Solid State Logic

SOUND || VISION

AWS 900 V4 Software
Owner's Manual

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Important Information

This section contains definitions, warnings, and practical information necessary to ensure a safe working environment. Please take time to read this section before installing or using your AWS. Please do not dispose of these instructions.

Graphic Symbols

The following symbols may be used in this section and elsewhere in this manual:


General Hazard (refer to User or Service Instructions for details)


Electrical Hazard

General Safety

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Do not expose this apparatus to rain or moisture.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- Ensure that this apparatus is positioned on a secure level surface.
- Ensure that no strain is placed on the cables connecting to this apparatus. Ensure also that such cables are not placed where they can be stepped on, pinched, pulled or tripped over in any way.
- Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
- Adjustments or alterations to this apparatus may affect the performance such that safety and/or international compliance standards may no longer be met.
- This apparatus is equipped with a headphone socket – excessive sound pressure from earphones and headphones can cause hearing loss.
- This apparatus is designed for use solely by engineers and competent operators skilled in the use of professional audio equipment.

Caution


The AWS console is too heavy for one person to lift. If covers or panels are removed for any reason, sharp edges may be present on exposed metalwork.


To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.


To reduce the risk of electric shock, do not perform any servicing unless you are qualified to do so.

Power Safety

- This apparatus includes a universal power supply; approved and certified for operation in this apparatus.
- An external disconnect device is required for this apparatus. The appliance coupler is a suitable disconnect device.
- The appliance coupler shall remain readily operable.
- Use only the Solid State Logic provided power cords. Use of any other power cord is not covered by your warranty and may cause fire or explosion.
- The power cord must be earthed and precautions should be made so that the grounding is not defeated.
- Do not defeat the safety purpose of the polarised or grounding-type plugs fitted to the power cords. A polarised plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- To ensure safe operation of this apparatus, connect only to an ac. power source that contains a protective earthing (PE) conductor. This apparatus is designed for connection to single phase supplies with the neutral conductor at earth potential – category TN or TT – and is fitted with a protective fuse in the live conductor only. This apparatus is not designed for use with live and neutral connections reversed or where the neutral conductor is not at earth potential (IT supplies). This apparatus should not be connected to a power system that switches open the return (neutral) lead when the return lead also functions as the protective earth (PE).
- An external over-current protection device is required to protect the wiring to this apparatus which must be installed according to current wiring regulations. In certain countries this function is supplied by use of a fused plug. In other cases a fused spur or circuit breaker should be used according to local practice.
- If an extension power cable or adaptor is used, ensure that the total power rating of the power cable and/or adaptor is not exceeded.
- Unplug this apparatus during an electrical storm or when unused for long periods of time.
- Do not operate this apparatus whilst it is covered or boxed in any way.
- To reduce the risk of electric shock, do not perform any servicing unless you are qualified to do so.
- Disconnect the power cord before removing any panels. The power switch alone does not provide adequate isolation for service access.
- Do not permit anyone to remove panels or covers from this apparatus, other than qualified service personnel.
- Do not permit anyone other than qualified service personnel to operate this apparatus unless all panels and covers are in place.

Caution

When installing or servicing any item of SSL equipment with power applied, when cover panels are removed:

HAZARDOUS CONDITIONS CAN EXIST!

These hazards include:

- High energy stored in capacitors
- High currents available from DC power busses
- Hot component surfaces
- High voltages

To reduce the risk of fire, replace internal fuses only with identical type and rating.

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is used in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Disposal of WEEE by Users in the European Union

The symbol shown here is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

Standards Conformance

CE This apparatus fully conforms with the current protection requirements of the European community council directives on EMC and LVD.

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INTRODUCTION

INTRODUCTION TO THE AWS V4 SOFTWARE

Launched in 2004, the AWS (Analogue Workstation System) reinvented the professional production console by combining classic SSL Superanalogue™ console technology with comprehensive DAW control hardware in a single work surface. Over 550 consoles later the AWS is now used by leading international recording artists, producers and engineers and has shaped expectations for session workflow within today's and indeed tomorrow's production environments.

Designed for mid scale commercial recording and production facilities, the AWS features a compact 24 fader frame. The AWS delivers pristine SuperAnalogue™ mixing, 24 ultra-clean SSL SuperAnalogue mic pre's, classic SSL dual curve EQ on every channel, two assignable SSL Dynamics, legendary Stereo Buss Compressor, TotalRecall™ and full 5.1 monitoring. In addition to on board classic SSL Automation, both models also feature the revolutionary new A-FADA mode where motorised analogue faders follow DAW Automation data.

The AWS also features Ethernet connectivity for streamlined hardware control of your Digital Audio Workstation, delivering elegant, ergonomic physical control over your entire studio environment with dedicated heavy duty DAW transport, V-Pot multifunction encoders with position indicating LED's, Digital Scribble Strips, DAW fader mode, global and channel routing control and built-in TFT display for advanced plug-in editing. Project Session Management is kept simple through SSL's proprietary Logictivity interface.

The AWS is an SSL SuperAnalogue™ console, featuring the audio performance specifications that have established the benchmarks by which other manufacturers are measured. Exceptionally low THD, noise floor & crosstalk levels keep your audio absolutely pristine, while our legendary headroom carries every nuance of your audio and allows engineers to mix 'hotter' without distortion.

While the AWS offers a powerful large format analogue console feature set within a compact console design, it also goes further than any other analogue console by integrating seamlessly into a DAW-based facility by incorporating hands-on control of important recording, routing, mixing, and editing functions in all major DAW applications including Pro Tools™, Logic Audio™, Nuendo™, Sonar™ and many others.

Now, once again, the AWS console series is enhanced by a significant software release. You will find many new features including:

- A-FADA, analogue fader accesses DAW Automation
- Enhanced Logectivity remote browser
- "SET" Function allows a selection of channels to be changed in unison
- Enhanced EFX system
- "Show Links" in automation system
- Improved DAW support for dual work stations
- Advanced Talkback system
- "Solo Boost" and "Isolated AFL" features

CONSOLE SOFTWARE INSTALLATION

Please refer to the software installation instructions provided with your software upgrade package.

DAW Connection

The AWS console communicates with a DAW directly via Ethernet or via three MIDI ports. To use the Ethernet option a third party ipMIDI software driver must be installed on the DAW computer. Registered owners can download this from the SSL website: **www.update.solidstatelogic.com**. Using these methods of communication allows the AWS to be used with a wide variety of DAW applications on a wide variety of platforms. The AWS uses Mackie control or a 'HUI' compatible protocol, and so any DAW program that can be configured to use three HUI devices can access the full power of the AWS.

Please refer to your DAW manual for details on how to configure the DAW application for AWS under Mackie or HUI control.

Overview

In normal operation the AWS uses an Ethernet connection for DAW control and the SSL AWS Remote for session management. The next section describes how to download and install the ipMIDI driver and AWS Remote on Macintosh and PC.

Optionally the AWS can use a standard MIDI connection between the AWS console and your DAW using a multi port MIDI interface. In this mode only one DAW layer can be configured. The console communicates with the DAW via the MIDI ports located on the rear of the console – details are provided at the end of this section.

Installing the ipMIDI driver and AWS Remote

Download on to your workstation computer either the AWS900SE_Mac_Support.dmg disk image (Macintosh) or the AWSxxx.zip file (Windows). These contain the AWS Remote and ipMIDI applications and the latest version of the installation instructions:

www.update.solidstatelogic.com/support/consoles/aws/downloads.asp

System Requirements for your workstation computer: AWS Remote is a Java application. It will run under Java Version 5 or higher. ipMIDI is compatible with Windows 2000 (maximum 9 MIDI ports), XP, Vista and Windows 7, and Macintosh OS X 10.4 upwards.

Software Installation (Macintosh)

Mount the AWS900SE_Mac_Support.dmg disk image and open it.

AWS Remote: Double-click on the AWS Remote application to install.

ipMIDI: Double click on the ipMIDI.pkg file to run the installation program. Note that you will be asked to log out and in again once you have completed the installation. Once you have logged back in open Audio MIDI Setup, select the MIDI tab and double click on the ipMIDI icon. Set the number of MIDI ports to 10 in the resulting pop-up.

If you are upgrading an older copy of ipMIDI you must uninstall it before running the installer. To uninstall ipMIDI simply delete: <`/Library/Audio/MIDI Drivers/ipMIDIDriver.bundle`>. You should empty the Trash after deleting the bundle file before running the installer.

Software Installation (PC)

Open the AWS900SE_Win_Support.zip archive.

AWS Remote: Double click on AWSRemote.exe to install the program.

ipMIDI: Run the setupipmidi_1.8.exe application (note that the last part of the name may change depending on the version you are installing) by double clicking on it. Note that you will have to restart the computer at the end of the setup process. Once the computer has restarted right click on the ipMIDI icon in the task bar and set the number of MIDI ports to 10 in the resulting pop-up.

If you are upgrading an older copy of ipMIDI you must uninstall it (using Add/Remove programs) before running the installer.

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AWS 900 V4 TUTORIAL

Introduction

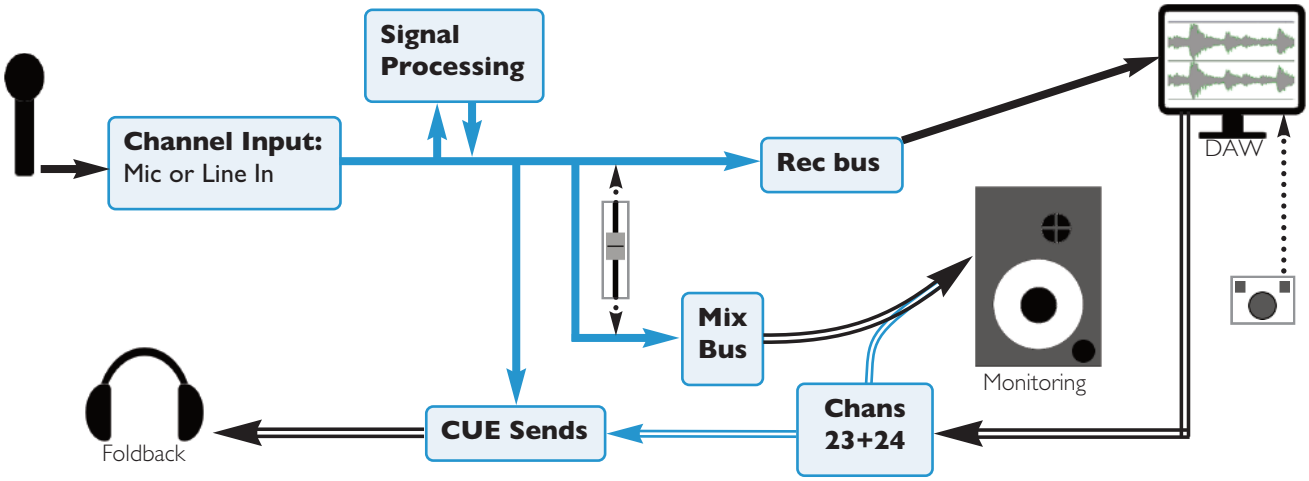
This tutorial aims to provide an operational overview of the AWS console, highlighting the ways in which it is different from other consoles with which operators may be familiar.

The tutorial provides an overview of typical studio configurations, mode selection and both the channel strip and Centre Section controls.

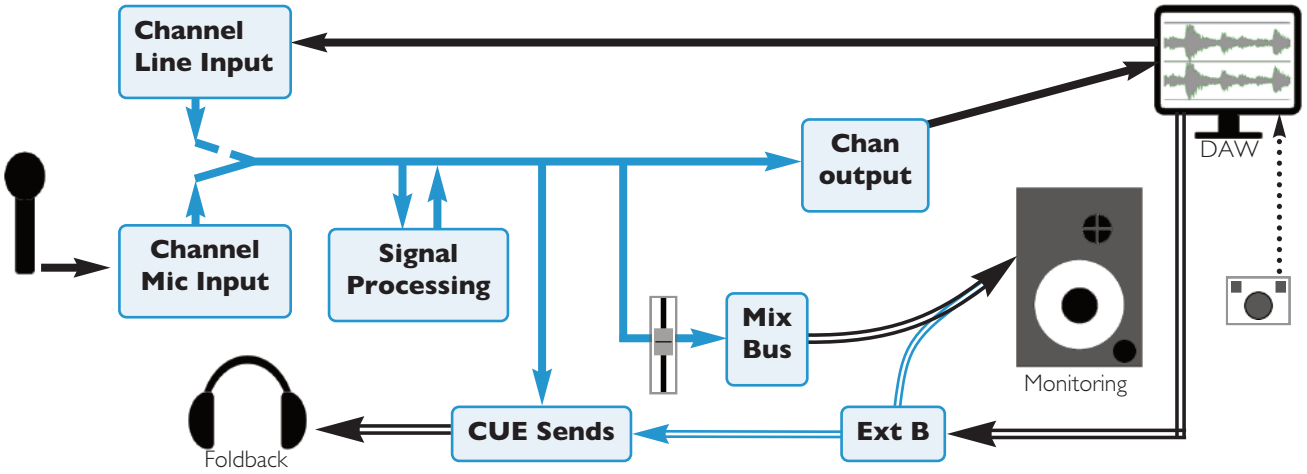
Studio Configurations

There are a number of ways the AWS can function within your studio environment, depending on how you intend to use it and how much DAW I/O is available to you. Two basic 'serving suggestions' are outlined below.

Smaller Systems



Larger Systems



Focus Modes

In order to allow console controls to be used for controlling either analogue signals or an external DAW, SSL created 'Focus modes' as a way of allowing the AWS to 'focus' on one or other domain. To switch between modes, press the Focus switch, towards the bottom of the console centre section (shown right). The button is lit for Analogue Focus, and unlit for DAW Focus. Focus mode can also be quickly checked by looking at the channel meters: the bottom LEDs stay lit when the console is in Analogue Focus.

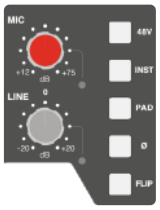
While a number of controls always retain the same role (such as analogue signal processing, routing and monitoring, or DAW transport control), the roles of the following controls are different in each Focus mode:

Console Element	**Analogue Focus** *(Button lit)*	**DAW Focus** *(Button unlit)*
Channel fader, plus its cut and solo	Analogue signal in channel	DAW channel level
Channel V-pot, plus its cut and solo	Available for DAW parameters *(see notes below)*	Available for DAW parameters or analogue signal control *(see notes below)*
Channel **SEL** switch	Assigns analogue channel to Master Section	Controls DAW Record, Select highlights DAW channel or plugin focus, depending on mode
Channel meters	Displays channel's analogue signal level *(see notes below)*	Displays DAW channel level *(see notes below)*

*When the console is in DAW Focus mode, analogue level control can be assigned to the V-pots by pressing the **CHANNEL** button, to the left of the Focus button. This allows 'In-Line'-style signal control but with the monitor mix being created using the DAW digital mixer. Pressing the V-pot will then reverse the functions of the V-pot and fader.*

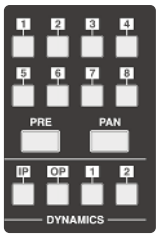
*Channel meters can be locked to either Focus mode by entering the Function Keys' **Meters** menu and selecting either **DAW** or **Anl**.*

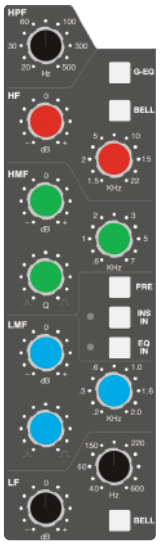
900 Channel Strip



Input configuration

Select the Mic or Line input by pressing **FLIP** and adjust the input gain using the appropriate gain pot. The signal level is shown in the meter bridge above the channel.





Signal Processing

Dynamics

Any channel can make use of the two compressor/gate modules housed within the AWS centre section. Press the **1** or **2** button at the bottom of the meter bridge to insert one of them into the channel path.

Dynamics cannot be assigned if they are already being used by another channel.

The **IN** button at the bottom of the compressor/gate module switches it into circuit.

Filter and EQ

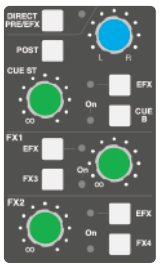
The filter and EQ are both switched in using the **EQ IN** switch. Turn the **HPF** pot up from minimum to activate the filter – the **EQ IN** goes from red to green to indicate that the filter is active.

The EQ has four bands, each with a gain control pot labelled 'dB' and frequency control, and the mid bands have Q control. Press the HF and LF bands' **BELL** buttons to switch from shelf to bell shape.

Insert Point

To switch the channel insert into circuit, press the **INS IN** switch in the centre of the EQ section. Press **PRE** to place it before the EQ in the processing chain.

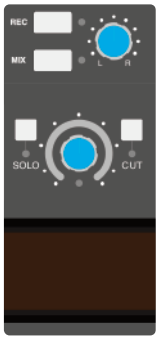
Routing



Cue, FX and EFX Sends

To activate the Cue or FX sends, press on its gain pot and turn up the gain. The Stereo Cue signal is normally sourced pre-fader – to move it to after the fader, press **POST**. The stereo cue also has a pan control.

There are two stereo cue busses and four FX busses. Each channel can feed one of the stereo cue busses and two of the FX busses (FX1 or 3, FX2 or 4). Any send can instead control the EFX system, which uses auxiliary sends to control the level of the channel's feed to the track busses or direct output – use the **CUE B**, **FX3**, **FX4** and **EFX** switches to select between sends.



Bus Routing

To route channels to the Record and Mix busses, press the **REC** and/or **MIX** switch to the right of the channel pan pot.

Use the eight numbered switches immediately underneath the channel meters (shown above right) to route to the track busses. By default, signals are sent post-fader. To source the send pre-fader or post pan-control, press the **PRE** or **PAN** switches beneath the track bus selection switches.

Channel Panning

The pan pot towards the bottom of the channel strip is used to adjust the stereo position of signals being sent to the Record and Mix busses, as well as to the Track busses when they are functioning in stereo.

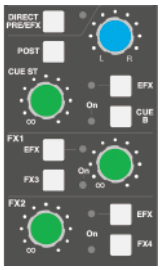
Level, Cuts and Solos

The channel fader controls the channel send to the Rec and Mix busses, as well as any other sends which are operating post-fader. Use the CUT and SOLO switches below the digital display to mute or solo the signal assigned to the fader.

Cue, FX and EFX Sends

The area below the EQ controls the channel's send to the console's two stereo cue busses and four FX busses. Each channel can feed one of stereo cue busses and two of the FX busses (FX1 or 3, FX2 or 4). Alternatively, the send controls for one of the busses can be assigned to the EFX system, which enables greater routing flexibility from the AWS channels by employing redundant auxiliary sends to control the level of the channel's feed to the track busses or direct output.

To activate the Cue or FX sends, press on its gain pot (the **ON** LED to the pot's right will light) and turn up the gain. The Stereo Cue signal is normally sourced pre-fader – to move it to after the fader, press **POST**.



The stereo cue's blue pan pot can be used to pan the channel send to the stereo bus.

By default, CUE A, FX1 and FX2 are active. To switch from CUE A to CUE B, FX1 to FX3 or FX2 to FX4, press the **CUE B**, **FX3** and **FX4** switches beside the relevant gain pot.

To use any bus send control to feed the EFX system, press the **EFX** button beside the relevant gain pot. That gain pot will now allow you to adjust the level being sent to any active track busses or, if the **EFXC** Function key is active, the channel direct output.

