

# **DMC Operational Manual**

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**Health & Safety Notice**

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**For your own safety and for the protection of others please observe the following safety instructions:**

- Read these instructions and keep them handy.
- Heed all safety warnings.
- Do not use near water.
- Clean only with a dry cloth.
- Do not install near heat sources.
- Do not block ventilation openings.
- Protect the power cord.
- Only use accessories specified by the manufacturer.
- Unplug when unused for long periods of time.
- Refer all servicing to qualified personnel only.

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# 1 Introduction

## Information in this Manual

The information in this manual is mainly presented as a reference for users who are familiar with the operation of mixing/broadcast consoles. It is assumed that operators and engineers who will be using the console are familiar with concepts such as EQ, delay, etc.

However, the console is an assignable digital system and this will be new territory for many users. If you are among those users who are new to digital systems then you should follow the guidelines below for finding out about key concepts for the console.

The manual is in two main sections:

- Overview of the console and audio processing
- Automation system

## Structure of this Manual

### Basic Information and Getting Started

If you are a new user, and particularly if you are new to digital systems, then you should familiarise yourself with the information in the following chapters at the beginning of the manual:

### Glossary Of Terms

This has definitions of terms as they are used in this manual and in the context of using the console.

### The console Console Surface

This is a section-by-section overview of the console's console surface.

### Getting Started

This describes how to start up the console, how the various controls operate and how get a signal through the console to the control room monitor speakers. It also explains how to shut down and some additional exercises that are useful for new users. You should attempt to work through this chapter 'hands-on' as this will build confidence and show you how easy it is to use the console.

### Working With Signal Paths

This defines the various types of signal paths and what they are used for.

### Reference

The rest of the manual provides reference for using the console.

### Working with the Console Surface

The section of the manual from Fader Assignment through to Transport Control describes how to use the controls on the console surface.

### Appendices

Appendix A describes User Administration (setting up and managing users within Windows XP).

Appendix B refers to Norton Ghost recovery.

### Indexes:

- Heading Index
- Alphabetical Index
- Illustration Index

*For the operation of Encore Plus automation software, please see the separate **Encore Plus** manual. This manual is available for download from:*  
<http://www.ams-neve.com/html/downloads/index.php>

## 2 Console overview

### Introduction to the Console

The console is a fully automated, all digital console consisting of three mainparts:

- The console surface
- The processor
- The I/O system

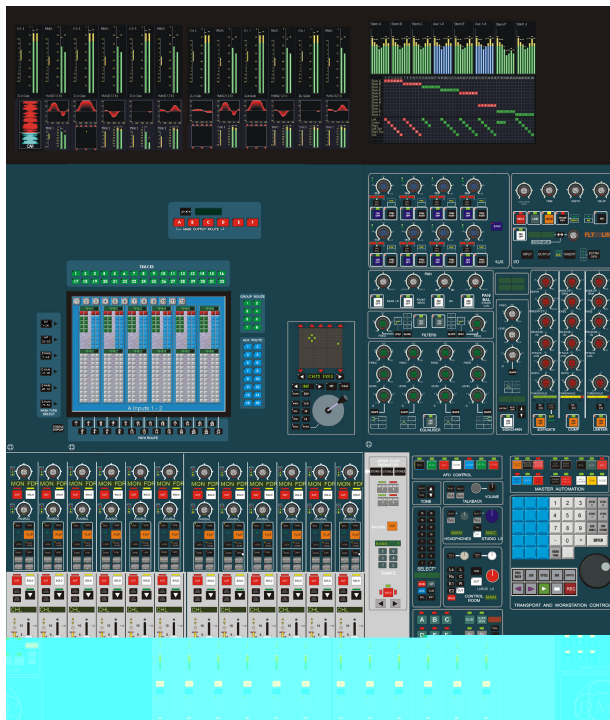


Fig 1: 12 fader DMC Layout

### Console Surface

The surface is arranged to make one man operation as comfortable as possible, with the most commonly used controls located within easy reach of the central position.

**Encore Plus**, the configuration and automation system, is fully integrated into the console surface.

This chapter provides an overview of the console surface.

### Processor

The processor provides a pool of digital processing that is used to manipulate signals according to control changes on the console surface.

This differs from an analogue console in that an analogue console has a fixed set of controls where the the console can have signal processing added or removed as required.

All audio signals are connected to the processor from the I/O system via industry standard MADI connections. MADI also allows the easy connection of third party digital equipment.

### I/O System

The the console I/O system comprises a complete range of digital interfaces, high definition, ultra fast ADCs and DACs, sample rate converters and remote low noise mic amps. It also incorporates, as standard, a router that is used to patch any input to any input path (e.g. Channel, Track tape return, etc.) and any output to any output path (e.g. Aux, Main Output, Track send, etc.).

The Console Surface consists of:

- The AFU, (Assignable Facilities Unit, Upper & Lower). The AFU has controls for all signal processing functions. It can be assigned to any signal path.
- Fader Strips
- Routing Screen
- Encore Section

## Upper AFU Section

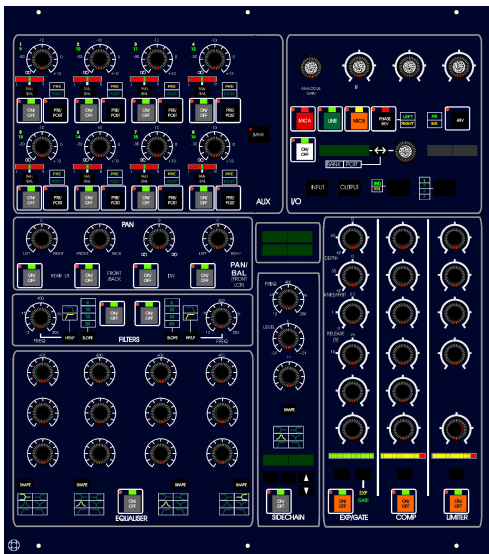


Fig 2: Upper AFU

The Upper AFU section has panels for

- Aux sends
- Pan for accurate positioning of stereo or surround sound
- Filters for providing two independent filter elements
- EQ providing up to eight bands of parametric equalisation on a channel
- I/O for configuring routing, assigning delay, etc.
- Four dynamics panels for Limiter, Compressor, Expander/Gate and a Sidechain facility.

In the centre of the AFU section is the AFU Parameter Display.

This shows the channel called into the AFU and the current setting of a control when the control is touched.

When the AFU is assigned to a path, the controls on the AFU fader move to the same position as the strip fader.

## Lower AFU Section

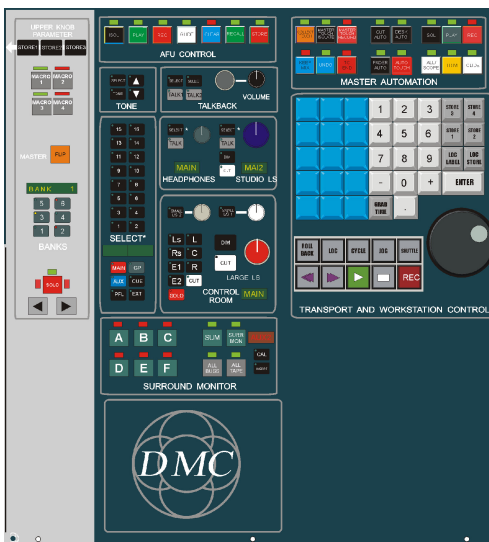


Fig 3: Lower AFU

The Lower AFU provides:

- Fader control
- Tone
- Talkback
- Monitoring
- DAW Control (inc Jog and Shuttle)
- Local and Global Automation Control
- Layer Selection
- Control of Studio Loudspeakers & Headphone

The arrow keys either side of the Access key are used to step the AFU up and down through all the available paths.

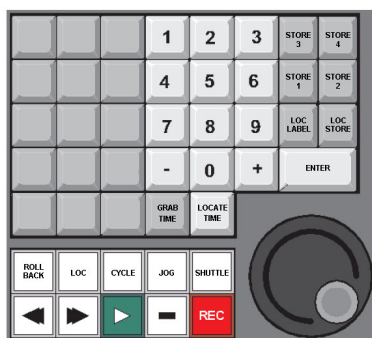


Fig 4: MCS panel

### Transport & Workstation Control

The transport controls are used to physically control connected transports (e.g. play, stop, rewind etc.). The console provides transport control of up to five tape machines as standard, and has a timecode reader for the automation system.

There are keys for PLAY, REWIND, WIND, STOP, LOC etc. and a dedicated Jog and Shuttle wheel.

The Encore screen also has transport control icons that duplicate some of the functions of the transport control keys.

It also has dedicated buttons for controlling DAWs.



Fig 5: AFU Automation panel

### AFU Control

These buttons allow you to change the automation modes for controls in the AFU, manipulate stores and reset controls to their default values.

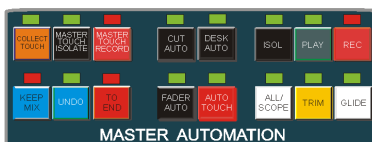


Fig 6: Master Automation panel

### Master Automation

The Master Automation keys are used for global control of dynamic automation modes.

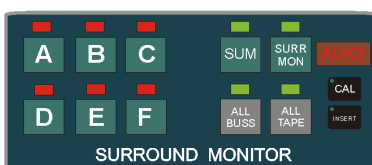


Fig 7: Surround Monitor panel

### Surround Monitor

Provides users with control of surround formats and monitoring.

Fig 8: Tone



panel

### Tone

The Tone panel is used to activate the tone generator. It can be routed to Main, Tracks or via the monitor Select panel.



Fig 9: Control Room panel

### Control Room

Monitoring is controlled by three panels for Control Room, Headphones and Studio LS and speaker Select.

Speaker Solos & Cuts are provided for each speaker, including global **DIM** and **CUT**.



Fig 10: Talkback panel

### Talkback

The Talkback panel has a built-in microphone. It is possible to set up two Talkback destinations.



Fig 11: Headphones / SLS panel

### **Headphones / SLS**

Selects the source and controls the level and talkback to Headphones and the Studio Loudspeakers.



Fig 12: Monitor Select panel

### **Select panel**

Selects and displays the Stereo sources for the Control Room Monitoring system.

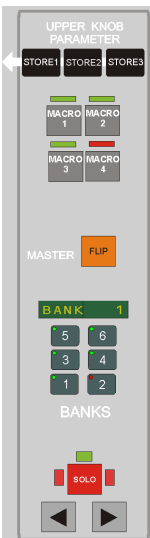


Fig 13: Fader / Bank panel

### **Fader & Bank Control**

Determines the current Layer and Bank on the surface, and provides control for the local Assignable Locator, and the 4 Macro buttons on each fader.

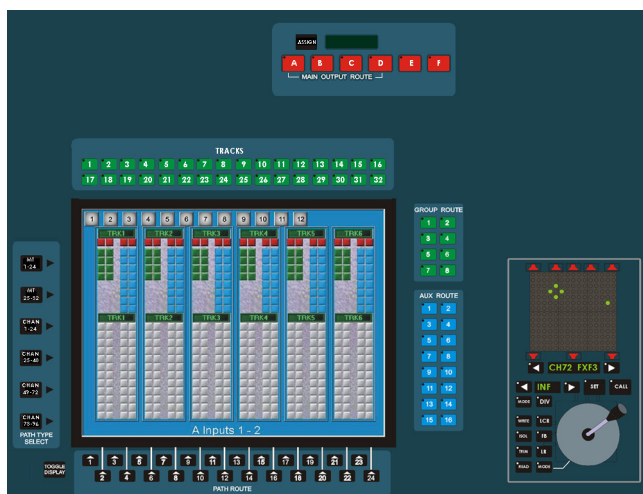


Fig 14: Routing screen panel

### Routing Panel

Displays and sets all of the internal routing within the console.

TFT Screens are high resolution, low radiation, minimal flicker and allow wide-angle ease of view.

On dual-screen systems, there is one TFT screen used to display Encore and its associated utilities; another in the Routing Screen panel to display internal signal routing.

On single-screen systems it is possible to swap between the two screens using the **TOGGLE DISPLAY** button.

There is also a single joystick that allows the easy placement and control of a signal within the Surround environment.

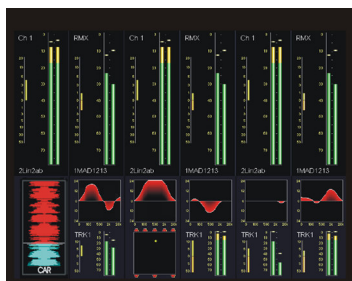


Fig 15: Channel Meters

### Channel Meters

Can be set to show a mix of:

- Input metering
- Compression gain / gate action
- EQ Curves
- Surround positions
- WavTrak™ Wave forms
- Dynamics Curves
- Small fader input



Fig 16: Master Meters

### Master Meters

Can be set to show a mix of:

- Film Outputs
- Tracks to Stem routing
- Individual Stem metering
- Stereo Outputs
- Aux & Group metering
- Follow Monitoring (where metering chases to the Control Room Monitoring selection)

All metering can be in VU, PPM or Peak Scales.



Fig 17: Cherry keyboard

### Keyboard

The Encore Keyboard is used with the Mouse to operate Encore for configuration and automation (particularly for initial setup and off-line automation functions).

### 3 Getting Started

## Introduction

The DMC has been designed for intuitive use as soon as it is up and running. It is a digital system which is as easy to use as a traditional analogue console but has the inherent flexibility and power common to all digital consoles.

This chapter initially describes how to:

- Start the system from cold
- Use the various types of controls
- Get a signal through the console (with both the standard Stereo Monitoring system and the Surround Sound Panel)
- Shutdown and/or re-start the system

This is followed by a What To Try Next section that, if possible, you should work through on the console. This will build confidence and familiarity with the operation of the the console.

The tasks described are:

- Layer selection on the fader strips
- Assigning (moving) paths to different fader strips
- Different methods of assigning EQ to a Channel
- Save the Desk Setup from the console surface

## Starting up the console

This process is also known as booting the system.

These instructions assume that the console has been installed and cabled-up correctly.

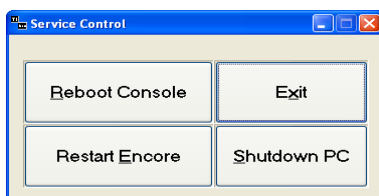
## System Startup

The console is a multi-processor system and, when switched on from cold, it is possible that the system will boot without full synchronisation with all sub-systems.

In order to ensure that the system boots correctly, it is recommended that the following procedure is used when switching on the console:

- Switch on all the racks and the console surface.
- Wait for the Encore PC to boot and login.
- Enter the appropriate user name and password and click OK.
- When the login is complete, the Windows XP desktop will be displayed.
- Start the Service Control application.

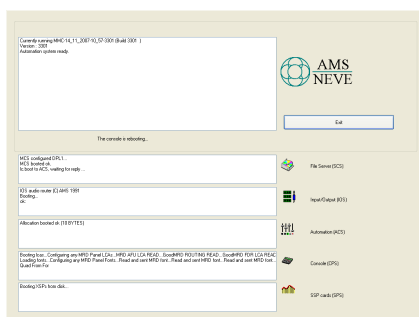
If there is no Service Control icon on the desktop, it can be found on the Start Menu in Start > All Programs > AMS Neve > System.



*Fig 18: Service Control*

Click the **Reboot Console** button.

The console will immediately start to re-boot, and the sub-systems will be forced to re-sync.



*Fig 19: Reboot screen*

A dialogue box will be displayed on the Encore screen showing the progress of the boot.

Please wait for the console to boot.

When the console is ready, the alpha displays on the fader strips will display the assigned path names and the console will respond to touch.

The Reboot Progress screen will automatically close once the console has booted.



Double click on the **Encore** icon on the desktop.

The system will now launch Encore and the main Encore screen will be displayed. The Routing Screen will load and display routing information.

*NB: Please wait for the Routing Screen to complete its initialisation before any further actions are taken.*

## Basic Control Types

### Fader

The faders are a touch sensitive, motorised Penny & Giles model.

- The main scale to the left, shows the absolute position of the fader (in normal operation), and has a range of  $-\infty$  to +10dB.
- There is a second scale marked in blue to the right which has a range of -20dB to +20dB and is used in Automation Trim mode.

The electronic scribble shows the precise setting on a fader when the fader is touched. The motorisation is used by the Snapshot and Automation facilities.

### Keys

There are three main types of key on the the console.



Fig 20: Led Button

The first type of keys have integral leds, such as the majority of buttons surrounding the routing screen.

The integral led can illuminate (or flash) green, red or yellow depending on the status of the control.

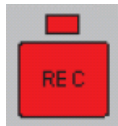


Fig 21: 2 state button

The second type are large flat keys with a single-colour led above them, such as the Utility & Master Automation Keys.

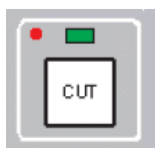


Fig 22: On/Off button

The third type are double-action keys with two separate leds above them, such as the On/Off Keys in the AFU.

### Access Keys and the AFU

The console is a very compact and convenient control surface.

This is achieved by only having a few essential controls on each Fader Strip.

The remaining controls are split off onto a single expanded section which is shared by all the Fader Strips - this is the Assignable Facilities Unit (AFU).



Fig 23: Access key

Only one signal path at a time can Access the controls on the AFU and this is the main function of the Access keys on the Fader Strips.





Fig 24:  
Logicator

### **Logicators - The Rotary Controls**

The Logicators are unique to AMS Neve consoles.

They are continuously variable digital rotary encoders which use green leds to illuminate segments in the top of the control to show the setting.

They also have a red led which indicates that the Logicator has detected it is being touched (i.e. it is "in touch").

The top Logicator on the Fader Strips is the **Assignable Logicator**.

## **The Display Screens, Mouse & Dockable Keyboard**

The screen in the console is used to display routing information and show which paths the keys above and below the screen relate to.

There is an external screen used to display Encore. The mouse and the Dockable Keyboard are used for interaction with Encore.

On systems with only a single screen, the display is toggled using the **TOGGLE DISPLAY** button on the Routing Screen.

## **Getting a signal through the Console**

These instructions assume that a signal source (e.g. a multitrack tape machine, CD player, etc.) has been connected to a console input and that the control room monitor speakers are connected to the appropriate outputs.

It is also assumed that the console has just been started up, the default Installation configuration is in use and the SELS that allow the monitoring system to work have been set up correctly.

This section describes two methods of getting a signal through the console: the first is with the standard Stereo Monitoring system and the second is through the Surround Sound Monitoring System.

## Getting a Signal through the Stereo Monitoring System

These instructions will explain how to use Channel 1 or Track 1 to send a signal to the main control room speakers via the first Main output.

*It is not necessary to use Encore Plus for this exercise.*

Whether Channel 1 or Track 1 is used depends on the signal source.

If the signal source is a tape machine then Track 1 will be used, otherwise it is assumed that a line level input will be fed into Channel 1.

There involves five steps:

- Switch monitoring to Stereo.
- Select an Input
- Route that input to Main Output 1
- Select Main Output 1 as the Control Room Monitor source
- Confirm the signal is routed correctly

### A Note on Surface Assignments

Each Fader Strip can have two layers of signal paths assigned to it.

In the default Installation Desk Setup, the Channels will be assigned to the faders, and the Tracks will be on the Assignable Logicator (similar to an in-line analogue console).

In a fully populated Mix Setup, the **Bank 1 to 6** keys and the **FLIP** button can be used to swap between the available layers as set up in Encore.

### Before starting

As a safety measure, it is advised to set the faders to the bottom of their travel (i.e. off) and to rotate the Control Room level control to its minimum setting.

The **SURR MON** button on the Surround Monitor Panel swaps the monitoring between Stereo & Surround.

- If the led is lit, you are listening in **Surround**.
- Press again, the led will extinguish and you will be listening in **Stereo**.

When listening in **Stereo**:

- the 1-16 EXT buttons on the monitoring section will show any Stereo externals.
- The A-F buttons on the routing screen will allow routing to (up to 4) Main Stereo Outputs.

When listening in **Surround**:

- the 1-16 EXT buttons on the monitoring section will show any Surround externals.
- The A-F buttons on the routing screen will allow routing (up to 6) to Stem Outputs.

### To select the input

Press the **Access** key for Channel 1 (or Track 1).

The Access keys are the black keys above the faders which may have a white triangle on them.

The path will be called to the AFU.

Part of the AFU is the I/O Panel which is used for port selection.

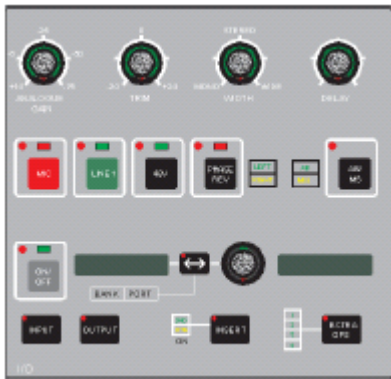


Fig 25: I/O Panel

- Press the Input key.  
The integral led will illuminate.
- Press the double-arrow key next to the selection Logicator.  
The integral led will illuminate.

The selection Logicator can now be used to select the rack number and port type, for example **1lin** would be for Mic/Line inputs in Rack 1, **2aes** would be for inputs on AES/EBU interface cards in Rack 2 and **4mad** would be for inputs fed directly via the fourth MADI interface.

- Rotate the selection Logicator to the appropriate rack number/port type.
- Press the double-arrow key again.

The integral led will cease to be illuminated and the selection logicator can now be used to select the actual port.

- Rotate the selection Logicator to the appropriate port number.  
The green leds in the Logicator will not be illuminated for ports that are not physically in the system.
- Press the **On/Off** key and the led will light.

The port will be assigned to the input of Channel 1 (or Track 1).

#### **To Route to Main Output 1**

- Press and hold the Access key for Channel 1 (or Track 1).
- Press the button for Main Output 1 (A) on the Routing Screen.

This can also be done the other way round to route several paths to a Main Output at the same time (hold the Main Output button then press the appropriate Access keys for the inputs).

#### **To select Main Output 1 as the Control Room Monitor source**

- Press the **Main** key on the Monitor Select Panel.
- Press the **1** key on the Select Panel.
- The alpha display on the Control Room panel will display **Main**.

To confirm the signal is routed correctly, put the device for the signal source into Play, gradually increase the level on the fader for Channel 1 (or Track 1) and the Control Room level control until audio is heard on the control room speakers.

### **Getting a Signal through the Surround Monitoring System**

This is a lengthier exercise which also shows how to create a new Desk Setup.

These instructions will explain how to route an input signal to Channel 1, to Film Stem A and then to the Film monitor paths. Film Stem A will be a 5.1 format Stem using Track 1 to Track 6.

It is assumed that a line level input will be fed into Channel 1.

These instructions also assume that the Film monitor paths are patched to the correct outputs to the speakers (the patching will be copied by the new Desk Setup).

The steps required to complete this task are:

- Create a new Desk Setup
- Select the Channel Input
- Route Channel 1 to Stem A
- Monitor Stem A

As a safety measure, it is advised to set the faders to the bottom of their travel (i.e. off) and to rotate the Control Room level control to its minimum setting.

## Create a new Desk Setup

A new Desk Setup is created with the **Desk Editor** utility in Encore.

To display Desk Edit on the screen

- Click on the Desk Edit icon, or
- Click on Tools in the Menu Bar and then click Desk Edit.

Desk Edit will be displayed on the screen with the Config page on top.

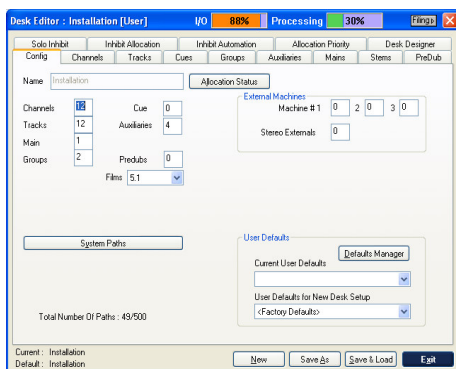


Fig 26: Desk Editor

To create a new Desk Setup, click the **New** button.

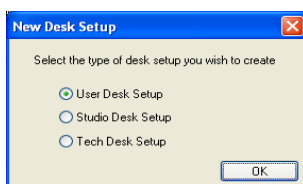


Fig 27: MSU Type

You will be asked which type of desk setup you wish to create.

Select an option and then click **OK**.

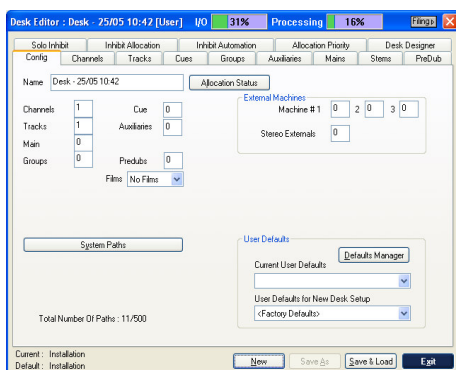


Fig 28: New MSU

The Config page will be re-displayed with the default configuration for new Desk Setups.

In the **Name** box the system will display a default name and the date (e.g. Desk 20-10 14:17).

The steps to make the Desk Setup usable are as follows:

- Basic Desk Setup configuration
- Assign paths to the console surface
- Automatically configure the Film Stems
- Save and allocate the Desk Setup

Also, this Desk Setup will only have 1 Channel and 1 Track.

More paths are needed to make the Desk Setup useful.

Film paths are required so that the Surround System can be monitored.

*The terms **Track** and **Monitor** are used interchangeably as they refer to the same path type. These were traditionally called busses on analogue consoles used for film and related post-production.*

To change the name, click in the **Name** box, and Edit the name as required.

To enter the number of paths of each type, click in the Channels box and enter the number of **Channels** as **24**.

Move the mouse pointer to the **Tracks** box and enter **24**.

Select **5.1** from the drop down **FILMS** list.

(The other path types can be ignored for this exercise.)



Fig 29: Fuel Gauges

Click the tabs for the **Channels** and **Tracks** to see the default processing that has been allocated.

Notice that two 'processing meters' appears in the title bar when you change to a different page.

