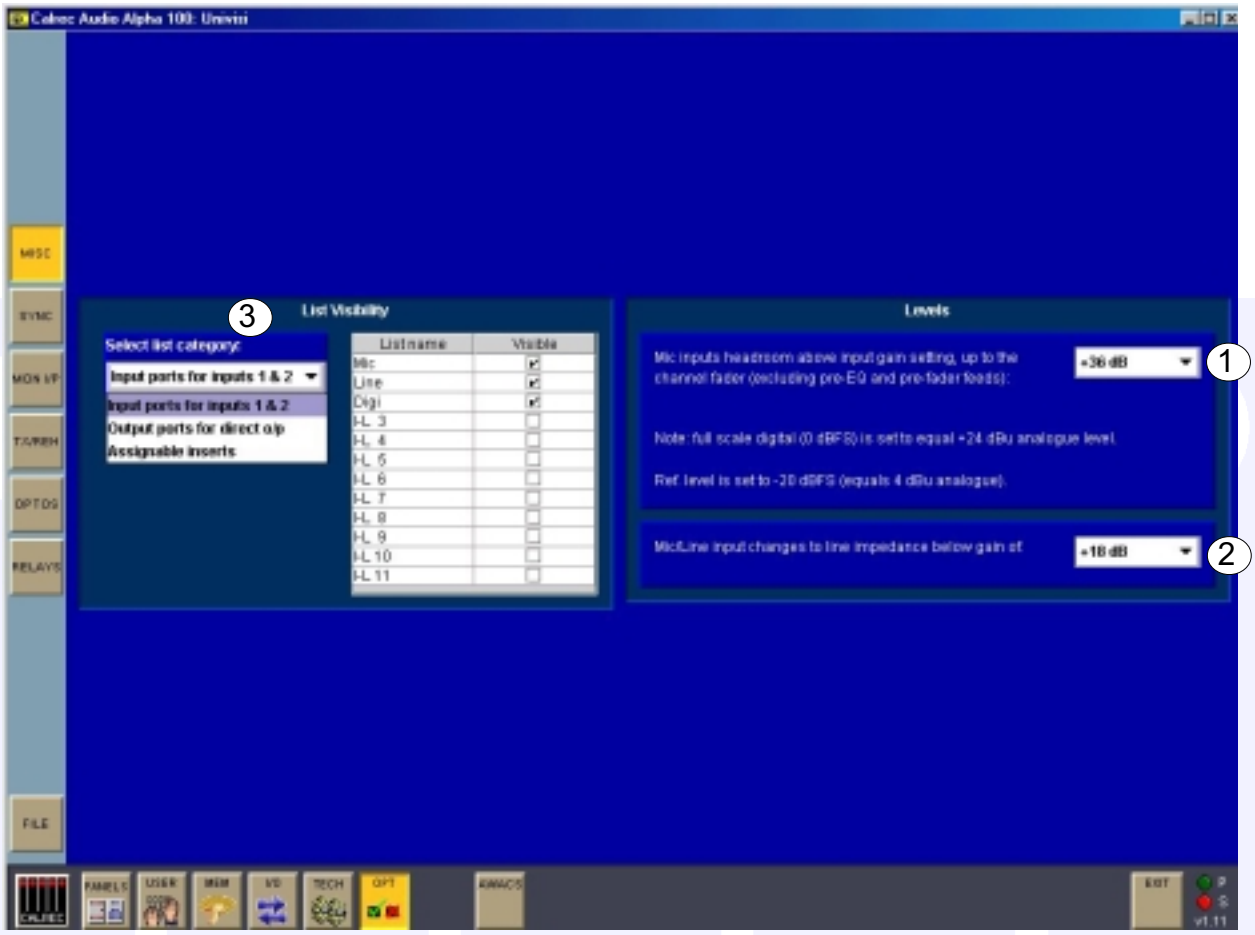
 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

# OPTIONS SCREENS

The OPT 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 can be saved separately using the OPT - FILE screen. This allows options to be changed without invalidating any saved memories.