The **EFX** LED will light to indicate that EFX is active, and the **DIRECT PRE/EFX** LED lights green to indicate that the channel output has been assigned to the EFX.

*When the **SET** Function key is selected, pressing any in-channel non-latching switches (such as an FX activation switch) will cause that switch to activate in all selected channels*

Only one auxiliary send control from each channel may feed the EFX system.

Direct Output

By default, the channel direct output is sourced post-fader. To source it pre-fader, press the **DIRECT PRE/EFX** switch, located above the **CUE ST** gain pot.

Direct Outputs and EFX

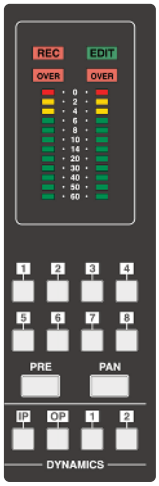
The EFX system allows redundant auxiliary send controls to be used to control the channel's send to the direct output. To employ EFX for any channel, select the auxiliary send control which is least likely to be needed in the channel (Stereo Cue, FX1 or FX2), and assign it to the EFX system:

Press the **EFX** button beside the gain pot. The **EFX** LED will light and the selected gain pot will now control allow you to adjust the Channel output level.

Press the **EFXC** Function key to switch the channel's EFX send from the Track bus to the Channel output. The **DIRECT PRE/EFX** LED in the channel strip lights green to indicate that the channel output has been assigned to the EFX.

> *Note also that only one auxiliary send control from each channel may feed the EFX system – if a second auxiliary send is assigned to EFX within the same channel, it will replace the originally assigned auxiliary.*

Track Bus Routing



Channel signals can be routed to the track busses using the eight numbered switches immediately underneath the channel meters. By default, signals are sent post-fader. To source the send pre-fader or post pan-control, press the **PRE** or **PAN** switches beneath the track bus selection switches. When the source is post-pan, the odd-numbered track busses receive the left component, and the even-numbered busses receive the right component.

> *Note that the Track busses are designed for external tracking and not for internal sub-grouping – they cannot be routed to the Mix and Rec busses.*

Track Busses and EFX:

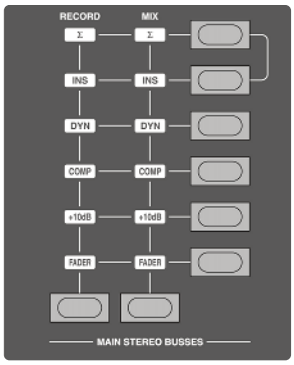
The EFX system allows redundant auxiliary send controls to be used to control the channel's send to the Track busses. To employ EFX for any channel, select the auxiliary send control which is least likely to be needed in the channel (Stereo Cue, FX1 or FX2), and assign it to the EFX system:

Press the EFX button beside the gain pot. The EFX LED will light. Check that the EFXC Function key is not pressed as this employs the EFX on the direct channel output not the track busses.The selected gain pot will now allow you to adjust the level being sent to any active track busses.

> *Note that only one auxiliary send control from each channel may feed the EFX system – if a second auxiliary send is assigned to EFX within the same channel, it will replace the originally assigned auxiliary.*

Centre Section

Adjusting the Mix and Record Busses



To assign control of the Record and/or Mix busses to the master fader, hold down the button at the base of the **RECORD** or **MIX** columns of the bussing matrix next to the fader, and press the button in the row labelled **FADER**. Now move the master fader to adjust the bus level.

Creating a Monitor Mix

Press **MIX** in the **MON SRC** buttons monitor source buttons on the Monitor Control Panel and ensure that the **CUT** button is inactive. Adjust the monitor level using the main monitor level pot.

Creating Foldback Mixes

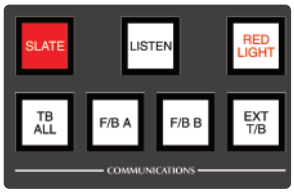
Foldback mixes can be quickly created using the Foldback section of the centre section.

Select sources using the buttons down the right-hand side. The **MIX** pots control level for the sources to their right. There is also an overall **LEVEL** control.

Using the FX Returns

External FX processing such as reverbs and delays can be connected to the console's four FX send busses. FX unit outputs can be returned back into the AWS via the four Stereo Return inputs in the console centre section. These can be routed to either of the foldback mixers, and to the record and mix busses.

Using Talkback



The talkback controls are located to the right of the shuttle wheel. Press **SLATE** to send talkback to the Mix, Rec and Track busses, press **FB A** or **B** to send it to the foldbacks, or press **TB ALL** to send it to all outputs. The black pots above the TFT screen control communications levels.

'In-line' Recording

Selecting **CHANNEL** on the Master Control Panel while in DAW Focus will allow you to control the input levels from the channel rotary encoders and the DAW mix from the channel faders. Pushing the Channel Rotary Encoder will swap the encoder and fader, which allows some faders to control input level and others to control the DAW monitor mix, mimicking the operation of an in-line console.

CONSOLE OPERATIONS

INTRODUCTION

The console's centre section is used to control the console busses, dynamics, monitoring and overall configuration as well as providing access to a number of DAW control elements.

Power Supply Indicators

Beneath the VU meters, on the main control surface, you will find a row of four LEDs that display the current state of power rails within the console. The ±15 Volt and the +4 Volt supplies are for analogue audio and logic circuitry respectively. The +12 Volt supply provides power for the faders and some relays. All LEDs should be lit whenever the console is powered up. If any are unlit, please call your technical department! If you don't have one, please refer to the maintenance information in the appendices of this manual.

Function Keys

A number of console elements are configured using the Function keys, located in the top right quarter of the monitor panel. The top row of buttons assign a subset of softkeys to the lower row of buttons. The display indicates the function assigned to the lower row. Frequently, the lower softkeys are also submenus, opening up a further set of softkeys in the lower row of buttons.

When none of the upper row of keys are selected, the following functions are applied to the lower softkeys:

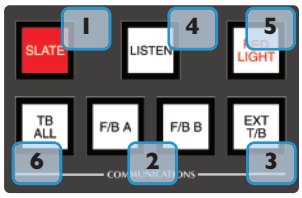
ALL Activates the **SEL** key on all channel strips.

SET Groups the controls of all channels with their **SEL** key activated. With **SET** enabled, pressing any momentary switch on any selected channel will cause the switch action to be replicated across all selected channels.

0dB Sets selected faders to 0dB

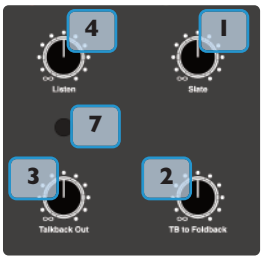
EFXC (Only available when EFX is active) Switches the channel's EFX send from the Track bus to the Channel output. The **DIRECT PRE/EFX** LED in the channel strip lights green to indicate that the channel output has been assigned to the EFX.

COMMUNICATIONS



The main communications controls (talkback etc.) are located to the right of the shuttle wheel at the bottom of the console (see left).

There is a built-in talkback microphone (7) located in the utilities section above the TFT screen.
Level controls for the communications are found here (see right).



Note that a gain control for the talkback mic preamp is provided on the connector panel adjacent to the external talkback output jack. An external talkback mic may be connected to the console's talkback distribution circuitry via an XLR on the connector panel. When using this facility, turn the console mic preamp gain to minimum unless you want the console mic to contribute to the talkback system.

1 The **SLATE** button interrupts the Record, Mix and Track bus outputs with talkback. The utilities section **Slate** pot controls the level of the talkback mic feed to these busses.

2 The **F/B A** and **F/B B** buttons inject talkback onto Foldback outputs A and B respectively, after the level and cut controls. The utilities section **TB to Foldback** pot controls the level of the talkback mic feed to the Foldbacks.

*Note that the **TB to FB** option in the Setup menu defines whether talkback sums with or replaces the normal foldback signal. (See below)*

3 The **EXT T/B** button injects talkback to the external talkback send, via a 6.35mm jack on the connector panel. **Talkback Out** controls this level.

4 An external 'listen' mic signal can be connected via an XLR on the centre section connector panel, and is usually placed in the recording area. The **LISTEN** button injects this mic signal onto the Mini A loudspeaker feeds, and dims the main loudspeakers. The **LISTEN** pot controls the mic level.

The circuitry features SSL's legendary listen mic compressor, the sound of which is much loved by many experienced SSL users, and so the connector panel provides a post compressor output jack – 'Listen Mic Out'.

*Note that the **SLATE** button cuts the monitors, and the other talkback buttons dim the monitors.*

5 **RED LIGHT** provides an isolated contact closure for hooking up to a studio red light via an external relay box. This function can be fired from a GPI input.

6 **TB ALL** feeds the talkback mic to the foldback sends and the external talkback output.

*Note: The talkback switch functions are all duplicated on the Talkback/GPIO connector on the rear of the console as are the monitor **CUT** and **DIM** switches.*

Communications Setup Options

Further Talkback, Listen and Red Light communication options are accessed via the TFT screen. The 16 boxes at the base of the screen indicate the functions assigned to the 16 buttons in two rows of eight below the screen. Press the **SSL** button, followed by **Misc** > **Setup** and locate the following options in the list:

Talkback switches are:	Select the operation of the talkback buttons: Momentary / Latching / Auto (Play) / Auto (Record).
Listen switch is:	Select the operation of the Listen buttons: Latching / Auto (Play) / Auto (Record).
Red light switch is:	Select the operation of the Red Light switch: Manual / Auto (Play) / Auto (Record).
TB switches disable Listen:	This allows the Listen function to be switched off when talkback is activated, thus avoiding feedback problems.
TB to FB:	(Sums / Replaces) When assigning talkback to foldbacks, this option defines whether talkback sums with or replaces the normal foldback signal.

The 'Auto' modes inhibit the Talkback and/or Listen switches when the transport Play or Record tally is lit. Selecting red light to one of 'Auto' modes makes it follow the Play or Record tally.

Oscillator

The 'oscillator' is in fact a comprehensive tone and pink noise generator. It is located above the TFT screen, contains controls for frequency, level and routing of tone or pink noise to the Mix, Record and Track bus outputs and to the monitor outputs for use in monitor calibration.

OSC ON activates the oscillator output (surprise, surprise!). It's good practice to turn the oscillator off when recording, to prevent any accidental routing to desk outputs.

PINK ON switches the output from tone to pink noise. Note that the pink noise level can only be adjusted using the Pink 'Cal' preset.

LEVEL This pot adjusts the level of the tone generator from -25dBu to +20dBu. When fully anticlockwise, a preset '**Cal**' level is selected which can be calibrated using the multi-turn presets located below the level control; a red LED lights to show when the level control is in the calibrated position.

FREQ This rotary switch provides six preset frequencies.

The oscillator may be routed to the **TRACK** busses, the **MIX** bus and the **REC** bus (individually or simultaneously) using the switches to the right of the **LEVEL** pot.. The oscillator output is also available on an XLR on the centre section connector panel.

Console Setup Menu

The centre section TFT screen provides access to a setup menu that holds a number of useful console-related items. Select **SSL** followed by **Misc** and then **Setup**.

To change a setting, use the left hand V-pot ( ) to select the item, then press the V-pot to enter adjustment mode. Turn the V-pot to the desired setting and press it a second time to save the setting.

The Setup options are described over the following pages.

Automation

Glide frames: Sets the ramp time in frames for the automation SNAP mode. (range 0 - 255)

Rollback threshold frames: Sets the number of consecutive frames that the system needs to see to determine if a Rollback has taken place. The range is 2 - 10; the default is 2. Increase as required if a Rollback occurs when you stop the timecode master.

In Mix show: When using the automation, you have a choice of what is displayed on the console's channel scribble strips (and below the Group and Master fader levels in the Centre Section TFT screen). The choices are:

Automation Mode: displays the status of the faders – Auto, Safe or Manual;

Channel names in Mix running: displays the channel names once **Execute** is pressed in automation,

Channel names: displays the channels names regardless.

Latched Match and Play (ON/OFF) Normally Match and Play are automatically deselected after a Cut switch is operated. This option latches the Match or Play function until deselected manually.

Talkback

Talkback switches are: Select the operation of the talkback buttons: Momentary / Latching / Auto (Play) / Auto (Record).

Listen switch is: Select the operation of the Listen buttons: Latching / Auto (Play) / Auto (Record).

Red light switch is: Select the operation of the Red Light: Manual / Auto (Play) / Auto (Record).

TB switches disable Listen: This allows the Listen function to be switched off when talkback is activated, thus avoiding feedback problems.

TB to FB: (Sums / Replaces) When assigning talkback to foldbacks, this option defines whether talkback sums with or replaces the normal foldback signal.

Monitor Section

Monitor Gain Display: The calibration of the main monitor Gain pot and display can be set to one of three industry-standard monitoring modes: Music (Off to 11) / Film (Off to 95dB) / Gain (Off to 0dB)

Monitor Set CAL level: When in Film mode, adjust the calibrated listening level: 70 - 90 (dB).

*See **Monitor Level Display and Calibrated listening level** for more details of these options*

Solo Gain boost: Automatically increases the monitor level when a SOLO or AFL is activated (Range: 0-10dB).

Isolated channels AFL on solo: Set solo-isolated channels to automatically solo in AFL (ON/OFF).

Desk Setup

Input Cut Enable: If set ON, the channel strip **CUT** button will cut prefade sends, ie. Aux and CHOP sends (ON / OFF).

Analogue Meter Scaling: Set the analogue level corresponding to 0dBfs on the console meters. (Range 18, 20, 22, 24 dBu).

DAW setup

DAW setup parameters can be found later in this manual.

Desk settings

Scribble Strip Brightness: Use this to adjust the channel scribble strip brightness (range: 1-6)

Turn Off Display After: Shuts off the TFT display after a predetermined time: 30 mins to 5 hours in 30 minute increments.

The scribble-strip displays can be turned off by turning the control pot clockwise (beyond 8 or 6) to 'Off'.

This feature is dependent on your scribble strip type and will not be available on original 900 consoles.

On occasion, when changing the status of some of the above functions, you will be prompted to reboot your AWS console. It is possible to do this without reaching the Power switch at the rear of the console through the addition of a soft menu **RESTART**. When you select this you will be prompted to **CONFIRM** and your console will reboot.

DAW CONTROL

INTRODUCTION

When connected to a Digital Audio Workstation which supports either the HUI or Mackie Control Universal (MCU) protocols, the AWS becomes a powerful digital work surface controller, giving direct access to the most important controls within the DAW. The console faders can be used to control the workstation faders and sends, the 24 channel V-pots can be used to control pans, sends and I/O functions and the Master Control Panel and plug-in controller provide easy access to a range of other parameters.

Provided the Logictivity option has been enabled the AWS can control two DAWs simultaneously from two virtual 'layers'.

For an up to date list of compatible DAW applications please go to the AWS support pages at http://www.solidstatelogic.com

- Pro Tools and a number of other DAWs support the HUI protocol.
- Many other DAWs, including Logic Audio, Sonar, Nuendo and Digital Performer, support the MCU protocol.

Please refer to the controller documentation that came with your DAW

A-FADA

A-FADA (Analogue Fader Accesses DAW Automation), is an innovative new way of combining the convenience of DAW automation with the audio qualities of analogue mixing by using DAW track automation to control the analogue faders.

DAW Controller Features Summary

- Direct access to all major DAW mixing, editing and automation parameters
- Direct control of plug-in settings
- Integral colour TFT display with dedicated control keys
- High resolution rotary encoder (V-pot) in every channel provides control of DAW pans, sends and I/O routing
- High quality motorised faders to write/replay level moves in your DAW
- Simple switching between console layer and DAW control layer
- Full remote control implementation
- Operation independent of platform or application
- DAW control of analogue faders using A-FADA

Focus Modes

In order to allow console controls to be used to control either analogue signals or an external DAW, SSL created 'Focus modes' as a way of allowing the AWS to 'focus' on one or other domain. To switch between modes, press the Focus switch, towards the bottom of the console centre section (shown right). The button is lit for Analogue Focus, and unlit for DAW Focus. Focus mode can also be quickly checked by looking at the channel meters: the bottom LEDs stay lit when the console is in Analogue Focus.

While a number of controls always retain the same role (such as analogue signal processing, routing and monitoring, or DAW transport control), the roles of the following controls are different in each Focus mode:

Console Element	**Analogue Focus** *(Button lit)*	**DAW Focus** *(Button unlit)*
Channel faders, plus its cuts and solos	Analogue signal in channel	DAW channel level
Channel V-pots, plus its cuts and solos	In-line: Secondary path level; Stereo: Balance Or DAW params *(see notes below)*	Available for DAW parameters or analogue signal control *(see notes below)*
Channel **SEL** switch	Assigns analogue channel to Master Section	Highlights DAW channel, track arm or plug-in select
Channel meters	Displays channel's analogue signal level *(see notes below)*	Displays DAW channel level *(see notes below)*

*When the console is in DAW Focus mode, analogue level control of stereo channels can be assigned to the V-pots by pressing the **CHANNEL** switch, to the left of the Focus button. This allows 'In-Line'-style signal control but with the monitor mix being created using the DAW digital mixer. Pressing the V-pot will then cause the functions of the V-pot and fader to be swapped.*

*Channel meters can be locked to either Focus mode by entering the Function Keys' **Meters** menu and selecting either **DAW** or **Anl**.*

This section of the manual assumes that the console is in DAW Focus mode.

CONFIGURING DAW LAYERS

DAW Layers

The AWS can connect to two DAWs simultaneously which are controlled from the two virtual 'layers'. Control operations performed on the AWS control surface will then affect whichever DAW is assigned to the currently selected layer. To select which DAW is assigned to each layer go to **SSL** > **Misc** > **Setup** on your console and select the following:

MIDI Connects via: Network. Note that only one DAW layer is available when using the standard MIDI ports.

DAW 1: Protools HUI / Logic / Logic Handshake / Nuendo / Digital Performer / Sonar

DAW 2: Protools HUI / Logic / Logic Handshake / Nuendo / Digital Performer / Sonar / None

*If '**None**' is selected for **DAW 2**, Menu entries related to DAW 2 will not appear.*

Transport lock layer: Select the master DAW layer for transport control between DAW 1, DAW 2 or Off.

First physical channel DAW 1: Select the console channel number that is controlling the first track number on DAW 1.
(When DAW 2 is assigned, there is a **First physical channel DAW 2:** menu entry.)

Channel Count DAW 1: Select the total number of channels dedicated to DAW control (8-24 in steps of 8).
(When DAW 2 is assigned, there is a **Channel Count DAW 2:** menu entry.)

Single Layer: Assign both DAWs to a single layer (ON/OFF).

Can only be set to ON if the two DAW layers are assigned to different channels.

After making these changes the console should be restarted.

Setup ipMIDI ports 1, 2 and 3 as the MIDI controller ports within the Primary DAW and ipMIDI ports 4, 5 and 6 as the MIDI controller ports within the Secondary DAW. See the end of Section 4 for more details as to the setup of each specific DAW.

When the desk is in DAW Focus, the console's controls will only affect the DAW on the current layer. There are two ways to select which DAW layer is being controlled:

- In the TFT screen, activate **SSL** then press **Daw** and choose either **DAW1** or **DAW2**.
- Press the **MISC** Function Key and choose either **DAW1** or **DAW2**.