These Fuel Gauges show how much processing will be used by the new Desk Setup, as a percentage of the total available.

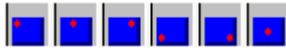


Fig 30: Surround Designators

Also, on the **Tracks** tab, each path has a blue square at the bottom of each path. This indicates the Pan Designator for each path.

The selected film format is 5.1, so the Pan Designators have been automatically applied to the Tracks to match the film format.

The only other step that is necessary for a working Desk Setup is to decide which paths are assigned to which fader strips. This is accomplished with the **Desk Designer**.

A Desk Setup can be saved without assigning any paths to the console surface, but if you do so, then you will be prompted that no paths have been assigned and whether you want to continue.

**Desk Designer** is used to decide which signal paths are assigned to which fader strips. Each fader strip can have two signal paths assigned on each Bank, which can be swapped between the fader and assignable logicator using the Master **FLIP** button on the lower AFU or the local **FLIP** button by the fader.

For this exercise, you are going to assign Channels to the Faders and Tracks to the Assignable Logicators.

Open **Desk Editor** click the **Desk Designer** tab.



Fig 31: Desk Designer

- Click the **Faders** check box so that a tick is shown.
- Click the first path in the path list (Channel 1).
- Scroll the path list down until path 12 (i.e. Channel 12) is shown.
- Hold down the Shift key on the keyboard and click Channel 12, so the first 12 Channels will be highlighted.
- Click the **Assign** button.

The Channel numbers will be displayed in the boxes just above the faders .

The Desk Setup is now functional because there are some paths assigned to the fader strips. However, it would be useful to assign the Tracks to the Knobs.

### To assign Tracks to the Knobs

- Remove the tick from **Faders** and tick the box for **Knobs**.
- Click the Tracks radio button (the paths list will change to show the Tracks).
- Click TRK1 in the paths list, scroll down the list to TR12, hold down Shift on the Keyboard and click TR12.
- Click the **Assign** button.

The Track names will be displayed in the boxes above the faders corresponding to the Assignable logicators.

### To Automatically configure the Film Stems

There are six Film Stems that are labelled A to F. They are constructed by assigning Tracks in groups to each Stem letter.

In this Desk Setup we have 12 Tracks. The film format is 5.1 which uses six speaker positions. A fully configured 5.1 Stem will use 6 Tracks, one for each speaker position. Each Track already has a suitable pan designator according to the intended speaker destination.

To configure the Film Stems automatically, click the **Stems** tab.

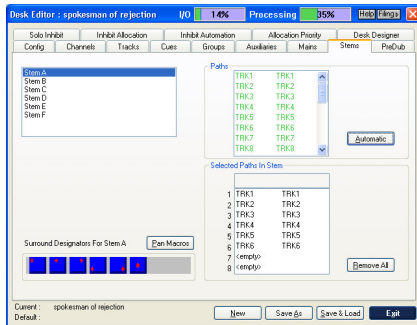


Fig 32: Stem Assignments

Click the **Automatic** button.

A warning dialogue box will be displayed, indicating that all Stems will be reconfigured.

Click **Yes**.

The Tracks will be assigned to Stems A and B (i.e. six each).

Notice that the Track names in the Paths list are shown in green when they are allocated to a Stem.

Each Track will also be routed to the Film path that corresponds to its pan designator. For instance, Track 2 has the Front Centre pan designator so it is routed to Film 2 (which should be, in turn, port routed to the output connected to the front centre speaker).

The Desk Setup is now complete and ready to be saved.

- Click **Save & Load**.

A dialogue box will appear asking for confirmation of creating the new setup.

Click the **Yes** button or press **Y** on the keyboard.

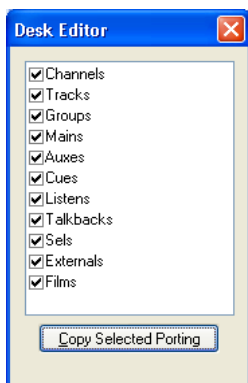


Fig 33: Copy Porting

A second dialogue box will be displayed for selecting the porting information to be copied to the new Desk Setup. It is not necessary to de-select any of the check boxes.

Click the **Copy Selected Porting** button.

The screen will display a timer to show the Desk Setup is being saved, followed by a second timer while the setup is applied to the console surface. The electronic scribble strips on the console surface will also indicate the progress of the allocation.

When allocation is complete, a dialogue box will be displayed to indicate this.

Click **OK** or allow the dialogue box to close automatically, or

Click the **Exit** button to finish using Desk Edit.

### **To Select the Channel Input**

Press the Access key for Channel 1, and the path will be called to the AFU. Part of the AFU is the I/O Panel which is used for port selection.

- Press the **INPUT** key.

The integral will illuminate.

- Press the double-arrow key next to the selection Logicator.

The selection Logicator can now be used to select the rack number and port type. Rotate the selection Logicator to the appropriate rack number/port type.

- Press the double-arrow key again.

The integral led will cease to be illuminated and the selection Logicator can now be used to select the actual port. Rotate the selection Logicator to the appropriate port number.

- Press the **On/Off** key to turn the port on, and the port will be assigned to the input of Channel 1.

### **To Route Channel 1 to Stem A**

To route Channel 1 to the Tracks for Stem A.

- Press the **SURR MON** button so the led above it is lit.
- Press and hold the Access key for Input 1.

- Press the **A** button above the routing screen. The internal leds on the first six Track keys at the top of the Routing Screen will turn red.

The panning controls are enabled automatically in Channel 1, according to which pan designators are applied to the Tracks that Channel 1 is routed to.

#### **To Monitor Stem A**

Make sure the **SUM** key is off (press it if the led above the key is illuminated).

- Ensure that **ALL BUS** and **SURR MON** are lit.
- Press the **A** key.

The led above the key will illuminate.

To confirm the signal is routed correctly.

- Put the device for the signal source into Play.
- Gradually increase the level on the fader for Channel 1 and the Control Room level control until audio is heard on the control room speakers.
- Adjust the panning controls on the AFU to confirm that panning is operating.

## What To Try Next

The console is quick and easy to get started and offers high levels of flexibility and power.

The following topics explore some of the basic functions of the console:

- Layer Selection on the Fader Strips
- Assigning Paths to Different Fader Strips
- Assigning EQ to a Channel

The **Lock** keys on the fader strips used to control which fader strips will be affected by the **BANK** keys and Master **FLIP**.

To Swap path assignments between the fader and the Assignable Logicators

- Press the **FLIP** key on the required fader strip, or press the Master **FLIP** key to swap all faders.

If the Assignable Logicator is assigned to the same path as the fader then the Flip key will have no effect.

To prevent the **BANK 1 - 6** or **FLIP** keys from re-assigning individual faders, press the **LOCK** key on the required fader strips. The integral led will illuminate.

To prevent the **Bank 1 - 6** or **FLIP** keys from re-assigning individual small faders, press the **LOCK KNOB** key on the required fader strips. The integral led will illuminate.

As well as locking the current path to the Small Fader, the current function of the Assignable Logicator is also locked (you must ensure that the **Upper Knob Lock box** is checked in **Preferences/Extended Prefs**).

## Saving the console setup

The current console setup may be saved to hard disk by pressing and holding the **ALL/SCOPE** button, and pressing **KEEP MIX** on the Utility panel.



## 4 Working with Signal Paths

Path is the term used to describe a discrete part of the signal flow through the console that has a distinct input and output, either to the outside world or to another path.

A port is an interface to the outside world, e.g. a D to A output converter, an AES/EBU input or a digital MAD I input or output.

Note that all path types can make use of any signal processing functions, including using up to two inserts each. The total amount of processing available depends on the hardware configuration.

The types of signal paths used by the console are:

- Channels
- Tracks
- Main Outputs
- Groups
- Auxiliaries
- Cues
- Externals
- Predubs
- Films
- System Paths

Each is described in the following chapters.

### Channels

Channels provide the main inputs to the console.

They can be mono or stereo.

The default path names for Channels are just the number for the path (e.g. **1**, **23**, etc.).

Channels must be connected (port routed, patched) to an Input Port.

This is achieved using **I/O Patching** or the I/O Panel on the AFU.

Mic/Line switching is provided on the Fader Strips and the I/O Panel, with input gain and trim control on the I/O Panel.

A Channel can also have a direct output assigned to it.

Channels can be routed to Tracks, Main Outputs and Groups. They can also make contributions to Auxiliaries.

Channels are where most of the initial signal processing is applied.

## Tracks

The Tracks provide the same functionality as tape monitors and track sends on conventional analogue consoles.

Tracks can be switched between Bus and Tape inputs, as shown on the Track Signal Path Schematic.

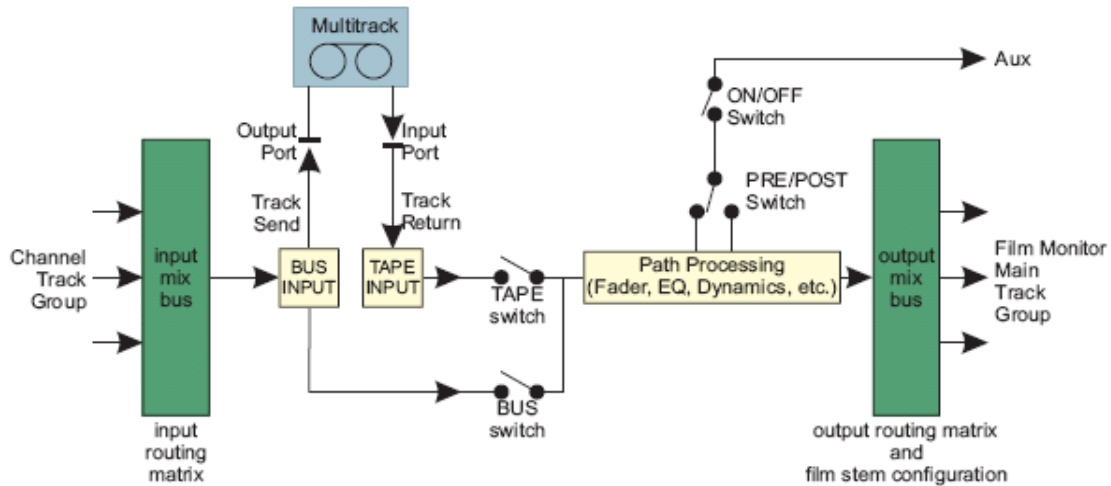


Fig 34: Tracks Schematic

They can only be mono.

The default path names are **TRK1** to **TR32**.

Tracks have a track send (output) and track return (input) at the beginning of the signal path. These can be connected (port routed, patched) to an Output and an Input Port. This is achieved using **I/O Patching** or the I/O Panel on the AFU. **Bus/Tape** switching is provided on the Fader Strips and with global **ALL BUS** and **ALL TAPE** switching in the **Surround Monitor** section.

Tracks can have Channels, Groups and other Tracks as routing sources. They can be routed to Main Outputs, Groups, Auxiliaries and other Tracks. The software that controls routing prevents any feedback loops from occurring.

Tracks can be used as surround sound destinations and this is setup using the Pan Designators and Pan Macros functions in Desk Edit. Tracks are also used as Stem Busses.

## Main Outputs

Main Outputs (or **Mains**) are the primary destination for final mixes and overall console output.

Mains are also the most commonly selected source for control room monitoring. They can be mono, stereo or stereo wide. There can be up to four Mains in a Desk Setup.

Mains can be assigned to fader strips just like any other path. The default path names are **MAI1** to **MAI4**.

Mains can have one or two outputs at the end of the signal path. These can be connected (port routed, patched) to Output Ports using **I/O Patching** or the **I/O Panel** on the AFU.

Mains can have Channels, Groups and Tracks as routing sources. They can be routed to Cues or used as monitoring sources.

## Groups

Groups provide extra mix busses and pre-mixes for routing to Main Outputs or track sends. Groups can be mono or stereo.

There can be up to 24 Groups in a Desk Setup, and their default path names are **GRP1** to **GRP24**.

Groups can have one output at the end of the signal path that can be connected (port routed, patched) to an Output Port. This is achieved using I/O Patching or the I/O Panel on the AFU.

Groups can have Channels and Tracks as routing sources. They can be routed to Main Outputs and Tracks.

The software that controls routing prevents any feedback loops from occurring.

They can also make contributions to Auxiliaries.

Mono Groups can also have pan designators applied and this is setup using the Pan Designators and Pan Macros functions in Desk Edit.

Any Channels routed to them will pan to the Group according to the designated pan position. This would be useful, for instance, in feeding an out-board effects unit with the panned signal(s) for the rear surround, which could then be looped back into the console via an input to a Channel.

Groups are not used in Film Stems, as they cannot use Bus/Tape switching .

## Auxiliaries

Auxiliaries provide additional mix busses for creating cue mixes and extra output mixes. There can be up to 16 Auxiliaries in a Desk Setup, any of which can be mono or stereo (a stereo aux is intrinsically stereo and does not 'steal' the next available aux for the other leg).

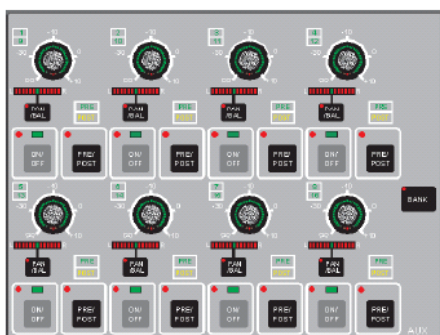


Fig 35: Aux Panel

Auxiliary master faders can be assigned to fader strips.

The default path names are **AUX1** to **AUX16**.

Auxes can have one output at the end of the signal path that can be connected (port routed, patched) to an Output Port. This is achieved using **I/O Patching** or the **I/O Panel** on the AFU.

Auxes can take pre and post fader contributions from Channels, Groups and Tracks. They can also be routed to Cues.

### To select an aux to contribute to

Press the Access key for the path to route to the aux, and the selected path will be assigned to the AFU. Press the required **On/Off** key on the AUX Panel. The green led above the key will illuminate.

To switch banks between auxes 1-8 and 9-16, press the **BANK** key. The number indicators next to the Logicators will illuminate to show the auxes that are available.

To switch between pre and post fader pick off, press the **Pre/Post** button. The Pre/Post indicators will illuminate to show the selection.

To switch the Logicator to pan/balance (this is only possible if the aux is stereo). Press the **PAN/BAL** key for the required aux contribution, and the integral led will illuminate red. Turn the Logicator. The Pan/Bal position is indicated in the Left/Right bargraph display above the Pan/Bal key.

To use the Assignable Logicators on the fader strips for aux contributions  
Press and hold down one of the **STORE (1, 2 or 3)** keys on the AFU Fader strip.  
Touch the Logicator for the desired Aux on the AFU.  
The selected aux will appear in the alpha displays below the assignable Logicators.  
Aux contributions that are turned down to a sufficiently low level will be switched off automatically.

### **To use the Faders for Aux Contributions**

Also known as **ALL AUX** mode.

Ensure that the relevant Master Aux Send is on the console surface somewhere. Press and hold it's Access key, then touch the fader itself. The console will go into **ALL AUX** mode. The strip displays will alternate between the names of paths on the surface and the Aux selected (e.g. AU 2).  
Repeat these touches to terminate the **All Aux** function.

The paths that are on the surface can be changed as normal so that different paths can be selected for aux contributions (see Layer Selection on the Fader Strips).

## **Cues**

Cues are typically used to feed the headphones or studio loudspeakers.  
There can be up to twelve mono or stereo Cues in a Desk Setup (Cues default to stereo).

Cues can be assigned to the console surface, although this is not necessary for their operation.  
The default path names are **CUE1** to **CU12**.

Cues can use Auxiliaries and Mains as routing sources. Cues are normally output via the monitoring system (to the control room, headphones, etc.), but can also be I/O routed to output ports (with I/O Patching or Input/Output Routing with the AFU I/O Panel) which could also have speakers attached.

## **Externals**

Externals are used to provide additional direct inputs to the Monitoring System.

Each External machine can either be stereo (maximum number of 16) or surround (3 machines up to 24 inputs wide). The number of inputs from each external device is specified as part of the Desk Setup in the Config page of Desk Edit.  
The default path names for Externals are **EXT1** to **EX88**, etc.

Externals can be assigned to the console surface, although this is not necessary for their operation.  
Externals must be connected (port routed, patched) to an Input Port. This is achieved using **I/O Patching**.

The Externals are selected for monitoring using the Monitor Select section of the lower AFU.

## Predubs

The console allows up to 48 predubs of linked input paths to be defined.  
A Predub is then assigned to one fader strip to conserve space.  
A predub can be expanded across adjoining faders for adjusting fader offsets etc.

### PreDub Masters

PreDub Masters are a control only path type used to control the predub members (consisting of any combination of mono Channels or Tracks. It is not possible to use stereo Channels in a predub).

- PreDub Masters uses no processing resources.
- All controls in the predub members are linked to the PreDub Master.

PreDub Masters are assigned to the surface using the **Desk Designer** page of **Desk Edit**. If a PreDub Master is not assigned to the surface then it is not possible to expand it and access the member paths.

PreDub Masters can control a group of up to 8 Channels and/or Tracks.  
The predub members are 'stacked' under the PreDub Master and are accessed individually by expanding the predub across the PreDub Zone. A predub can not be expanded if the console does not have a PreDub Zone.

### The PreDub Zone

The PreDub Zone is a block of (up to) eight contiguous channels which is used for expanding predubs.

The location and width of the PreDub Zone is set using **System Preferences / Extended Prefs**. Individual predubs are at least 2 faders wide, and no more than 8.

### To expand a predub

Hold the Access key for the Predub Master and press the Master **FLIP** or local **FLIP** button. The associated alphas will display the user name for the predub.

If a Predub has been expanded, it can be collapsed again by repeating the above button presses, or pressing the Master **FLIP** button. This will reapply part of the current layer over the Predub Slaves.

The paths in the predub will be expanded across the predub zone, and each path can now be controlled in the same way as a normal path. The PreDub Master will remain in place and changing its controls will change the 'slaved' controls in the predub zone.

- Continuous controls (faders, EQ frequencies, etc.) can be moved to change the offset from the PreDub Master and the offset is retained.
- Stepped controls (phase reverse, aux pre/post, etc.) can be changed, but if the PreDub Master is changed then the predub members will follow the Master settings.

To collapse the Predub again, repeat the same button presses as used to expand it.

## PreDub Cuts and Solos

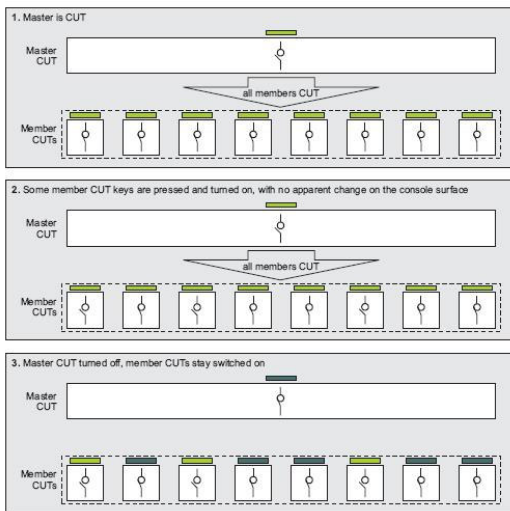


Fig 36: Predub Cut/Solo

A **Cut** or **Solo** on a PreDub Master will Cut or Solo all the paths in the PreDub.

- While a PreDub Master Cut or Solo is on, the individual Cut or Solo on a PreDub member can be switched on or off, but will not override the Cut or Solo imposed by the Master.
- The individual Cut or Solo on a PreDub member only takes effect when the Cut or Solo for the PreDub Master is off.
- An individual Cut or Solo on a PreDub member will remain on, even when Cut or Solo on the PreDub Master is turned off.

## PreDubs in Gangs

A PreDub Master can be selected as a Gang Sub-Master, but are automatically only a Sub-Master to the paths in the PreDub. They cannot be a Sub-Master of other paths. The PreDub members are Slaves to the PreDub Master only.

When the Gang Master or Sub-Master is moved, the PreDub page is used to assign up to eight Channels or Tracks to a predub master.

Up to 48 predubs may be defined. PreDub Master paths are created with the default system names of PM1 to PM48.

*PreDub Masters use no processing resources!*

## To Assign Paths to a Predub

Open **Desk Editor** and click the **Predubs** tab.

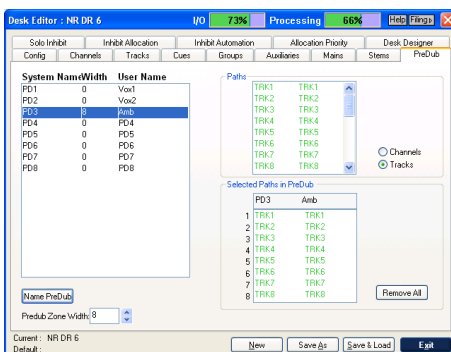


Fig 37: Desk Editor / Predubs

Click a predub in the predubs list, and then set the width of the predub using the PreDub Zone Width box (between 2 and 8).

Click the **Channels** or **Tracks** radio button. Drag and drop each required path from this list to the Selected Paths in Predub list (the names of paths used in predubs will turn green).

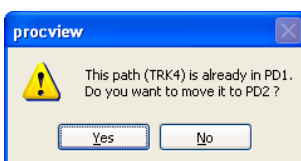


Fig 38: Predub confirm

If a path which is already assigned to a predub is dragged and dropped, a dialogue box will appear to confirm whether or not the path should be moved from one predub to the other.

The PreDub Zone Width column in the predubs list will show the number of paths in the predub.

If the paths were already assigned to the console in Desk Designer, they will be de-assigned automatically and the first path in the predub will be replaced by the PreDub Master on the console surface.

To Remove Paths from a Predub, drag and drop the path from the Selected Paths in PreDub list to the Paths list above it. The selected paths will be selectively removed from the Predub and the list entry will turn black.

To remove all paths from a predub, click the **Remove All** button.

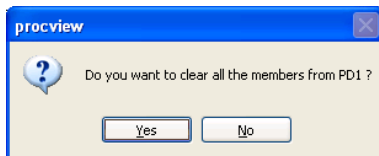


Fig 39: Predub Clear

Click **Yes** to confirm.

To Rename a Predub, click on the required predub and click the **Name PreDub** button, or double click on the **User Name** for the required predub. A box will appear over the top of the existing User Name to allow the name to be edited. Enter a name of up to four characters with the keyboard and press **Return**.

**NB:** Check Desk Designer to make sure that all PreDub Masters are assigned to the console surface!

To save the Predub setup with the Desk Setup, click **Save & Load**.

## Films

**Films** are only used if working in Surround.

Film paths are used by the Surround Monitoring system as outputs to the monitoring speakers.

Films can be assigned to the console surface, although this is not necessary for their operation.

The number of Film paths determines which speaker keys are available on the Surround Monitor panel.

The selection of Film paths made in **Desk Edit** (and the speaker keys that become available) are as follows:

Desk Edit Selection	Speaker keys available
None	None
LCRS	L, C, R and SW
5.1	L, C, R, LS, RS and SW
6.1	L, C, R, LS, RS, SW and E1
7.1	All

Table 1: Surround Speaker Sets

The number of Films also determines the number of **Film Listens**.

The default path names for Films are **FLM1** to **FLM8**.

Films must be routed to the outputs to the monitoring speakers with **I/O Patching**.

## System Paths

The System Paths are special path types that are required by the console for monitoring, solo, talkback and tone functions to operate correctly. The number of each type of System Path can be changed for a particular Desk Setup but it is strongly recommended to keep the normal defaults for these path types.

## SEL

There are six **SEL** paths by default (**SEL** is an abbreviation of 'select'), SEL1 to SEL6, that are used by the monitoring system and for selecting a source for the VU Meters.

<b>SEL 1</b>	Control Room Monitoring
<b>SEL 2</b>	Studio Loudspeakers
<b>SEL 3</b>	PFL Speaker (optional)
<b>SEL 4</b>	Headphones
<b>SEL 5</b>	Routing Screen VU (older systems only)
<b>SEL 6</b>	Meter Bridge VU (older systems only)

Table 2: SELs

The Monitoring Schematic shows how the SELs and Listens are used.

### NB:

- All paths shown are stereo.
- Listens 1 = AFL
- Listens 2 = PFL

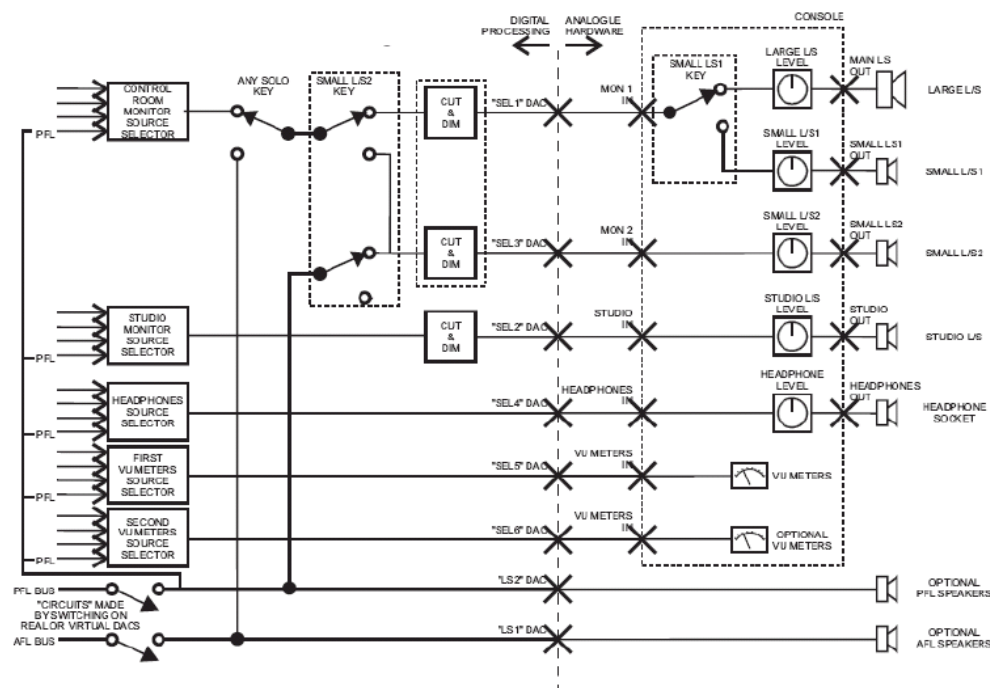


Fig 40: SEL Monitoring

## Listen

There are two Listen paths by default:

- LS1 - AFL
- LS2 - PFL

**LS1** and **LS2** should not be confused with the small loudspeakers (L/S 1 and L/S 2 that can be fed by **SEL1** and **SEL3**).