## OPTIONS - MISCELLANEOUS




(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 head room is needed.

Note: Selecting a high headroom value will compromise the noise spec slightly but this should not be noticeable in practice.

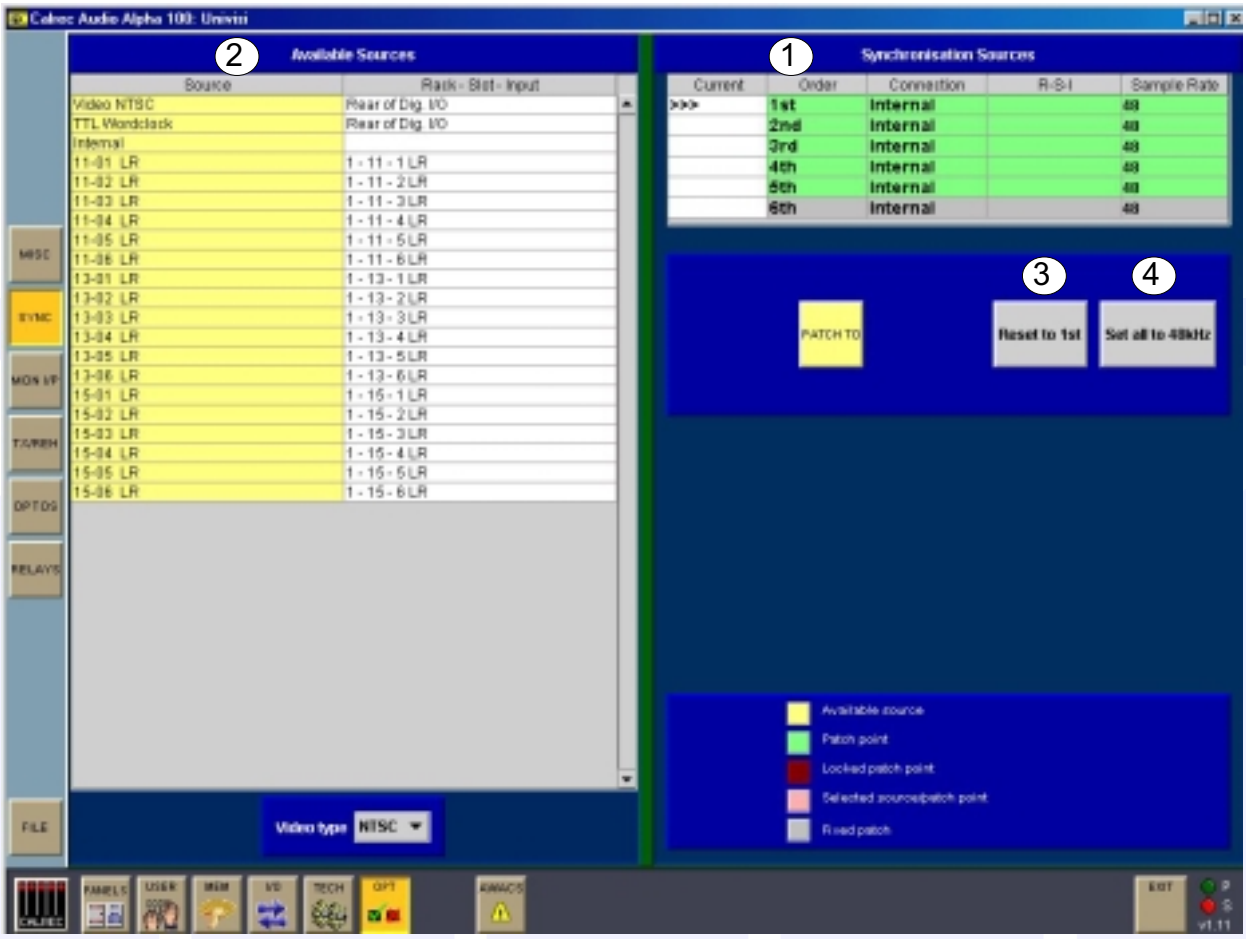
(2) MIC/LINE INPUT IMPEDANCE - The point at which the Mic/Line Input Impedance changes can be set here.