*The transport controls can be locked to one layer using the Setup menu's **Transport lock layer** entry – see above.*

Communication with your DAW

The AWS connects to your chosen DAW via three MIDI ports at the rear of the console or via MIDI over Ethernet. Each AWS DAW layer emulates three HUI or MCU controllers. The HUI and Mackie Control (MCU) protocol are widely supported by DAW manufacturers.

Refer to your DAW manual for information on how to configure your software. Once configured and connected, communication with the DAW will be initialised, and the level of the AWS channel faders, rotary controls and master functions will be set to match the DAW controls (provided you are in DAW Focus mode and have the right DAW layer enabled).

When using your DAW without the AWS, you should remove the AWS from the MIDI controllers section of your DAW (please see the information specific to your DAW).

Logic Handshaking

Logic Audio uses a challenge - response system to automatically detect connected controllers when it boots up. This feature can be enabled by selecting 'Logic Handshake' when choosing the protocol type in **SSL** > **Misc** > **Setup**. Selecting any other MCU protocol will disable this feature.

A-FADA Analogue Automation

A-FADA (Analogue Fader Accesses DAW Automation) is an innovative new way of integrating your DAW automation system with the audio qualities of analogue mixing by using DAW track automation to control the analogue faders and cut functions, opening up a wide range of possibilities for creativity and convenience in mix automation.

Operationally, A-FADA should quickly become intuitive to anyone who is familiar with their DAW automation system. With this in mind, the descriptions below provide enough information to get you going and solve the immediate challenges, but the rest is up to you.

A-FADA is enabled in the TFT screen by selecting **SSL** followed by **Daw**, and then selecting **DF 1** or **DF 2** (A-FADA control from DAW Layer 1 or Layer 2). Alternatively, press the **MISC** button in the Function keys, and select **DF 1** or **DF 2** (A-FADA control from DAW Layer 1 or Layer 2).

> *Note that if only one DAW option is available, you have only set up one DAW layer in the console screen's **SSL** > **Misc** > **Setup** menu.*

The console's analogue faders are controlled by the automation information from those DAW tracks assigned to channels 1-24. The automation data is applied to the signal path assigned to the fader, regardless of whether it is mono or stereo. In Inline Mix or Track and Analogue Focus mode the channel V-pot will control the secondary signal path but will not write automation to the DAW, allowing more audio channels to be passed through the console on mix-down if required. In DAW focus the channel V-pot controls the selected DAW parameter.

Once A-FADA mode has been enabled the console faders will control the 24 corresponding DAW faders and the fader position signal from the DAW will control the console fader positions and analogue gain, regardless of the selected Focus mode.

In Analogue Focus the channel cut switches control the analogue cuts directly, and in DAW Focus they are controlled via the DAW. This allows channels to be quickly muted without writing automation by selecting Analogue Focus.

The console solo switches are connected to the analogue signal path in both Focus modes.

In order to lock console channels to the same DAW track (and thus automation), Channel/Bank scrolling is disabled in A-FADA mode.

If you now play the DAW automation or move an on-screen fader, you will see the analogue faders move – these movements are affecting the analogue signal levels within the AWS.

Snap

The **Snap** function, located within the **Misc** Function keys and within the TFT screen's DAW menu, takes a snapshot of the console analogue fader positions when A-FADA mode is enabled. Pressing the **Snap** switch will move the faders to the stored positions, allowing the analogue balance to be restored and written to the DAW automation.

Setup Guidelines

When moving the faders, there is a good chance that you will be affecting the track output from the DAW and the channel output within the AWS simultaneously, thus duplicating all of the level changes – an effect which is probably unwanted.

There are a number of potential solutions to this duplication:

Solution 1: Use pre-fade outputs

This first option would be suitable if you wish to replicate the DAW automation in the analogue domain:

Route DAW tracks from pre-fader to the appropriate analogue outputs. In Pro Tools this can be done using a prefader aux send and setting the aux gain to 0dB. In Logic route an aux send to a different bus on each channel then route the aux sends to the appropriate analogue outputs. De-assign the track outputs to avoid summing pre and post fade signals. Within the DAW, fader movements will now only affect the Master bus and any other post-fader sends.

This also allows the creation of post fade aux sends within both the AWS and the DAW, providing some interesting creative options.

Solution 2: Create additional DAW tracks

This second option allows automation to be written independently for analogue and DAW channels.

Create 24 blank DAW tracks, and bank to appear on console channels 1-24. Select A-FADA.

If you have automation you wish to re-use, copy it from the audio tracks and paste it to the blank tracks you have just created. You will then need to either disable or delete the automation from the original tracks.

If the automation is deleted rather than disabled, micro-automation (such as the removal of undesirable transients) can be performed on the original audio tracks within the DAW by temporarily disabling A-FADA and scrolling to those tracks.

Note that MIDI tracks should not normally be used as the fader position is displayed as a controller value (0-127) rather than in dB.

Solution 3: Use a dedicated DAW for analogue automation

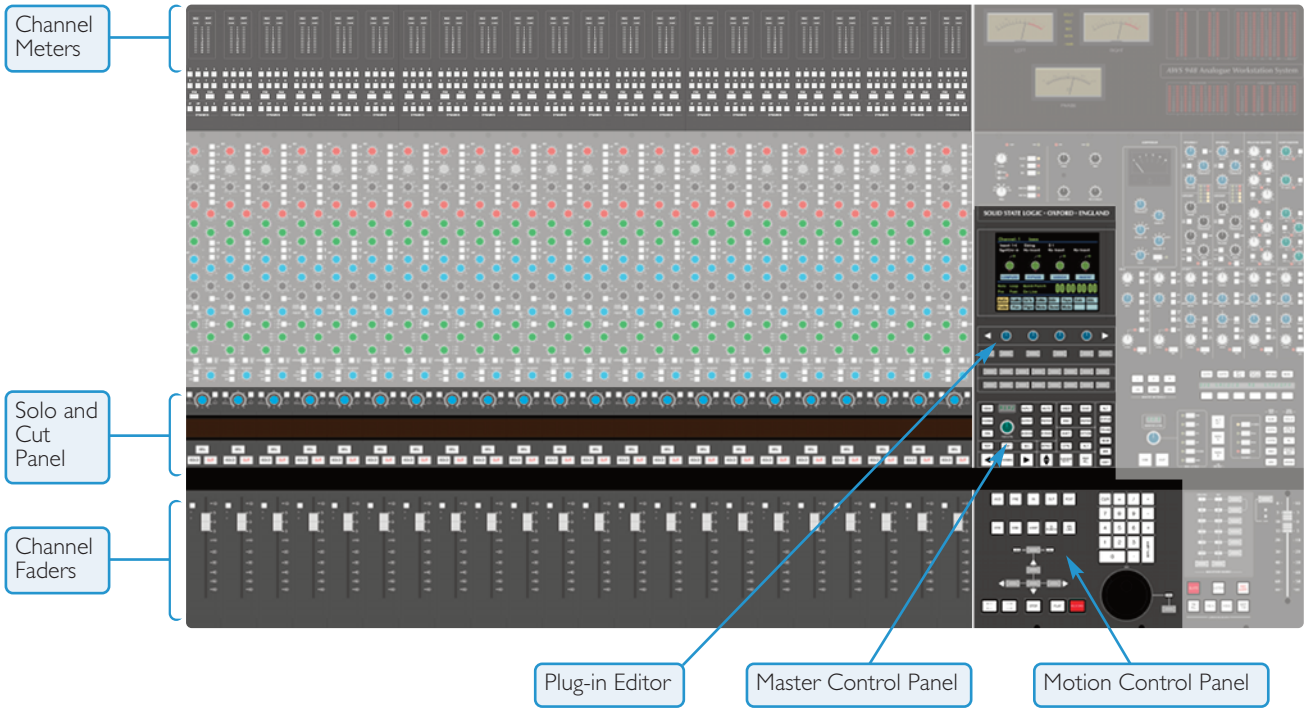
Use two DAW layers, one for your audio and one for your automation. This will require you to have two DAWs running on either the same or two separate computers, and to enable both DAW layers within the console screen's **SSL** > **Misc** > **Setup** menu.

A variation on this is possible with Logic, which allows two (or more) controllers to be configured. This allows one layer to be used as a normal DAW controller and the second to be locked to 24 dedicated automation tracks.

Micro-automation (such as the removal of undesirable transients) could be performed on the original audio tracks within the DAW by entering DAW Focus mode and scrolling to those tracks.

HUI and MCU common Features

This section describes functions that are common to both HUI and MCU protocols.



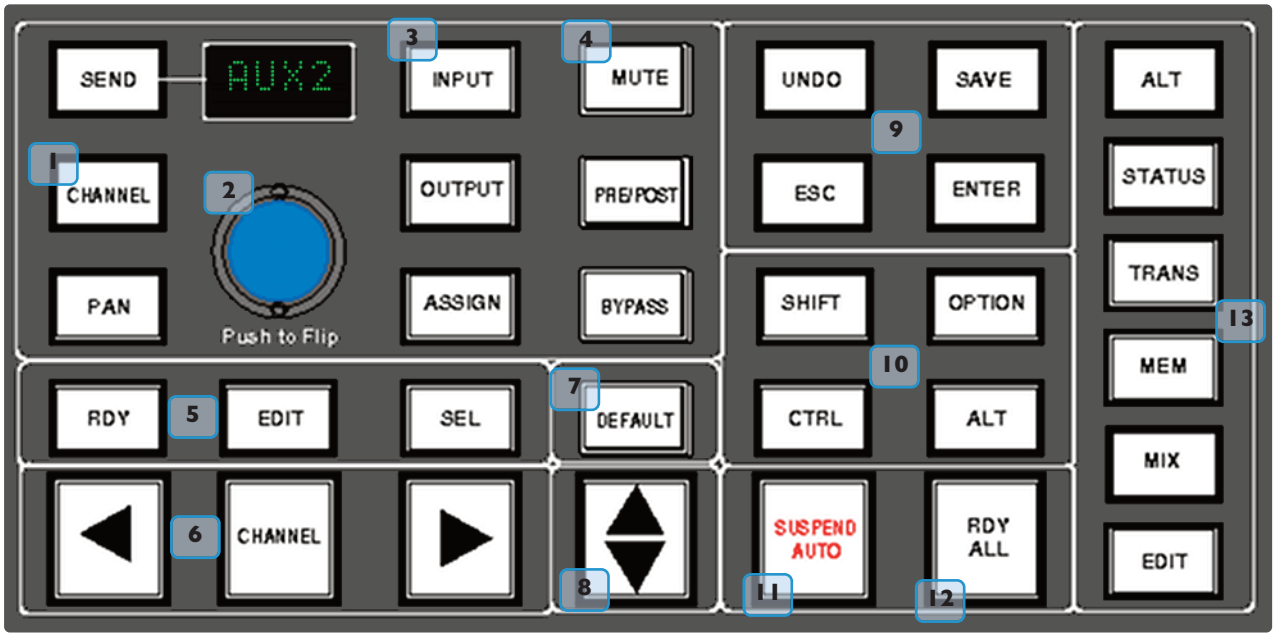
The AWS faders and Solos and Cuts panels can be switched between controlling the analogue audio signal path and the DAW using the Focus switch – see below. The Motion Control Panel, Master Control Panel and Plug-in Editor always control the DAW. The illustration above shows the DAW controller elements in 'DAW Focus Mode'. The greyed-out areas indicate analogue-only console elements.

V-Pots

Each channel contains a continuous rotary controller or 'V-Pot'. The Plug-in editor has four additional rotary controls for plug-in parameters.

The Master Control Panel

The Master Control Panel includes a mixture of master functions and modifier keys for control of a DAW. The layout shown below is for HUI. Alternative layouts for the various MCU implementations are included later in this manual.



6 Channel Banking Controls

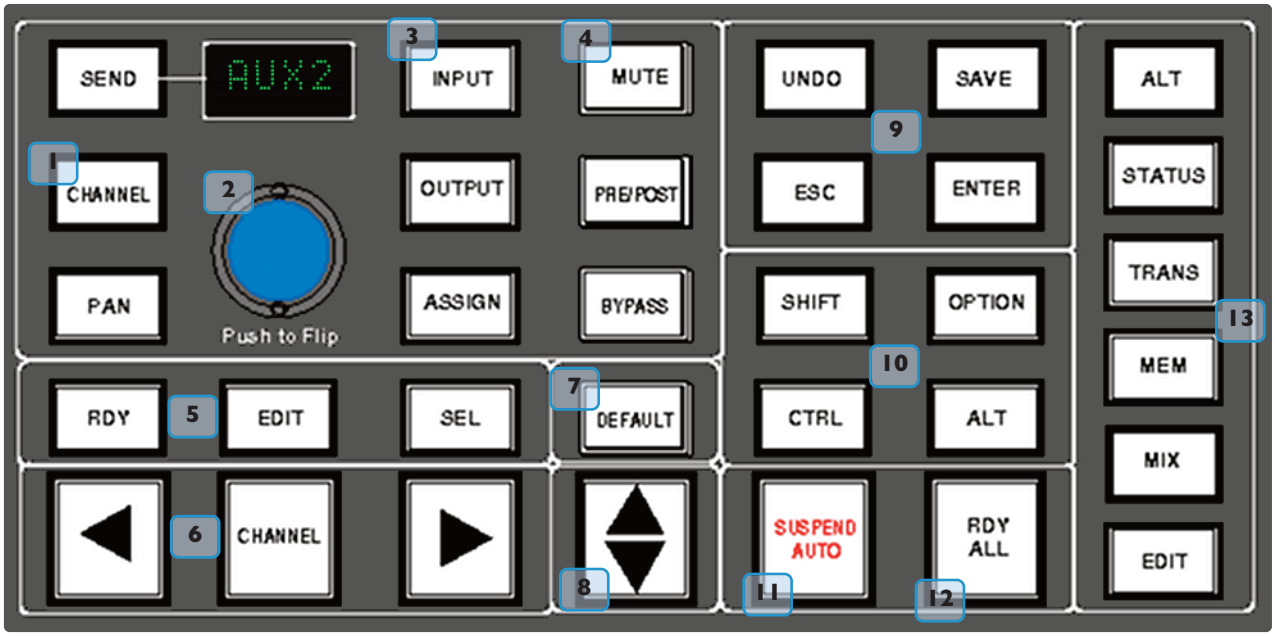
The AWS console has 24 touch sensitive moving faders, however, if the DAW session has more faders than this, the AWS can 'bank flip' its faders to control any number of virtual faders within the DAW.

To flip the 24 console faders to the next set of 24 DAW faders, press the right bank button. To flip back to the previous 24 faders press the left bank button. Any number of virtual faders can be controlled from the AWS using the banking buttons.

To scroll the faders one at a time, press the **CHANNEL** button (located between the two banking arrow buttons) followed by the left or right banking buttons; the **CHANNEL** button will light to indicate it is in 'Channel' mode. Press the **CHANNEL** button once more to switch back to 'Bank' mode.

Pro Tools HUI Control Guide

This section describes functionality on Digidesign's Pro Tools 8 and above. The functionality of other packages will depend on their implementation of the HUI protocol.



13 DAW Window Buttons

This group of keys provides instant access to the various windows within the DAW. Press them once to display or hide the relevant menu.

ALT	Opens or closes the floating window for the currently selected plug-in.
STATUS	Opens or closes the Session Setup window.
TRANS	Opens or closes the Transport window.
MEM	Opens or closes the Memory Locations window.
MIX and **EDIT**	Brings the window to the foreground. The active window's button will light.

9 DAW Utility Buttons

This group of four buttons provide shortcuts to useful functions in the DAW.

SAVE will light when unsaved data is present. It flashes when pressed once – press again to Save the session, or press **ESC** to cancel.

The **UNDO** button will light if undo is available and flash if redo is available – press it to Undo the last function. Press **ALT**+**SHIFT**+**UNDO** to Redo the last function.

ENTER duplicates the function of the Enter key on the computer keyboard.

ESC(ape) duplicates the function of the HUI F8 key and cancels on-screen dialogues.

10 Modifier Buttons

These buttons modify the function of other buttons. Their function is detailed in the relevant sections of the manual.

OPTION typically changes the function of a single button to affect all similar buttons. For example, holding it down and pressing a channel **CUT** button will cut all DAW channels. It is a direct equivalent of the Macintosh Command key.

SHIFT allows selection of multiple objects or controls. It is a direct equivalent of the computer keyboard Shift key.

ALT increases the resolution of rotary controls and inverts switch selections when held down. It is a direct equivalent of the Macintosh keyboard Option key.

CTRL disengages grouping when held down. It is a direct equivalent of the Macintosh keyboard Ctrl key.

7 The Default Button

Faders, pans and sends can be reset to their default values using the **DEFAULT** button:

Resetting Pans

Select the **PAN** button on the Master Control Panel, and all 24 V-pots become pan controls. Hold the **DEFAULT** button while pressing the V-pot on the channel you wish to reset. Hold down **OPTION** and press **DEFAULT** to perform a reset across all pans.

Resetting Faders

Hold the **DEFAULT** button while pressing the **SEL** button on the channel you wish to reset. Hold down **OPTION** and press **DEFAULT** to perform a reset across all faders.

Resetting Sends

Select the **SEND** button on the Master Control Panel. Turn the Master V-pot to scroll through the list of available sends. Hold the **DEFAULT** button while pressing the channel V-pot on the channel you want to reset. Hold down **OPTION** and press **DEFAULT** to perform a reset across all sends.

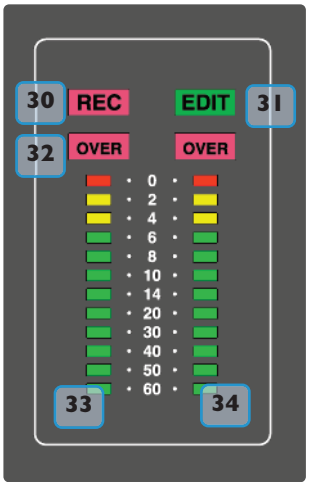
Resetting Plug-ins

Hold the **DEFAULT** button and press **COMPARE** (the Plug-In Editor function). The plug-in default value is either the factory setting or user setting determined within the DAW.

Channel Functions

In DAW focus mode the channel meters, faders and part or all of the Solo and Cuts tile control the DAW and display its status.

33 34 DAW Meters



When in DAW focus mode, the 24 stereo channel meters indicate the level of the DAW signal path. Mono tracks are displayed on the left meter only. When a signal reaches 0dBFs, the corresponding **OVER** tally 32 will light to indicate that the DAW signal level has clipped.

These meters duplicate the function of meters within your DAW, and show the same information. The meters also follow DAW pre or post fader meter settings, as set within the DAW.

> **OVER** *tallies can be reset using the F1 function in the Fkys softkey menu*

Status Indicators

The meter shows the status of the corresponding DAW track.

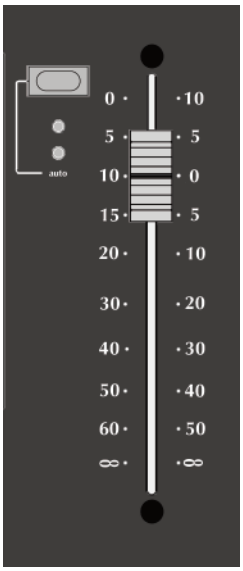
REC 30 flashes when the track is in record ready and lights when the track is in record.

EDIT 31 indicates that the track is selected for editing with the plug-in controller.