## Talkback

There is one Talkback path that is used for the talkback system and the tone/slate generator.

It is not possible to generate tone if Talkback is in use and vice versa.  
There are two Talkback busses.

## Film Listens

These are used to provide a non-destructive AFL solo bus that feeds the Surround Monitors directly.

The number of Film Listens is automatically changed to match the number of Film paths, and this should not be changed manually.

They are named **FLS1** to **FLS8**.

## 5 Fader Strip



Fig 41: Fader Strip

Faders have two scales - a conventional level scale with 10dB in hand and a trim scale for creating VCA style trims.

Settings for the selected channel will be displayed on the Logicators and the key leds.

Two logicators are located at the top of each strip, the lower one is a Pan control; the upper one an assignable logicator whose function can be fixed to be the fader level for the path on the other layer, or set to be any control for the path currently on the faders

Adjacent to each of these logicators are 3 leds that show the automation mode for whichever control is currently held there.

Fader strips are provided with two scribble strips - a conventional scribble strip and an electronic scribble strip. The channel name assigned during the configuration process will be displayed in the electronic scribble strip. This may be set by default or user defined.

The **BUS** & **TAPE** buttons only apply to Tracks, and switch the monitoring from what is being sent to the tape machine, or what is being returned. Pressing both buttons at once will put that Track in Overdub mode where the sum of what is being sent and returned will be heard.

The **FLIP** button will swap whatever path is held on the assignable logicator with the path currently on the faders.

**LOCK KNOB** locks the currently assigned function on the top logicator and prevents it from being reassigned to another function.

**LOCK** will 'lock' that path to the surface when applying global layer changes.

The **GANG** button allows you to set up a gang of faders where there is a master and slave relationship. Any offsets between faders is retained but can be changed at will.

The state of a fader in a Gang is displayed with the **MST** (Master) or **SLV** (Slave) leds above the fader PFL button.

The **LINK** button allows you to link controls between paths so making a change on one path makes the same change across all paths in the Link. This could be be auxes, EQ bands, on/off switches, etc.

The **MACRO 1 / 2 / 3 / 4** buttons enable you to locally apply any of the 4 Master **MACROs** that have been set on the lower AFU.

The Access key (beneath the SOLO button) calls that path into the AFU, so that all of it's controls are accessible. It is also used for internal routing and the setup of Gangs and Links.

The two triangular Up/Down leds are used in automation and show the direction that the fader must be moved to match the previous play pass when working in Automatch mode.

To the left of the fader, a tri-coloured led indicates the incoming signal level.

- Yellow present
- Orange loud
- Red digital clipping will occur

Below this, a bargraph meter can be set to either show compression gain reduction (displayed above the centre led) and gate action (displayed below the centre led), or input signal presence. This is set in Encore System Preferences.

## 6 Fader Assignment

The console makes economical use of the fader strips by having two paths assigned to each fader strip within the current **BANK**.

The paths assigned to each layer are initially determined with **Desk Designer** in **Desk Editor**.

### Layer Selection on the Fader Strips

The keys used to change which paths are on the surface are the **FLIP** keys on the fader strips and the **BANK 1 - 6** keys on the lower AFU.



Fig 42: Locks panel

The **LOCK** keys on the fader strips are used to control which fader strips will be affected by the **Bank 1 - 6** & **FLIP** keys.

To swap path assignments between the fader and the Assignable Logicator, press the **FLIP** key on the required fader strip.

If the Assignable Logicator is assigned to the same path as the fader then the Flip key will have no effect.

To prevent the Bank **1-6** or **FLIP** keys from re-assigning faders, press the **LOCK** key on the required fader strips. The integral led will illuminate.

To prevent the **Bank 1-6** or **FLIP** keys from re-assigning individual Small Faders, press the **LOCK KNOB** key on the required fader strips (the integral led will illuminate).

As well as locking the current path to the Small Fader, the current function of the Assignable Logicator is also locked.

### Layer selection on the AFU

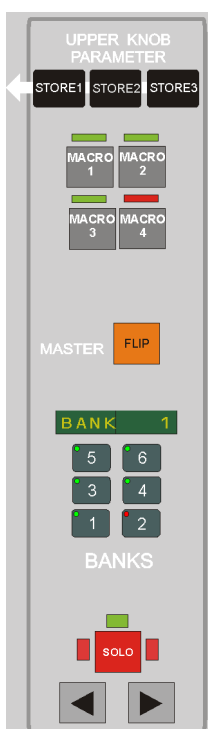


Fig 43: Fader / Bank panel

As set in Encore, there are six Banks available with two Layers on each.

As you call each Bank to the surface and Layer One will be placed on the faders, with Layer Two displayed on the Assignable Logicators (unless they have another path or function already locked in place). The bank name will be displayed in the alpha display window.

You can swap between the two layers using the **FLIP** key.

The four **MACRO** buttons are used to set functions across all the faders as set in Encore System Preferences.

The three **STORE** buttons are used as three snapshots of controls that can be assigned to the Assignable Logicator when not being used as small faders.

## 7 AFU

The **AFU** (Assignable Facilities Unit) is an assignable central section which has controls for all the processing elements that can be assigned to a path, plus Aux contribution and I/O Routing control.

If a process is present and available, a logicator will display a single green led at the 6o'clock position. If a process is not available, there will be no green led, and touching the logicator will cause it to display red.

The AFU consists of an upper Main AFU Section containing the Aux, Pan, Filters, EQ, Dynamics and I/O Panels and a lower section which contains Automation controls, Bank and Layer control, Monitoring Selection, Tone, Talkback and Machine Control.

### To Call a Path to the AFU



Fig 44:  
Access  
key

Press the **Access** key for the required path, or

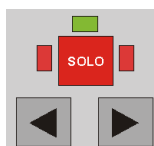


Fig 45: AFU  
Arrow keys

Press (and hold) the arrow keys on either side of the AFU Solo key (the AFU will step through all the paths in the current console setup).

### To Interrogate an AFU Logicator setting

Touch the Logicator. The current setting and the name of the assigned path will be displayed in the AFU Parameter display.

### To Copy settings between paths

Ensure that the **PATH CONTROL COPY** function has been selected to be on one of the Global Macro keys as set in Encore.

Press the relevant Macro button on the path you wish to copy parameters settings from. The desk will go into **Copy** mode, flashing the word **COPY** on the fader alphas.

The path will be called to the AFU, and all the available controls to be copied will light red. This is the scope of controls to be copied, and globally resets itself to include all controls every time you enter Copy mode.

If you wish to change this scope, then touch any control. The rest of the scope will be cleared, and this single control will be added to scope, which now becomes additive in that you can create a collection of controls to be copied by touching logicators on the AFU.

Once you have set the scope, press the **MACRO** buttons on the paths you wish to copy parameter settings to (the Macro buttons on the destination paths will light to confirm that the settings have been copied across).

The alphas will also display **Copy Src** on the source path, and **Copy Dest** for all the destination paths.

To clear **Copy** mode, press the **MACRO** button on the source path, and the desk will return to normal operation.

## Signal Processing

There are two different ways of assigning processing. Both are screen based and accessed via Encore.

- **Path Editor** is suited to fine tuning of signal processing allocations and can be used to change the order in which processing is applied to the signal.
- **Desk Editor** is suited to rapid setup of all signal processing in a fresh console configuration, including duplication of signal processing elements between paths.

### EQ

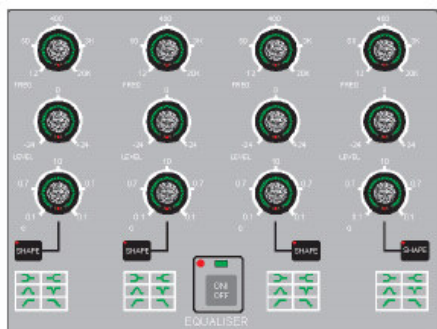


Fig 46: EQ panel

Up to eight bands of parametric EQ can be assigned to a signal path.

Each band is selectable over the full 12Hz to 20kHz spectrum with 24dB cut and boost, variable curve and a Q between 0.1 and 10.

A graphical representation of the EQ curve can be viewed as the EQ is adjusted in the **EQ & Dynamics** curve display (see **Tools** Menu in Encore).

The EQ display is also shown in reduced form on the TFT meter bridge.

If more than 4 bands of EQ are assigned to a path then the sidechain elements and filters are not available in that path. EQ bands 5 to 8 have the same system defaults as EQ bands 1 to 4 respectively (i.e. band 5 is an HF band and so on), but this can be changed with the **User Defaults** utility.

To switch the equaliser in and out of a signal path, press the **Access** key for the required path, and press the **On/Off** key on the EQ Panel. The large led above the key will illuminate green when the equaliser is on.

The number of bands of EQ will be available according to the processing assigned to the path.

If no EQ has been assigned then the AFU Parameter display will indicate **NO EQ**.

Turn the Q Locator to the required setting. The value will be displayed in the AFU Parameter display.



Fig 47: EQ Shapes

To set the shape, press the **SHAPE** key.

The integral led will illuminate red. Turn the Q Locator.

The possible shapes (high shelf, low shelf, bell, notch, HP/LP filter) will illuminate in the shape display as they are selected.

Once you have selected the EQ shape, press the **SHAPE** key again and the logicator will return to controlling the Q.

To set the level, turn the **Level** logicator to the required setting. The value will be displayed in the **AFU** Parameter display.

To set the frequency, turn the **Frequency** logicator to the required setting. The value will be displayed in the AFU Parameter display.

If there are more than 4 bands of EQ, the leds in the **SLOPE** and **HP/LP** keys in the **Filter** panel will illuminate green when EQ bands 1 to 4 are selected, and will illuminate red when EQ bands 5 to 8 are selected.

To toggle the EQ controls between bands 1 to 4 and bands 5 to 8, press any of the **Slope** and **HP/LP** keys in the **Filter** panel.

The leds in the **Slope** and **HP/LP** keys are green when bands 1 to 4 are selected, and red when bands 5 to 8 are selected.

If you have 5 or more bands of EQ, then it is not possible to apply Filters, although one band of EQ can be set to act as a Filter.

This only applies when there are more than 4 bands of EQ.

To view the EQ curve as it is adjusted

- Click the **EQ & Dynamics** Icon or select **EQ & Dynamics** from the drop down **Tools** Menu on the Encore Screen.

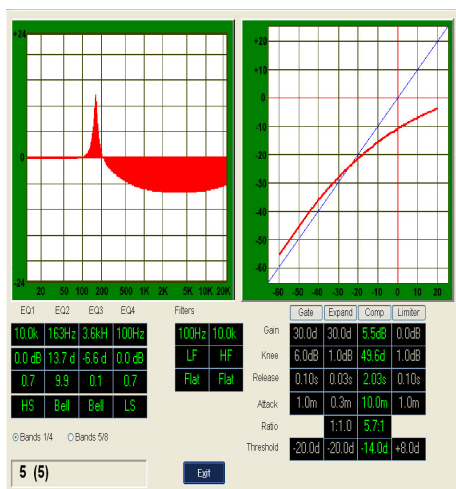


Fig 48: EQ / Dyn screen

The EQ & Dynamics screen will be displayed.

The EQ curve will change shape as the EQ Logicators are adjusted and the settings will be shown in the boxes below the curve.

The EQ curve can also displayed in smaller form on the meter bridge, providing the relevant path is on the console surface.

## Dynamics



Fig 49: Dynamics panel

The Dynamics elements are a **Limiter**, a **Compressor** and an **Expander/Gate**.

If more than one is assigned to a path then they will be grouped at the same point in the signal processing chain.

A shared **Sidechain** with a single band of EQ and optional **Key Input** can be applied to the **Dynamics** elements.

Each process has a gain reduction meter, and Attack times can be set at zero.

A **DRC** (Dynamic Range Controller) can be assigned to a path instead of individual dynamics elements. The **DRC** is a combined **Limiter** and **Compressor** which requires less signal processing than a separate **Limiter** and **Compressor**.

The **DRC** excludes other dynamics elements but can have the sidechain applied.

Dynamics will only be available if the relevant processing is assigned to the path.

## Compressor

Press the **On/Off** key. The green led above the key will illuminate.

Turn the relevant Logicators to adjust threshold, ratio attack time, release, knee and make up gain.

The value will be displayed in the AFU Parameter display.

## Limiter

Press the Limiter **On/Off** key. The green led above the key will illuminate.

Turn the relevant Logicators to adjust threshold, attack time, release, knee and make-up gain.

The value will be displayed in the AFU Parameter display.

## Expander/Gate

The **Expander** and **Gate** controls are shared.

To switch between Expander or Gate, press the **Exp/Gate** key. The indicators below the key will toggle between **Exp** and **Gate**.

Press the **On/Off** key, and the green led above the key will illuminate.

Turn the relevant Logicators to adjust threshold, ratio, attack time, release, knee (**Expander**) or hysteresis (**Gate**) and make up gain.

The value will be displayed in the AFU Parameter display.

## Sidechain EQ

To activate the sidechain EQ, press the **On/Off** key. The green led above the key will illuminate.

To change Q, level and frequency, rotate the **Q**, **Level** and **Freq** Logicators to the required settings.

To select shape, press the **Shape** key. The integral led will illuminate red. Rotate the Q Logicator. The shape indicators will illuminate in turn as the Logicator is rotated.

## Key Input

To select the key input path, press the up and down arrow keys. The alpha display will indicate the currently selected signal source.

To activate the key input, press the **Key/Link** key. The integral led will illuminate red. The Key Input is always assigned to the first processing element in the path.

If the order of dynamic processing is changed, the Key Input will remain attached to the first processing element in the path.

The input to the sidechain will be taken from the path indicated in the alpha display instead of from the input to the path the sidechain is applied to. **Tracks** and **Inputs** can be used as external triggers.

## Sidechain Listen

To monitor the sidechain signal, press the **LISTEN** key. The integral led will illuminate red.

The output from the sidechain will replace the output from the primary signal path, allowing the sidechain to be heard. You will hear the trigger path with any EQ processing applied.

## DRC

The **DRC** (Dynamic Range Controller) is a combined Expander and compressor that uses less processing than a separate Expander and Compressor would.

This is traded off by having the Expander ratio fixed at 2:1 and a common attack time. The thresholds and release times are set separately.

The **DRC** is an ideal tool for broadcasting environments as it is designed to force the signal level into a certain range.

A **DRC** in the signal path will exclude other dynamics from the path. A DRC can only be added to a path with **Desk Edit** or **Path Edit**.

A sidechain can be applied to the **DRC**.

Press the Compressor or Expander **On/Off** key.

The green leds above both **On/Off** keys will illuminate.

- To adjust the **Compressor** settings, rotate the Threshold, Ratio, Attack and Release Logicators as required.
- To adjust the **Expander** settings, rotate the Threshold, Ratio, and Release Logicators as required.



## Pan



Fig 50: Pan logicator

The fader strips have a dedicated **PAN/BAL** logicator and this is sufficient for pan and balance when routing to normal stereo destinations.

The AFU has a **Pan** Panel with a **Pan/Bal** Logicator that duplicates the function of the channel **Pan/Bal** Logicator, plus Logicators for panning across additional destinations used by surround sound formats.

### Pan and Balance

The **PAN/BAL** logicator is always in the signal path and will affect all normal stereo destinations the path is routed to.

The setting will be shown on the right hand side of the electronic scribble between the Logicators on the fader strip.

## Surround Panning

When a path is routed to surround destinations (Tracks or Groups that have appropriate Pan Designators), then the panning controls must be enabled according to the surround format being used. If the correct panning controls are not switched on then the signal will be routed to the surround destination(s) with unity gain.

*Stereo sources are not generally suitable for routing to surround destinations as panning may not affect the signal in the expected manner. It is advisable to listen to a stereo source as it is panned across the sound field to determine how it will behave before actually using it. Alternatively, feed the input into two separate mono paths and pan these independently (this may not be possible with M/S sources).*

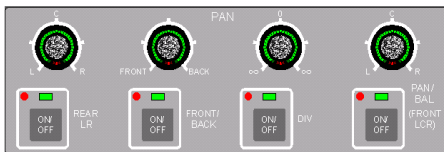


Fig 51: Pan panel

### To enable LCR panning

Press the **On/Off** key associated with the **Pan/Bal** Logicator.

The green led above the key will illuminate.

### To enable Divergence

Press the **On/Off** key associated with the **Divergence** Logicator. The green led above the key will illuminate. Divergence controls the spread of the signal across the front destinations.

### To enable panning from Front to Back

Press the **On/Off** key associated with the **Front/Back** Logicator. The green led above the key will illuminate.

### To enable panning across the Rear surround

Press the **On/Off** key associated with the **Rear L/R** Logicator. The green led above the key will illuminate.

## Filters

The **Filters** Panel provides two low or high pass filters with a 3dB point between 12Hz and 20kHz.

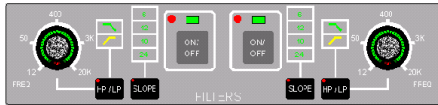


Fig 52: Filter panel

Filters must be assigned to a path before they can be used.

The cut-off slope can be:

- FLAT
- 6dB / Octave
- 12dB / Octave
- 18dB / Octave
- 24dB / Octave.

If only one filter is assigned then the left hand set of filter controls will be active.

### To activate a filter

Press the filter **On/Off** key. The green led above the key will illuminate.

### To adjust the frequency

Make sure the **SLOPE** and **HP/LP** keys are off (integral leds unlit).

Turn the Logicator, and the exact frequency is shown in the AFU Parameter display.

### To select high/low pass

Press the **HP/LP** key, and the integral led will illuminate red. Turn the Logicator.

The **HP/LP** indicators will illuminate as selected.

### To select the slope

Press the **Slope** key. The integral led will illuminate red. Turn the Logicator, and the slope values will illuminate to indicate selection. When none are illuminated the slope is flat.

## 8 Assignable Logicator

The Assignable Logicator is the top Logicator on the fader panels. It can be set to operate as a small fader, an Input or Output Track Trim control or it can be assigned to the function of any Logicator on the AFU.

The Assignable Logicator can also be locked to its current function on individual fader strips using the **LOCK KNOB** button.

### STORE 1 / 2 / 3



Fig 53: Top of Fader strip

These buttons on the Lower AFU provide 3 'snapshots' of console-wide logicator assignments. Press and hold the button, then touch the desired control on the AFU.

This assignment is now stored, and pressing this button will put that control on the logicators.

For example, you can set **STORE 1** to be Aux 1 contribution level, **STORE 2** to be compressor Gain and **STORE 3** to be an EQ control. Once these have been set, pressing any of the **STORE** buttons will put that control on the logicators for paths currently held on the faders.

#### Using the Assignable Logicator as a Small Fader

Press the relevant **BANK 1 - 6** and then use the **FLIP** button swap between faders & logicators.

The **FLIP** key will cause the assignment to switch between the fader and Assignable Logicator.

#### Using the Assignable Logicator for AFU Functions

The Assignable Logicators can be set to duplicate the functionality of any Logicator on the AFU.

#### To select an AFU function to the Assignable Logicator

Press and hold any of the Upper Knob Parameter **STORE** keys. Touch the required Logicator on the AFU and release the **STORE** key.

The function name will appear in the electronic scribbles below the Assignable Logicators for paths assigned to the faders that have the selected processing element in the signal path. All the other electronic scribbles below the Assignable Logicators will be blank.

The function of the Assignable Logicator can be frozen on individual fader strips. Go to **Preferences/Extended Prefs** and ensure the **Upper Knob Lock** box is checked.

Pressing the **LOCK KNOB** key on the fader strip will isolate the assignable logicator from global changes.

The integral led will illuminate red.

When the key is turned off, the Assignable Logicator will remain assigned to the same function until a new function is selected with a global key (e.g. **STORE 2**).

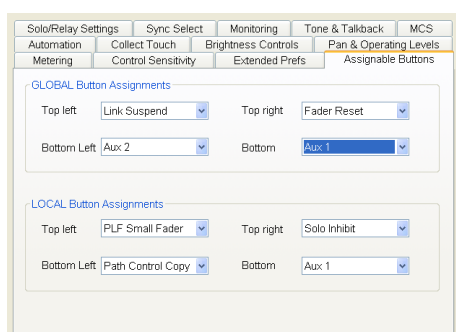


Fig 54: Prefs / Assignable Buttons

The **MACRO 1** to **MACRO 4** buttons allow you to set up 4 'soft' functions set in **Encore System Preferences / Assignable Buttons** which are then applied to the **MACRO 1 - 4** buttons on the lower AFU and on each fader.

In this way, it is possible to have any 4 user-selected functions on the faders at any one time. Different functions can be assigned to the **Global** and **Local** buttons.

Link Suspend
Fader Reset
Aux 1
Aux 2
Aux 3
Aux 4
Aux 5
Aux 6
Aux 7
Aux 8
Aux 9
Aux 10
Aux 11
Aux 12
Aux 13
Aux 14
Aux 15
Aux 16

Fig 55: Global options

**GLOBAL BUTTONS****Link Suspend**

Press and hold this button to change an offset between linked controls.

**Fader Reset**

Press and hold this button then touch the fader to reset it to 0dB.

**Aux 1- 16**

It is possible to assign the **ON/OFF** for any of the (up to) 16 auxes.

PLF Small Fader
Solo Inhibit
Link Suspend
Fader Reset
Path Control Copy
Aux 1
Aux 2
Aux 3
Aux 4
Aux 5
Aux 6
Aux 7
Aux 8
Aux 9
Aux 10
Aux 11
Aux 12
Aux 13
Aux 14
Aux 15
Aux 16

Fig 56: Local options

**LOCAL BUTTONS**

These have the same options as the Global buttons with the following additions:

**PFL Small Fader**

Operates as a PFL button for the path held on the small fader.

**Solo Inhibit**

Keeps the path open when a Solo is detected somewhere on the console. Suitable for example, for hearing vocals in context with it's reverb returns.

**Path Control Copy**

Puts the desk into **Copy** mode and allows you to set up a copy template, and then copy this collection of control values between paths.

## 9 Gangs & Links

### Gangs



Fig 57: Gang/Link buttons

A Gang hierarchy has a Master and at least one Slave, though usually there are multiple Slaves.

There can be an offset between the Slaves, and/or between any of the Slaves and the Master.

- Moving the Master means all of the Slaves move as well, retaining any offsets.
- Moving a Slave means just the offset between that Slave and it's Master is changed.

It is only possible to Gang Faders and Cuts.

#### To Create a Gang

Press the **GANG** button on the fader you wish to be Master.

The console will go into Gang mode and flash the word **GANGING** across all the fader alphas displays.

Press the **Access** keys for the faders you wish to be Slaves. As you press the first Access key, the **MST** led will light by the fader on the Master, and the **SLV** led will light by the Slave fader.

Further **SLV** leds will light for every fader added into this Gang.

To terminate Gang mode, press the Master's **GANG** button again.

Repeat the above process in reverse to remove a Gang setup.

It is only possible to nest Gangs up to 2 levels (ie a Slave fader can also be a Master to a sub-Gang).

With regard to writing automation data, 'hard' data is only written for the Master. All the Slave automation is 'soft' written, ie in the form of an offset with regard to the Master.

*For this reason, when removing a gang, it is advisable to Coalesce it first. Coalescing means the Automation engine looks at the Master automation, takes into account the Slaves offset from this, and hard-writes this data for the Slave(s). Coalescing a gang will create a new Mix/Pass if you are logged onto Automation.*

With Gangs, it is possible to add Slaves 'on the fly' to any Gang after starting an automation pass.

For more information, see the chapter on the **GANGS** Menu in the Encore Plus manual.

### Links

A Link has no Master/Slave relationships in place.

Instead, moving any control in a link will also move the same control for other members. Any offsets in place will be respected and retained.

With regard to writing automation data, 'hard' data is written for all members in the link. For example, move a fader and it's associated automation led will flash, as will those for all the other faders in the link even though they have not been touched.

It is possible to link all controls apart from Mic Gain, Porting and Delay.

**To Create a Link**

Press the **LINK** button on a any path you wish to include in the link.

The console will go into Link mode and flash the word **LINKING** across all the fader alphas displays.

That path will be called to the AFU, and all available controls will be lit red, indicating the current set of controls that can be linked. If you only wish to link the Pan and Aux 1, then touch the Pan (it will remain lit red, but all other controls will be dropped from the Link scope), and touch Aux 1.

Only these two controls are now lit red.

The **CUT MODE** and **FDR MODE** buttons by the fader will also be lit red.

Press these buttons to drop the FADER and the CUT from the scope of controls to be linked.

Once you have set the scope of controls to be linked, press other Access keys to add those into the Link.

*A control can only be included in one link at a time.*

When you go into Link mode, any previous Links that have been set up will be indicated by those paths Access key lighting.

- To change the offsets between faders in a Link, hold and fader, then move the fader you wish to change the offset of, then release both faders.
- To change the offsets between other controls in a Link, you will need to apply the **LINK SUSPEND** option to one of the 4 local Macro buttons. Press this button on the path you wish to change a controls offset on before changing the control itself.

Each time you enter **LINK** mode, the scope for all controls to be linked will be reset to include all controls, so it may be necessary to amend the scope for each **Link** you wish to create.

## 10 Routing & Porting

There are two types of routing on the console:

- **I/O Routing** for connecting physical input and output ports to the appropriate signal paths. These connections involve a path to the outside world.
- **Path Routing** for connecting signal paths together to form a clear path from input to output. All of this takes place internally to the console.