(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.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## OPTIONS - SYNCHRONISATION






(1) 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.***

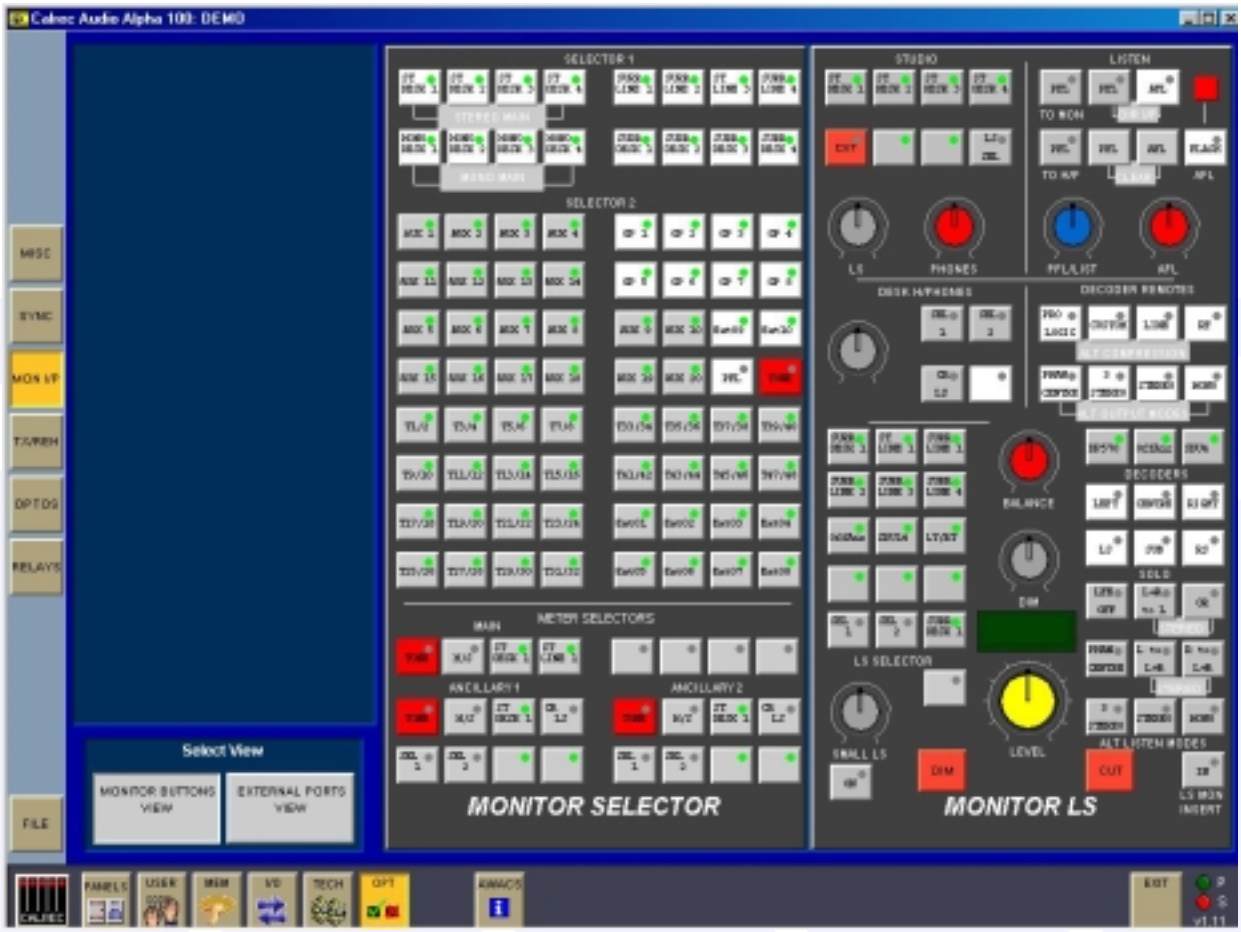
(2) Digital Inputs on the console can also be used as an external source. Please note that the facility for locking to external AES sources is restricted to the first six inputs of each AES card in the console. These can be patched to the five selections in the same way that channel input ports are patched. 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.