Multi-channel Metering (TDM Systems Only)

Multi-channel metering can be displayed by pressing **OPTION** + **SOLO** on a selected multi-channel track. The next two stereo meters are used to show the additional information. Normal metering functionality resumes after deselecting the Solo function.

Channel Fader



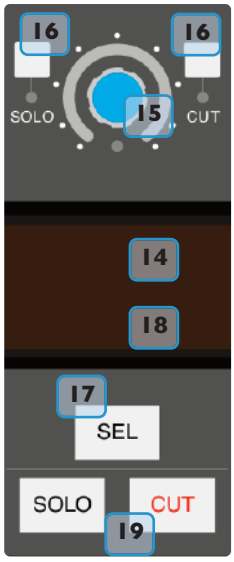
The channel fader can control any virtual DAW fader including Channel, Master, Auxiliary MIDI tracks or Instrument tracks. The calibration of the fader will depend upon the DAW (please refer to your DAW manual for more details). Pressing **ALT** will display the gain of the DAW fader on the fader scribble strip when you move the fader.

Fader Grouping

Channel faders will follow any grouping enabled within your DAW. Faders can be disengaged from a fader group simply by holding down the **CTRL** button or by touching one fader in a group while adjusting another fader's level. Relative fader levels are maintained upon release of the fader.

Channel Solo and Cut Tile

15 Channel V-pot



Each channel has a continuous controller (the V-pot). This can be used to control Send levels and Panning, and to assign Input, Output and Send routing.

The V-pot includes a push switch that is used (depending on the centre section mode) to select sends to be pre or post fade, to mute sends and to confirm I/O selections.

16 19 Solo and Cut Switches

Two sets of **SOLO** and **CUT** buttons are provided on each channel. The upper set is associated with the signal path controlled by the channel V-pot and the lower set with the signal path under fader control. Thus in Analogue Focus mode and with **CHANNEL** mode selected the lower set of buttons control the analogue path and the upper the DAW channels. Changing to DAW Focus reverses this.

When a DAW solo is active the cut buttons on the other channels flash.

Holding down **OPTION** and pressing a channel **SOLO**/**CUT** button will select/deselect that function across all channels. If channels are already soloed then this will turn off all solo buttons, making this a quick way to clear solos.

Solo Isolate

Holding down **ALT** and pressing a channel **SOLO** will put a channel into Solo Isolate mode. This mode prevents that channel from being cut when a **SOLO** is activated on another channel. This is particularly useful for FX return tracks.

17 Channel Select Button

The channel **SEL** button can function as a channel select button, a track record enable or a plug-in edit enable button, depending on the mode selected on the Master Control panel.

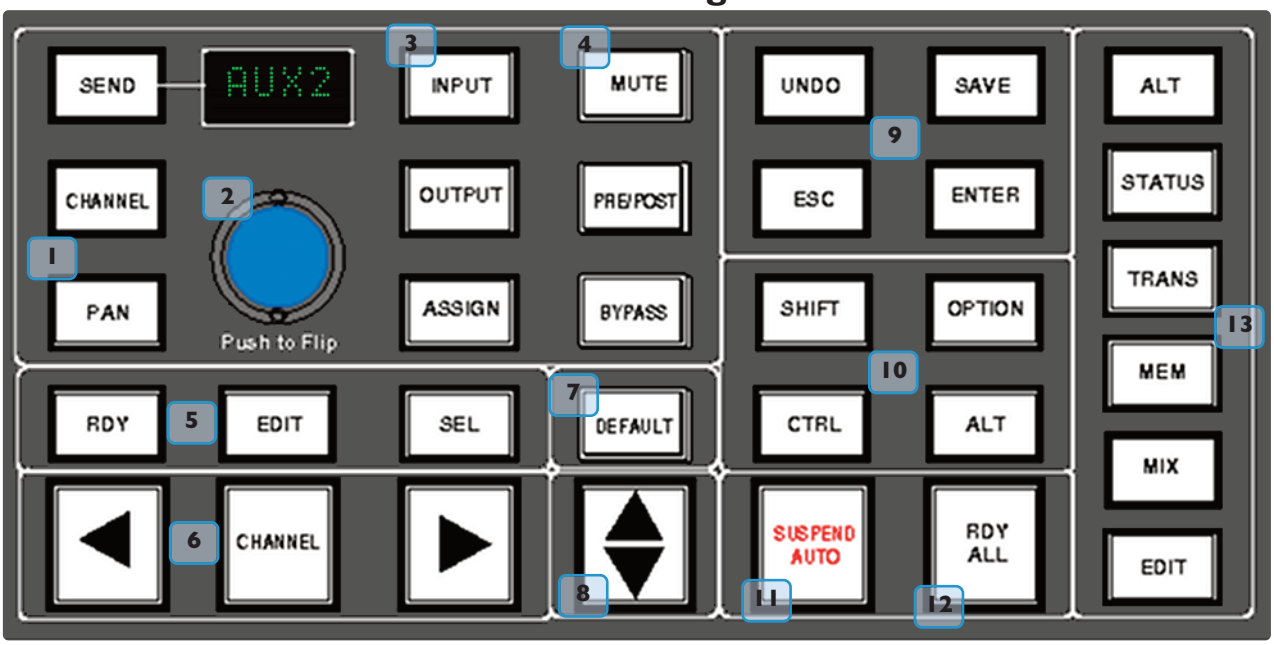
14 18 Scribble Strip Displays

When an AWS channel fader is controlling a DAW fader level, the channel scribble strip will indicate a four character version of the DAW channel name. When controlling the analogue channel it displays the number of the fader, eg 'Fader 23'.

The scribble strip can also display other information such as: Automation status, Grouping information, Monitor information, Input/Output routing, Send routing, Send Pre/Post information, fader level display and Pan position.

The V-pot scribble strip displays the DAW channel name or analogue fader number in **CHANNEL** mode or the selected function (Pan, ASGN etc) in other modes.

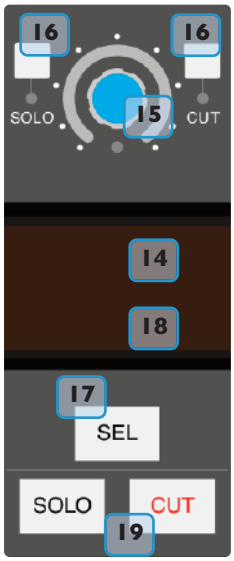
5 Channel SEL Button – Track Arming/Edit/Select



The function of the channel **SEL** (17) button depends on the mode selected on the centre section **RDY**, **EDIT** and **SEL** keys on the Master Control Panel.

5 Record Ready Mode

If **RDY** is selected all 24 channel **SEL** buttons become Record Ready buttons. Pressing a channel **SEL** button puts the DAW track into Record Ready (provided that the DAW track has an input routed). The **REC** tally above the meter flashes to show that the track is in ready.



12 Ready All

Track arming can be set or cleared across all channels by using the master **RDY ALL** button. This button flashes if any DAW tracks are in Record Ready. Pressing this switch while it is flashing will clear all track arming.

Record Safe

To put a DAW track into Record Safe (so it cannot be put in to Ready) hold down **ALT** and press the channel **SEL** button. Hold down **ALT+OPTION** then press any **SEL** button to set all tracks to Record Safe.

5 Edit Mode

With **EDIT** mode selected the channel **SEL** button can have a number of functions:

This function will only work for the first 8 DAW channels in Pro Tools V6.4 and above.

Provided **BYPASS** (4) is off pressing one of the channel **SEL** buttons assigns the plug-in editor to that channel. The **EDIT** tally on that channel will light to confirm that this is the edit channel.

A double press on the **SEL** button will select the first plug-in in that channel for editing. Successive double presses will select the next plug-in in that channel.

Selecting **BYPASS** (4) on the Master Control Panel changes the channel **SEL** buttons to Bypass buttons. Pressing a channel **SEL** switch will bypass all plug-ins on that channel. The channel **EDIT** flag will light to show that all plug-ins are bypassed.

5 Select Mode

All 24 channel **SEL** buttons become track select buttons. They perform the same function as clicking with the mouse on a channel in the DAW.

A double click on a **SEL** button will open the channel naming pop-up for that channel.

Multiple channels can be selected by holding down the **SHIFT** button while selecting further **SEL** buttons or by holding down the first **SEL** button you pressed while you select more channels. Note that this last method only works within blocks of channels corresponding to a single HUI interface.

Hold down **OPTION** and press any **SEL** button to select all channels.

Hold down **ALT** and press any **SEL** button to invert the state of all select buttons.

Working with the Channel V-pots

The channel V-pots can control DAW channel pan, Send (Aux) levels and pan, routing assignment and analogue audio levels. Each V-pot also has a switch which is activated by pushing down on the V-pot.

The channel V-pot function is selected on the Master Control Panel by the Master Send V-pot (2) and six associated buttons (1 3).

The scribble strip above the channel V-pots shows which function is currently selected. A further two buttons (**PRE/POST** and **MUTE**, 4) change the function of the V-pot push switches.

1 Pan Mode

Select **PAN** mode and the channel V-pots become pan controls for the DAW. The V-pot scribble strip displays 'Pan'.

Pressing the **PAN** button on the Master Control Panel a second time (it flashes in this mode) allows you to access a second pan control for stereo channels according to your DAW configuration. The V-pot scribble strip displays 'Pan R' in this mode.

Press the **PAN** button again to return to normal pan mode.

When panned centrally a red LED appears just beneath the channel V-pot.

Holding down **ALT** displays a pan's numeric value on the channel scribble strip when you adjust the control.

1 Channel Mode

Select **CHANNEL** mode and the channel V-pots control the analogue gain of the channel strip. The V-pot scribble strip will display the analogue fader number (eg 'Fader 12').

Switching to Analogue Focus mode will swap the analogue gain and the DAW gain between V-pot and channel fader. Individual channels can be swapped by pressing the channel V-pot.

1 Send Mode

Select SEND mode on the Master Control Panel and the V-pots become level controls for any sends or aux send levels within the DAW.

The Master Send V-pot (2) selects which of the available sends (A-E or 1-5) is being controlled by the channel V-pots. The selected send is shown in the display window above the Master Send V-pot (and on the channel V-pot scribble strip).

The channel V-pot scribble strips show the name of the currently selected send. Turning a channel V-pot will alter the level of the selected send from that channel. Holding down the **ALT** button allows you to make fine adjustments to the gain.

Setting Sends Pre/Post Fader

When working with sends it is useful to be able to flip a send between pre and post fader.

If necessary select the **PRE/POST** button (4) on the Master Control Panel.

Pushing a channel V-pot will now switch the selected send on that channel between pre and post.

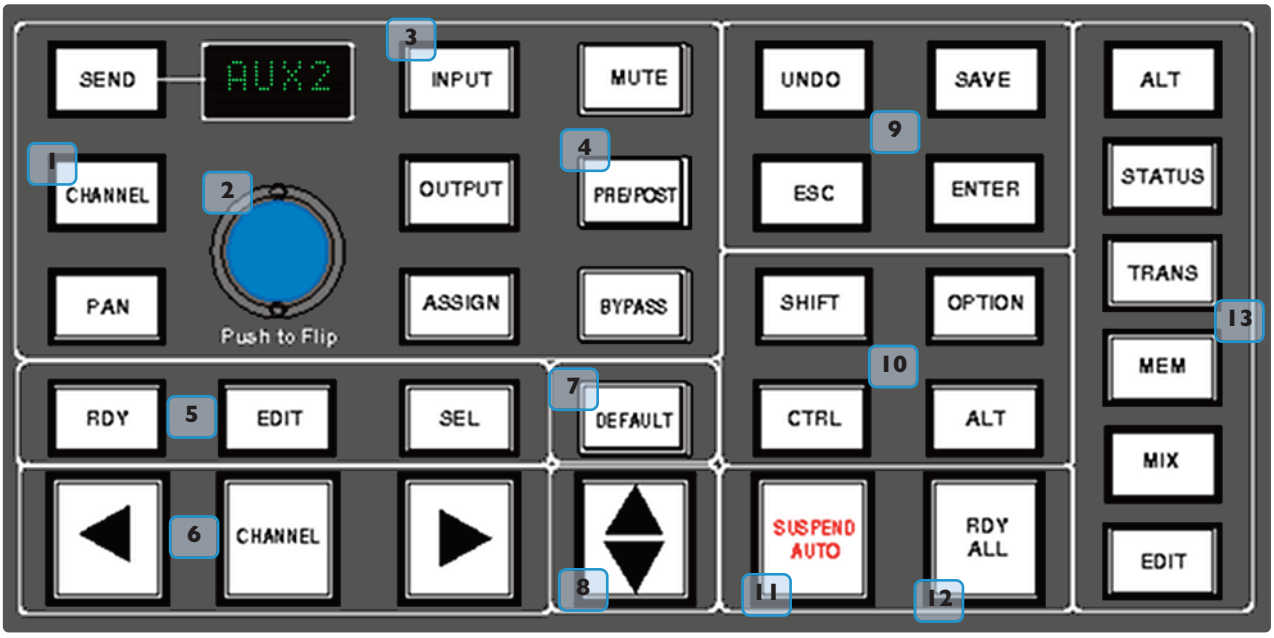
The red LED below the V-pot lights to show PRE is selected.

To change mode on all channels press and hold the **OPTION** button then press any channel V-pot. All channels will switch to Pre or Post.

Muting a Send Output

To mute a send output select the **MUTE** button (4) on the Master Control Panel and push the channel V-pot. The red LED below the channel V-pot will light to show the channel is muted.

To mute or un-mute all channels press and hold the **OPTION** button then press any channel V-pot. All channels will mute or un-mute.



Flipping Send Levels to the Faders

To flip Send levels from the V-pots to the channel faders, press the Master Send V-pot (2) marked '**Push to Flip**'.

The channel faders now control the send levels and the fader **CUT** button will mute the send.

The channel V-pot controls panning on stereo sends.

In this mode **PRE/POST** mode is automatically selected for the V-pot switches, so pushing a V-pot will toggle the Send pre/post selection on that channel. The red LED below the V-pot lights to show PRE is selected.

The fader **SOLO** button will solo the channel, not the send.

Input, Output and Send Routing

The channel V-pots can also be used to assign signals to inputs, outputs and aux sends of your DAW mixer:

Viewing Input, Output and Send Routing

The Input, Output or Send routing for all DAW channels can be displayed on the channel scribble strip by holding down the **INPUT**, **OUTPUT** or **SEND** button (3) on the Master Control Panel. The Master Send V-pot can be used to select which of the available sends you wish to display.

Setting Input, Output and Send Routing

To make or change an Input, Output or Send assignment:

1. Select **ASSIGN**+ **INPUT** / **OUTPUT** or **SEND** on the Master Control Panel.

   When using **SEND***, select which send you wish to change from the available send slots using the Master Send V-pot..*

2. The V-pot scribble strip will now read **ASGN** and the fader scribble strip will indicate the current routing for the DAW channel.
3. Turn a channel V-pot to scroll through a list of available DAW inputs or outputs (names are derived from the DAW I/O settings not the AWS). The list will appear in the channel scribble strip. The red LED below the V-pot will flash.
4. Push the V-pot knob to select the current assignment; the red LED will become solid and a '>' symbol will appear in front of the assigned signal (for example, '>Out3-4').
5. Press the **ASSIGN** button once more to exit assign mode. This will also commit any changes made that have not been confirmed by pressing the V-pot.
6. Pressing **ESC** at any time will abort the assignment process.

Assigning Signals to Multiple Channels

Holding down **OPTION** then pressing any channel V-pot will assign that channel's input to all channels.

Holding down **SHIFT**+**OPTION** will assign that channel's input to all selected channels. Select **SEL** mode on the Master Control Panel then press the **SEL** buttons on the channels you wish to route to.

Holding down **OPTION** and **ALT** then pressing a channel V-pot will incrementally route that channel's input to all channels. For example, selecting input 1 as the input to channel 9, then holding down **OPTION** and **ALT** before pressing the channel 9 V-pot will route input 1 to channel 9, input 2 to channel 10, input 3 to channel 11 and so on across the entire DAW.

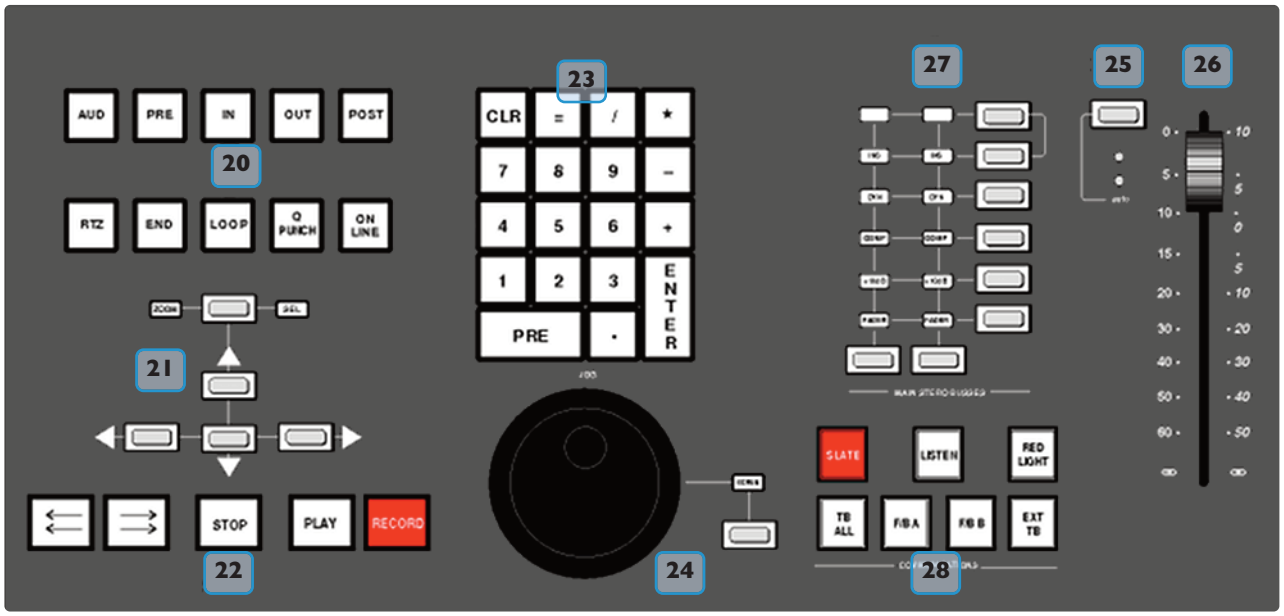
Holding down **SHIFT**+**OPTION**+**ALT** will incrementally route that channel's input to all selected channels. Select **SEL** mode on the Master Control Panel then press the **SEL** buttons on the channels you wish to route to.

Assigning a Channel to Multiple Outputs

Hold the **CTRL** button and select another output. The currently assigned output will have a '>' symbol before it (for example, '>Out3-4'), and other added outputs will have a '+' (for example '+Out5-6') until you assign it.

In the scribble strip, an '@' symbol indicates that an item is inactive (ie routed but muted). The '$' symbol indicates that more than one output is assigned, and at least one of those is inactive.

Motion Control Panel



20 22 Transport Controls

Dedicated transport controls are provided for direct control over your DAW:

ON LINE*	Puts the DAW on line for synchronisation.
LOOP*	Toggles Loop mode on/off (hold down **CTRL** for Loop Record mode).
Q PUNCH*	Toggles Quickpunch recording status on/off for your DAW.
PRE*	Toggles the pre-roll function for your DAW. See next page for setting Pre roll time.
POST*	Toggles the post -roll function for your DAW. See next page for setting Post roll time.