### I/O Routing

I/O Routing can be controlled with **I/O Patching** in Encore or from the **I/O Panel** on the AFU.

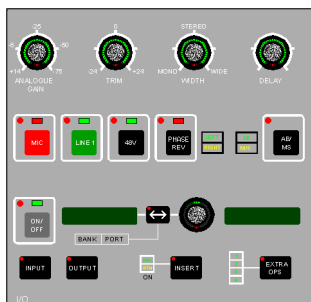


Fig 58: I/O Panel

This chapter describes Input/Output Routing with the AFU I/O Panel and Interrogating I/O Routing.

See the **Tools Menu** chapter in the *Encore Plus* manual for information on **I/O Patching**.

### Path Routing

Path Routing can only be controlled from the console surface. This is done using the Routing Screen with its associated keys and/or the **Access** Keys on the Fader panels.

Legal routing combinations are as follows:

<b>Channels to:</b>	Tracks, Groups, Main Outputs and Auxiliaries
<b>Tracks to:</b>	Tracks, Groups, Main Outputs and Auxiliaries
<b>Groups to:</b>	Tracks, Main Outputs and Auxiliaries
<b>Main Outputs to:</b>	Cues
<b>Auxiliaries to:</b>	Cues

Table 3: Valid Routing

This does not include selections made in the monitoring system (monitoring, talkback, tone, etc).

*The routing software ensures that no feedback loops will occur (e.g. Setting up a 'circular' route such as TK 1 to GRP1, GRP1 to TK 2 and then TK 2 to TK 1).*

*Whichever step is attempted last in making such a routing pattern is simply ignored, and a warning message will be shown on the fader alpha displays:*  
**"Circular route attempted, disallowed"**

## I/O Porting with the Upper AFU I/O Panel

The I/O Panel allows the currently accessed path to be port routed to an input, an output and any inserts that have been allocated.

*If a Main Output path has a 2nd output assigned to it then this must be port routed with I/O Patching or Path Edit.*



### To select an input or output

Press the **Input** or **Output** key on the **I/O Panel**. The integral led in the key will illuminate.

The alpha display to the right of the selector Logicator will show the current path and the port type (e.g. CH6 IN or TK22 OUT).

If necessary, press the **On/Off** key to de-route the currently selected port. The green led above the key will be extinguished.

### To change the I/O Bank

Press the double arrow key.

The integral led will be illuminated for Bank selection.

Rotate the selection Logicator to the right of the double arrow key.

The Banks will change in the alpha display to the right of the double arrow key.

Examples of Input Banks are **1lin** (1st I/O rack, mic/line ports) and **2aes** (2nd I/O rack, AES/EBU ports).

Examples of Output Banks are **1LIN** and **3MAD**.

**Input** ports are shown on the console and in Encore in **lower case**.  
**Output** ports are shown on the console and in Encore in **UPPER CASE**.

### To change the Port on the selected Bank

Press the double arrow key. The integral led will not be illuminated for Port selection.

Rotate the selection Logicator to the right of the double arrow key.

The port numbers will change in the alpha display.

*If a Bank or Port does not physically exist then the green indicator led in the top of the selector Logicator will not illuminate. This is most likely to happen on unused MADI ports. This also happens if the port type does not exist on the current path (e.g. Mains do not have input ports).*

### To switch on the selected port

Press the **On/Off** key.

The green led above the key will illuminate if the port allocation is successful.

### To select Inserts port routing

Press the **INSERT** key. The integral led will illuminate.

The alpha display to the right of the selector Logicator will show the current path and the insert number (e.g. CH6 INS1).

When the Insert key is active, the **Input** and **Output** keys select between the insert **Send** and **Return**.

These are port routed in the same way as normal inputs and outputs and the **Snd** and **Rtn** indicators illuminate to show successful port routing.



Press the **INSERT** key again for the second insert. The alpha display to the right will change accordingly (e.g. CH6 INS2).

Press the Insert key again for normal port routing, and the integral led will cease to be illuminated.

If an insert does not exist in the currently accessed path then the green indicator led in the selector Logicator will not illuminate.

*The inserts are half-normalled, so it is possible to use an insert send as a direct output whose pick-off point can be moved to anywhere in the signal path. You can achieve this by only porting the **Send** and leaving the **Return** unported. Once the Return is ported, then the path will take it's signal from this port, rather than from the signal path itself.*

Inserts must first be assigned using **Desk Editor** or **Path Edit** in Encore.

#### **To select Mic or Line inputs**

This is only applicable to lin banks (e.g. 1lin, 2lin, etc.).

Press the **Mic** or **Line** key as required.

The green led above the selected key will illuminate.

The Analogue Gain logicator can be used to change the input level before conversion to a digital signal (-75dBu to +14dBu).

#### **To activate Phantom power**

Press the **48V** key on a lin input that is switched to **Mic**, and the green led above the **48V** key will illuminate.

Phantom power is applied to both **A** and **B** mic input lines.

#### **To change the Input Phase**

Press the **Phase Rev** key.

If the input is **MONO**:

- The green led above the key will illuminate. Press Phase Rev again to return the path to it's normal state.

If the input is **STEREO**:

- The green led above the key will illuminate and the Left indicator adjacent to the key will illuminate. The phase indicator adjacent to the fader will light.
- Press the Phase Rev key again to reverse the phase on the Right leg of a stereo input.
- Press the Phase Rev key again to reverse the phase on both legs of a stereo input (the Left and Right indicators will illuminate as appropriate).
- Press the key again to turn phase reversal off.

#### **To switch a stereo input between AB and MS**

Ensure the process has been added in either Desk Edit or Path Edit.

Press the **AB/MS** key.

The input will toggle between **AB** and **MS** decoding.

The indicators next to the key will show the selection.

#### **To trim the input or output level**

Where applicable (for example on Tracks which has both an Input and an Output Trim), press either the **INPUT** or **OUTPUT** button by the porting logicator so the correct Trim is applied.

Adjust the **TRIM** Logicator as required.

+/- 24dB of trim is available.

**To change the width of the stereo image**

Adjust the **WIDTH** Logicator as required.

The input or output must be selected as a wide stereo signal in **Desk Edit** or **Path Edit**.

**To adjust delay on a port**

Adjust the **DELAY** Logicator as required.

Delay must have been assigned to the port in the **I/O Configuration**.

## 11 Routing Panel

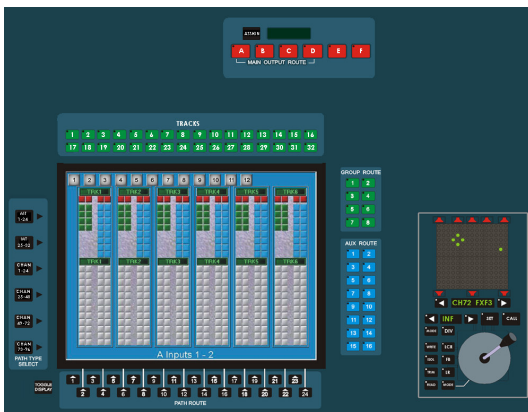


Fig 59: Routing panel

The Routing Panel & Screen is used for internal signal path routing and interrogating the current routing.

The keys on the left of the screen are for selecting the source path type.

The 1-24 keys along the bottom of the screen show how many of the sources are available when their integral leds are illuminated green.

- Valid sources are **Tracks** and **Channels**.
- Valid destinations are **Tracks**, **Auxes**, **Groups**, **Main Outputs** and **Stems**.

The 1-32 arrow keys above the screen correspond to Tracks as destinations (routing to the Bus inputs).

When the integral led is green this indicates an available destination. When a routing source key is held down then the leds will illuminate red for the destinations that the source is already routed to.

The **Group** and **Aux** keys to the right of the screen operate in a similar manner. The integral leds will always be illuminated green to show how many Groups and Auxes are currently available. The Auxes can only be used as destinations (ie to switch on the auxiliary contribution from the selected source to the selected aux).

The six black buttons down the left edge of the screen determine what functionality the 1-24 buttons underneath the screen have. The **1-24** buttons are always sources (ie a place to be routed **from** rather than **to**).

Press the relevant **MT** or **CHAN** button to assign those paths to the buttons under the screen. The internal led will light.

The six red buttons labelled **A - F** can either operate as **Stems** or **Main Outputs**.

Press the adjacent **ASSIGN** button to swap the function, or press the **SURR MON** button on the Surround Monitor section of the lower AFU (this swaps the monitoring system between Stereo & Surround). The current assignment of the buttons will be displayed in the alpha display.

- When working in Surround mode, you can route a path to whole stems (using **A** to **F**) or to individual stem members (using the **1 - 32** buttons).
- When working in Stereo mode, you can route a path to any individual stem member(s) or to Main Outputs.

The Routing screen has three displays.

- Process view
- Panel view
- Track view

The three displays can be cycled by either pressing the keyboard **PAGE UP** and **PAGE DOWN** buttons, or pressing **1**, **2** or **3** on the MCS keyboard.

For information on the Joystick, please separate chapter on Joystick Automation.

On single-screen systems, the routing screens can be toggled with the **Encore Plus** screen by pressing the **TOGGLE DISPLAY** button.

## Process Display

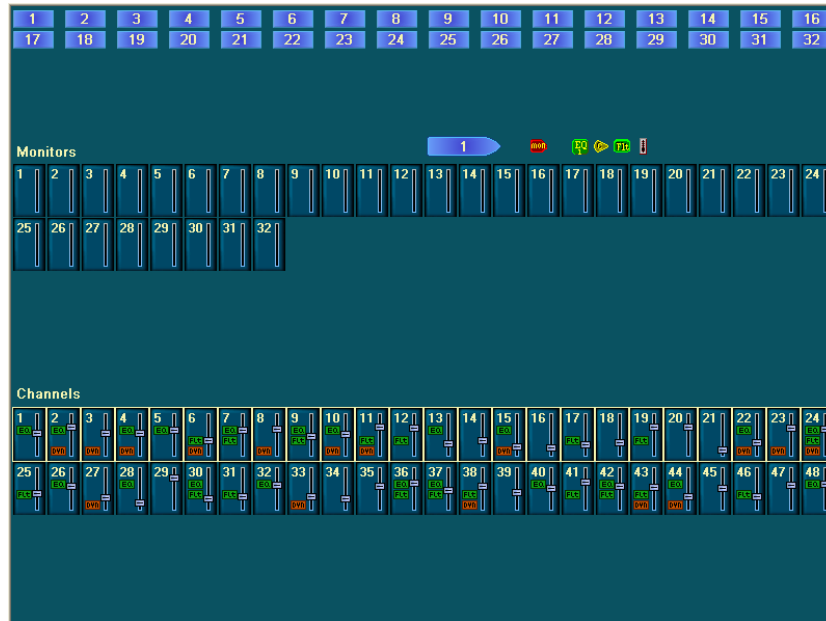


Fig 60: Process display

- The top two rows of icons are the Tracks and relate to the two rows of buttons above the screen.
- The single display line of processing beneath this shows processing for the path currently held in the AFU.
- The Monitor & Channels sections of the display shows fader levels and processing (if applied). Icons labelled **EQ**, **DYN** or **FILT** will be shown if these processes are present and switched on.
- The highlight bar around Channels 1-24 (as shown above) indicates the function of the routing buttons underneath the screen.  
By pressing the buttons to the left of the screen, it is possible to swap the function of these buttons between all the available **Inputs** and **Tracks**.

To create a route, press and hold a **Source** button underneath the screen, then press a **Destination** button above the screen.

Routing can be interrogated by holding a button down and viewing the led states:

- A green led indicates the Source/Destination is available.
- A red led indicates a route is in place.

## Panel Display



Fig 61: Panel display

This screen shows a block of 6 paths at a time and all routing on these paths.

- Main Outputs (4 available) Red
- Groups (24) Green
- Auxes (16) Blue
- Tracks (32) White

As you press Access keys on the console surface, the display will chase to the path selected.

Default path names are displayed at the top of the screen.

If you have give given the paths names, these will be displayed in the centre of each path display.

*NB: Please note that this screen displays paths in sequential system-order, so paths adjacent to each other on the console surface may not necessarily be adjacent on screen.*

## Track Display

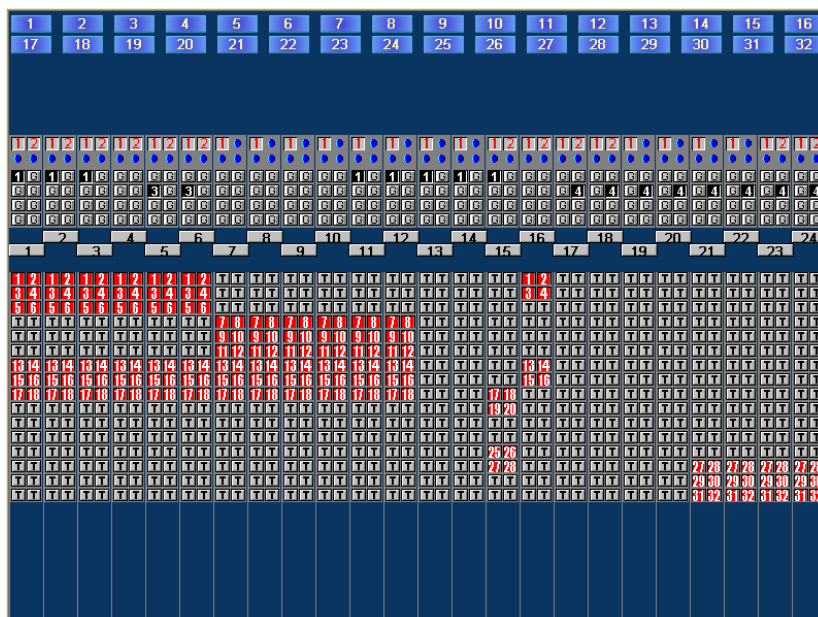


Fig 62: Track display

Shows the routing to all Main Outputs, Groups & Tracks.

- Outputs 1-4 are shown as a blue dot at the top of the path. A red number (1-4) indicates a route in place.
- Group routing is shown with a letter **G**. A black number (1-8) indicates a route in place.
- Track routing is shown with a letter **T**. A number (1-32) shown in red indicates a route in place.
- 

### Clearing Routing

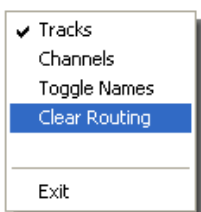
Clearing routing (or de-routing) can be achieved by the same actions as doing the routing (to toggle the particular routing selection off again).

This will de-route paths one at a time.

Alternatively, multiple paths can be de-routed in one operation by using the **Clear Routing** dialogue box.

Right click on the routing screen.

The pop-up Routing menu will open.



Select the **Clear Routing** option.

The Clear Routing dialogue box will be displayed.

Fig 63: Routing screen options

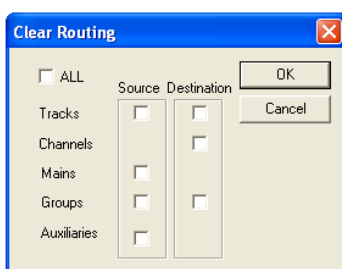


Fig 64: Clear Routing options

Tick the parts of the routing matrix you wish to clear, or select **All** to clear all routing (this will tick all the on-screen boxes and also include **Talkback** and **Tone** routing etc).

The selected routing will be cleared and the routing screen will update as applicable.

**Clear Routing** does not affect monitoring selections made via the Select Panel.

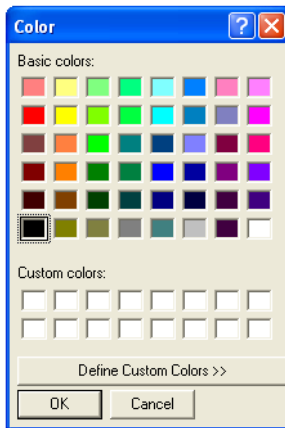


Fig 65: Colour selector

### **Routing Screen Display Options**

To change the background colour of the routing screen, double click anywhere on the background, and the **Windows Colour Dialogue** will open.

Click on the required colour, and click **OK**.

The background colour will be changed as selected.

### **To show names instead of path numbers**

Right-click on the screen, and the pop-up routing menu will appear. Click the **Toggle Names** option.

The user path names (if any) will be used in place of the path numbers.

Next time the mouse is right clicked on the routing screen, the **Names** option on the flyout menu will be ticked.

### **Path Routing with the Access Keys**

The Access Keys on the Fader Strips can be used for routing, either by using other Access Keys or any of the routing controls associated with the Routing Screen.

*When Access Keys are used for routing Tracks, they can only be used as a routing source.*

### **To Route a path to destinations**

Press and hold the Access key for a Channel, Track or Group.

Existing routing of the path will be indicated by the illumination of leds above Access keys and integral leds in the keys around the Routing Screen illuminating red. The path will also be assigned to the AFU.

Press the keys for valid destinations on the Routing Screen (Groups, Auxes, Main Outputs or Tracks). The integral leds in the keys for the selected destinations will illuminate red.

Release the Access Key for the source path, and the Routing Screen will show routing changes.

### **To route multiple sources to a Track**

Press and hold the key for the required Track above the Routing Screen. Existing sources will be indicated.

Press the Access keys for the required source paths.

The leds above the selected Access keys will illuminate.

Release the **Track** key.

## Joystick Module

The Joystick is used to pan a signal across surround destinations.

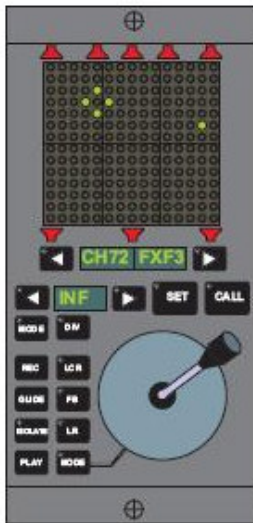


Fig 66: Joystick

Channels and Tracks can be assigned to a joystick. The regular panning control on the fader strips is locked out once a path is assigned to the joystick.

If the AFU is assigned to a path on which panning is controlled by a joystick then the Pan Locators will display changes as the joystick is moved.

The joystick provides full automation for recording panning information. This makes it possible to pan as many paths as required with repeated passes.

### PanPos Display

The led matrix above the joystick is called the **PanPos** display. The position of the joystick is indicated by a single dot.

The notional panned position of the signal (i.e. where the signal seems to be when listening to it) is indicated by an open diamond of four dots.

When the joystick is in control of the panning, the dot and diamond join together to form a cross.

To select the path to be controlled by a joystick

Either:

- Press the nudge keys (◀ & ▶) on either side of the alpha display below the PanPos and speaker display. The alpha will cycle through the available paths and shows both the system and user names. The speaker symbols will illuminate to show the speakers the path is routed to.

or

- Press and hold the **SET** key, then press the **Access** key for the required path. Release the **SET** key.

In both cases, the alpha will flash the selected system path name and user path name.

### To control the Panning with a joystick

Press the **CALL** key. The integral led will illuminate red.

The diamond on the PanPos display will jump to the dot to form a cross. The path name will stop flashing.

Move the joystick as required.

To prevent the sound jumping when the **CALL** key is pressed, first move the spot to the diamond.

### To freeze the Panning Axis or Divergence

Press the **DIV**, **LCR**, **F/B** and **L/R** keys as required. The integral led will cease to be illuminated.

If **LCR**, **FB** or **LR** is frozen then the diamond will separate from the dot as it moves according to the remaining panning axes.

If a control is un-frozen then the diamond will jump to the dot.



**To adjust Divergence**

Press the arrow nudge keys on either side of the divergence alpha display and the value will run either up or down, with a range of zero to 100.

**Joystick Automation**

The Joystick Module has two **MODE** keys.

- The **Upper** Mode key causes the **REC**, **GLIDE**, **ISOLATE** and **PLAY** keys to show and set the automation mode of the **Divergence** controls.
- The **Lower** Mode key (with a line leading to the joystick), causes the **REC**, **GLIDE**, **ISOLATE** and **PLAY** keys to show and set the automation mode of the three panning axes as a group.

The path to be assigned to a joystick is selected with the nudge keys or by using the **SET** key in conjunction with the fader strip **Access** keys.

The path can then be called to the Joystick by the **CALL** key. The Joystick Automation Controls will override the automation controls on the AFU fader strip, allowing separate automation modes to be set for the panners, divergence and the rest of the AFU.

This allows the full functionality of the panning controls to be controlled and automated from one location.

For instance, a Channel is assigned to the AFU and a joystick. The automation controls on the AFU fader strip are set to **Lock Record**.

This will not affect the panners or divergence as they are now out of the scope of control from the AFU automation controls.

The selection of automation modes is identical to that for a channel strip.

Automation is recorded against the panning controls for the path called to a Joystick, and the Joystick module is treated as an extension of the channel strip for Scope purposes.

*For full details of automation modes and using automation, see the **Automation** chapter in the Encore Plus manual.*

## 12 Monitoring

The standard stereo monitoring system is used when there are no Film paths in the current Desk Setup or when Surround Monitoring is switched off.

The Stereo monitoring system provides control for 3 pairs of control room loudspeakers, a pair of studio loudspeakers and a headphone output.

The monitoring system uses a set of special system paths called **SELS**, **LISTENS**, **FILMS** and **FILM LISTENS**. There can be up to 5 SELs, 2 LISTENS and 8 FILM LISTENS.

- The path names for the **SELS** are SEL1 through SEL5.
- The path names for the **LISTENS** are LS1 and LS2 (this should not be confused with the two sets of small loudspeakers, L/S1 and L/S2).
- The pathnames for **FILMS** are FLM1 to FLM8
- The path names for **FILM LISTENS** are FLS1 through FLS8.
- **SELS** relate to Stereo Monitoring.
- **LISTENS** relate to Stereo Solos.
- **FILMS** relate to Surround monitoring (one FILM per speaker destination)
- **FILM LISTENS** relate to Surround Solos.

The Monitoring Schematic shows how the SEL and LISTEN paths are used.

The distinction between a SEL and a LISTEN is that the source for a SEL is chosen from the SELECT panel.

The sources for LS1 and LS2 are fixed to the AFL and PFL busses respectively.

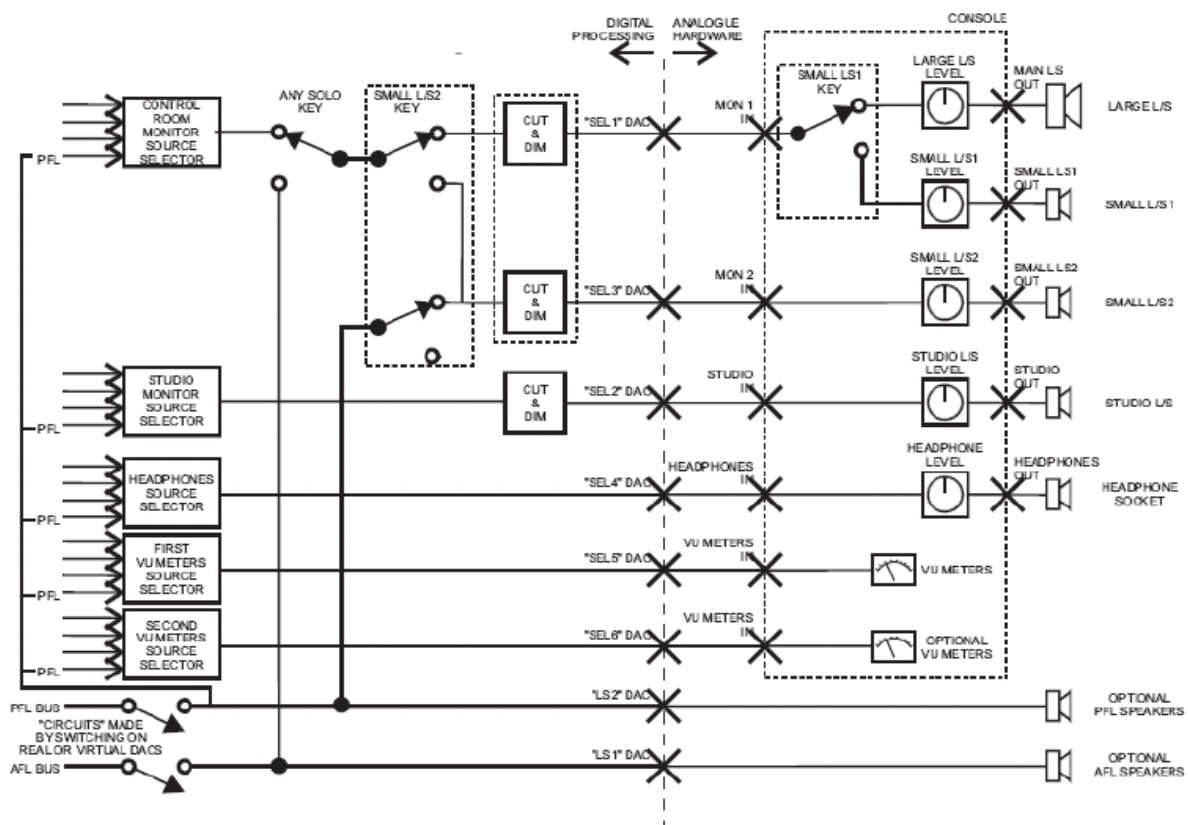


Fig 67: SEL Monitoring

To switch between Surround and Standard Monitoring, press the **SURR MON** key on the Surround Monitor section.

The alpha display in the Monitor Select Panel shows which monitoring system is active:

- It displays **SURROUND** when the Surround Monitoring system is active.
- It displays **STEREO** when the Standard Monitoring system is active.

This key will have no effect if the current mix setup does not contain any Films.

## Control Room Monitoring



Fig 68:  
Monitor Select  
panel

The Control Room Panel is used to control the output to the main monitoring speakers and to the two pairs of small speaker outputs: Small L/S 1 and Small L/S 2.

When working in Stereo, the SELECT Panel is always assigned to selecting a control room monitor source.

### To select a Source for the control room

Press the **MAIN**, **GRP**, **AUX**, **CUE** or **EXT** key on the SELECT Panel (the integral led will illuminate red).