(3) 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.

(4) The SET ALL TO 48KHz button provides a convenient way of setting all sync sources to 48KHz.

When sync'ing to NTSC, drop rate options become available (by clicking on the cell containing the sample rate). If the system is sync'ing to NTSC drop rate and the video sync fails, the system can remain at drop rate providing the next working selection is running at the drop rate (because drop rate is within 100 Hz of the normal rates). Internal sync cannot run at drop rate.

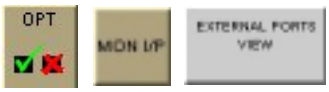
## OPTIONS - MONITOR I/P - MONITOR BUTTONS VIEW


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

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## OPTIONS - MONITOR I/P - EXTERNAL PORTS VIEW





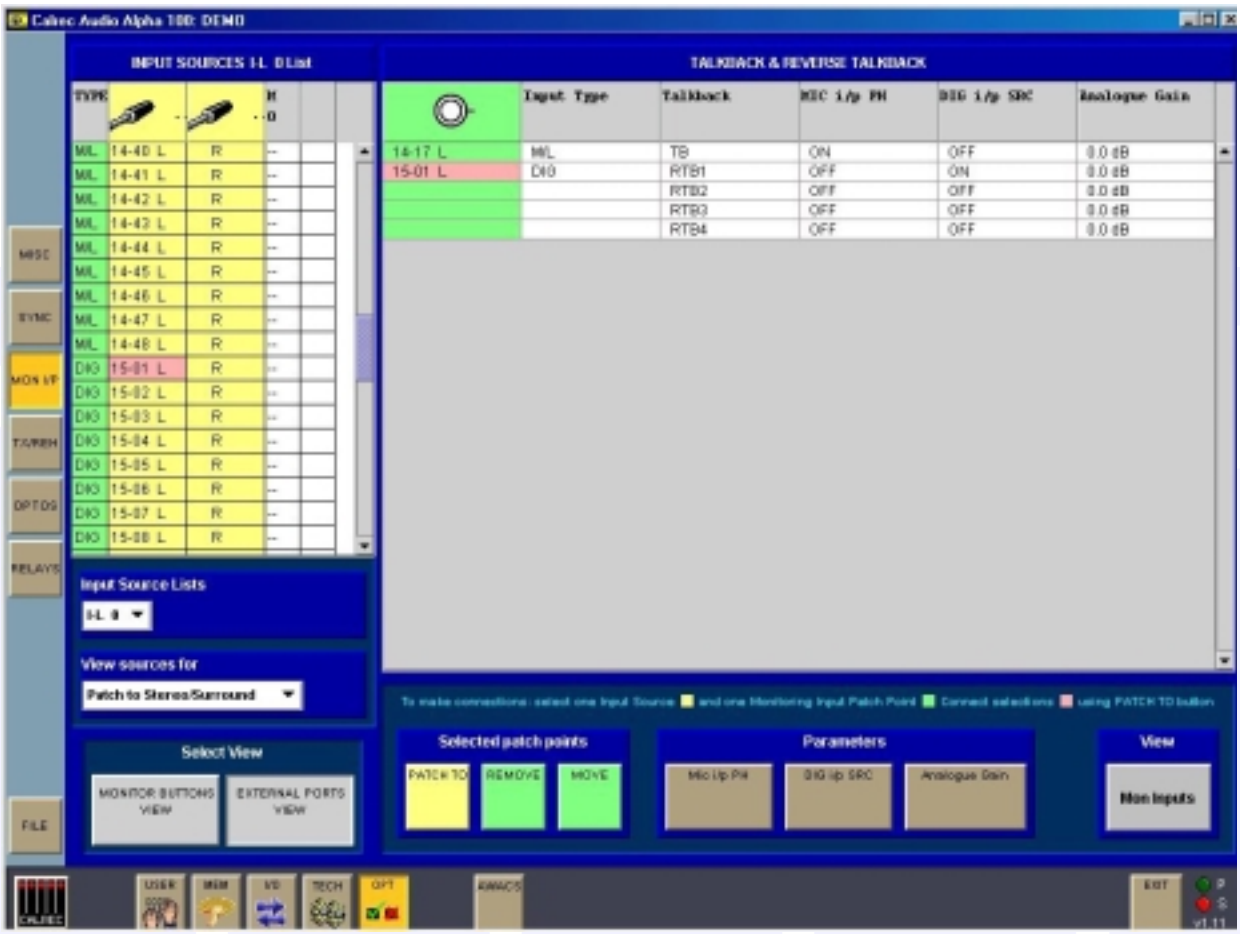
The Input Sources for External Monitor Inputs can be patched here in the same way that channel inputs are patched. The NAME of the external input will correspond to the text on the button as shown on the Monitor Buttons View.