**The status of these functions is shown in the transport section of the TFT screen.*

IN	Captures the current DAW position as the Start edit time.
OUT	Captures the current DAW position as the End edit time.
RTZ (Return-To-Zero)	Returns the playback cursor to the Session start time.
END	Moves the playback cursor to the end of the Session.
REWIND	Holding down this button will rewind the DAW (increment depends upon Display mode).
FAST FORWARD	Holding down this button will fast forward the DAW.
STOP	Stops playback or recording.
PLAY	Depending on the HUI DAW settings commences playback from the current cursor position or the last locate point, depending on DAW settings.
RECORD	Engages DAW recording for currently armed tracks.

Other useful transport modes

Half-speed Playback	**SHIFT + PLAY**
Abort Current Record Pass	**SHIFT + STOP**
Cycle through Record Modes (Normal, Quickpunch, TrackPunch, Loop)	**CTRL + RECORD**
Cycle through Machine Control Masters (accessible via the transport window)	**CTRL + ONLINE**
Link or Unlink the Edit and Timelines	**SHIFT + Back slash (/)**

20 Setting Pre and Post Roll

Hold down **ALT** and press the **PRE** or **POST** button to highlight the left hand numeric field of the pre-roll or post-roll time window. The time is displayed on the console TFT screen in place of the DAW position. The selected numeric field will flash. Use the navigation left/right arrow keys to select a different numeric field if required, then enter a value on the numeric keypad or use the Up/Down arrow keys to increase or decrease the selected field.

Press **ENTER** to confirm the time.

The **CLR** button on the numeric keypad can be used to clear the selected time.

20 Setting start (In) and end (Out) Times

Hold down **ALT** and press the **IN** or **OUT** button to highlight the left hand numeric field of the start or end time window. The time is displayed on the AWS TFT screen in place of the DAW position. The selected numeric field will flash. Use the navigation left/right arrow keys to select a different numeric field if required, then enter a value on the numeric keypad or use the Up/Down arrow keys to increase or decrease the selected field.

Press **ENTER** to confirm the time.

The **CLR** button on the numeric keypad can be used to clear the selected time.

20 Audition

This function allows the **IN**, **OUT**, **PRE** and **POST** points to be checked.

Select the **AUD** button then press either the **PRE**, **IN**, **OUT**, or **POST** button. Press the **AUD** button again to cancel the function.

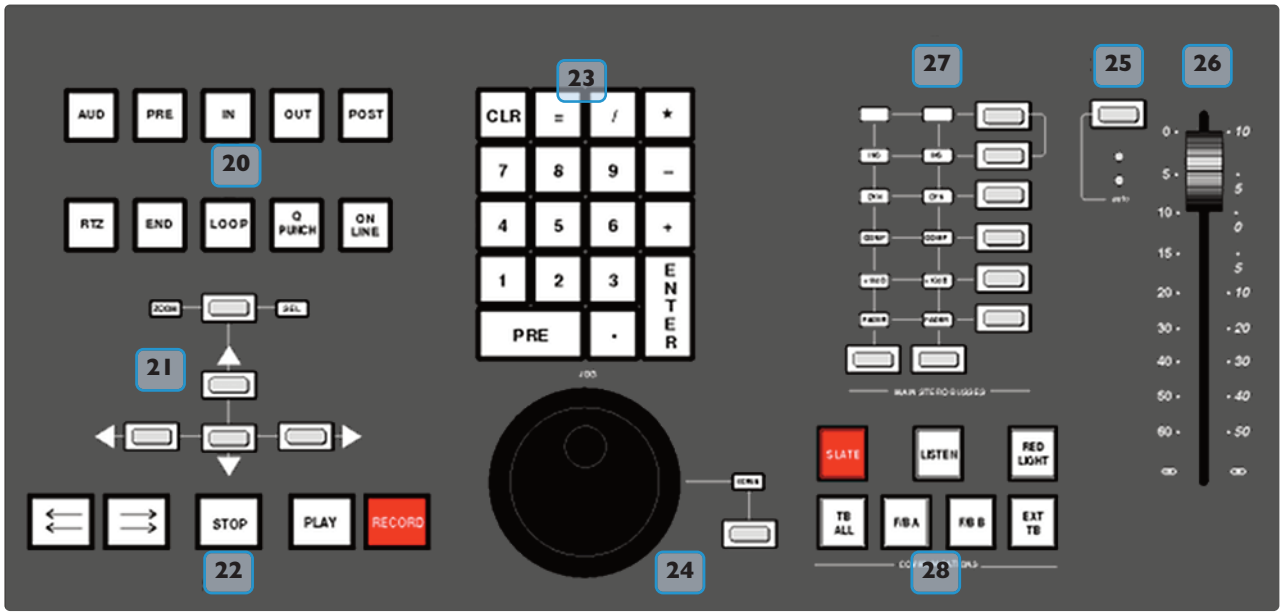
When Audition mode is selected the transport section of the TFT screen displays audition in place of the Pre and Post indicators.

PRE	Plays from the pre-roll point to the selection start point
IN	Plays from the selection start point for the post-roll time
OUT	Plays from the end point less the pre-roll time to the end point
POST	Plays from the selection end point for the post-roll time
ALT+OPTION+PRE or **IN**	Plays from the selection start point less the pre-roll time to the selection start time plus the post-roll time
ALT+OPTION+POST or **OUT**	Plays from the selection end point to the selection end point plus post-roll time.

AWS Footswitch Control

The AWS has two ¼" jack footswitch connectors on the rear of the console. These are intended for hands-free access to essential transport functions:

Footswitch Control One:	Either plays or stops the DAW. Holding down **SHIFT** will abort a recording if in record, or initiate half-speed playback if stopped.
Footswitch Control Two:	Used to activate or deactivate Record mode. Holding **CTRL** while pressing the foot switch will cycle through record modes.



21 Zoom, Navigation and Selection Modes

The Motion Control panel has a section with four arrow keys and a **ZOOM/SEL** button that toggles the selection of three available modes: Navigation Edit, Zoom and Select.

Navigation Mode (Neither Zoom nor Select lit)

In this mode the arrow keys can be used to select a region or regions in certain DAWs.

The left and right arrows will snap to region/clip boundaries. The up/down arrow keys move the cursor to the track above or below respectively. Holding down the **SHIFT** modifier button will allow a selection to be extended in any direction. Holding the **OPTION** button allows the current selection point to be centred on the screen.

Holding **CTRL**+ Up/Down/Left/Right arrow button allows you to change and extend the region/clip selection. Holding **SHIFT** also includes either the previous or next region.

Zoom Mode (Both Zoom and Select lit)

The arrow keys now become horizontal and vertical zoom controls for the edit/arrange window on your DAW.

Fixed edit/arrange zoom settings can be saved or recalled from the AWS numeric keypad:
To save a zoom setting – press **SHIFT** + numeric keypad number
To recall a zoom setting – press OPTION + numeric keypad number

Select Mode (Both Zoom and Select Flashing)

Currently this function is not supported in Pro Tools.

Scrolling Within a Window

To page scroll within a currently selected window (ie. Mix/Mixer or Edit/Arrange) press **ALT**+ Left/Right/Up/Down arrow button to scroll one page in either direction. Holding down **OPTION** and **ALT** scrolls to the window boundary.

24 Shuttle/Scrub Wheel

The dual-concentric Shuttle/Scrub wheel has a spring-loaded outer ring and a continuously variable inner wheel for controlling DAW scrub and shuttle functions and for general timeline/clip navigation.

Navigation Mode

When the inner wheel is rotated, a stream of Nudge Commands are sent to the DAW according to rotation direction and speed. The playhead will step through the session timeline according the current nudge value. If a clip or MIDI note is selected, its position can be nudged via the wheel.

Shuttle Mode

When the DAW is stopped, turning the outer rim activates shuttle mode. The outer rim will step through seven fixed shuttle speeds, while the inner controller provides continuously variable control of shuttle speed.

Scrub Mode

Select a region to scrub within your DAW. Press the **SCRUB** button next to the wheel. The inner wheel now becomes an analogue tape machine style scrub wheel for the DAW.

Using the Numeric Keypad to Shuttle

In Pro Tools, the numeric keypad can be used to control shuttle speed and direction. Engage Shuttle Mode via the outer rim. Hold down the **CTRL** button followed by a number on the numeric keypad that represents the shuttle speed. The +/- buttons control the direction of shuttle.

Exit from Scrub/Shuttle Mode

To exit from shuttle mode press either the **STOP** or **ESC** button. To exit from Scrub mode, deselect the **SCRUB** Key or press either the **STOP** or **ESC** button.

Notes on Scrub and Shuttle Modes (PRO TOOLS HUI ONLY)

The position at which the scrub/shuttle starts is derived from the current selection or timeline position. Scrub/Shuttle mode can commence from the selection end point by holding down the **OPTION** button before you grab the shuttle wheel.

Holding down the **ALT** button will increase the resolution of the scrub/shuttle wheel.

When scrub or shuttle is active, many DAW functions are suspended until you exit from scrub/shuttle mode.

The following functions are available:

- Fader control, solo and cut buttons
- Scrub/Shuttle wheel functions
- Transport controls
- Enter button (to create marker/cue events)

23 Numeric Keypad

The console's numeric keypad replicates the numeric keypad on your DAW keyboard. The primary use for this keypad is for saving and recalling Memory Locates and entering data values (please refer to your DAW manual for more details on keypad uses).

Working with Markers/Memory Locations

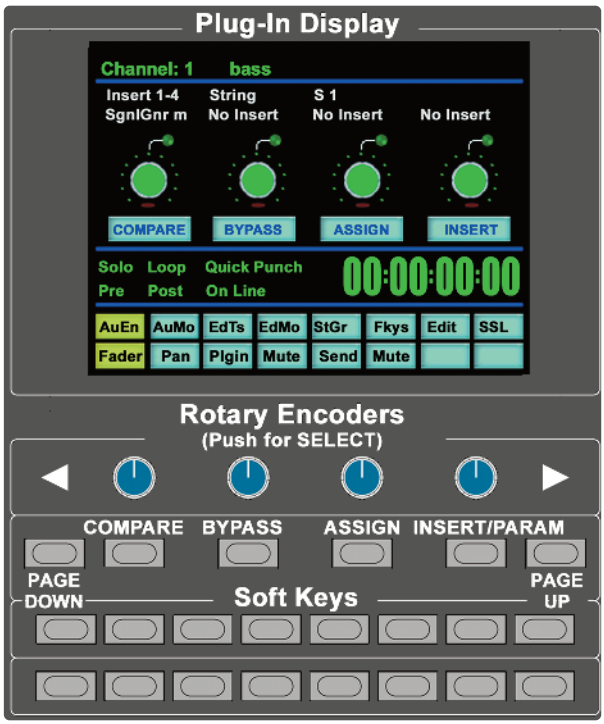
To Enter a Marker/Cue point – press **ENTER**.

To Recall a Marker/Cue point – press a number followed by the decimal point button (Numeric Keypad in Classic mode) or a decimal point followed by a number followed by the decimal point button (Numeric Keypad in Transport mode).

HUI Plug-in Control

Plug-In Editor

AWS consoles come with a powerful Plug-in Editor located in the console centre section. From here, plug-ins and hardware inserts can be assigned, and plug-in parameters can be edited.



Plug-In Editor Display

The Plug-In Editor uses a high resolution TFT display, four V-pots and four soft buttons to control the parameters of any plug-in.

> *The display is also used to show the position and status of the DAW and to provide access to a range of paged menus.*

The currently selected **EDIT** channel name is displayed at the top of the screen. Next are the plug-in control displays. Just below this are the transport status displays and timecode display.

The bottom section is used for soft key menu selection.

Plug-In Editor Controls

The controls for the display are located just below the screen area. The four V-pots and associated soft keys map to the corresponding controls on the display. The V-pots also have push-push select switches which perform various functions.

The display also shows information from the DAW at the top of the editor display.

Paging Buttons

The left/right paging buttons page through either available insert slots in **INSERT** mode, or plug-in parameters in **PARAMETER** mode (see following page).

Selecting DAW Channels to Edit

Select **EDIT** mode on the Master Control Panel then use the channel **SEL** buttons to choose the channel you wish to edit. The **EDIT** flag in the channel meter will light. The DAW will highlight the selected channel and currently selected plug-in. Press **ALT** to display the plug-in window.

Alternatively, select a channel by double clicking on one of the insert points in the Mix window. Note that from V6.4 and above it will be necessary to move channels 9-16, 17-24 into bay 1 channels 1-8.

> *Bank switching channels leaves the Plug-In Editor with the channel assigned to it. The channel **EDIT** tally will show this.*

Plug-In Display Modes

There are three display modes, Insert, Parameter and Assign, which are selected with the **ASSIGN** and **INSERT/PARAM** buttons below the V-pots.

Viewing Current Inserts (Insert Mode)

Press the **INSERT/PARAM** button till the **INSERT/PARAM** box reads **INSERT**; the plug-in editor is in Insert mode. In this mode the four V-pots represent four insert points on the selected channel. The currently assigned plug-ins are displayed above each V-pot. The name of the currently active plug-in will flash.

Additional insert points can be displayed using the paging buttons.

The four V-pot push switches can be used to select an insert slot for editing or for plug-in assignment - see below.

Assigning a Plug-In or Hardware I/O (Insert Mode)

Note: Some DAW applications will not allow assignments to be made during playback, or recording.

To Assign a Plug-in to a Channel Insert Point:

1. Press the **ASSIGN** soft button to enter assign mode; the on-screen box flashes to confirm this.
2. Press the V-pot corresponding to the insert slot which you wish to route to a plug-in (use the paging buttons if necessary) then use the V-pot to scroll through a list of plug-ins and I/O slots. The names that are displayed are derived from the DAW.
3. To confirm the assignment either:
    a. Press the **ASSIGN** button a second time. This will exit **INSERT** mode and switch the Plug-In Editor to **PARAMETER** mode for editing of the last selected insert.
    b. Press the V-pot used to make the assignment. This will confirm the assignment and leave you in Assign mode so you can make further assignments.

Assigning the Same Plug-in to All Channels

Follow steps 1 and 2 above to select a plug-in, then hold down the **OPTION** button before pressing the V-pot switch to assign a plug-in to all channels.

Assigning The Same Plug-in to Selected Channels

To assign a plug-in to selected channels select **SEL** mode on the Master Control Panel then choose the channels you wish to assign to by holding down **SHIFT** and pressing the channel **SEL** keys.

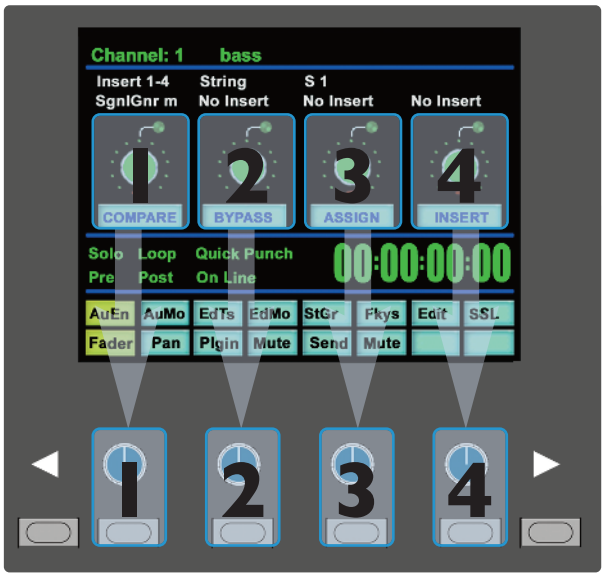
Follow steps 1 and 2 above to select a plug-in, then hold down **OPTION**+ **SHIFT** before pressing the V-pot switch to assign the plug-in to the selected channels.

Editing Plug-In Parameters (Parameter Mode)

Selecting a Plug-In to Edit

In Insert or Assign mode press the plug-in V-pot for the insert you wish to edit or in Insert mode select Parameter mode by pressing the **INSERT/PARAM** soft button.

To exit from Parameter mode press the **PARAM** soft key (if you want to edit a different plug-in) or the **ASSIGN** soft key (if you want to change assignment).



Changing Plug-in Parameters

Once you have selected a channel and a plug-in for editing, the four V-pots and their switches control the on screen parameters derived from the DAW plug-in. The names of the currently selected controls and their values are shown above the on-screen V-pots.

The **PAGE UP** and **PAGE DOWN** buttons can be used to access all the plug-in controls.

Hi-Resolution Parameter Display Mode

Holding down the **OPTION** button while editing a plug-in parameter will show a 9-character version of the parameter value at the top of the Plug-In Editor display.:

*The **ALT** button can be used to open or close the plug-in/pop-up window at any time.*

Comparing Your Changes

Pressing the **COMPARE** button allows you to compare any changes made to plug-in parameters with the values stored before editing.

As soon as you change any parameter the **COMPARE** box will turn yellow.

Pressing the **COMPARE** button toggles between the settings when you starting editing parameters and the current settings.

The plug-in window must be opened before this function becomes available.

Bypassing Plug-ins

The **BYPASS** button allows a plug-In to be toggled in/out of the signal path in **PARAM** mode. In **INSERT** mode, individual plug-ins can be bypassed by holding down **BYPASS** and pushing the V-pot that corresponds to the insert you want to bypass.

The channel **SEL** switch can be used to bypass all the plug-ins on a channel.

V-pot Sensitivity

The V-pots for the Plug-in Editor can be set to one of two modes: Fixed or Velocity-sensitive. In Fixed mode, turning a knob will range through the whole list of available parameters. This makes it very quick to search through long lists. Holding down the **ALT** button will enable a finer resolution scroll.

In Velocity-sensitive mode the speed of scrolling is dependent upon how quickly you turn the V-pot. To toggle between the two modes press the F5 button in the Fkys menu.

Additional HUI Displays

Timecode/Bars & Beats/Samples Display

The on-screen time readout can be assigned to display either Timecode (SMPTE/EBU), Feet/Frames, Bars/Beats or samples. This display will follow the setting selection made within your DAW. Please refer to your DAW manual for further details.

DAW Status Display

To the left of the timecode display is the DAW status display. This shows the following flags:

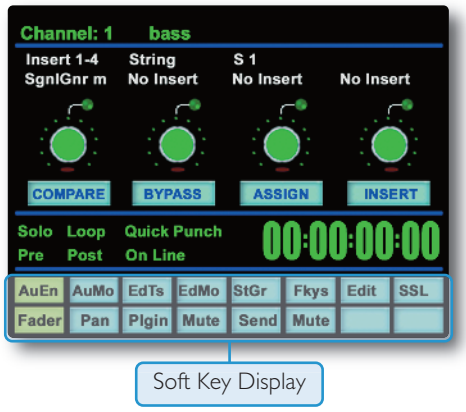
Solo	DAW has a Solo active
Loop	DAW has Loop enabled
QPunch	DAW has QuickPunch selected
Pre	DAW transport has pre-roll enabled
Post	DAW transport has post-roll enabled
Solo	DAW has a Solo active
Audition	DAW is in Audition mode. This is displayed in place of the Pre and Post flags

Soft Key Display

The Plug-In Editor includes an 8x8 matrix of soft buttons which map to the 16 boxes at the bottom of the plug-in display:

The top row (buttons 1-8) allow selection of the labelled function. Once pressed, a sub-menu will appear for the second row of soft key buttons (9-16).