Press the key for the required path number.

Available paths are indicated by keys with the integral leds illuminated green. The led in the selected key will illuminate red.

The selected path will appear in the alpha display on the **SELECT** Panel.

Source selection for the control room is interlocked (i.e. the previous source will be de-selected automatically).

See the Solo chapter for information on the operation of the PFL key.



Fig 69: Control Room Monitor

### To control the Analogue output levels to the speakers

Rotate the **LARGE LS**, **SMALL L/S 1** and **SMALL L/S 2** to the required setting.

- To switch the control room source to the first set of small loudspeakers, press the **SMALL L/S 1** key. The integral led will illuminate orange.
- To switch the control room source to the second set of small loudspeakers, press the **SMALL L/S 2** key. The integral led will illuminate orange.

In both cases, the main speakers will be cut and the control room monitoring source will be sent to the small loudspeakers.

If SMALL L/S 1 and SMALL L/S2 are active at the same time then the source will be sent to SMALL L/S 2 only.

### To mute the output to the speakers

Press the **CUT** key.

The integral led will illuminate orange. This cuts the output to all three sets of speakers.

### To reduce the output level to the dim level

Press the **DIM** key.

The integral led will illuminate orange.

The level of the output to the three sets of speakers will be reduced to the Dim Level setting on the **Monitoring** page of **System Preferences** in Encore.

### To Cut the output to individual speakers

Ensure the **CUT/SOLO** key is set to Cut, then press the speaker keys as required.

The integral leds will illuminate orange and the relevant speakers will be cut.

### To Solo the output to individual speakers

Ensure the **CUT/SOLO** key is set to Solo, then press the speaker keys as required.

The integral leds will illuminate orange and the relevant speakers will be soloed.

**The listen at a Pre-selected calibration level**

Pressing the **CAL** key will cycle through 4 options of monitoring at predetermined levels, and the internal led will change colour accordingly:

- 79dB Red
- 85dB Orange
- 88dB Green
- USER Off

The functionality of this button can be turned off in Preferences / Monitoring.

**Headphones**

Fig 70: Headphones / SLS panel

**To select the signal source for headphones**

Press and hold the **SELECT** key on the Headphones section.

Press the **MAIN**, **GRP**, **AUX**, **CUE** or **EXT** key on the SELECT Panel (the integral led will illuminate red).

Press the key for the required path number.

Available paths are indicated by keys with the integral leds illuminated green. The led in the selected key will illuminate red.

The selected path will appear in the alpha display for the headphones.

Source selection for the headphones is interlocked (i.e. the previous source will be de-selected automatically).

Release the **SELECT** key.

The Headphone feed requires **SEL4** to be ported.

**To inject Talkback on the headphones**

Press the **TALK** key.

The operation of the **TALK** key depends on the settings in Preferences / Tone & Talkback.

When working in Stereo, the Headphones can be set to follow which ever source is selected for the Control Room. Tap the **SELECT** button til **FOLL** is shown in the alpha display.

Now, whenever the Control Room selection is changed, the same signal will be sent to the headphones.

**Studio Loudspeakers****To select the signal source for the studio loudspeakers**

Press and hold the **SELECT** key for the Studio L/S.

Press the **MAIN**, **GRP**, **AUX**, **CUE** or **EXT** key on the Select panel.

The integral led will illuminate red.

Press the key for the required path number.

Available paths are indicated by keys with the integral leds illuminated green. The led in the selected key will illuminate red.

The selected path will appear in the alpha display for the **Studio LS**.

Source selection for the Studio Loudspeakers is interlocked (i.e. the previous source will be de-selected automatically).

Release the **SELECT** key.

See Solo in this chapter for information on the operation of the PFL key.

**To inject Talkback on the Studio L/S output**

Press the **TALK** key.

The operation of the key depends on the setting in Preferences / Tone & Talkback.

To cut the Studio Loudspeakers, press **CUT**.

To Dim the Studio Loudspeakers, press **DIM**.

The amount that the speakers will **DIM** by is set in Encore Preferences / Monitoring.

*The **DIM** and **CUT** keys can operate in two ways.  
The button can be pressed On and Off as with any other switch, or simply pressing & holding the key On causes the key to remain on until it is released.*

For the Studio Loudspeakers to operate, **SEL2** must be ported.

**Bus / Tape**

Bus/Tape switching only applies to the Tracks and controls the input signal to the path. This is shown on the Track Signal Path Schematic.

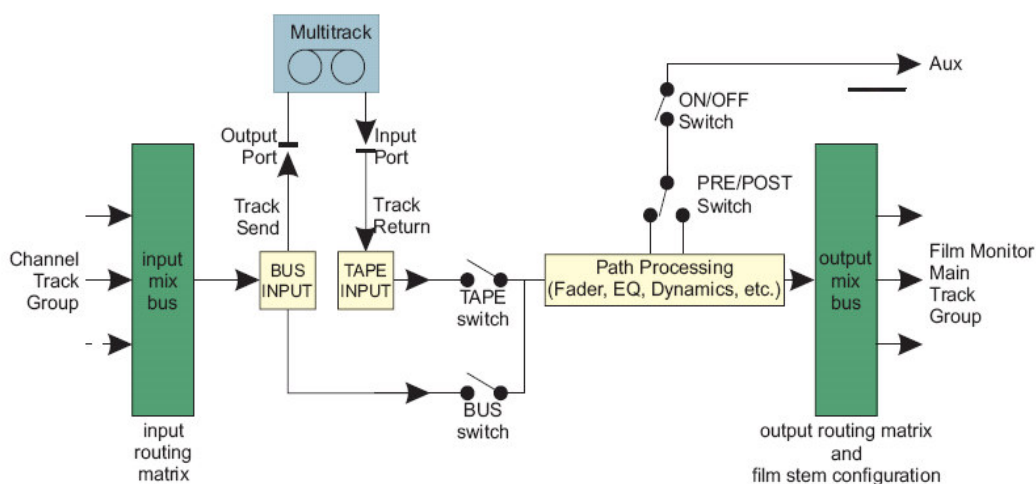


Fig 71: Track Schematic

The status of the Bus/Tape switching on the Tracks will affect the audio that is heard on any of the monitoring destinations that Tracks are routed to.

To select a Track input source individually, press the **BUS** or **TAPE** key on the fader strip.

To globally swap Bus/Tape for all Tracks, use the **ALL BUS** and **ALL TAPE** keys on the Surround Monitor section.

**To create a Mix of Bus and Tape**

Press both the **BUS** and **TAPE** keys at the same time. The integral leds in both keys will illuminate.

The signals from the Bus input and Tape input will be summed before any signal processing in the path is applied.

This is useful for introducing new material over finished material that has been previously recorded or for overdubbing.

This can either be done locally (so only individual Tracks are in Overdub mode), or globally using the **ALL BUS** and **ALL TAPE** buttons on the **Surround Monitor Panel**.

## Solo

The console has both pre-fader listen (**PFL**) and after-fader listen (**AFL**) solo.

### AFL

AFL solo can work in up to three different ways:

- Standard AFL which only affects what is heard on the monitor;
- **Solo In Place** which cuts all other paths; and
- Track Pre-Send which cuts other paths but does not cut auxiliary pre-sends on Tracks.

The operation of AFL is selected in Preferences / Solo Settings & Relay Control.

The default AFL operation for the console is Solo-In-Place as this is more commonly used in music recording and mix down.

### To AFL solo a path

Press the **SOLO** key for the required path. The led above the key will illuminate. The integral led in the **SOLO CLEAR** key on the Control room panel will flash.

Press additional **SOLO** keys to listen to a group of paths.

The type of AFL Solo is set in **Encore System Preferences / Solo Relay Settings**.

*L/S 1 needs to be ported in I/O Patch for the AFL solo bus signal to be heard.*

### PFL

### To PFL solo a path

Press the **PFL** key for the required path (the integral led will illuminate red, and the integral led in the **SOLO CLEAR** key on the Control Room Panel will flash).

Press additional **PFL** keys to listen to a group of paths.

*L/S 2 needs to be ported in I/O Patch for PFL to be heard.*

### To select PFL as a monitor source for Control Room, Headphones or Studio L/S

For Headphones or Studio L/S, press and hold the relevant **SELECT** key, and press the **PFL** key at the bottom of the **Monitor Select** Panel (the current source for the monitoring destination will remain unchanged).

When PFL solo is activated anywhere on the console then the PFL signal will take over the output for the destination(s) it is selected to. The led in the PFL key will illuminate solid while PFL is active and routed to the Control Room monitor speakers.

### To cancel all active solos

Press the **SOLO CLEAR** key on the Control Room Panel.

All active PFL / AFL will be cleared, and the integral led in the key will stop flashing.

This does not clear PFL from the destinations it is selected to.

The PFL signal can be sent to a separate speaker, and **SEL3** must be ported for this feature to work. If this is the case, then the Main Monitoring will not be affected when working in Stereo.

## Solo Inhibit

This enables selected paths to remain open when any **AFL** key is pressed (for example reverb returns so a vocal can be heard in context).

To set Solo Inhibit, ensure that it is selected from the pulldown menu options for one of the Local Button Assignments in Encores System Preferences.

Also, see chapter on **Desk Editor** in the **Encore Plus** manual.

## CUT

The **CUT** key is used to mute the output from a path.

Cut is at the same point in the signal path as the fader (i.e. it is similar to moving the fader down until the signal is cut). Pre-fader auxiliary contributions are not affected by cut.

To Mute the output from a path, press the **CUT** key.

The green led above the key will illuminate.

**CUT** keys must be turned off individually.

## 13 The Surround System

### How the Surround system works

A surround sound setup on the the console consists of three main parts:

- Signal sources that are panned.
- Film stems that accept the panned signals.
- Film monitoring that controls which stems are output to the speakers.

The signal sources are inputs that are routed to Tracks. Panning is always available to a Channel, according to the pan designators applied to paths (Tracks or Groups) that the Channel is routed to.

Film Stems are made up of Tracks that have had suitable pan designators applied to them using the **Surround Manager** in **Desk Editor**.

The pan designator means that when a Channel is routed to a particular Track then the Track only receives the relevant portion of the signal that is panned to the speaker position indicated by the pan designator.

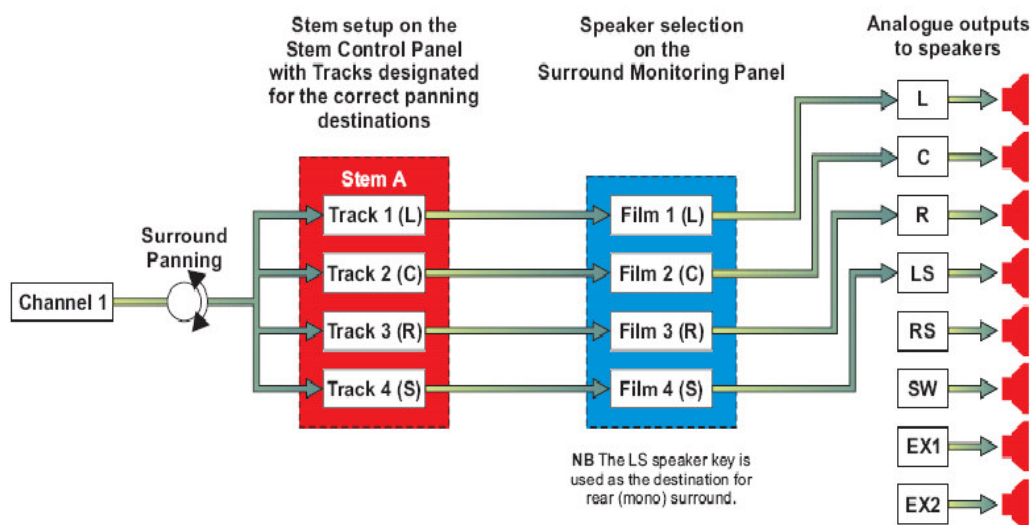


Fig 72: Surround Schematic

Stem A consists of the first four Tracks in the current Desk Setup, and the LCRS Pan Macro has been used to designate the Tracks appropriately. Channel 1 is routed to all the member Tracks of Stem A.

If Channel 1 is panned fully to the left and front, then all of the signal will be sent to Track 1. This is because Track 1 is designated in the panning position of Front Left. If the **FB** pan control (or the joystick) is used to move the signal back from this position, then the signal will slowly diminish on Front Left (Track 1) and gradually increase on Mono Surround (Track 4).

The Tracks must then be routed to the correct Film paths in the Surround Monitoring Panel. The Film paths are automatically assigned to speaker positions according to the number of Film paths selected in the current Desk Setup.

In the example in the Simplified Surround Monitoring diagram there are 4 Film paths that have been automatically assigned to the speaker keys that are used for LCRS monitoring (L, C, R and SL).

It is also possible to use Tracks as inputs with pan controls. Tracks used in this way are then routed to Tracks that belong to film stems.

Routing software prevents any feedback loops from occurring.



## Surround Stem Selection and Routing

There are three main steps for setting up Surround Stems to establish a full signal path through the console from inputs to surround monitor outputs.

A Surround Stem must first be constructed from Tracks to allow routing to and from the Stem.

Once the Stem has been created then the film monitors it needs can be selected and inputs can be routed to the Tracks in the Stem. This can be done in any order.

This is not a fixed sequence of steps, but all the steps must be completed for surround monitoring to be heard.

In Desk Editor, you will need to select a Surround format to work in (this is usually 5.1) and set up the Stems. See the **Encore Plus** manual for further information.

### **To Switch Between Surround and Standard Monitoring**

Press the **SURR MON** button. The alpha display in the **SELECT** Panel shows which monitoring system is active.

- It displays **SURROUND** when the Surround Monitoring system is active.
- It displays **STEREO** when the Standard Monitoring system is active.

### **To Route inputs to a Stem**

*Ensure you are listening in Surround mode first.*

Press and hold the **Access** key for the required Channel.

Press the Stem keys above the routing screen for Tracks in film stems. The leds in the Stem keys will illuminate. Release the Access key.

The green leds above the **ON/OFF** keys for each pan control on the AFU illuminate to show which panners are currently selected.

Press the **ON/OFF** keys for the pan controls so that the required panners are selected. Rotate the Logicators to pan the signal as required.

## Surround Monitoring

When the film stems have been fully configured, the Surround Monitoring Panel allows various monitoring options, including summing of film stems and/or external sources, etc.

The Surround Monitoring Schematic shows the basic operation of the Surround Monitoring.

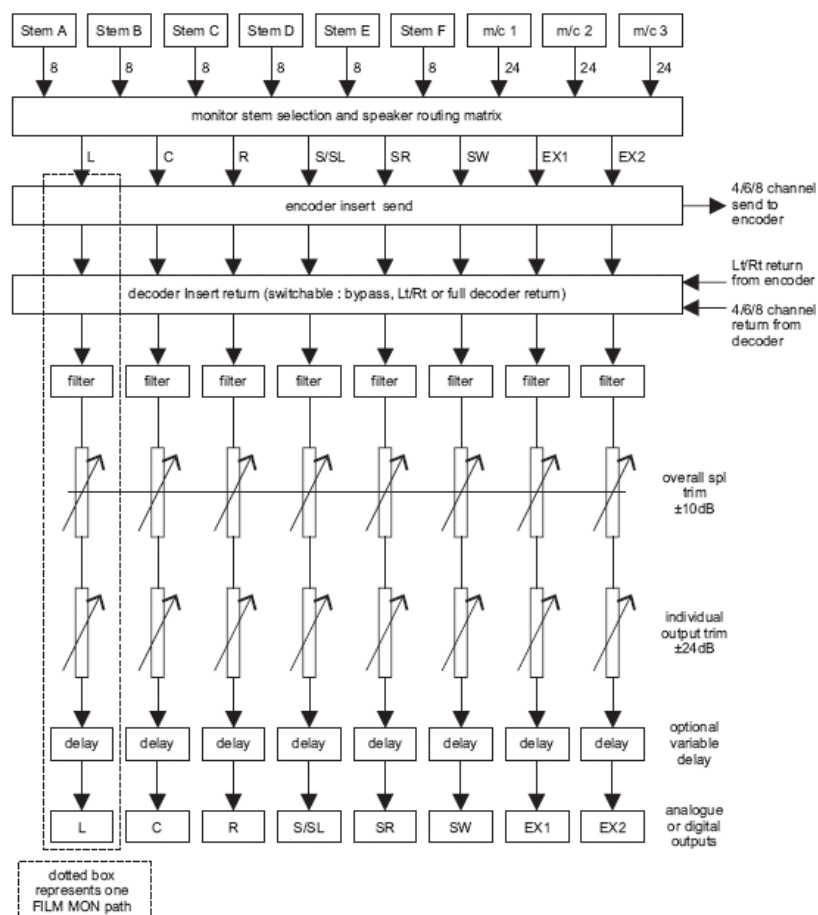


Fig 73: Surround Monitoring Schematic

## Monitoring Stems

The Surround Monitoring panel on the lower AFU is used to select which Stem is being monitored.

- If the **SUM** key is unlit, then selecting Stems and external machines is interlocked.
- If the **SUM** key is lit, then the monitoring becomes additive, allowing you to listen to multiple stems and external machines at one time.

**NB:** The **SUM** button has no effect when monitoring in Stereo.

## To Monitor an external machine

Ensure you are listening in Surround first.

Place the machine into play, press the **EXT** button on the SELECT panel then press the required machine key **1**, **2** or **3**.

## Post Decode Monitoring

This function uses inserts to switch the Film paths through external equipment for encoding and decoding, and uses the **DECODE** button on the Surround Monitor Panel.

### **Surround Monitor Solo and Cut**

The **SOLO** and **CUT** keys on the Surround Monitor panel only affect the output to the speakers.

### **To CUT an individual speaker**

Ensure the Solo/Cut key is set to Cut, then press the required speaker key. The internal led will illuminate.

### **To SOLO an individual speaker**

Ensure the Solo/Cut key is set to Solo, then press the required speaker key. The internal led will illuminate.

Solo is additive so L and R could be soloed by pressing their **SOLO** keys in turn.

## **AFL Solo**

This is the default Solo mechanism used by the console when there are Film paths in the current Desk Setup.

The **SOLO** keys on the fader strips operate the AFL Solo system. This is a non-destructive solo system that cuts the connection between stems and the Film paths without affecting the stem routing. This means that if the console is sending audio to a tape machine then the audio will carry on being recorded, even though it is not monitored.

AFL Solo operation can be seen in the following example, which shows how a Channel routed to an LCRS stem is affected by AFL Solo.

### **AFL SOLO**

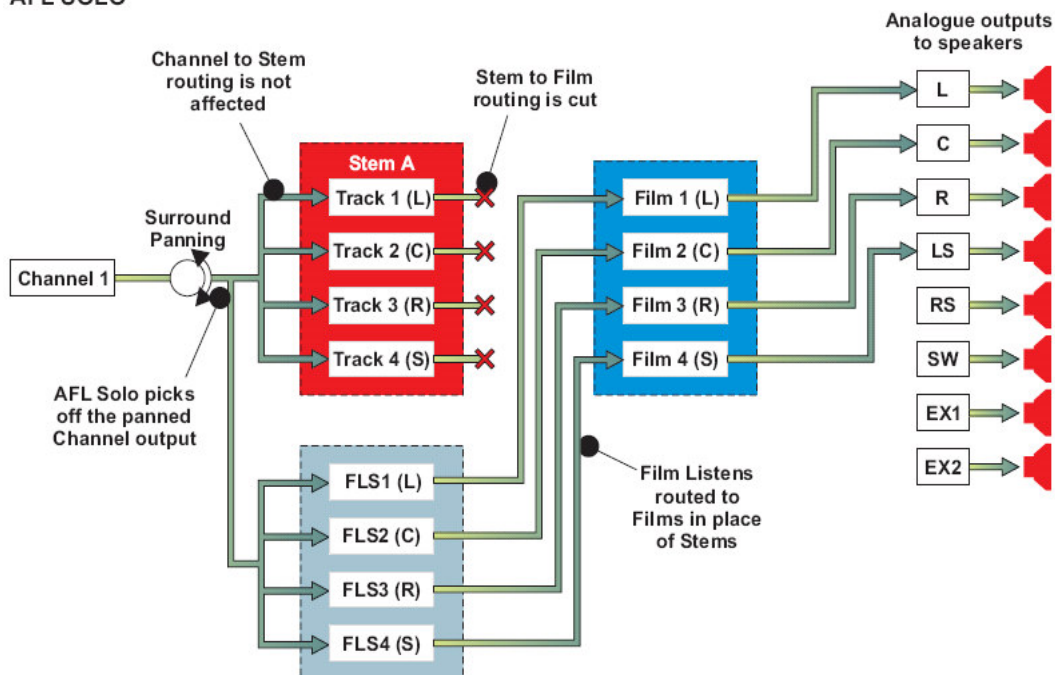


Fig 74: Surround Solo Schematic

### **To use AFL Solo**

Press the **SOLO** key on the required fader strip(s).

The panned signal from the selected path will now be routed to the Film Listen paths and then to the Film paths to output to the monitor speakers.

The connection between the Stems and the Film paths is cut while AFL Solo is active.

The signal will appear on the speakers according to how it is panned. This should match the routing through any Stems, assuming that the Tracks in the Stems are routed to the correct speakers according to their pan designators.

Any number of **SOLO** keys can be pressed.

The led in the **SOLO CLEAR** key on the **CONTROL ROOM** section will flash orange.

**To cancel solo**

Press the **SOLO** keys to turn them off or press **SOLO CLEAR**.

## 14 TFT Meter Bridge

TFT metering is provided for all faders on the console, plus a Master screen to show Aux / Grp metering (when working in Stereo) or Surround metering (when working in any Film mode).

### Fader Panels Meter

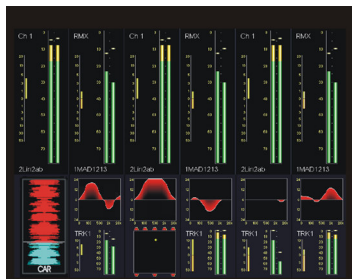


Fig 75: Channel meters

Each panel of six faders has a corresponding TFT meter panel.

The top half of the screen shows fader metering, the rest of the screen can be set to user-defined functions. See below.

As paths are changed on the console surface, so the metering follows to display the information for that path.

- Any mono paths will only display signal on the Left hand side of the meter.
- Stereo paths will show signal on both sides of the meter.

To the left of each meter is a Dynamics display, where:

- the top half of the display (from 0dB), will display any make-up gain for Compression (if present).
- the bottom half of the meter, (from 0dB), displays any Gate action (if present).

The metering pickoff point for Input paths is always pre-trim, pre-gain.

The metering pickoff point for Output paths is always Post- fader, but Pre-port (so pre- any delay that may be assigned).

The type of metering display is set in Encore System Preferences, and include the following options:

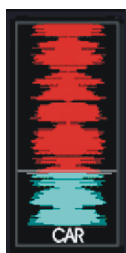


Fig 76:  
WavTrak

### WavTrak™

A scrolling display of the audio slowly ascends the screen, with the present moment displayed as a pale blue line, one third of the way up the screen.

Past audio is displayed in red, upcoming audio displayed in blue.

The path name is also displayed.

The Wavtrak display takes up both of the available windows.

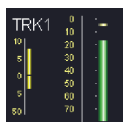


Fig 77: 2nd  
Input

### Small Fader Input

Can be used if the Assignable Locator is being used a second input to the console.

To the left of the main input display, 2 yellow bargraphs show compression gain and gate action if assigned and in circuit.

The pathname is also displayed.

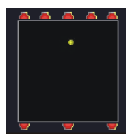


Fig 78:  
Surround  
position

### Surround Position

When working in Surround, you can show the position of the paths audio in relation to the 360° soundfield.

A speaker icon indicates that the path is being sent to that destination.

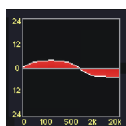


Fig 79: EQ  
Display

### EQ Curve

The curve is shown in red if switched in circuit, but shown in grey if present but not in circuit.

Also available (but not shown) are options for **Dynamics Curve** and **Path Information** (which shows Routing, Aux and Insert information).

## Master Meter



Fig 80: Master meter

The Master Meter panel is notionally split into 4 quarters, and each quarter can be freely assigned to show any combination of:

- Film Outputs
- Individual Stems
- Stereo Outputs
- Groups
- Auxiliaries
- Follow the Control Room Monitoring
- Routing information

These assignments are set in **Encore System Preferences**.

For more information, see the **Encore Plus** manual.

**15 Tone**

Fig 81: Tone panel

Tone is used to inject tone at pre-determined points.

Tone type, frequency and level are set in Preferences / Tone & Talkback.

There are three types of tone available:

- SINE (uninterrupted)
- EBU (dips on the left)
- BBC (dips once on the left, twice on the right)

The level can be adjusted in 1dB steps in the range -60dB to +10dB.

The frequency can be adjusted between 20Hz and 16kHz.

**To route Tone to an Output**

Press and hold down the **SELECT** key on the Tone panel.

The alpha display on the Select panel will display **TONE/SLATE**.

Press the **MAIN**, **GRP**, **AUX**, **CUE** or **EXT** key on the Select panel for the required path types.

Press the number keys as desired in the Select panel.

The leds in the keys for the selected destinations will be illuminated red.

Slate is also routed to the same destination.

**To Inject tone**

Press the **TONE** button. The key led will flash red.

*As Tone & Talkback share the same system path, it is not possible to use them at the same time.*

## 16 Talkback



Fig 82: Talkback panel

Allows users to inject talkback.

The toggle or latch mode of the **TALK** key and the LS dim level are set in **Encore System Preferences**.

### To select Talkback destinations

Press and hold the **SELECT** key above the **TALK 1** or **TALK 2** key.

The key leds will illuminate as they are selected and **Talkback** will appear in the Monitor Select panel display.

Press the desired select keys on the Select panel. As they are selected, the key leds will illuminate.

It is possible to send Talkback to multiple destinations at once.

Valid destinations are Mains, Auxes, Cues and Groups.