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.

Main Line Monitor Inputs shown in grey indicates that the corresponding Main Output is set to Internal in the studio setup application.

Mon Inputs & TB Inputs buttons switch between inputs. TB input port can be any kind of port. There is a mic/line gain control (coarse), Phantom Power and SRC switching for the input.

## OPTIONS - MONITOR I/P - EXTERNAL PORTS VIEW - TALKBACK

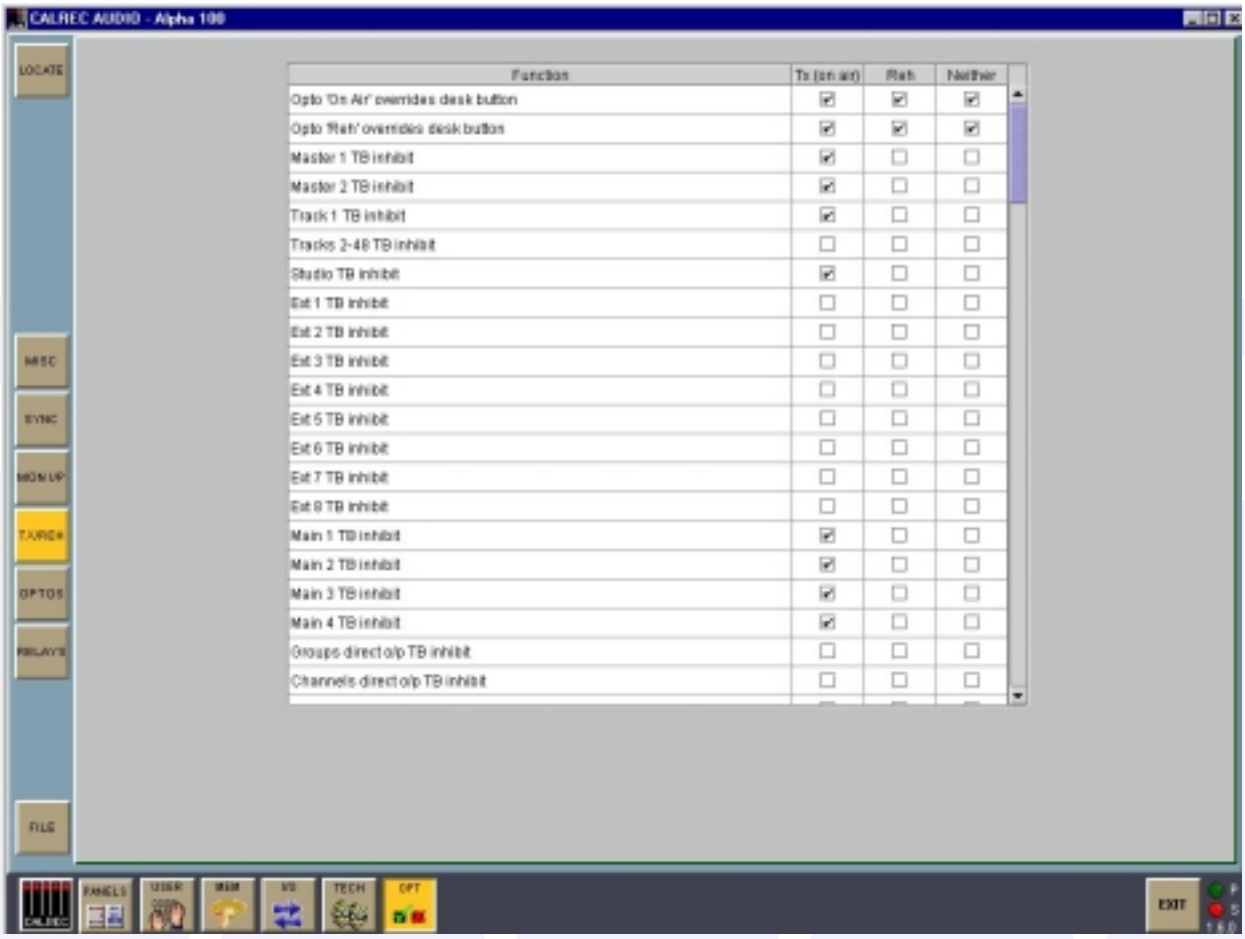

The Input Sources for Talkback and Reverse Talkback can be patched here in the same way that channel inputs are patched. Talkback input ports can be any kind of port.


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

Clicking on Mon Inputs will switch back to the Monitor Inputs section of External Ports View.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## OPTIONS - TX/REH


This screen allows the condition switching for the system 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 customer’s requirements. Therefore some combinations of settings will seem invalid.

## OPTIONS - OPTOS



(1) The Opto-isolated Inputs can be assigned to various Console Functions, selected from the drop-down list.

(2) To make an assignment, select an opto-isolated input (left side of screen), and a function (right side of screen), and click ASSIGN OPTO. Assignment can also be moved and removed, in a similar way to patched connections.

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

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## OPTIONS - RELAYS



The Relay-isolated Output connections for various Console Functions can be assigned here in the same way that Opto-isolated Inputs are assigned.

(1) Console Functions are selected from the drop-down list.

(2) To make an assignment, select an opto-isolated input (left side of screen), and a function (right side of screen), and click ASSIGN OPTO. Assignment can also be moved and removed, in a similar way to patched connections.

(3) 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 pulses when the function is activated.
Pulse Off - The relay pulses when the function is de-activated.
Pulse Both - The relay pulses once when the function is activated, and again when the function is de-activated.

A Console Function can be assigned to more than one relay. Functions assigned to multiple relays will have the relay number highlighted in yellow. Normally, the screen only shows the first connection made. Selecting SHOW ALL CONNS makes it possible to see all relays attached to all functions. It is not possible to alter relay assignment in this mode.

If relays are assigned to Input Ports, they will operate when that input port is connected to a channel and the channel fader opened.

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

# IMPORTANT OPERATIONAL CHANGES FROM EARLIER PRODUCT RELEASES

## IMPORTANT OPERATIONAL CHANGES FROM EARLIER VERSIONS OF THIS PRODUCT

**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 O/P (incl group dir o/p).

 Please Note: Any text shown in ***bold ITALICS*** indicates functions which are not available in this product release (V1.11).

## IMPORTANT OPERATIONAL CHANGES FROM EARLIER VERSIONS OF THIS PRODUCT

**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 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. If a main 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 o/p, 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 VERSIONS OF THIS PRODUCT

**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 VERSIONS OF THIS PRODUCT

**V1.11 includes:**

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).

**NOTES :**

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**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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