The menus are ordered as follows:



Soft Key Display

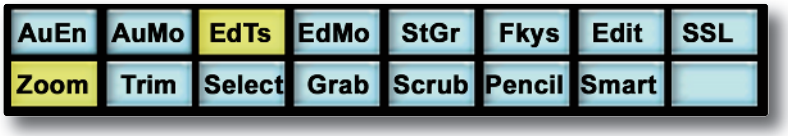
1. Automation Enables

Automation Enable modes (**AuEn**) globally engage or disengage automation for various items. See Page 4-29.

2. Automation Modes

Automation Modes (**AuMo**) sets the update mode for each channel or group of channels. See Page 4-29.

3. Edit Tools Menu

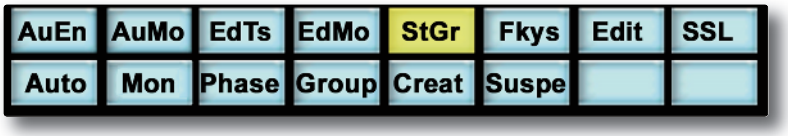


Edit Tools (**EdTs**) displays a list of available tools used by your DAW system. For example, in Pro Tools you can select the Zoom, Trim, Select, Grabber, Smart Tool, Scrub and Pencil tools.

4. Edit Modes Menu

Edit Modes (**EdMo**) displays a list of available edit modes used by your DAW system. Within Pro Tools you can select Shuffle, Slip, Spot and Grid modes.

5. Status/Group Menu



The Status/Group (**StGr**) menu contains several useful functions including:

Auto	Shows the Automation status of all channel faders on the channel fader scribble strips.
Mon	Shows the monitor status of all 24 focused channels on the fader scribble strip. The labelling is as follows:
Auto	Auto input mode
Inpt	Input mode only
Aux	Auxiliary input channel
MIDI	MIDI channel
Mstr	Master Fader
Phase	Not implemented
Group	Shows the grouping status of all 24 focused channels on the console.
Creat	To create a fader group for your DAW, select **SEL** mode on the Master Control Panel then hold down the **SHIFT** button and press the **SEL** buttons on any channels you wish to group. Finally press the **Creat** button and a new group will be created.
Susp	Fader/Mix groups can be suspended at any time by selecting **Susp**; they are now disengaged from their respective grouping arrangements. Pressing **Susp** a second time re-enables the groups.

6. Function Keys

The F-Keys (**Fkys**) menu gives access to the DAW function keys. The use of the function (F) keys can vary between DAW applications. A standard configuration for Pro Tools is :

F1 Peak Hold Clear for the AWS channel meters

F5 Cycles Fixed or Velocity-sensitive modes for the V-pots

F8 Escape

7. EDIT Menu

The Edit (**Edit**) menu provides quick access to frequently used editing functions including Capture, Separate, Cut, Copy, Paste and Delete.

8. SSL Menu

This menu is used to access additional optional AWS features such as Console Setup, Automation and Total Recall.

HUI Automation

The AWS's touch sensitive moving faders can be used to write automation for the DAW fader. Most automation functions can be enabled from the soft key matrix below the console's display screen. Within this are menus for Automation Enables, Automation Modes, Grouping and Editing functions.

Automation data can usually only be written when the DAW is in Play, Half-Speed Play or Record.

Automation Enables

Automation Enable modes (**AuEn**) globally engage or disengage automation for the following items: Faders, Pans, Plug-Ins, Cuts (**Mute**), Sends and Send Muting (**SnMute**). Holding down the **OPTION** button then pressing any of the sub menu buttons will toggle automation on or off for all controls.

The **Pan** automation enable includes both Channel and Send Pan.

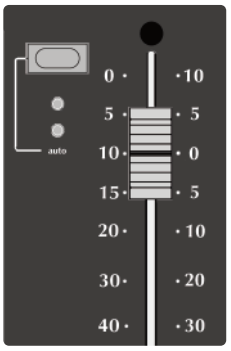
Automation Modes

There are several Automation Modes (**AuMo**) available including: Write, Touch, Latch, Trim, Read and Off. To change automation mode on a channel select an automation mode from the soft key menu and press the auto button on a channel fader. Holding down **OPTION** then selecting an automation mode from below the TFT screen will change automation modes on all channels. Changes within the DAW will be reflected on the console.

Refer to your DAW manual for more information on its specific automation features.

Automation Status Display

Pressing and holding the auto button to the left of a channel fader will display the current automation mode for that channel in the channel scribble strip display. To display the automation mode on all channels select the Status Group (StGr) soft menu, and press Auto.



The automation LED indications are as follows:

No LED	Automation off
Green LED	Read automation mode
Red Flashing LED	DAW is ready to write automation in write, touch or latch modes.
Red solid LED	Writing automation data
Red and Green LEDs	Trim automation mode

Suspending Automation

To suspend all automation writing and playback for the entire project/session, press the SUSPEND AUTO button. The button will flash red to indicate that the suspend function is active.

Writing Automation (Write to Start, End or All)

In some DAW applications you can write automation data to the start, end or whole part of a track/selection in any automation mode. To perform these functions from the AWS use the following:

CTRL+RTZ	Will write automation data from the current position to the start of the track/selection.
CTRL+END	Will write automation data from the current position to the end of the track/selection.
CTRL+SHIFT+ (**END** or **RTZ**)	Will write automation data from the start to the end of the track/selection.

Automating Switches (eg. Cuts)

As the console's **CUT** buttons have no touch sense, automation will start being written when the button is first pressed. In Touch mode it will return to the underlying mix pass as soon as the DAW timeline reaches the next switch change.Thus pressing and holding a **CUT** button will write data for as long as the button is held, overwriting any underlying automation. To continue to write data until you stop select Write or Latch mode.

This also applies to plug-in buttons.

Automating Pans and Sends

As the channel V-pots have no touch sense, automation data starts being written as soon as the control is moved. In Touch mode the system will stop writing automation and return to the previous level when you stop moving the control.

Your DAW may have a Touch-Timeout period which provides a time limit that allows for a certain time to continue writing automation data, after which the value of the parameter returns to the value of the underlying automation pass.

Alternatively to continue to write data until you stop select Write or Latch mode.

Automating Plug-Ins

Plug-in parameters can be automated just like other V-pots and buttons. The only difference is that some DAW applications require the controls to be armed using the on-screen menus within your DAW. Choose the automation button in the plug-in window and enable the plug-in controls to be automated.

When automating a plug-in parameter, there is no touch sense information for the V-pot or push-push switch so in Touch mode data will be written for as long as the control is being moved or pressed.

Using Write or Latch mode for automating plug-ins will continue writing automation data until the DAW stops.

Automation Indication for Plug-In Parameters

If a plug-in parameter is enabled for automation the red 'LED' below the on-screen V-pot will flash. When writing automation data, the 'LED' will light continuously.

Refer to your DAW manual for more information on all aspects of its automation system

MCU (Mackie Control) Emulation

The AWS expands available DAW control options by emulating the Mackie Control MIDI protocol as an alternative to the HUI protocol emulation. The AWS software includes dedicated front panel function key mappings for Logic, Nuendo, Sonar and Digital Performer.

The Mackie Control Protocol originates from the Mackie Control Universal MIDI controller and the companion eight fader extender unit. The main control unit is functionally very similar to a HUI unit supporting 8 channel faders and associated controls, a master fader, transport controls and jog wheel, cursor keys together with dedicated function key groups for workstation control. Fader resolution is 10bit (1024 steps), identical to the HUI implementation. The Mackie Control Unit is supplied with overlay templates for different DAW packages, which label the various function key groups specifically for each supported DAW. In addition the default Logic grouping is supported by a number of workstations, which do not have dedicated overlays. These include among others Live, Sequoia, Final Cut Studio and Soundtrack Pro.

Mackie Control Emulation Advantages

- Supported by a large number of Workstation manufacturers including Apple, Sony and Steinberg.
- Plug-Ins and Virtual Instruments are controlled from the Channel V-pots and can be flipped onto the Faders, a feature previously reserved for Pro Tools and Digidesign proprietary control surface solutions.
- Channel meters use far less MIDI bandwidth.
- 6 Character Labels for Track/Channel Names and parameter information.
- Master Fader control.

Implementation

In Mackie Control mode the AWS emulates a Mackie Control Master Console plus two Mackie Extender sections. For all supported workstations, the AWS should be configured in the relevant Control Surface set up menu, as two extenders plus a main Mackie Control unit. The set up layout should assign the extenders as channels 9-24 and a Mackie Control unit as channels 1-8. Plug-Ins and Instruments will have their parameters assigned left justified on to the AWS channel V-pots.

The console Master section DAW control keys map to the workstation functions according to the active control template. This is selected from **SSL**>**MISC**>**SETUP** menu.

Four dedicated DAW templates are supported, Logic, Nuendo (also used for Cubase), Sonar and Digital Performer. The Logic template can also be used as a generic interface for Live, Final Cut Pro and other software that supports the standard Mackie Control surface function key grouping. The AWS includes the additional key caps to support the four function templates. The software also allows simultaneous control of two independent Digital Audio Workstations. They can be assigned in the **SSL**>**MISC**>**SETUP** menu.

The active DAW is selected on the SSL>DAW menu (shown above). Note that DAW layer 1 uses ipMIDI ports 1–3 and DAW layer 2 uses ipMIDI ports 4–6.

The majority of DAW functions are controlled via dedicated AWS front panel switches – less reliance is placed on the 8x8 soft key matrix located beneath the TFT screen than with the HUI protocol.

All Plug-In editing is via the channel V-pots. The four encoders together with the six switches below the centre section monitor screen are not used with the Mackie Control protocol.

On the channel fader strips, the Auto key and associated status LEDs are also not implemented by the protocol. All other controls, the V-pot and associated encoder switch, DAW channel Solo and Cut plus the Select and Ready functions, are fully supported.

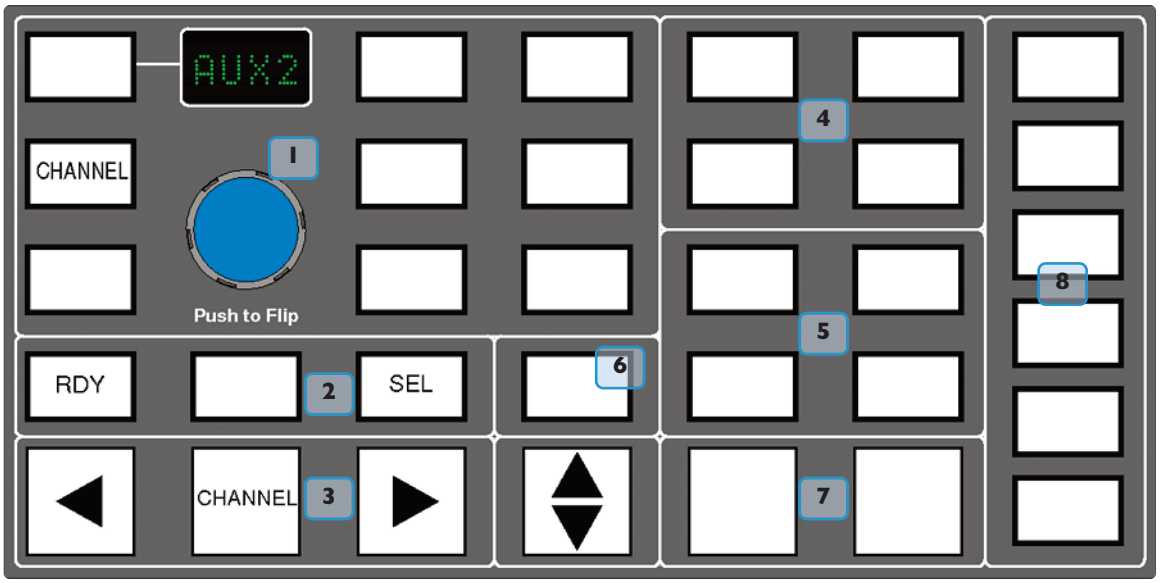
Only mono metering information is returned from the workstation. On stereo channels the maximum value of the left or right channel is displayed. The master fader is also included in the DAW layer when a Mackie Control template is active.

The ten keys located above master transport keys provide different related motion control functions according to the active template. When required tallies for these keys will be displayed on the TFT display in the area next to the DAW timeline counter.

The Jog Wheel together with the Scrub function key, and the Cursor keys and Cursor mode switch are active in all templates. The outer Jog Wheel is not supported, neither is the numeric keypad. However the 1-8 keys replicate F1 - F8 Function keys in certain templates.

DAW Control Function Key Overview

As far as possible all function key templates use key groupings and layouts which follow the original Mackie Control surface groupings to simplify moving from one DAW platform to another.



1 Channel V-pot Functions and Display options. The Encoder switch flips V-pot Parameters on to the channel faders. The encoder itself is not used in any of the Mackie Control templates. **CHANNEL** has the same functions as in the HUI Mode and assigns either the Console or DAW channel level control to the V-pot according to the state of the Master Console Focus control.

2 As with the HUI protocol, the **RDY** and **SEL** keys determine the function of the Channel strip **SEL** key. Default is the **SEL**(ECT) function, **RDY** accesses DAW track arming from the channel strip via the **SEL** key. The centre key is used as a discrete function key in some of the templates and corresponds to the **EDIT**/GLOBAL key located next to the FLIP key on a Mackie Control Unit.

3 Channel and Control surface banking – identical to the HUI Mode.

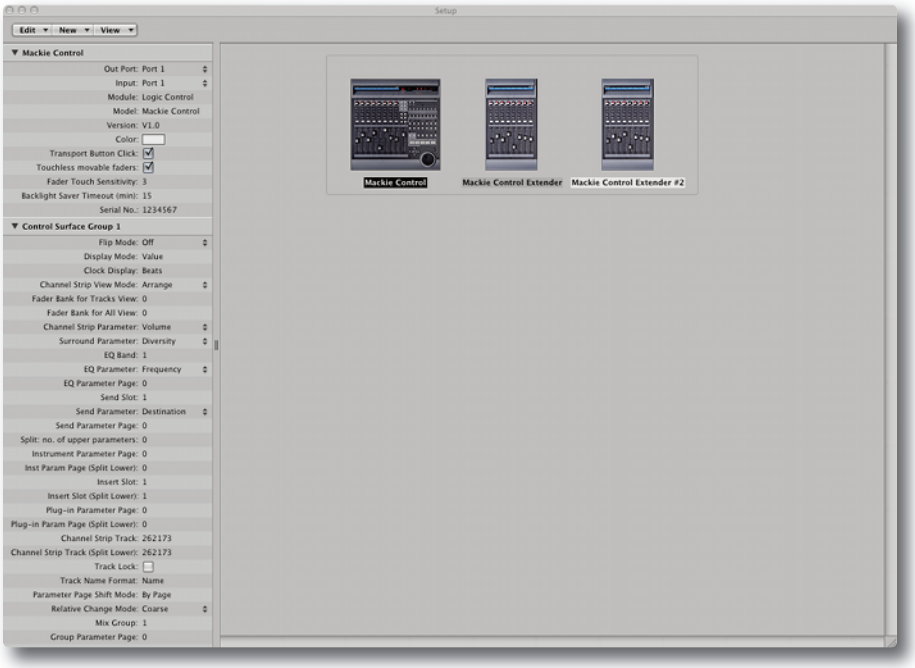
4 Project/Menu Keys – Similar style functions to HUI mode but template specific.

5 Modifier keys – Layout and Name template specific.

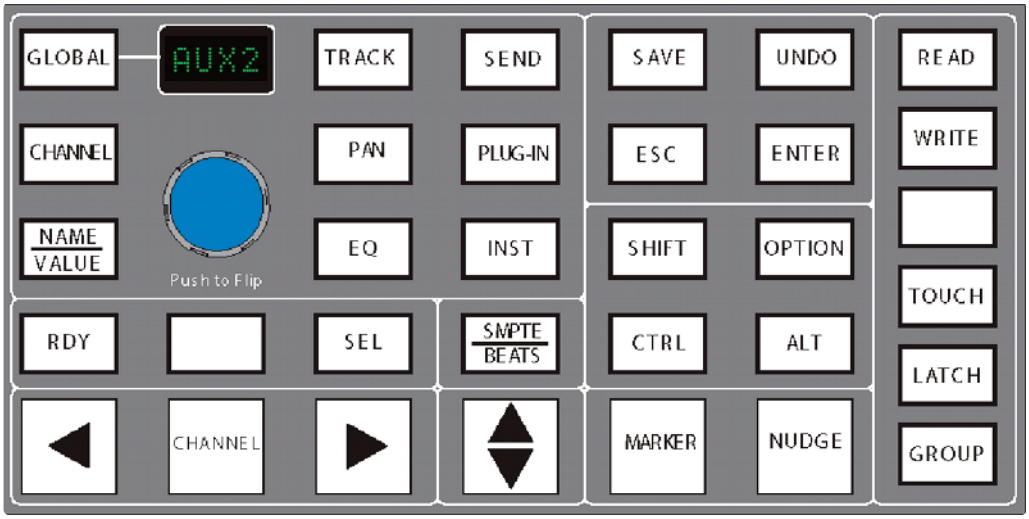
6 **7** **8** Dedicated Function(s) – Template specific.

The Logic Template

The AWS emulates a Mackie Control plus two Mackie XT fader expanders. The Logic Control Surface set up should be configured as shown below in the Logic Preferences menu.

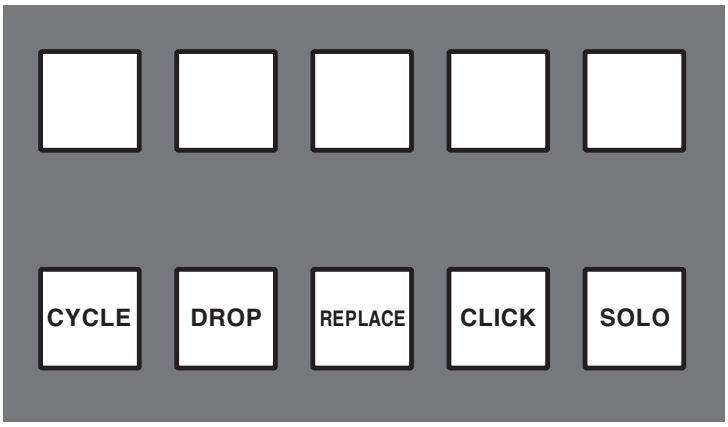


Logic Console Layout



Major changes compared to the HUI front panel are Automation modes replacing the Screen display select keys and the inclusion of the **MARKER** and **NUDGE** functions. **GLOBAL** uses the 8x8 matrix keys to select the different view options. **CHANNEL** is unchanged and assigns the AWS channel gain element to the V-pot. The Encoder switch is used to 'flip' parameters on to the fader but the encoder itself has no function. The Display indicates V-pot mode with a two-character label. Plug-ins are controlled from the channel V-pots so there is no longer an 'EDIT' select mode for the channel **SEL** key.