### To inject the Talkback

Press **TALK 1** or **TALK 2** when required.

NB:

As Tone & Talkback share the same system path, it is not possible to use Tone and Talkback at the same time.

For the Talkback mic to work, it needs to be ported using **I/O Patch**.

*As Tone & Talkback share the same system path, it is not possible to use them at the same time.*



## 17 Machine control



Fig 83: MCS Controls

### Transport machine controls

The console surface and the main Encore screen each has a set of machine controls that can be used to control a tape machine or other transport device via the MCS controller.

If a machine cannot be controlled directly by the MCS card then the controls illuminate to show the machine status.

### Play

A play command will be sent to all machines configured in the current group. The **PLAY** key will flash until timecode is resolved, when it will illuminate green steady.

The Play icon on the screen will change from dark green to light green when timecode is resolved and timecode is running on the screen.

### Stop

Any other transport mode (Play, Locate, Shuttle, etc.) will be cancelled and the transport will stop.

With some machines, the **SHUTTLE** key will flash as the machine shuttles to a stop.

### Fast Forward

The **FAST FORWARD** and **SHUTTLE** keys will illuminate and the transport will Shuttle forward. Press the **FAST FORWARD** key again.

The **SHUTTLE** key will cease to be illuminated and the transport will fast forward.

Each press of the **FAST FORWARD** key will toggle the transport between fast forward and shuttle, providing this option has been enabled in Preferences / MCS / Panel.

### Rewind

Press the **REWIND** key or click the Rewind icon on the screen.

The **REWIND** and **SHUTTLE** keys will illuminate and the transport will Shuttle in reverse. Press the **REWIND** key again.

The **SHUTTLE** key will cease to be illuminated and the transport will rewind.

Each press of the **REWIND** key will toggle the transport between rewind and reverse shuttle, providing this option has been enabled in Prefs/MCS/Panel.

### Record

Press and hold the **PLAY** key until it illuminates green steady.

Press the **RECORD** key at the required point.

The **RECORD** key will illuminate red steady to indicate that the armed Tracks are recording.

If no Tracks are armed then the **RECORD** key will flash red.

Release the **PLAY** key.

Press any transport key (other than **RECORD**) to terminate record mode.

If **JOG** is used to terminate Record then the machine will stay in record until the jog wheel is moved. Cycle and Locate only terminate record when the cycle or locate process actually starts.

## Shuttle

Shuttle is used to run the transport forwards or backwards at variable rates.

The key will flash. Rotate the jog wheel in the required direction.

The **SHUTTLE** key will illuminate steady.

Initially, clockwise will shuttle forwards and anti-clockwise will shuttle backwards. The faster or further the wheel is moved, the faster the transport will shuttle.

If the maximum shuttle speed is exceeded then the transport will go into fast forward or rewind, as appropriate. The jog wheel will still have control of the transport.

The shuttle speed can be reduced by moving the jog wheel slowly in the opposite direction.

## Jog

Jog is used to move the transport forwards or backwards without running constantly. The transport will only shuttle while the jog wheel is being moved.

The key will flash. Rotate the jog wheel in the required direction.

The transport will shuttle according to how much the wheel is moved. The JOG key will illuminate steady while the machine is shuttling.

When the wheel is not being moved, the transport will stop shuttling and the JOG key will flash again.

### To Jog frame-by-frame

Press the + and - keys on the fixed keyboard while **JOG** key is flashing.

The + key moves the transport forward by one frame

The - key moves the transport back by one frame.

## Locate

Locate is used to position the transport at a particular point in timecode and then drop into Play.

Click on the **LOC** icon on the screen or press the **LOC** key.

The MCS Labels dialogue box will be displayed on the screen showing the current Label List.

The LOC key will flash. The MCS is now waiting for a location to be selected.

There are now two methods of deciding where to locate to: Auto Locate or Locate Labels.

### Auto Locate

This uses the last timecode that was located to.

Press the **LOC** key again or press the **PLAY** key.

The LOC key will illuminate steady. The transport will fast forward or rewind to the grabbed time. If the Play key was used, it will drop into play.

### Locate Labels

The Label selected for Locate can be chosen using the keyboard or by using the MCS Labels dialogue box on the screen.

A timecode can also be adjusted or entered manually in the MCS Labels dialogue box.

To select a Label with the keyboard type in the number of the required Label and click the Locate button or press the LOC key or Enter key.

The transport will wind or rewind to the selected timecode.

To select a Label on the screen, click on a Label. The Label will be highlighted in blue and the Locate button will become available.

Click the Locate button, press the **LOC** key, press the **Enter** key or press the **Play** key. The transport will wind or rewind to the required timecode. If the Play key was used, it will drop into play.

The Label List can also be used to create or edit a Label if there is no Label with the required timecode.

## Cycle

Cycle is used to continuously play between two timecode points (**Cycle From** and **Cycle To**) and rewinds the transport when the end point is reached.

Click on the Cycle icon on the Encore screen or press the **CYCLE** key. The **CYCLE** key will flash and the MCS Labels dialogue box will be displayed on the Encore screen showing the current Label List.

There are now two methods of deciding the cycle points: Auto Cycle or Cycle Labels.

### Auto Cycle

This uses the last Play and Stop points.

The Auto Cycle From and To points are updated every time the **PLAY** and **STOP** keys are pressed, so the play point can be updated at any time while the transport is already in Play by pressing the **PLAY** key.

While the **CYCLE** key is flashing, press the **CYCLE** key again or the **PLAY** key.

The **CYCLE** key will illuminate steady and the transport will now cycle between the two points. The other transport keys will indicate the transport status (i.e. rewind, play, stop, etc.).

This will continue until a different transport command is issued.

If the Stop point is in front of the Play point then the Stop point will be used as the Cycle From and the Play point will be used as the Cycle To (if, for instance, the transport is re-wound and stopped ahead of the Play point).

### Cycle Labels

The Labels used for the cycle points can be selected from the MCS Labels dialogue box or by entering Label numbers on the fixed keyboard.

#### To select Labels from MCS Labels dialogue box

Highlight the required pair of Labels.

Click the **Cycle** button, press the **CYCLE** key, press the **PLAY** key or press the **Enter** key on the fixed keyboard.

The **CYCLE** key will illuminate steady and the transport will now cycle between the two points. The other transport keys will indicate the transport status (i.e. rewind, play, stop, etc.).

This will continue until a different transport command is issued.

## Pre Roll

The Pre Roll Time set in MCS Preferences can be used with Locate and Cycle.

**Pre Roll** places the transport an extra amount in front of the **Locate To** or **Cycle From** time to allow the automation system to resolve timecode correctly before reaching the Locate To or Cycle From time.

**Pre Roll** can also be useful when **Safety Nets** are enabled. If the Safety Net times are matched to the Cycle times (e.g. using the same Labels), then Pre Roll will allow some audio to be heard immediately before the Safety Net start time so that the changeover can be heard in context.

To use the Pre Roll Time, check the **Use Pre Roll Time** box. This is the same as checking the Pre Roll Enable check box in Preferences / MCS Presets page.

To change the Pre Roll Time, click the Pre Roll Time button. The MCS Presets page will be displayed.

Change the Pre Roll Time as required and exit from Preferences.

## Post Roll

The **Post Roll Time** set in MCS Preferences can be used with **Cycle**.

Post Roll causes the transport to continue playing by an extra amount after the **Cycle To** time has been reached. When the **Cycle To** time plus the **Post Roll** is reached then the transport will rewind back to the **Cycle From** time (minus **Pre Roll**).

Post Roll is useful for preventing sudden transitions at the Cycle To time. Post Roll can also be useful when Safety Nets are enabled. If the Safety Net times are matched to the Cycle times (e.g. using the same Labels), then Post Roll will allow some audio to be heard immediately after the Safety Net end time so that the changeover can be heard in context.

To use the Post Roll Time, click the Use Post Roll Time check box so that an X is shown. This is the same as checking the Post Roll Enable check box in the MCS Presets page.

To change the Post Roll Time, click the Pre/Post Roll Time button. The MCS Presets page will be displayed. Change the Post Roll Time as required and Exit from Preferences.

## Roll Back

Roll Back is the amount by which all attached machines are moved back when the **ROLL BACK** key is pressed.

The Roll Back time is set with Encore and Roll Back will not operate if Encore is not active.

To use Roll Back, press the **ROLL BACK** key, and the ROLL BACK key will illuminate. Depending on how the machine executes a Roll Back, the **REWIND** key or the **SHUTTLE** key will also illuminate while the transport is rolling back.

When the Roll Back is complete, the **ROLL BACK** key and **REWIND** or **SHUTTLE** key will cease to be illuminated.

## 18 Automation

This introduction provides an overview of the console automation for users who may have had limited experience with automation systems in general.

The automation system on the the console uses Mix/Passes to store timecode control changes as they are made on the console surface.

A control change is recorded as an **Automation Event** and is initially stored in a **Record Pass**. A control change is recorded when a suitable **Automation Mode** is selected for a control, the system is in **Play** and the control is adjusted. When the system is taken out of play, the Record Pass is complete and can be saved (kept) as a Mix/Pass in the current Mix/Pass Tree.

**Mix/Passes** are organised in a **Mix/Pass Tree**.

The Mix/Pass Tree stores the structure of dependence between Mix/Passes - this means that it shows the order in which Mix/Passes were created and the lines of revision used to create each Mix/Pass.

The Mix/Pass Tree is displayed graphically so that Mix/Pass dependencies are shown clearly.

A new Mix/Pass starts to record when timecode is running at play speed (i.e. the system is in Play) and a recordable control change is made. The new Mix/Pass is called the **Record Pass**. The Mix/Pass that is playing back is called the Play Pass.

The Record Pass is a revision of the Play Pass. If the Record Pass is kept to the Mix/Pass Tree then it will become the Play Pass. The dependence between these two Mix/Passes can be seen by displaying the Mix/Pass Tree.

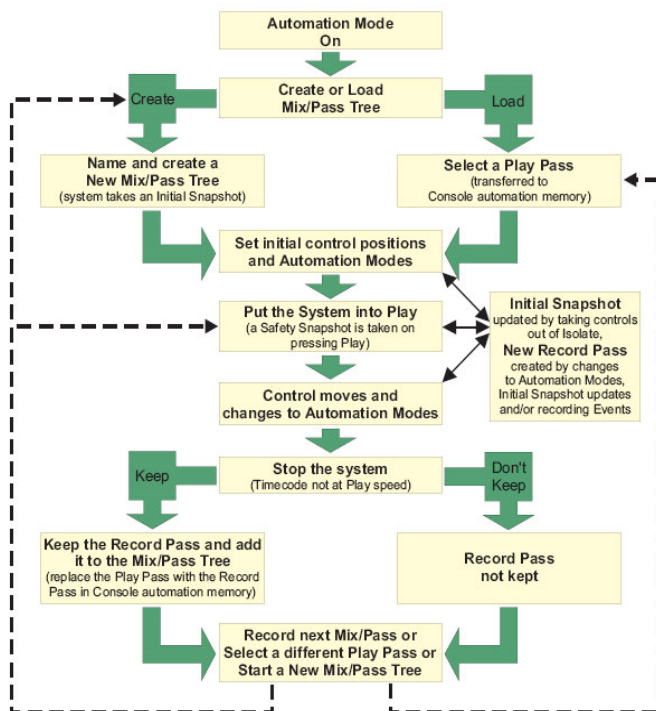


Fig 84: Automation schematic

### Controls that can be Automated

All controls that can form part of a signal path can be automated (e.g. fader, cut, aux contribution levels, etc.).

Notable exceptions are Solos, Delay, Monitoring, Mic Gain, Transport controls etc.

For setting automation modes, the controls in each path are split into three categories:

- Faders
- Cuts
- All other controls

All controls that are in automation scope can have their automation modes changed by the Master Automation Controls.

In addition to this, each category of controls have keys for changing automation modes on individual paths.

## FADER Automation

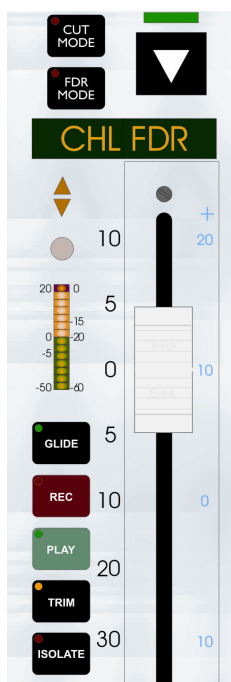


Fig 85: Fader Automation leds

The automation mode of each fader can be controlled individually by holding the **FDR MODE** button and using the **REC**, **PLAY**, **TRIM**, **GLIDE** & **ISOLATE** buttons.

The led in the **FDR MODE** button will reflect the state of the mode.

To set all of the Faders to the same automation mode, ensure **FADER AUTO** is lit in the Master Automation section, then press and hold **ALL/SCOPE** and set the desired mode using the global mode buttons.

## CUT automation

The automation mode of each **CUT** can be controlled individually by holding the **CUT MODE** button and using the **REC**, **PLAY** & **ISOLATE** buttons.

The led in the **CUT MODE** key will reflect the automation mode of the **CUT**.

The led adjacent to the **CUT** key will display previously recorded Cuts as they are played back.

To set all of the Cuts to the same automation mode, ensure that **CUT AUTO** is selected in the Master Automation section, press and hold **ALL/SCOPE** and set the desired mode using the global mode buttons.

## FDR MODE and CUT MODE led indication:

Automation Mode:	Led colour / state:
Isolate	Off
Armed for Recording (Hard Record or Touch Record)	Red
Play	Green
Recording	Flashing Red
Trim (Fader only)	Yellow

Table 4: Automation button led states

## All Other Controls (AFU Automation)

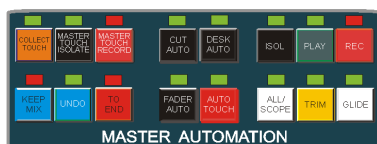


Fig 86: Master Automation panel

In their default state, the automation buttons by each fader relate to all controls for that path (eg so pressing **REC** will put all controls for that path into Record; pressing **PLAY** will put all controls into Play etc).

In this way it is possible to select different automation modes for different paths on the console.

To set all of the controls on a path to the same automation mode, ensure that **DESK AUTO** is selected in the Master Automation section, press and hold **ALL/SCOPE** and set the desired mode using the global mode buttons.

This will not include Faders and/or Cuts unless the **CUT AUTO** and/or **FADER AUTO** has been selected as well.



Fig 87:  
Assignable  
Logicator & Pan

### Assignable Logicator

The automation of the Assignable Logicator depends on which control is currently assigned to it.

The three **AUTO** leds next to the Assignable Logicator indicate the Automation Mode.

If it is assigned to Small Fader, it will show the Automation Mode of the fader for the hidden Track or Channel.

Otherwise, it will show the Automation Mode of the assigned control. This is one way in which the automation mode of an individual control on the AFU could be interrogated - ie by assigning the control to the Assignable Logicator.



Fig 88:  
Assignable  
Logicator  
Automation  
leds

Automation Mode:	Led colour / state:
Isolate	All Off
Armed for Hard Record	Solid Red
Recording in Hard Record	Flashing Red
Recording in Touch Record	Solid Green & Flashing Red
Play	Solid Green
Armed in Trim	Solid Yellow
Recording in Trim	Flashing Yellow

Table 5: Automation led states for Assignable Logicator

### Overview of Automation Modes

The automation modes determine whether a control will:

- Have moves recorded
- Have moves played back
- Use a combination of record and playback
- Be ignored by the automation system

Automation modes are controlled locally on the fader strips and globally by the master automation controls.

The basic automation modes are:

<b>Isolate</b>	The control will not have automation recorded or played back.
<b>Lock Record</b>	The control will replay previously recorded moves until it is touched or used. The control will then Record until the mode is changed manually, glide is initiated or timecode stops.
<b>Play</b>	The control will only replay previously recorded moves.
<b>Touch Record</b>	The control will replay previously recorded moves until it is touched or used. The control will then Record until it is released, at which point it will snap back to the Play Pass position and resume replay.
<b>Auto Glide</b>	The control will replay previously recorded moves until it is touched or used. The control will then Record until it is released, at which point it will Glide back to the Play Pass position and resume replay. The control uses the Auto Glide Time to match back to the Play Pass.

Table 6: Automation modes

Faders have two additional modes:

<b>Trim</b>	The fader moves to the centre of its travel (centre trim position) and plays back by staying there. When it is touched it starts to record moves as offsets from the Play Pass using the +/-20dB scale to the right of the fader. The fader stays in record until the mode is changed manually, glide is initiated or timecode stops.
<b>Auto Trim</b>	This is the same as Trim, except that when it is released the fader matches back to the Play Pass position using the Auto Glide Time.

Table 7: Fader Automation modes

## Automation control

There are two sets of Automation Controls on the lower AFU:

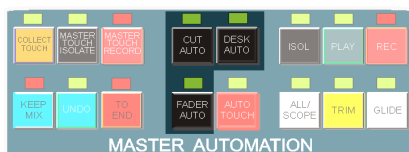
- Master Automation Controls
- AFU Automation Controls

## Automation Scope

Scope is used to determine whether or not a control can have its automation mode changed by the Master Automation controls.

Also, controls in the AFU must be in scope for their automation modes to be changed by the AFU Automation controls.

The current Automation Scope is part of the Mix/Pass. Changes to Automation Scope are not saved unless the Record Pass is saved.



### Fader, Cut and Desk Scope

Any control that is not in Isolate is in Scope unless the **DESK AUTO**, **CUT AUTO** or **FADER AUTO** keys have been toggled off.

To toggle Faders in and out of control Scope, Press the **FADER AUTO** key. Faders (not in Isolate) are in Scope if the led above the key is illuminated.

To toggle **CUT** keys in and out of control Scope, Press the **CUT AUTO** key. **CUT** keys (not in Isolate) are in Scope if the led above the **CUT AUTO** key is illuminated.

To toggle all other controls in and out of control Scope, Press the **DESK AUTO** key. Controls not in Isolate will be in Scope when the led above the **DESK AUTO** key is illuminated.

To place all controls in Scope (including those in Isolate), Press and hold the **ALL/SCOPE** key.

Press the Master Automation key(s) for the required Automation Mode. All controls will be put into the selected Automation Mode.

If any of the **DESK AUTO**, **CUT AUTO** or **FADER AUTO** keys have been toggled off then the appropriate set of controls will be unaffected. Release the **ALL/SCOPE** key.

*If a Trim mode is selected, only the Faders will have their Automation Mode changed.*

Now use the Master **REC**, **PLAY**, **TRIM** and **GLIDE** keys to change the Mode of controls in Scope (i.e. without using the **ALL/SCOPE** key as well).

If the Master **ISOL** key is pressed then all controls in scope will be Isolated and taken out of scope.



**To place controls in a path in Scope without changing the Automation Mode**

Toggle the state of the **DESK AUTO**, **CUT AUTO** and **FADER AUTO** keys as required.  
Press and hold the **ALL/SCOPE** key, then press the required Access key.

All controls in the path will be put in Automation Scope, except those excluded by the **DESK AUTO**, **CUT AUTO** and **FADER AUTO** keys.

The current Automation Modes of controls will remain unaffected.

Release the **ALL/SCOPE** key.

The Access keys for as many paths as necessary can be pressed while the **ALL/SCOPE** key is held down.

This can also be useful for putting the AFU controls back in scope on a single path, i.e. turn off **CUT AUTO** and **FADER AUTO**, hold down **ALL/SCOPE** then press the Access key on the required path.

**To remove a control in the AFU from Scope**

Press the Access key for the required path. The processing in the path will be shown on the AFU.

Press and hold the **ALL/SCOPE** key. The touch leds for controls in Scope in the AFU will illuminate.

Touch the controls to be removed from Scope.

The touch leds will toggle off and on each time the control is touched. Release the **ALL/SCOPE** key.

This can be used to leave controls in the current automation mode and then select a different automation mode for the remainder. For instance, press the Master **REC** key (to select Lock Record) with only **DESK AUTO** active, take the EQ Band 1 Gain control out of scope, then press the Master **PLAY** key. The EQ Band 1 Gain control will still be in Lock Record.

To remove all controls from Scope and Isolate them, press and hold the **ALL/SCOPE** key and press the **ISOL** key.

## The Mix/Pass Tree

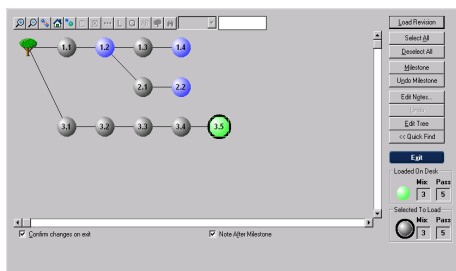


Fig 89: Mix / Pass tree

Mix/Passes are organised in a Mix/Pass Tree. The Mix/Pass Tree stores the structure of dependence between Mix/Passes .

This means that it shows the order in which Mix/Passes were created and the lines of revision used to create each Mix/Pass.

The Mix/Pass Tree is displayed graphically so that Mix/Pass dependencies are shown clearly.

A Mix/Pass Tree always starts with Mix/Pass 1.1.

A Mix/Pass Tree is displayed graphically for selecting a Mix/Pass revision as the Play Pass or editing the Tree.

## Mix/Passes



Each Mix/Pass contains:

- An Event List containing an Initial Snapshot (ISS) followed by Automation Events
- Automation Modes and Automation Scope as they were when timecode stopped at the end of the pass \*
- A Label List \*
- A Safety Snapshot \*
- A list of Gangs and Links \*

\*When you load a Mix/Pass, you are given the option to selectively load these parts.

## Initial Snapshot

The Initial Snapshot (**ISS**) is at the beginning of the Event List.

The ISS contains the settings of all controls that can be automated when a New Mix/Pass Tree is created.

The ISS settings are saved in special Automation Events which all have a Timecode of zero. Only ISS events can have a Timecode of zero.

The ISS is updated when a control is taken out of Isolate for the first time, depending if this preference has been set in Preferences / Automation.

The ISS takes the control setting either when the system goes into Play (for controls that are taken out of Isolate before Play) or when a control is taken out of Isolate if the system is already in Play.

Updating the ISS creates a Record Pass (when the system goes into Play or if it is already in Play).

The new ISS settings are not saved unless the Record Pass is saved.

The primary function of the ISS is to provide an initial setting for any control.

This is so that the control has a value to return to, such as when using Glide or when the system comes out of Play.

## Automation Events

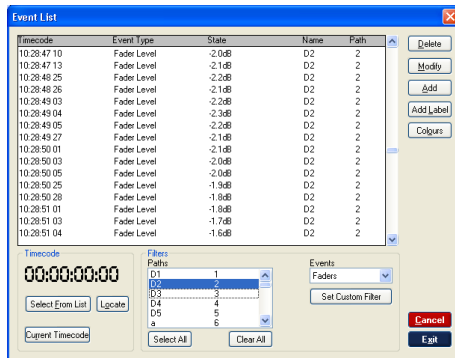


Fig 90: Event List

A dynamic automation event is a record of a change made to a control.

Each event records:

- The path it occurred on
- The control that was changed
- The timecode (resolved at frame level)
- The value of the setting

For instance, as shown left, if a fader is moved continuously then a change in level will be recorded against every frame of timecode until the fader is released. This can be seen in the Event List as a series of individual events at each frame.

## Safety Snapshot

A Safety Snapshot is taken when Play is pressed to start timecode running. It is a Snapshot of the whole console (i.e. it is not affected by either Automation Scope or Snapshot Scope). Otherwise, it is the same as a standard Snapshot.

The Safety Snapshot is not affected by and does not affect the automation system. However, it is stored with a Mix/Pass (when a Record Pass is kept).

A Safety Snapshot is only used when loading a Mix/Pass revision from the Mix/Pass Tree. It can optionally be loaded or ignored at this point.

One way in which this can be used is to have an empty Mix/Pass Tree that has a Safety Snapshot with favourite control settings.

This could be loaded so that, for instance, the Safety Snapshot is applied before a New Mix/Pass Tree is created.

## Label List

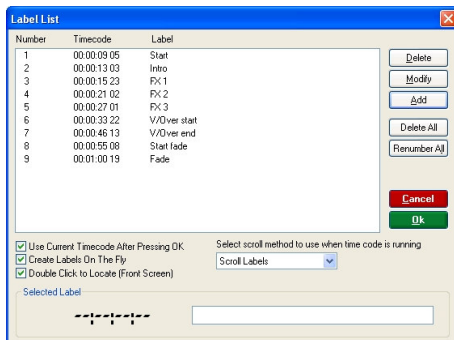


Fig 91: Label List

The Label List is a set of grabbed timecode values with short text descriptions (i.e. Labels).

These can be used to mark significant points in timecode (e.g. scene changes, choruses).

The main use of the Label List is as a source of useful timecode values for functions such as Locate, Cycle, Safety nets, offline editing, etc.

## Play Pass

The Play Pass is used to play back control moves.

As timecode runs at play speed, the automation system uses the times stored against the Automation Events to determine when the control value in each event should be played back.

## Record Pass

A new Record Pass is made when changes are made to the Play Pass. When a Record Pass is kept then it becomes the new Play Pass.

### **Timecode Considerations for Mix/Passes**

*The timecode at which an event is recorded is stored in a format that is independent of timecode.*

*However, each event time that is stored will depend on the current frame rate.*

*This means that the frame rate is significant for a particular Mix/Pass. For instance, a Mix/Pass that is recorded at 25 frames per second (fps) should be played back at 25fps.*

*This does not prevent a Mix/Pass from being played back at a different frame rate, although AMS Neve strongly advise against this as it will cause frame slippage and will have other unpredictable effects.*

*Encore will warn the user if there is a mismatch between the currently selected framerate and automation previously recorded at a different framerate.*

*For this reason, it is not possible to change the framerate in the middle of automating.*

### **Timecode Display**

A consequence of the method of storing time values is that the display format can be changed at will (although this would probably not be done in practice).

Timecode can be displayed in standard HH:MM:SS:FF format or as Foot-Frames, as long as the same frame rate is used.

In all places where the timecode value is displayed (Main Encore screen, Offline Editing, Label List etc), Foot/Frame will be displayed instead of Timecode.

### **Offline Automation**

*Mix/Passes are also created when using Encore's offline automation functions (Copy Path Data, Mix Conforming, Fader Moves List, etc.). When an offline automation function is used to make changes, a new Mix/Pass is created so that the existing Mix/Pass (i.e. source Mix/Pass) is preserved.*

*Mix/Pass Trees and individual Mix/Passes can also be transferred to a separate computer that has **Offline Encore** installed on it. This allows offline automation functions to be performed without interrupting work on the the console.*

### **Setting Automation Modes**

The current Automation Modes are part of the Mix/Pass.

If no other actions have or would cause a Record Pass to be created then any changes to Automation Modes will create a Record Pass (when the system goes into Play or if it is already in Play).

Changes to Automation Modes are not saved unless the Record Pass is saved.

A transition from armed to recording (e.g. in Lock Record) does not count as a change to the Automation Mode.

### **Record Modes & Stop**

When the system comes out of Play (i.e. timecode is no longer running at Play speed, usually because of a Stop command), any controls that are Recording will return to their armed state. No glide rates are used, so the control will snap back in one frame.

This will also happen to controls that are part way through a glide (i.e. they will snap back from whatever value they have when the system comes out of Play).

## Automation Modes

### Isolate

A control in Isolate will not play back or record moves.

The action of Isolating a control takes it out of Automation Scope. However, a control in Isolate can be in Automation Scope - this is the state of the whole console when a New Mix/Pass Tree is started.

If a control in Isolate is moved then the audio will be affected but no automation data will be recorded. This can be useful for testing a move without recording a new Mix/Pass.

To Isolate a control, turn off the current automation mode for the control. For instance, for a fader that is in Lock Record, press the **REC** key and the fader will be Isolated. This also applies if the fader is Recording (flashing REC led).

To Isolate all controls in Automation Scope, press the Master **ISOL** key.

### To Isolate all controls

Press and hold the **ALL/SCOPE** key.

Press the Master **ISOL** key.

Release the **ALL/SCOPE** key.

This can be useful if only a few controls need to be automated, and particularly if subsets of controls in the AFU need different automation modes.

For instance, all controls are removed from scope, a path is called to the AFU, EQ Band 1 is added to scope and put into Lock Record. EQ Band 1 is then removed from scope, EQ Band 2 is added to scope and put into Play, and so on according to the current need.

### Play

A control in Play will replay previously recorded moves.

If a control is moved then the audio will not be affected and no automation data will be recorded. Also, the control will snap back to the Play Pass position as soon as it is released.

The Play Pass position (control value) will be displayed in the appropriate alpha display while the control is touched (e.g. if a fader is touched, the Play Pass values will be displayed in the fader strip alpha display until the fader is released, assuming that **Fader Level Indication On Touch** is enabled).

### Lock Record

A control in Lock Record will play back moves until it is touched, at which point it will start to Record.

When a control is released it will stay at the current position until it is moved again, the system drops out of play (e.g. timecode stops), a different automation mode is selected or the control is glided back to the Play Pass.

Press and hold the **FDR MODE** key on the required fader strip, and press **REC**. The integral led will illuminate red.

The fader is now armed for Record and will play back any moves in the Play Pass. This will also happen if the Master **REC** key is pressed and the fader is in scope.

To Record fader moves, move the fader as required. The led in the **REC** key will flash red when fader touch is detected. Any moves in the underlying Play Pass will be overwritten. When the fader is released, it will stay in the same position, the led in the **REC** key will continue to flash red and moves in the Play Pass will continue to be overwritten.

**To Glide faders back to the Play Pass**

Press the **GLIDE** key.

The fader will match back to the Play Pass, using the Manual Glide Time.

The led in the **REC** key will stop flashing and return to steady red. This will also happen if the Master **GLIDE** key is pressed and the **FADER AUTO** key is on (i.e. faders are in scope).

**To Manually match faders back to the Play Pass**

Hold the fader and press the **GLIDE** key.

The alpha display above the fader will display arrows to show which way the fader should be moved to match back to the Play Pass. Move the fader in the direction indicated.

When the fader passes through the Play Pass, the fader will drop out of Record, the alpha display will stop displaying arrows and the led in the **REC** key will stop flashing. Release the fader.

The fader will move to the Play Pass position and continue replaying the Play Pass.

**To Select a different automation mode**

The simplest way to do this is to press the **PLAY** key. If the fader still needs to be armed then press the **REC** key immediately afterwards. If the Master **REC** key is pressed then all faders in scope will return to or be set to Lock Record armed.

If **REC** is pressed while the fader is Recording then the fader will stop Recording and be Isolated.

**Lock Record with CUT Keys**

To put a **CUT** key into Lock Record.

Press the **CUT MODE** key and press the **REC** button. The integral led will illuminate red. The **CUT** key is now armed for Record and will play back any switch changes in the Play Pass.

This will also happen if the Master **REC** key is pressed and the CUT key is in scope.

To Record **CUT** key switching, the led in the **CUT REC** key will flash red when the state of the cut is switched. Any switch changes in the Play Pass will be overwritten by the current setting.

When the key is released, the led in the **CUT REC** key will continue to flash red and switch changes in the Play Pass will continue to be overwritten.

To overwrite previously written Cuts without changing the current state of the Cut, whilst timecode is running, press and hold the **CUT MODE** key then press the **CUT** key.

The **CUT** led will flash to indicate that the previous automation is being over-written, but the state of the Cut will not be changed.

To return to the Play Pass, select a different automation mode.

- If the Master **REC** key is pressed then all **CUT** keys in scope will return to or be set to Lock Record armed.
- If the Master **GLIDE** key is pressed then all Recording **CUT** keys will return to Lock Record armed in one frame.
- If **CUT REC** is pressed while the **CUT** key is Recording then the **CUT** key will stop Recording and be Isolated.

**Lock Record with AFU Controls**

To put AFU controls into Lock Record, press the Access key for the required path.

Press the **REC** key on the AFU fader strip.

The led above the key will illuminate red. The red AUTO leds next to the AFU fader, the strip fader and the PAN/BAL Locator will illuminate.

The AFU controls are now armed for Record and will play back any moves in the Play Pass.

This will also happen if the Master **REC** key is pressed and the controls are in scope. If the AFU controls are out of scope then put the AFU controls back in scope by turning off **CUT AUTO** and **FADER AUTO**, holding down ALL/SCOPE then pressing the Access key on the required path.

The keys in the AFU that are used to change the parameter that a Logicator is controlling are not automated. For instance, the EQ SHAPE keys (used to switch the bottom row of EQ Logicators between Q or Shape) are not automated.

To Record AFU control moves, adjust the controls as required.

The led above the **REC** key and the red AUTO leds next to the fader and the **PAN/BAL** Logicator will flash red when touch is detected on the first control adjusted.

Any moves in the Play Pass for touched controls will be overwritten.

When a control is released, it will maintain in the same setting, the red leds will continue to flash and moves in the Play Pass will continue to be overwritten.

To Glide AFU controls back to the Play Pass, press the **GLIDE** key.

Controls will match back to the Play Pass.

- The Manual Glide Time is used for continuously variable controls (i.e. EQ Level, Gate Attack Time, etc.).
- All switch controls (i.e. ON/OFF keys, PRE/POST keys, etc.) will match in one frame.

The red leds stop flashing and return to steady red when all controls have matched to the Play Pass.

This will also happen if the Master **GLIDE** key is pressed and the **DESK AUTO** key is on.

To Snap AFU controls back to the Play Pass, select a different automation mode.

If the Master **REC** key is pressed then all AFU controls in scope will return to or be set to Lock Record armed.

If **REC** is pressed while any AFU controls are in scope and Recording, then the Recording will stop and the AFU controls in scope will be Isolated.

To put all controls in automation scope into Lock Record, press the Master **REC** key.

#### **To put all controls into Lock Record**

Press and hold the **ALL/SCOPE** key.

Press the Master **REC** key.

Release the **ALL/SCOPE** key.

### **Touch Record**

A control in Touch Record will play back moves until it is touched, at which point it will start to record. The control will snap back to the Play Pass position in one frame when released.

To put a Fader into Touch Record, press and hold the **FDR MODE** button, then press **PLAY** and **REC** keys together on the required fader strip. The integral leds will illuminate.

The fader is now armed for Record and will play back any moves in the Play Pass.

This will also happen if the Master **PLAY** and **REC** keys are pressed and the fader is in scope.

The led in the **REC** key will flash red when fader touch is detected. Any moves in the Play Pass will be overwritten. When the fader is released, it will snap back to the Play Pass.

To Manually match faders back to the Play Pass, press the **GLIDE** key without releasing the fader.

The alpha display above the fader will display arrows to show which way the fader should be moved to match back to the Play Pass. Move the fader in the direction indicated.

When the fader passes through the Play Pass, the fader will drop out of Record, the alpha display will stop displaying arrows and the led in the **REC** key will stop flashing. Release the fader.

The fader will move to the Play Pass position and continue replaying the Play Pass.

To put a **CUT** key into Touch Record, press and hold the **CUT MODE** button, then press **PLAY & REC** together.

The integral led will illuminate.

The **CUT** key is now armed for Record and will play back any switch changes in the Play Pass.

This will also happen if the Master **PLAY** and **REC** keys are pressed and the **CUT** key is in scope.

Any switch changes in the Play Pass will be overwritten by the current setting.

When the key is released, the **CUT** key will return to the Play Pass and the led in the **CUT REC** key will stop flashing.

To put AFU controls into Touch Record, press the Access key for the required path and press the **PLAY** and **REC** keys together in the AFU CONTROL section.

The leds above the keys will illuminate red. The red and green AUTO leds next to the AFU fader, the strip fader and the PAN/BAL Logicator will illuminate.

The AFU controls are now armed for Record and will play back any moves in the Play Pass. This will also happen if the Master **PLAY** and **REC** keys are pressed and the controls are in scope.

If the AFU controls are out of scope then put the AFU controls back in scope by turning off **CUT AUTO** and **FADER AUTO**, holding down **ALL/SCOPE** then pressing the Access key on the required path.

The keys in the AFU that are used to change the parameter that a Logicator is controlling are not automated. For instance, the EQ SHAPE keys (used to switch the bottom row of EQ Logicators between Q or Shape) are not automated.

The led above the **REC** key and the red AUTO leds next to the fader and the **PAN/BAL** Logicator will flash red when touch is detected on the first control adjusted.

Any moves in the Play Pass for touched controls will be overwritten.

When a control is released, it will snap back to the Play Pass.

To put all controls in automation scope into Touch Record

Press the Master **PLAY** and **REC** keys together.

#### **To put all controls into Touch Record**

Press and hold the **ALL/SCOPE** key.

Press the Master **PLAY** and **REC** keys together.

Release the **ALL/SCOPE** key.

#### **Autoglide**

AutoGlide only works with faders and other continuously variable controls (i.e. EQ Level, Gate Attack Time, etc.).

The control will replay moves until it is touched, at which point it will start to record.

The control will glide back to the previous play pass position when it is released, using the Auto Glide Time.

However, switch controls (e.g. CUT, EQ ON/OFF, etc.) that are put into AutoGlide will behave as if they are in Touch Record (i.e. they will snap back to the Play Pass in one frame).

This will happen when they are put into AutoGlide by the Master **REC** and **GLIDE** keys or, for AFU switches, when the AFU is put into AutoGlide.

Press and hold the **FDR MODE** button, and press the **REC** and **GLIDE** keys together on the required fader strip.

The integral leds will illuminate. The fader is now armed for Record and will play back any moves in the Play Pass.

This will also happen if the Master **REC** and **GLIDE** keys are pressed and the fader is in scope.



The led in the **REC** key will flash red when fader touch is detected. Any moves in the Play Pass will be overwritten. When the fader is released, it will glide back to the Play Pass using the Auto Glide time.

To put AFU controls into Touch Record, press the Access key for the required path. Press the **REC** and **GLIDE** key on the AFU fader strip. The leds above the keys will illuminate. The Automation leds next to the strip fader and the **PAN/BAL** Logicator will illuminate.

The AFU controls are now armed for Record and will play back any moves in the Play Pass. This will also happen if the Master **REC** and **GLIDE** keys are pressed and the controls are in scope.

If the AFU controls are out of scope then put the AFU controls back in scope by turning off **CUT AUTO** and **FADER AUTO**, holding down **ALL/SCOPE** then pressing the Access key on the required path.

The keys in the AFU that are used to change the parameter that a Logicator is controlling are not automated. For instance, the EQ SHAPE keys (used to switch the bottom row of EQ Logicators between Q or Shape) are not automated.

The led above the **REC** key and the yellow AUTO leds next to the fader and the **PAN/BAL** Logicator will flash red when touch is detected on the first control adjusted.

Any moves in the Play Pass for touched controls will be overwritten.

When a control is released, it will glide back to the Play Pass using the Auto Glide time.

Switch controls (EQ ON/OFF, etc.) will snap back to the Play Pass in one frame.

To put all controls in automation scope into AutoGlide, press the Master **REC** and **GLIDE** keys together.

#### **To put all controls into AutoGlide**

Press and hold the **ALL/SCOPE** key. Press the Master **REC** and **GLIDE** keys together.

Release the **ALL/SCOPE** key.

The operation of **CUT** keys are not affected by selecting Master AutoGlide.

### Trim and AutoTrim

These modes apply to Faders only.

The fader will move to the Trim position (by default the centre of the fader travel) and will start to record on touch. Moves are recorded as an offset from the Play Pass according to the fader position.

Trim can be applied in the range +/-20dB. The trim value is shown in the alpha display.

If the cumulative effect of the Play Pass and the Trim difference drops the signal below -102dB then the signal is cut.

For instance, if a particular fader has a Play Pass position of -85dB, then applying -20dB of trim (or below) will cut the signal.

### Trim

To put a Fader into Trim, press the **TRIM** key.

The led in the key will illuminate yellow and the fader will move to the centre trim position. The fader is now armed. The fader will stay at the centre trim position as the Play Pass is played back.

This will also happen if the Master **TRIM** key is pressed and the fader is in scope.

Move the fader as required.

The led in the **TRIM** key will flash yellow when fader touch is detected. The alpha display shows the trim offset.

Any moves in the Play Pass will be overwritten according to the offset position of the fader.

When the fader is released, it will stay in the same position, the led in the **TRIM** key will continue to flash red and moves in the Play Pass will continue to be overwritten.

To glide back to the Play Pass, press the **GLIDE** key.

The fader will match back to the Play Pass by returning to the centre trim position (the Manual Glide Time will be used). The led in the **TRIM** key will stop flashing and return to steady yellow.

This will also happen if the Master **GLIDE** key is pressed and the **FADER AUTO** key is on (i.e. faders are in scope).

To manually match back to the Play Pass, hold the fader and press the **GLIDE** key.

The alpha display above the fader will display arrows to show which way the fader should be moved to match back to the Play Pass.

Move the fader through the centre trim position.

When the fader passes through the Play Pass (centre trim), the fader will drop out of Record, the alpha display will stop displaying arrows and the led in the **TRIM** key will stop flashing.

Release the fader.

The fader will snap back to the centre trim position (i.e. the Play Pass).

To snap back to the Play Pass, select a different automation mode.

The simplest way to do this is to press the **PLAY** key. If the fader still needs to be armed then press the **TRIM** key immediately afterwards.

If the Master **TRIM** key is pressed then all faders in scope will return to or be set to Trim armed.

### Auto Trim

To put a Fader into AutoTrim, press the **TRIM** and **GLIDE** keys together.

The leds in the keys will illuminate and the fader will move to the centre trim position.

The fader is now armed. The fader will stay at the centre trim position as the Play Pass is played back.

This will also happen if the Master **TRIM** and **GLIDE** keys are pressed together and the fader is in scope.

To record Trim adjustments, move the fader as required.

The led in the **TRIM** key will flash yellow when fader touch is detected. The alpha display shows the trim offset.  
Any moves in the Play Pass will be overwritten according to the offset position of the fader.

When the fader is released, it will glide back to the centre trim position using the AutoGlide time.

If the Assignable Logicator is assigned to Small Fader then it can be used for trimming if Trim or AutoTrim is activated on the path assigned to the Logicator.

### Modifiers to Automation Modes

The console has two extra automation function keys that are used to make two specialised modifications to the behaviour of the automation system: **AUTO TOUCH** and **TO END**.

#### Auto Touch

This is used to automatically treat controls as being touched when they are armed.

**AUTO TOUCH** is switched on in advance of selecting an automation mode.  
When an automation mode is selected, all the controls put into the selected mode are treated as if they had been touched at the same time as the automation mode was selected.

This is generally most useful with Touch Record and Trim, as arming with other automation modes will cause the control to immediately snap or glide back to the Play Pass.

To use Auto Touch with Touch Record, press the **AUTO TOUCH** key. The led above the key will flash. Put the required controls into Touch Record.

The record indicators that would normally illuminate steady will flash instead. This is because the controls have been 'touched' at the same time as being armed.

#### To End

The **TO END** key is used to force all Recording controls to record their current values to the end of the Record Pass and then return to being armed. This will overwrite any subsequent moves that there may be in the previous Play Pass.

This is useful when the controls that are Recording need to overwrite all subsequent moves and there is a long time to wait for the end of the Play Pass.

Controls affected by **TO END** will drop back to being armed (e.g. if a control is Recording in Lock Record it will return to being armed for Lock Record).

Timecode can be stopped or other moves can be made after executing **TO END**.

*If **ALL/SCOPE** is held down when **TO END** is pressed then the whole Pass will be overwritten with the current control setting.*

If Safety Nets are activated, then **TO END** (and **ALL/SCOPE** & **TO END**) will respect these Safety Net times.

### Example

A fader in Lock Record is moved. The fader is now Recording (in Lock Record) and the led in the **REC** key is flashing to indicate this. The fader is overwriting any moves there may be in the Play Pass. There may be other fader moves a long way into the Play Pass (for instance, an hour later) that also need overwriting with the new fader position.

One option would be to wait until the Play Pass reached that time.

Another option would be to use the Fader Moves List to delete the unwanted moves.

The final, and most efficient, option is to use **TO END**.

When the **TO END** key is pressed, all subsequent moves are overwritten with the current fader setting - this is done by deleting all fader moves that would come after the current time so that the current setting is used to the end.

### Making a Mix/Pass

The steps required to make a new Mix/Pass are:

- Move controls to their starting values
- Switch on the Automation System
- Start a New Mix/Pass Tree
- Set Automation Modes
- Put the System into Play
- Make control moves and change Automation Modes as required
- Take the System out of Play and Keep the Record Pass

Switch on the Automation System

Click **Automation Mode** in the **System** Menu.

or

Click the **Automate** icon.

In both cases, a dialogue box will be displayed to select how to start up the Automation System.

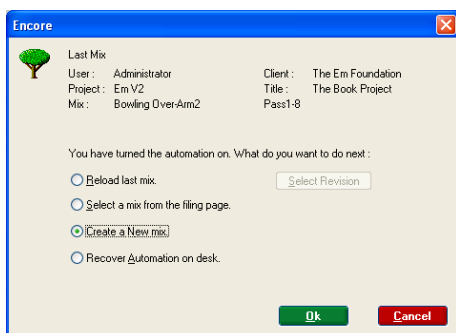


Fig 92: New Mix Options

Click the **Create a New Mix** radio button and click **OK**.

Select the Client, Project and Title in the same way as in the Filing utility, or create a new Client, Project or Title.

The **Next** button can then be used to automatically select the next Mix Tree number.

If required, edit the Mix Tree name.

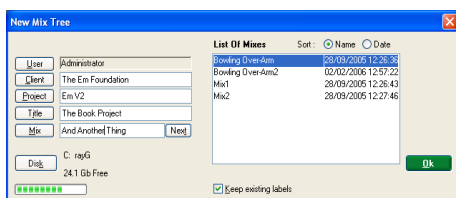


Fig 93: C/P/T/M New Mix

When the details are correct, click the **OK** button.

The new Mix Tree will be created.

A progress bar will be displayed while the Initial Snapshot is taken and the new files are created.

The Initial Snapshot and the automation modes of controls are stored as Mix/Pass 1.1. When the process is complete a confirmation dialogue box will be displayed.



Fig 94: Tree confirm

Click on the screen to clear it.

Move controls to their starting values. This can be done at any time before the system is put into Play. There are a several ways in which this can be done and any combination can be used.

Initially, controls will have values according to either the last Desk Setup that was loaded or the last Mix/Pass that was used.

Controls can reset using **Reset Wizard** (in **Defaults Manager**), have settings applied using a Snapshot or be reset by loading a Desk Setup.

When controls have been set automatically, make manual adjustments to controls as required.

## Set Automation Modes

For a quick way to make all controls ready for automation, press and hold **ALL/SCOPE**, press the Master **REC** key and then release both keys.

The whole console is now in Lock Record ready for a first pass.

Note that controls can be Recording before timecode is started. When this is the case, a new Record Pass is started immediately and the Play Pass values for touched or moved controls are overwritten.

Put the System into Play.

Either:

- Click the Play transport icon on the Encore Screen.
- Press the Play transport key, or
- Press Play on the transport that is acting as the master device.

In the first two cases, the Safety Snapshot is taken and the Initial Snapshot is updated (if necessary) as soon as Play is clicked or pressed.

In the third case, the Safety Snapshot is taken and the Initial Snapshot is updated when good timecode is received and the system goes into Play.

Make control moves and change Automation Modes as required.

Automation modes can be changed as required while timecode is running.

*Note that if a control is recording, then changing its automation mode will stop it recording. For instance, switching a fader to **Trim** when it is already recording in Lock Record will snap the fader back to the Play Pass position and then arm the fader for Trim.*

Take the System out of Play and Keep the Record Pass.

A Record Pass will have been made if one or more of three things happened:

- An Automation Mode was changed.
- Automation Scope was changed.
- There was a change in the Event List.

## KEEP mode

- If **AUTO KEEP** is enabled in **Automation Preferences** then the Record Pass will be automatically kept to the Mix/Pass Tree when the system drops out of Play. The Record Pass will become the Play Pass. The new Mix/Pass numbers are shown in the Play boxes on the Encore Screen. The word **AUTO** will be displayed just beneath the mix/pass numbers on screen.
- If the **Keep Mode** is **Manual** then the word **MANUAL** will flash red just beneath the mix/pass numbers the Encore Screen to show that there is an un-saved Record Pass. Press the **KEEP MIX** key. The Record Pass will be saved to the Mix/Pass Tree and will become the Play Pass. The new Mix/Pass numbers are shown in the Play boxes on the Encore Screen.

For more information on Keep Modes, refer to the **Encore Plus** manual.

## Making further Mix/Passes

The procedure is very similar to that above, except that a New Mix does not need to be started and when the transport is put into Play, the moves made in the Mix/Pass shown in the Play/Pass counter will be played back.

Also, controls for which moves are now correct can be put into Isolate or Play to prevent their moves being changed.

## COLLECT TOUCH

Collect Touch is a function that is used to select a group of controls that are automated together, without being affected by the standard global automation controls.

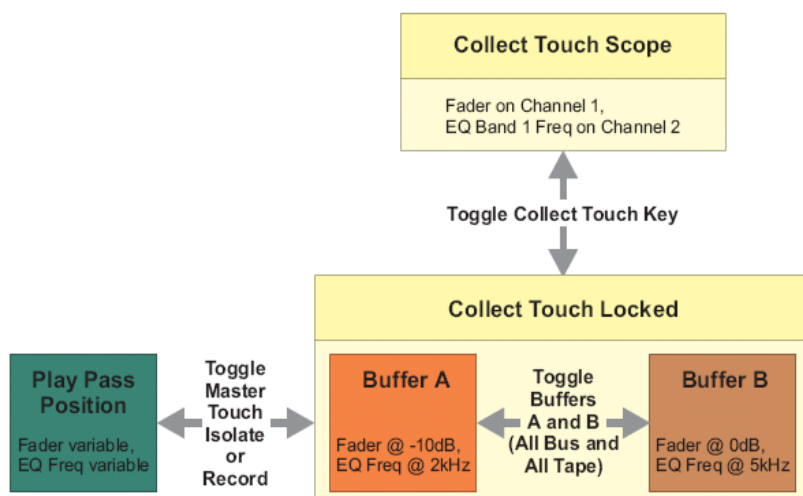


Fig 95: Collect touch schematic

The group of controls selected for Collect Touch are in **Collect Touch Scope**. Setting Collect Touch Scope is the first step in using Collect Touch.

The controls that are in Scope are then locked into Collect Touch and their settings are altered without affecting automation data that has been previously recorded.

The settings are stored in a two buffers **A** & **B**.

The control settings can be fine tuned in context using **Master Touch Isolate** mode - this is known as rehearsing collect touch.

When the rehearsal phase is complete, the final result is recorded to the automation system using **MASTER TOUCH RECORD** mode.

This can be toggled on and off as required for manual punch-in and punch-out, or the Safety Nets can be set and used as automatic punch-in and punch-out points.

A typical use of Collect Touch is in making Scene changes. The most common example of this is a telephone conversation where the scene cuts from one participant to the other, requiring instant changes to the dialogue to create the 'voice down a phone-line' sound.

Press the **COLLECT TOUCH** key to turn the feature on.

Once turned on, the **ALL BUS** and **ALL TAPE** buttons act as **Buffer A** and **Buffer B**. Swapping between these buffers allows you to create two snapshots that can be freely swapped between, for example to compare two different EQ settings.

If the **Go To Lock MTI On Entering** option is selected in **Automation Preferences** then **MASTER TOUCH ISOLATE** will be lit, the led above the key will be on and the currently selected buffer will be active.

The automation modes of controls that are not in Collect Touch Scope can be changed globally or locally as normal.

Automation modes for controls in Collect Touch Scope is now controlled using the **MASTER TOUCH ISOLATE** and **MASTER TOUCH RECORD** keys.

The automation mode indicators for controls in Collect Touch Scope will flash.