Transport Function Key Layout

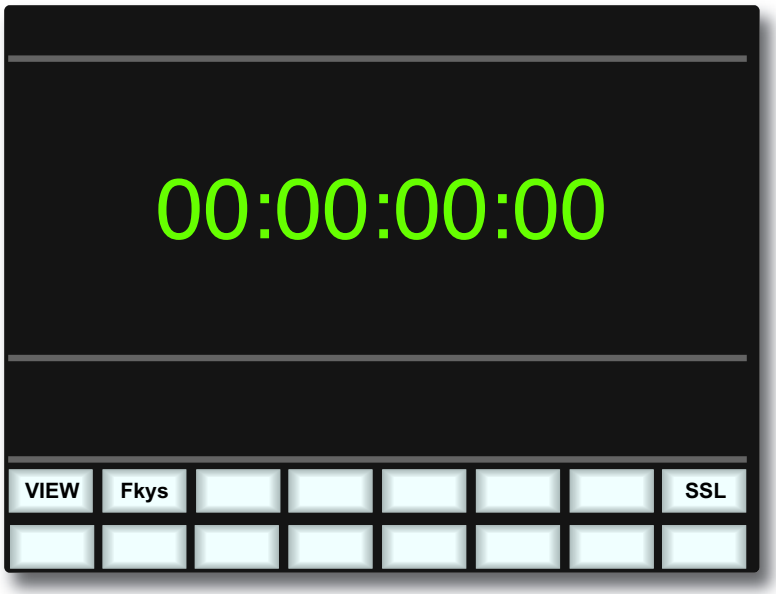


Only five of the ten keys above the Motion controls are assigned. These have on screen tallies in the status area of the TFT display.

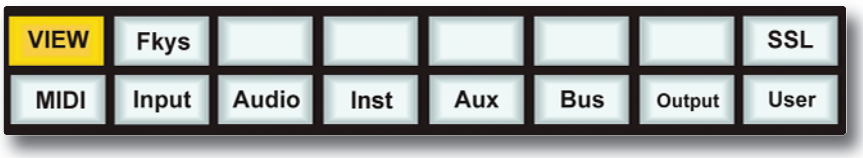
Full operational documentation for using Logic with Mackie Control and Extender units can be found in Logic Pro 9 Dedicated Control Surface Support (Manual) which can be downloaded from:

http://www.apple.com/support/manuals/logicpro/

Logic Control screen



VIEW is selected automatically by the **GLOBAL** key to access the eight Global View select keys. It can also be selected manually if required. There are no tallies for the selected view. **VIEW** is an AWS function and not part of the MCU protocol.

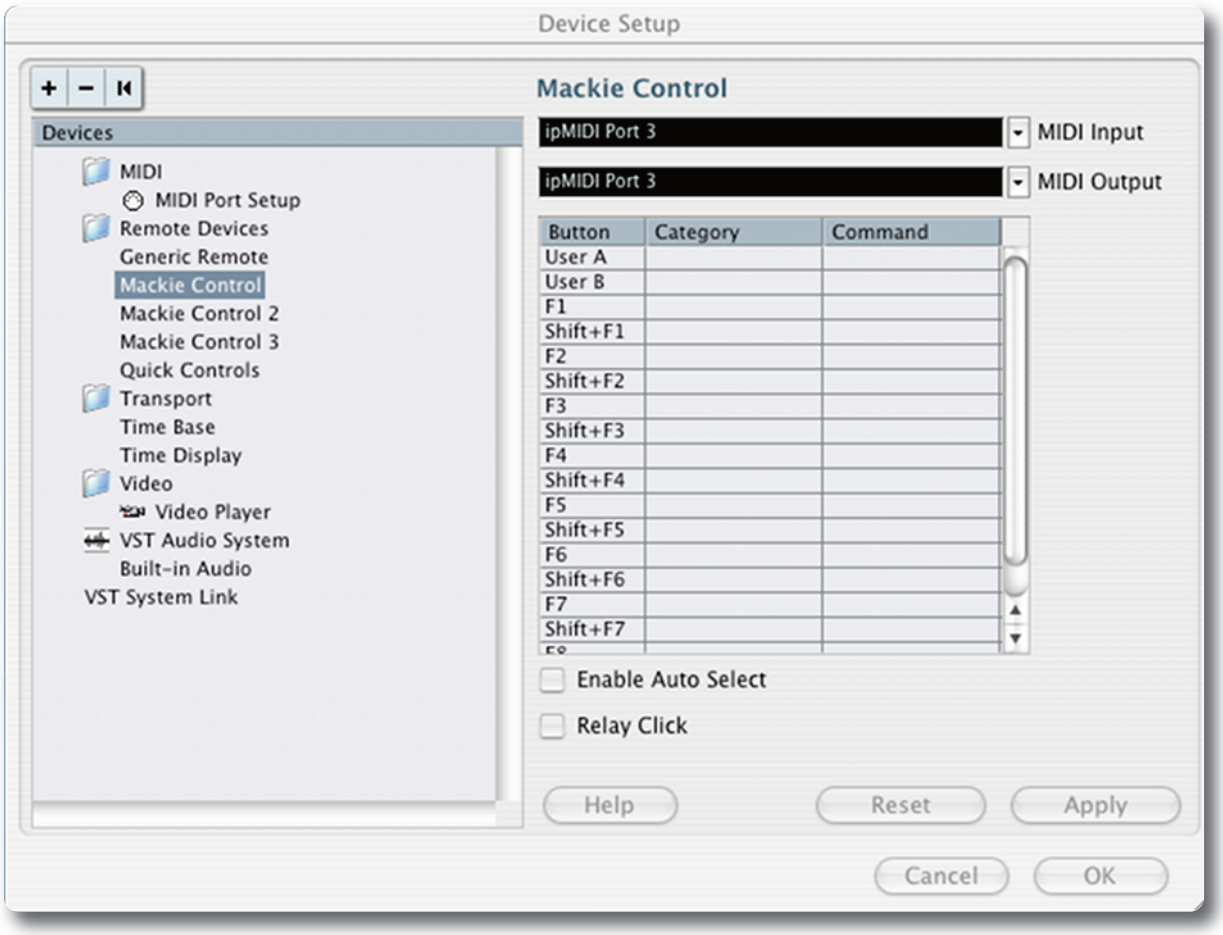


Fkys are the eight functions keys as on the HUI interface. These are also permanently mapped to the numeric keypad, which is not supported in the Mackie Control protocol.

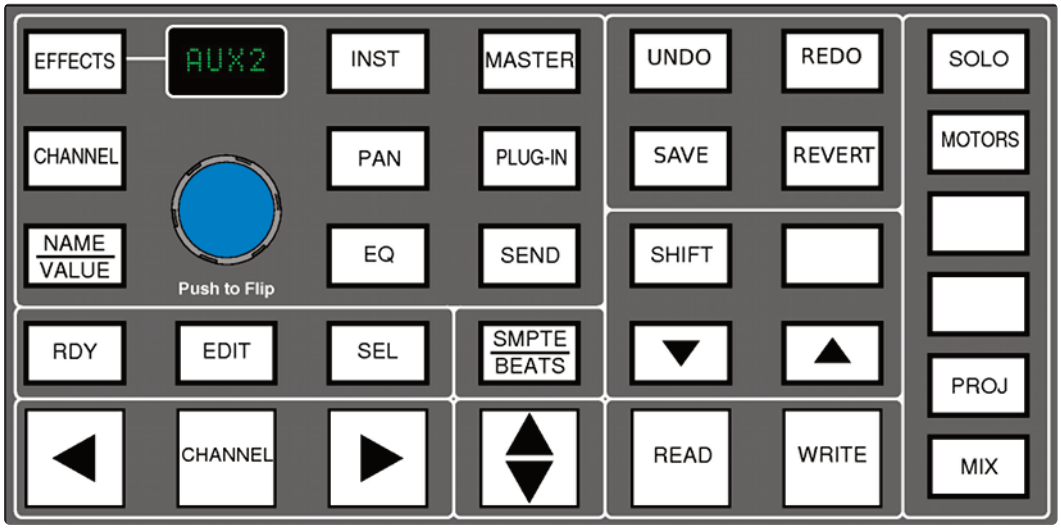
A Solo tally is displayed in the on-screen Status area. This corresponds to the front panel LED on a MCU.

Nuendo/Cubase Template

As with the other templates the AWS emulates a Mackie Control Main unit plus two Mackie Control Extenders. MIDI Control surface assignment is set up in the Remote Device list. Nuendo does not have separate profiles for the Mackie Extender, so three Mackie Control units are entered in to the device list with the top most unit corresponding to AWS channels 17-24 and the other units mapped to the remaining channels in descending order.



Nuendo Console Layout



The majority of Nuendo or Cubase functions are controlled via dedicated keys with virtually no reliance on the 8x8 key matrix located beneath the screen. Full details are available in the Mackie Control and Nuendo document available from the Nuendo download page.

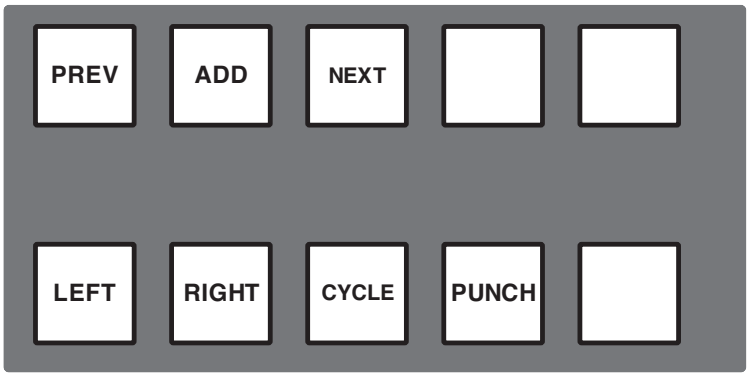
Major changes compared to the HUI front panel are the new control set for assigning processing parameters to the V-pots.

Up and down page keys for V-pot parameters are located with the Shift key block. The rotary encoder will also output the page up/down commands when turned left or right.

RDY and **SEL** control the function of the Channel **SEL** key as in the HUI interface. The **EDIT** key is used to open editing windows in Nuendo or Cubase for the current selection. **EDIT** together with **SHIFT** will close an active window.

CHANNEL is unchanged and assigns the AWS channel gain element or DAW channel to the V-pot according to the state of the Console Focus key. The Encoder switch is used to 'flip' parameters on to the faders as before but now includes all processing parameters not just send levels.

The Keys above the Motion controls are assigned to related transport functions as on the HUI interface.



The Cycle and Punch tallies are displayed in the status area of the TFT display.

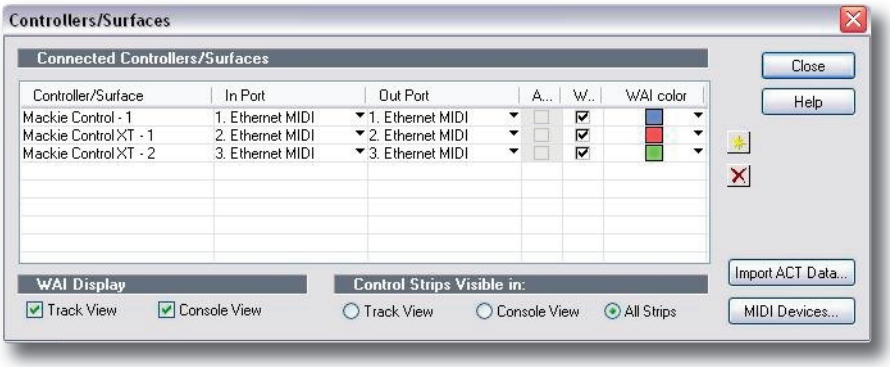
Nuendo Control screen

Fkys are the eight functions keys. These are also mapped to the numeric keypad, which is not supported in Logic Control.

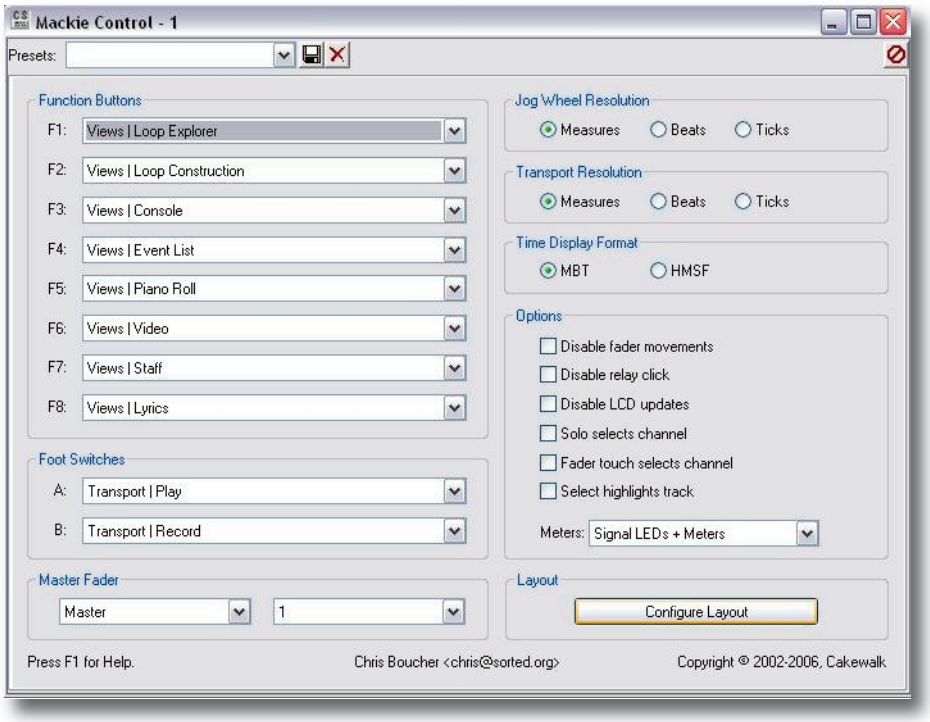
Grps are the eight Fader Group keys.

The Sonar Template

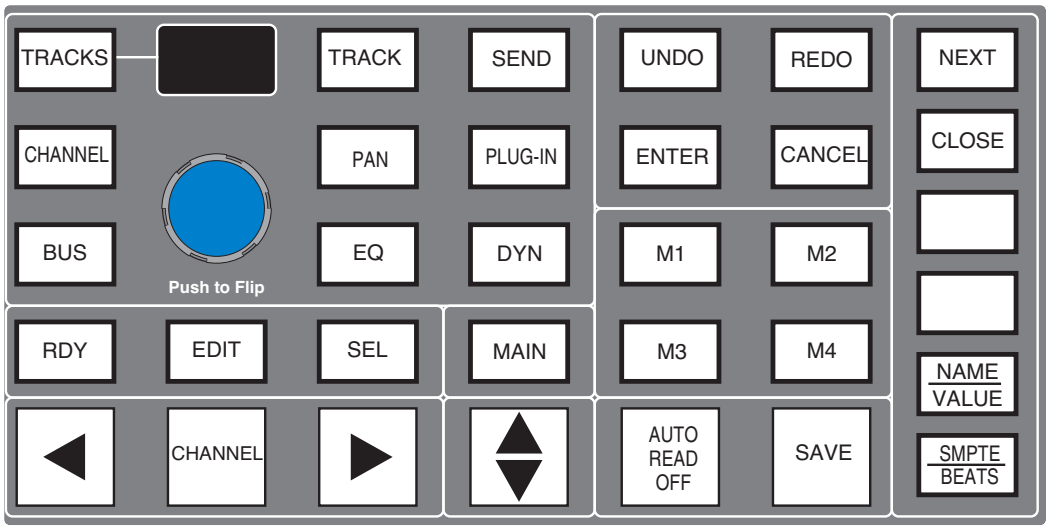
The AWS emulates a Mackie Control (MCU) plus two Mackie Control Extenders. Configure the MIDI input and output ports as below in the Controllers/Surfaces page of Sonar's Options menu (substitute ipMIDI ports 4-6 for ports 1-3 if Sonar is to be used on the second AWS DAW layer)



Once the MIDI ports are configured, select the Mackie Control device from Sonar's Tools menu to open the Mackie Control properties page, and use the Configure Layout feature to map the AWS channels to the Sonar mixer channels using the AWS channel V-pots, as prompted on the channel scribble strip displays (note: the AWS must be in DAW focus mode).



Sonar Console Layout



The majority of functions are controlled via dedicated keys with less reliance on the 8x8 key matrix located beneath the screen than with the HUI version.

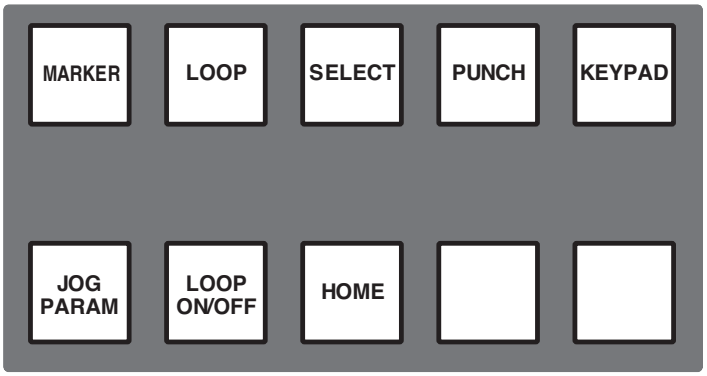
Main changes compared to the HUI front panel are:

New Function grouping to assign parameters the Channel V-pots. **CHANNEL** is unchanged and assigns the AWS channel gain element or DAW channel to the V-pot according to the state of the Console Focus key. The Encoder switch is used to 'flip' parameters on to the faders as before but now includes all processing parameters not just send levels. Two 'Flip' modes are available, Duplicate or Exchange, selected via a single or double operation of the encoder switch.

As in the original HUI three key group that controls the function of the channel **SEL** key, for the Sonar Template **SEL** and **RDY** control whether the **SEL** key sends the SEL and REC/RDY MIDI codes. **EDIT** is now a dedicated function equivalent to the MCU EDIT/GLOBAL function located in the FADER BANKS section.

The display above the encoder will show the two character plus decimal point Assignment window from the MCU.

The Keys above the transport controls are designated as shown below:

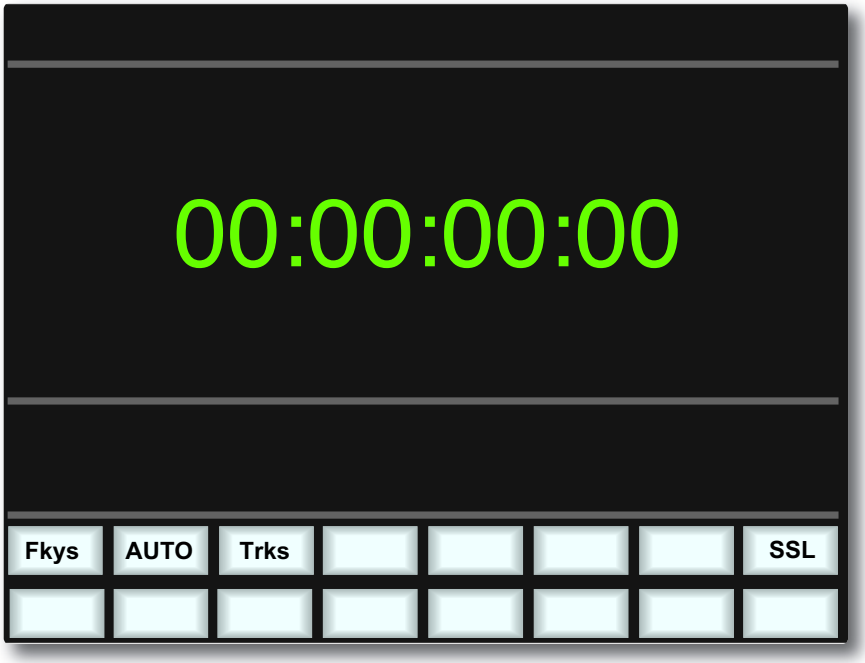


Tallies are shown in the status area of the TFT display for Loop ON/OFF, Jog Parameter, together with tallies for Marker, Loop, Select and Punch. As the later functions intercancel, they share the same on screen area.