The next steps are:

- Rehearse Collect Touch
- Making a Mix/Pass in Collect Touch

## Rehearsing Collect Touch

Rehearsing Collect Touch is useful for fine tuning the settings of the collected controls in one or both of the Collect Touch Buffers. It is usual to play the Play Pass to compare the buffered settings with the currently recorded material, or to compare the buffers with each other. This is also known as 'rehearsing in context' because it allows the effect of the buffered settings to be tested on the actual audio for the mix (e.g. the material for the scene that the mix is for).

Make sure the led above the **MASTER TOUCH ISOLATE** key is illuminated (press the key if it is not).

Press the **ALL BUS** or **ALL TAPE** key to select the required buffer.

Set the Collected controls to the required settings. If required, select the other buffer and set the alternative control values. Put the transport into play over the required section of material.

Toggle the **MASTER TOUCH ISOLATE** key on and off to compare the selected buffer with the play back material.

Toggle between **ALL BUS** and **ALL TAPE** to compare the buffers (**MASTER TOUCH ISOLATE** must be on).

Adjust control values for each buffer as required.

Rewind the transport and play back the required material as required.

*This can be done automatically with Cycle, as described in Machine Control.*

## Making a Mix/Pass in Collect Touch

To make a Record Pass with the collected controls (manual punch-in and punch-out).

Make sure the required buffer is selected.

Put the transport into play in advance of the required section.

Press **MASTER TOUCH RECORD** at the required punch-in point.

The control values in the selected buffer will be written to the automation system.

A new Record Pass will be created.

If required, toggle between **ALL BUS** and **ALL TAPE** to use control values in each buffer.

If required, toggle **MASTER TOUCH RECORD** to create multiple punches.

Press **MASTER TOUCH RECORD** to turn it off at the required punch-out point.

Stop the transport.

If **Auto Keep** is active, the recorded pass will be saved to the Mix/Pass tree and will become the Play Pass. Otherwise, press the **KEEP MIX** key if the recorded pass is satisfactory.

## Collect Touch with Safety Nets

The Safety Nets can be used for automatic punch-in and punch-out of controls in Collect Touch. This is particularly useful for scene changes, and a scene change provides the context for these instructions.

*These instructions are not fixed as some of the steps can be done in any order (e.g. activate Safety Nets first, then start Collect Touch). Use this as a guideline to find a suitable working practice.  
Set Collect Touch Scope as required and lock Collect Touch.*

Press **MASTER TOUCH ISOLATE** and set initial control values in one or both of the buffers. Set the Safety Net Start time to the beginning of a scene and the Safety Net End time to the end of the scene.

Make sure the **Master Touch Isolate Respects Safety Nets** option in Automation Preferences is checked (this means that if timecode is outside the Safety Nets, the settings in the selected buffer will be "ignored" in Master Touch Isolate as well as Master Touch Record).

Put the transport into play from before the Safety Net Start time.

The Play Pass will be heard until the Safety Net Start time is reached. At this point, the settings in the currently selected buffer will be used and the scene change transition will be heard. At the Safety Net End time, all controls will switch back to the Play Pass. Rehearse the Collect Touch settings as usual (re-start the transport as required, switch between buffers, and so on).

When you are satisfied with the rehearsal phase, stop the transport.

Re-wind the transport to before the Safety Net Start time.

Press **MASTER TOUCH RECORD** and select the required buffer. The led above the **MASTER TOUCH RECORD** key will illuminate.

Put the transport into play, and the Play Pass will be heard.

When timecode reaches the Safety Net Start time, the control settings in the selected buffer will automatically punch in and write to the automation system.

The led above the **MASTER TOUCH RECORD** key will flash.

If required, switch between the buffers.

At the Safety Net End time, Master Touch Record will automatically punch out and the automation system will return to play back. The led above the **MASTER TOUCH RECORD** key will stop flashing and remain illuminated.

Stop the transport.

If **AUTO KEEP** is active, the recorded pass will be saved to the Mix/Pass tree and will become the Play Pass. Otherwise, press the **KEEP MIX** key if the recorded pass is satisfactory.

Press **MASTER TOUCH RECORD** to turn it off.

To terminate Collect Touch, press **COLLECT TOUCH** again.

The led above the Collect Touch key will cease to be illuminated.

Collect Touch Scope and the settings in the Buffers are retained until Scope changed or New Mix/Clear Mix Memory is executed.

*Before using Collect Touch, make sure the correct options are set in Preferences/Collect Touch.*

*For more information on the Collect Touch options, please refer to the Encore Plus manual section on System Preferences.*



## 19 Turning off and Restarting the console

### CAUTION

**The system MUST NOT be powered down unless the correct shutdown procedure has been followed and the screen displays a message indicating it is safe to power down.**

If **Encore Plus** is running then select **Exit Encore** from the System menu.

*If the current mix has not be kept, a warning prompt will indicate this.  
Click **OK** to exit or **Cancel** to remain in Encore.*

A dialogue prompt box will be displayed asking for confirmation.

Click on **OK** to exit or **Cancel** to remain in Encore. Encore will terminate and you will be returned to the Windows XP desktop.

Click the **Start** button on the Taskbar. The Start Menu will pop up.

Click **Shut Down**. The Shutdown Computer dialogue box will appear.

The **Shutdown** radio button is selected by default.

Click on **OK**.

A message will appear indicating that it is now safe to switch off the Encore computer.  
Switch off the Encore Rack.

The other racks and the console surface will automatically go to a reset-ready state.  
Switch off the racks and the console surface.

### Restarting the Encore PC

Click the **Start** button on the Taskbar and select **Shut Down**.

The Shutdown Computer dialogue box will appear.

Click the **Restart** radio button, and click **OK**.

The Encore PC will automatically re-boot. The racks are already powered up so the sub-systems will be forced to re-start in the correct order.

Press **Ctrl-Alt-Del** to Login when the prompt appears.

Enter the appropriate user name and password and click **OK**.

When the login is complete, the Windows XP desktop will be displayed.

Wait until the alpha displays on the fader strips show the path names and the faders respond to touch.



Double click on the **Encore Plus** icon on the desktop.

The system will now launch Encore Plus and the main Encore Plus screen will be displayed.

The Routing Screen will load and display routing information. Once the routing screen has loaded, the console and sub-systems will be ready to use.

## Appendix A: Glossary of Terms

### 200 Card

The SPS control card replaces two Trancon cards and the TranSCSI card.

It consists of a possible five transputers, namely,

- TranSCSI
- File Server
- Assignments
- Automation
- Allocation

It is possible to reset the system using the Reset switch located at the bottom of the card.

### AFU

AFU is an abbreviation of Assignable Facilities Unit. This is an area of the console that can be used by any signal path to allow adjustment of the signal processing in the path.

The AFU takes the place of dedicated controls that would normally be on the fader strips. This means the fader strips can have a minimal set of controls without affecting the functionality of the console. The console is also very compact compared to a traditional console design with the same processing capacity.

The AFU provides individual controls for each signal processing function (EQ, filters, etc.)

### Alpha Display

The term alpha or alpha display refers to the alphanumeric digital displays used on the console surface. Alpha displays use led arrays to show text and numbers.

For instance, the Assignable and Pan Logicators on the fader strips each have an associated alpha display.

### Automation Mode

This refers to the states of controls that are used to record and re-play control moves against timecode. The two basic Automation Modes are Record and Play, and variations on these are used to perform different functions.

Controls can also be in Isolate mode which is used to exclude them from the automation system.

### Button

This is used throughout this manual to refer to buttons on the Encore screen that can be clicked for different functions within dialogue boxes. This is to avoid confusion with keys on the console surface.

### Check Box

A small box that is clicked to toggle an option on and off. Each click on the box will switch the box between ticked and un-ticked.

- When the box is ticked (i.e. checked) then the option is enabled.
- When the box is un-ticked (i.e. un-checked) then the option is disabled.

### Events

Events are changes to control settings that are recorded against timecode by the automation system. They are recorded in timecode order to make the Event List. When a Mix/Pass is

played back, it is the settings in the Event List that are used to automate the controls. Events make up the majority of the data stored by a Mix/Pass.

Individual Events can be manipulated directly using the Event List functions. Events are also manipulated using the offline automation functions.

### Electronic Scribble Strip

The electronic scribble strips are the alpha displays just above the Access keys on the fader strips that show the name of the path currently assigned to the fader. They can also show the fader level when the fader is touched.

### Encore Plus

Encore is a module within the console that is used in conjunction with the console surface to provide functions for configuring and setting up the console, using snapshots and automating the console.

Configuration functions include setting the tone (slate) frequency and volume, selecting the internal sample rate, deciding how the solo system operates and so on.

Console setup functions include rapid port routing (similar to using a patch bay only much faster), setting how many paths of each type are to be used, applying the same signal processing functions to multiple paths, etc.

Snapshots are used to record the settings of controls for later recall. The number of controls affected by a Snapshot can be changed with Snapshot Scope. Encore is used to store multiple lists of Snapshots.

Encore provides management of automation data and a automation functions such as labelling user selected timecode points, mix conforming and event list editing.

### Function Key

The Function Keys are the row of keys at the top of the Encore keyboard that are marked F1 to F12. Some of them can be used as shortcuts to Encore functions.

### Glide

Glide is an automation function. This is when a continuously variable control (fader, Logicator controlling frequency, etc.) moves or is moved smoothly to match back to the Play Pass.

There are three types of Glide:

- **Manual Glide:** This is when the **GLIDE** key for a control is pressed while the control is recording automation. The control matches back to the play pass using the Manual Glide time.
- **Auto Glide:** This is when a control matches back to the play pass automatically when it is released. The Auto Glide time is used.
- **Manual Match:** This is when the **GLIDE** key is pressed while a control that is recording automation is being touched. The alpha associated with the control will display an arrow indicating the direction to move the control to match to the play pass. The control will drop out of record when the play pass position is matched.

If the control is released before it is matched, it will remain in position waiting to be matched. If the play pass goes through the control position then the control will return to play back.

If the transport is stopped before the control is matched then the control will drop out of record and snap back, the same as any control in record when transport is stopped.

## Key

This term is used throughout this manual to refer to keys on the console surface (e.g. the Access key).

## Layers

The concept of layers is used to allow a digital console to control more signal paths (Channels, Tracks, etc.) than there are fader strips on the control surface.

For instance, a 24 fader the console will have two layers, one with 24 Channels and one of 24 Tracks.

Any of these can be selected to the fader strips, and fader strips can be locked to the current selection (e.g. one fader strip could be locked to one of its Channels while all the rest are switched to Tracks).

When a signal path is selected to a fader strip it is said to be "on the surface". Switching between layers is instant and reduces the size of a console so that all controls are in reach all the time.

## Mix/Pass

A Mix/Pass stores the data for one complete automation pass.

Each Mix/Pass contains:

- An Event List containing an Initial Snapshot (ISS) followed by Automation Events
- Automation Modes and Automation Scope as they were when timecode stopped at the end of the pass
- A Label List
- A Safety Snapshot

## Mix/Pass Tree

Mix/Passes are organised in a Mix/Pass Tree. The Mix/Pass Tree stores the structure of dependence between Mix/Passes - this means that it shows the order in which Mix/Passes were created and the lines of revision used to create each Mix/Pass.

- The Mix/Pass Tree is displayed graphically so that Mix/Pass dependencies are shown clearly.
- A Mix/Pass Tree always starts with Mix/Pass 1.1.
- A Mix/Pass Tree is displayed graphically for selecting a Mix/Pass revision as the Play Pass or for editing the Tree.

## MIOS

Acronym for Modular Input / Output System.

Each MIOS rack can consist of up to 6 (in total) of the following modules in any configuration:

- Mic/Line (4 Mic A, 4 Mic B and 4 Line Input)
- Input (16 Line Inputs)
- Output (16 Line Outputs)
- AES (8 Inputs & 8 Outputs)

The audio from the rack is converted into Madi for handling by the Quad Madi II card. Each rack has a headphone socket and 2 stereo monitor outputs (as L & R XLRs)

## Pan Designators

A pan designator is used to determine which portion of a panned signal will be received by a Track (bus) or Group.

For example: Channel 1 is routed to Track 1, Track 2 and some other destinations. Track 1 is pan designated as Mono (i.e. true mono) and Track 2 is pan designated as Front Left. Panning of Channel 1 will not affect Track 1 because it is a true mono destination. However, Track 2 will only receive the portion of Channel 1 for Front Left, according to the panning on Channel 1.

<b>Mono</b>	This is a normal mono path. The signal received Track or Group will not be affected by surround panning. A Track designated as Mono would not normally be used in a Film Stem.
<b>Centre Mono</b>	This causes a Track to act as a normal mono routing destination (i.e. unaffected by surround panning), but is routed to the Centre film monitor when used in a stem. If the Centre Mono designator is used in Surround Sound Manager then the Tracks it is applied to are auto-routed to the Centre film monitor. This can be applied to Groups, but only has the same effect as normal Mono.
<b>Left &amp; Right</b>	These are normal stereo left leg and right leg routing destinations. The signal received by a Track or Group is only affected by left/right panning (i.e. front/back, surround left/right and divergence controls have no effect). These should be used when Stereo is selected for Film paths in the Desk Edit Config page.
<b>Front Centre, Front Left &amp; Front Right</b>	These are the surround destinations corresponding to the front speakers. Front Centre is often fed directly by dialogue to 'lock' dialogue to the screen.
<b>Surround Mono</b>	This panning destination that has two different uses. In LCRS format, it is the panning destination for rear surround. In wider formats (5.1 and 7.1) it corresponds to the sub-woofer.
<b>Surround Left &amp; Surround Right</b>	These are the panning destinations for the rear left and right speakers. These are normally only used with the wide formats (5.1 and 7.1).
<b>Surround Centre</b>	This is the rear centre destination (i.e. opposite front centre) used by the 6.1 format (also known as Surround EX).
<b>Inner Left &amp; Inner Right</b>	These are panning destinations that sit between Front Left/Front Centre and Front Right/Front Centre to provide a smoother image across the front. These are normally only used with 7.1 format.

Table 8: Surround Destinations

## Path

Path is the term used to describe a discrete part of the signal flow through the console that has a distinct input and output, either to the outside world or to another path.

In an analogue console, there is a fixed number of signal paths and they are hard-wired into different parts (or modules) in the console.

the console is a digital system and this makes it 'assignable'. This means that the number of paths is not fixed but is selected according to the task in hand. This is done using the utility called Desk Edit that is part of Encore.

The path type indicates the way that a path is used. For instance, Channels are the main console inputs, similar to channel modules in an analogue console.

## Play Pass

The Play Pass is the Mix/Pass that is being used to play back a previous recording of automation moves (events).

Any Mix/Pass can be selected from the current Mix/Pass Tree to be the Play Pass.

## Pointer

The arrow shaped symbol that is moved across the screen by rolling the mouse. The point of the arrow is the active 'hotpoint' that selects items pointed to when the mouse button is clicked.

The shape of the pointer is context sensitive. For instance, the pointer sometimes changes shape to an hourglass (to indicate the computer is busy) or an I-beam (for selecting text).

## Processing Element

The console is a digital console that, depending on the specification, has a certain amount of processing power available. The processing power is provided by the XSP cards in the SPS Rack.

The processing power is assigned in portions according to how the console is configured for the current session.

Each signal path requires a certain amount of processing power. A signal path can also contain audio processing, such as EQ or dynamics, and this also uses processing power.

A processing element is one of the individual items of audio processing (a gate, three band equaliser, etc.).

The processing elements (and the processing power required) are assigned (or allocated) to the signal paths in advance of being used.

The system works out how much processing power would be required for the configuration requested and if there is too much then the excess is rejected.

Anything that applies changes to a signal in a path uses processing - this even includes the fader.

## Quad-Madi II Card

Each Quad-Madi II card has 4 pairs of madi ports, each pair consisting of one Transmit port (Tx) and one Receive port (Rx).

These pairs of ports are usually accessed from the back of the SPS rack (or they can be accessed from the front of the card itself (the upper port in each pair is Tx).

QuadMadi cards bring madi signals into the system and place the data on the backplane where the XSP cards can access, process, and then return this information.

QMII cards are available in three versions, depending on the amount of assignable delay required (none, 5secs total or 10secs total).

The card is also responsible for:

- Assigning Delay to a signal, either on Input or Output.
- Generating most (if not all) of the meter data seen on the meter bridge and fader beds.
- Dither on Outputs
- The system timing, ensuring all of the XSP processing cards run in sync.

## Radio Button

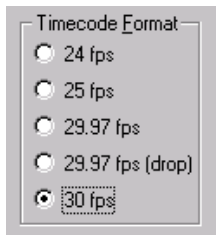


Fig 96: Radio buttons

Used to select one option from a limited list of options, as shown in the example, left.

Only one radio button in a set can be selected.

Selecting a radio button automatically de-selects the previously selected radio button.

## Record Pass

A Record Pass is made when the transport is in play and changes to control values are recorded against timecode.

At least one new automation event must be created by a control in a record mode. A new Mix/Pass number is created and displayed in red on the Encore screen.

## SPS Rack

The largest rack in the system, responsible for the main audio processing.

## Sync Source

This is the source for the word clock synchronisation signal that is used to ensure that samples of digital audio are sent and received simultaneously by digital audio devices that are connected together.

## Timecode

Timecode is a coded signal that is used to set the absolute timeline position. The source for timecode can be a tape machine (digital or analogue) or a pulse generator (video source).

## Virgin Territory

This is an expression used to describe parts of a Mix/Pass (or a series of Mix/Passes) for which there is no automation data and no settings in the Initial Snapshot.

The console takes an Initial Snapshot of all controls that can be automated. This means that the console never has virgin territory, so any problems that virgin territory may cause are prevented.

## Word Clock

This is a synchronisation signal that is used by digital audio equipment. Word clock ensures that the digital audio itself is synchronised so that artefacts such as distortion, crackle and drop outs do not occur.

For instance, if the console is recording to a digital multi-track tape machine then they must be synchronised to send and receive each digital sample of audio simultaneously. If they were not synchronised (out of phase) then the tape machine would record the samples incorrectly, so that the recording would not match the output from the console. The rate at which word clock is running sets the sample rate (e.g. 44.1kHz) for the devices reading the word clock.

This should not be confused with timecode (or timeline) which is used to keep devices lined up at the same time position.

### **xFade**

This is an abbreviation of **Crossfade**.

It is used in dialogue boxes in Encore to indicate where crossfade times can be entered (e.g. for Mix Conforming).

### **XSP**

Acronym for **Xtra Signal Processing**. These are the main processing cards in the SPS rack, and they are responsible for all the Audio and Dynamic processing.



## Appendix B: Windows Security Settings

Before modifying any security settings, it is important to take into consideration the default settings.

There are three fundamental levels of security granted to users. These are granted to end users through membership in the Users, Power Users, or Administrators groups.

### Administrators

Adding users to the Users group is the most secure option, because the default permissions allotted to this group do not allow members to modify operating system settings or other user's data. However, level permissions often do not allow the user to successfully run legacy applications.

The members of the Users group are only guaranteed to be able to run programs that have been certified for Windows.

For more information on the Certified for Windows Program, see the [Microsoft Web site](http://msdn.microsoft.com). (<http://msdn.microsoft.com>) As a result, only trusted personnel should be members of this group.

Ideally, administrative access should only be used to:

- Install the operating system and components (such as hardware drivers, system services, and so on).
- Install Service Packs and Windows Packs.
- Upgrade the operating system.
- Repair the operating system.
- Configure critical operating system parameters (such as password policy, access control, audit policy, kernel mode driver configuration, and so on).
- Take ownership of files that have become inaccessible.
- Manage the security and auditing logs.
- Back up and restore the system.

In practice, Administrator accounts often must be used to install and run programs written for versions of Windows prior to Windows 2000.

### Power Users

The Power Users group primarily provides backward compatibility for running non-certified applications.

The default permissions that are allotted to this group allow this group's members to modify computer wide settings. If non-certified applications must be supported, then end users will need to be part of the Power Users group.

Members of the Power Users group have more permissions than members of the Users group and fewer than members of the Administrators group. Power Users can perform any operating system task except tasks reserved for the Administrators group.

The default Windows 2000 and Windows XP Professional security settings for Power Users are very similar to the default security settings for Users in Windows NT 4.0. Any program that a user can run in Windows NT 4.0, a Power user can run in Windows 2000 or Windows XP Professional.

Power Users can:

- Run legacy applications, in addition to Windows 2000 or Windows XP Professional certified applications.
- Install programs that do not modify operating system files or install system services.
- Customize system wide resources including printers, date, time, power options, and other Control Panel resources.
- Create and manage local user accounts and groups.

- Stop and start system services which are not started by default.

Power Users do not have permission to add themselves to the Administrators group.

Power Users do not have access to the data of other users on an [NTFS](#) volume, unless those users grant them permission.

**Caution!**

*Running legacy programs on Windows 2000 or Windows XP Professional often requires you to modify access to certain system settings. The same default permissions that allow Power Users to run legacy programs also make it possible for a Power user to gain additional privileges on the system, even complete administrative control. Therefore, it is important to deploy certified Windows 2000 or Windows XP Professional programs in order to achieve maximum security without sacrificing program functionality. Programs that are certified can run successfully under the Secure configuration provided by the Users group. For more information, see the Security page on the [Microsoft Web site](http://www.microsoft.com)(<http://www.microsoft.com>).*

*Since Power Users can install or modify programs, running as a Power User when connected to the Internet could make the system vulnerable to Trojan horse programs and other security risks.*

**Users**

The **Users** group is the most secure, because the default permissions allotted to this group do not allow members to modify operating system settings or other users' data.

The Users group provides the most secure environment in which to run programs.

On a volume formatted with [NTFS](#), the default security settings on a newly installed system (but not on an upgraded system) are designed to prevent members of this group from compromising the integrity of the operating system and installed programs.

Users cannot modify system wide registry settings, operating system files, or program files. Users can shut down workstations, but not servers. Users can create local groups, but can manage only the local groups that they created. They can run certified Windows 2000 or Windows XP Professional programs that have been installed or deployed by administrators. Users have Full Control over all of their own data files (%userprofile%) and their own portion of the registry (HKEY\_CURRENT\_USER).

However, user -level permissions often do not allow the user to successfully run legacy applications. Only the members of the Users group are guaranteed to be able to run Certified for Windows applications. (For more information, see the Certified for Windows Program on the [Microsoft Web site](http://msdn.microsoft.com). (<http://msdn.microsoft.com>))

To secure a Windows 2000 or Windows XP Professional system, an administrator should: Make sure that end users are members of the Users group only.

Deploy programs that members of the Users group can run successfully, such as certified Windows 2000 or Windows XP Professional programs.

Users will not be able to run most programs written for versions of Windows prior to Windows 2000, because they did not support file system and registry security (Windows 95 and Windows 98) or shipped with lax default security settings (Windows NT). If you have problems running legacy applications on newly-installed NTFS systems, then do one of the following:

- Install new versions of the applications that are certified for Windows 2000 or Windows XP Professional.
- Move end users from the Users group into the Power Users group.
- Decrease the default security permissions for the Users group. This can be accomplished by using the Compatible security template.

## Backup Operators

Members of the Backup Operators group can back up and restore files on the computer, regardless of any permissions that protect those files. They can also log on to the computer and shut it down, but they cannot change security settings.

### Caution!

*Backing up and restoring data files and system files requires permissions to read and write those files. The same default permissions granted to Backup Operators that allow them to back up and restore files also make it possible for them to use the group's permissions for other purposes, such as reading another user's files or installing Trojan horse programs. Group Policy settings can be used to create an environment in which Backup Operators only can run a backup program. For more information, see the Microsoft Security page on the [Microsoft Web site](http://www.microsoft.com) (<http://www.microsoft.com>).*

## Special Groups

Several additional groups are automatically created by Windows 2000 and Windows XP Professional.

When a Windows 2000 system is upgraded to Windows XP Professional, resources with permission entries for the Everyone group (and not explicitly to the Anonymous Logon group) will no longer be available to Anonymous users after the upgrade. In most cases, this is an appropriate restriction on anonymous access. you may need to permit anonymous access in order to support pre-existing applications that require it. If you need to grant access to the Anonymous logon group, you should explicitly add the Anonymous Logon security group and its permissions.

However, in some situations where it might be difficult to determine and modify the permission entries on resources hosted on Windows XP Professional computers, you can change the Network access: **Let Everyone** permissions apply to anonymous users security setting.

**Interactive.** This group contains the user who is currently logged on to the computer. During an upgrade to Windows 2000 or Windows XP Professional, members of the Interactive group will also be added to the Power Users group, so that legacy applications will continue to function as they did before the upgrade.

**Network.** This group contains all users who are currently accessing the system over the network.

**Terminal Server User.** When Terminal Servers are installed in application serving mode, this group contains any users who are currently logged on to the system using Terminal Server. Any program that a user can run in Windows NT 4.0 will run for a Terminal Server in Windows 2000 or Windows XP Professional.

The default permissions assigned to the group were chosen to enable a Terminal Server to run most legacy programs.

### Caution!

*Running legacy programs in Windows 2000 or Windows XP Professional requires permission to modify certain system settings. The same default permissions that allow a Terminal Server user to run legacy programs also make it possible for a Terminal Server user to gain additional privileges on the system, even complete administrative control. Applications that are certified for Windows 2000 or Windows XP Professional can run successfully under the secure configuration provided by the Users group. For more information, see the Microsoft Security page on the [Microsoft Web site](http://www.microsoft.com) (<http://www.microsoft.com>).*

Local accounts created on the local computer are created without passwords and are added to the Administrators group by default.

If this is a concern, Security Configuration allows you control membership of the Administrators (or any other group) with Restricted Groups policy.

For more information, see [Restricted Groups](#).

When Terminal Server is installed in remote administration mode, users logged on using Terminal Server will not be members of this group.

For more information on setting up users, please refer to the Windows documentation supplied with your console.

Further information can also be found at:

<http://windowsxp.devx.com/articles/fus/default.asp>

<http://windowsxp.devx.com/articles/usingfustest/default.asp>

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