Keypad is not a direct MCU function. It will enable the Numerical keypad 0…9 keys plus the '.', '-', and **ENTER** and CLR keys for data entry. When operated it sends the codes that correspond to M1 ON, EDIT ON, EDIT OFF, M1 OFF and then enables the numeric key pad keys to send the MIDI codes that correspond to the 1 to 8 keys on the Sonar overlay and the 4 TRACKS keys. **ENTER** mimics the main **ENTER** Key, and CLR the CANCEL Key. A second operation of the KEYPAD key inhibits the Numeric key pad outputting MIDI codes and should send an EDIT ON, EDIT OFF command to cancel the mode.

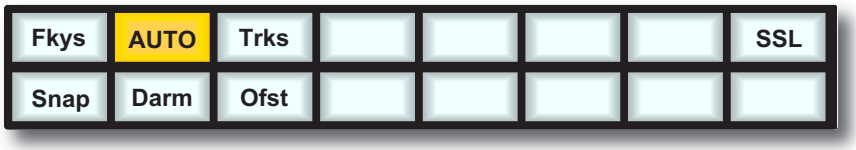
Sonar Control screen

The 8x8 key matrix is used to access three Sonar MCU function groups.



Fkys are the eight functions keys. These are defined in Sonar and also output Edit commands in conjunction with a Modifier key.

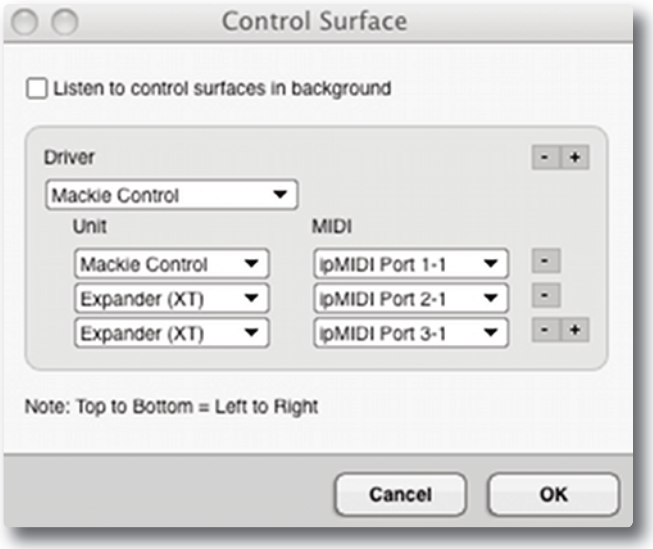
AUTO calls up three Automation functions, Snapshot, Disarm and Offset. The main automation Read/Off key is mapped to a dedicated front panel switch.



Trks bring the four Tracks function keys on to the bottom row of soft keys.

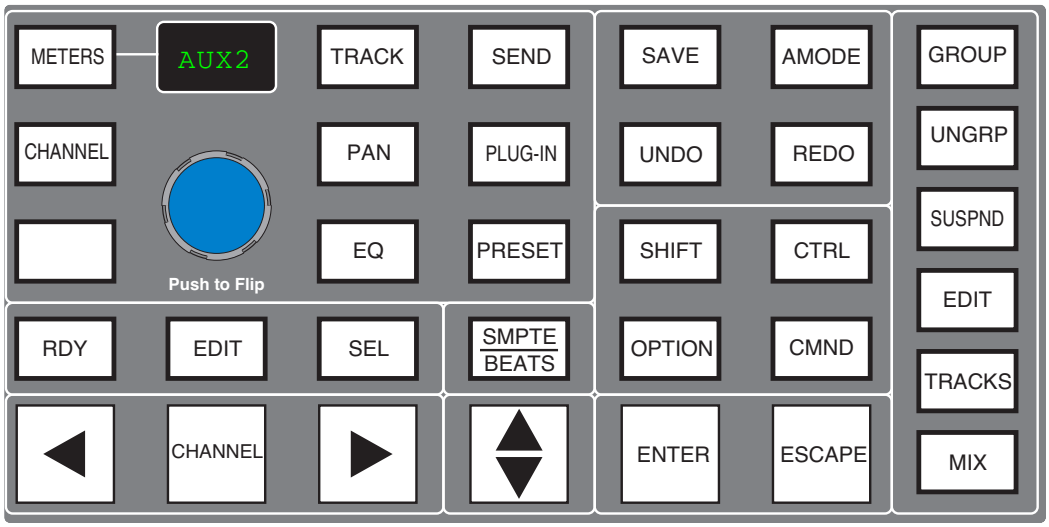
Digital Performer Template

The AWS emulates a Mackie Control Unit plus two Mackie Control Extenders. The Control Surface set up menu is located in the Digital Performer Setup Menu.



Assign the AWS MIDI ports so that the console faders map correctly to the DAW tracks with the Mackie Control Unit as channels 17-24.

Digital Performer Console Layout

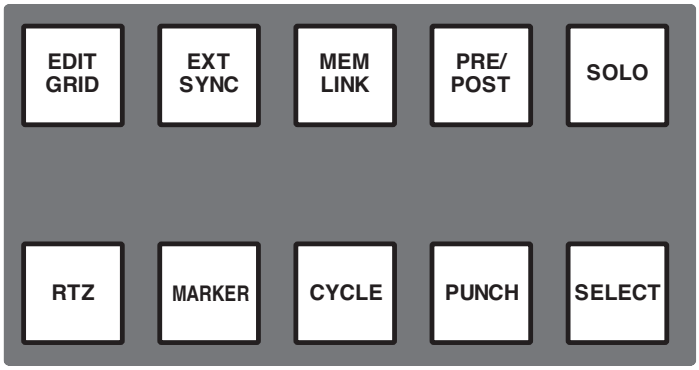


The majority of functions are controlled via dedicated keys with less reliance on the 8x8 key matrix located beneath the screen than the HUI interface.

Main changes compared to the HUI front panel are:

- New Function grouping to assign parameters the Channel V-pots. **CHANNEL** is unchanged and assigns the AWS channel gain element or DAW channel to the V-pot according to the state of the Console Focus key.
- The Encoder switch is used to 'flip' parameters on to the faders as before but now includes all processing parameters not just send levels. The **EDIT** key is the standard MCU Edit (or Global View) command key, it does not affect the operation of the channel **SEL** keys which can be flipped between the Ready (**RDY**) and Select (**SEL**) functions as per the HUI mapping.

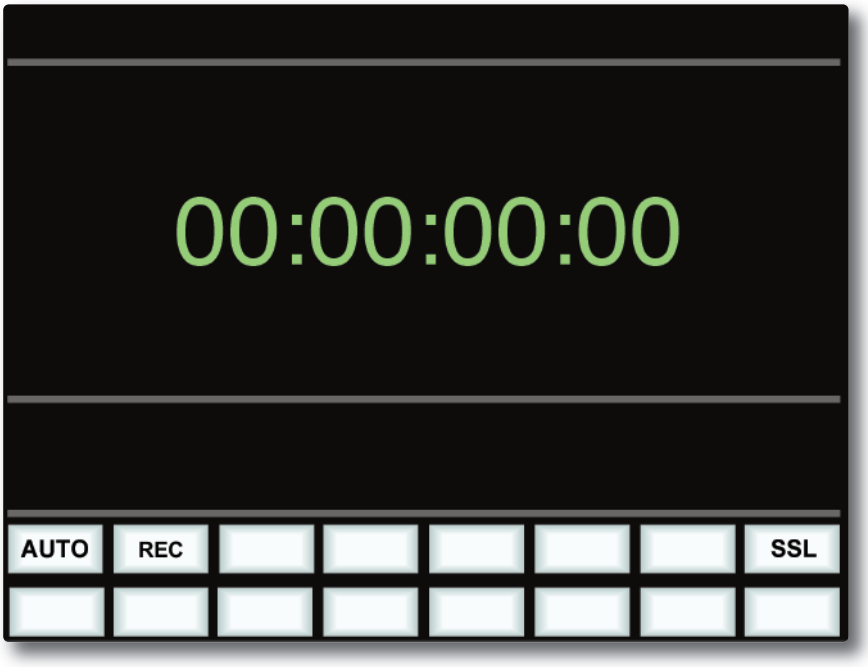
The Keys above the Motion controls are assigned to related transport functions as on the HUI interface.



On screen tallies are provided for the Marker Key, together with a second tally for the MCU 'Rude Solo' indicator.

Digital Performer Control screen

Two sets of menu keys are accessed via the 8x8 soft key matrix.



AUTO calls up the six Automation modes.

REC are the Record set-up functions.

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TOTAL RECALL

Overview

The AWS Total Recall system uses the inboard TFT screen to give a graphical display of current and stored control settings of all rotary controls, faders and switches on the AWS channel and centre section modules. Controls that are in different positions from the stored values are highlighted in white (faders and rotary controls) or yellow (switches). To provide maximum clarity rotary controls are shown as horizontal sliders and switches as boxes.

Electronically latched switches ('soft' switches) in the channel strips, such as routing, EQ, Insert, Dynamics and Cut switches, can be reset to match the stored setup with a double-press on the **fader** switch.

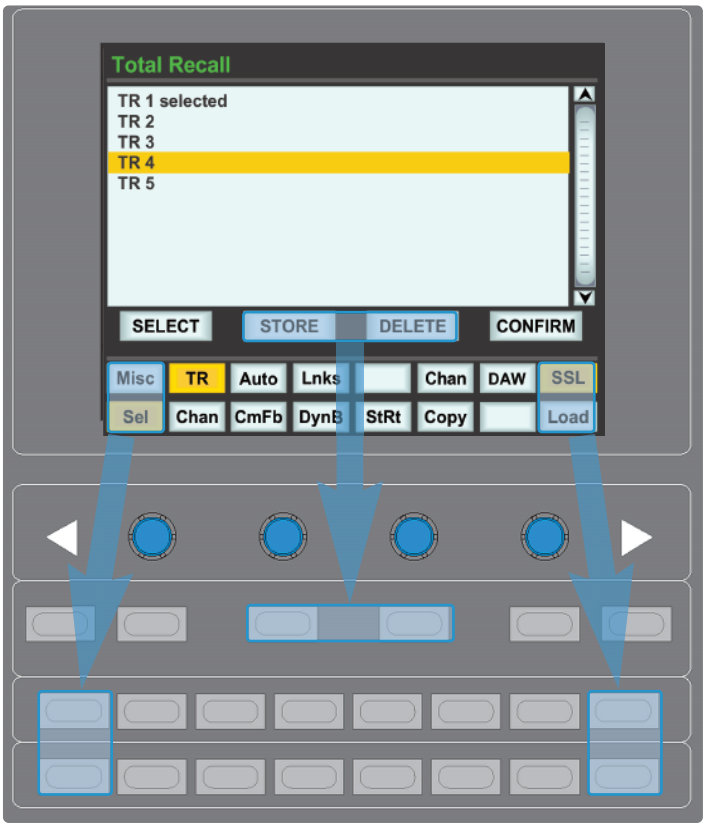
Stored setups can be copied or swapped between channels by holding down the **fader** switch on the source channel then pressing the **fader** switch on the destination channel. If the **Copy** switch is selected the source channel settings are copied to the destination channel: if not the source and destination channel settings are swapped.

Up to 32 different TR setups can be stored in local memory on the AWS. An unlimited number can be saved via Logictivity through the AWS Remote browser. For legacy purposes, data saved as a MIDI SysEx file can also be loaded to the AWS by playing through a MIDI SysEx track.

Accessing Total Recall

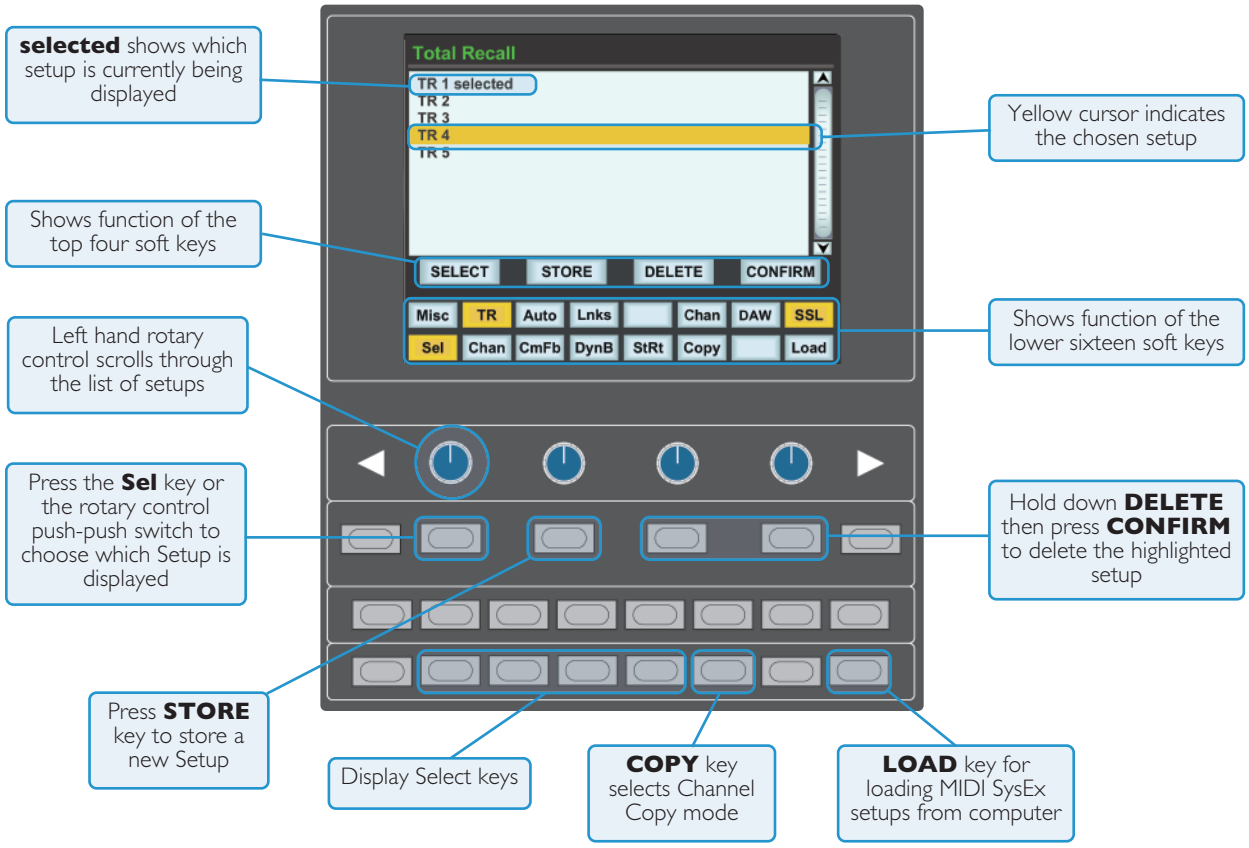
Total Recall is accessed using the TFT screen and the soft keys beneath it. The 16 boxes at the base of the screen indicate the functions assigned to the 16 buttons in two rows of eight below the screen. The four boxes above them indicate the functions assigned to the central four buttons in the row of six. Note that the two outside buttons are used for scrolling left and right, where relevant.

Use the soft keys to select **SSL** then **TR** to access the main Total Recall menu.



SELECTING TR SETUPS

The **Sel** menu is the main file menu for the Total Recall system. The main window shows a list of stored setups. The setup which is being displayed has the word 'selected' next to it.



Changing the selected setup

The left hand rotary control can be used to scroll through the list of TR setups. A yellow cursor indicates which setup is currently chosen to be modified. Either the **SELECT** soft key or the rotary encoder's push-push switch can be used to select the highlighted setup for display. The 'selected' message will appear next to the setup to indicate that it is being displayed.

MATCHING THE CONSOLE TO THE TR

Display Overview

There are four Total Recall display pages. These are selected using the four soft keys to the right of the **Sel** button: **Chan** for the channel strips, **CmFb** for the bus compressor, foldback busses and main faders, **DynB** for the dynamics, track busses and cue/FX busses, and **StRt** for the stereo returns.

In each screen, the controls within each section match the layout and colour scheme of the controls on the console. A small amount of trial and error may be involved in familiarising yourself with the layout of the displays.

Controls that are in different positions from the stored values are highlighted in white (faders and rotary controls) or yellow (switches). To provide maximum clarity rotary controls are shown as horizontal sliders and switches as boxes.

Correcting Controls

While all soft controls can be reset automatically within the procedure, all latching switches and pots must be reset manually. Pots are corrected by moving the control until its white line in the display matches its corresponding coloured line in the display.

Not usable with the SEL menu selected.

Auto Scan

Pressing the **Scan** soft key will scan all channels, starting with Channel 1 and moving right, until a discrepancy is found. The red **fader** LED on the channel with the discrepancies will light and its channel controls will be displayed in the TFT screen.

Once the control positions have been corrected, the **fader** LED will go green and the scan will continue until it finds another channel with discrepancies, moving on to the centre section displays. When the display returns to Channel 1, the auto scan is complete.

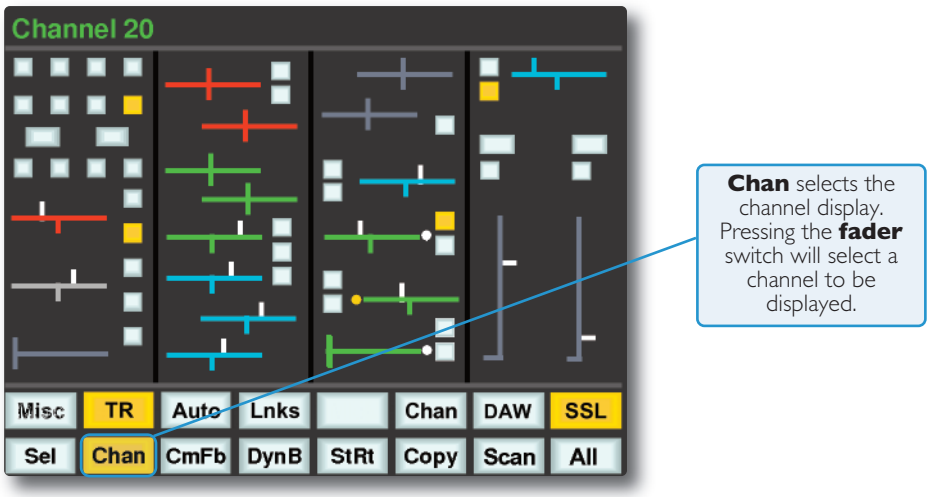
The console must be in Analogue Focus mode (Focus key illuminated) when resetting a TR.

Not usable with the SEL menu selected.

Note also that when importing older AWS projects, TR elements which cannot be matched will prevent Auto Scan from working properly.

The Channel Display

The **Chan** page presents a graphical display all of the controls within the channel.



The large switch above each fader (bottom right-hand corner) refers to the status of the channel's cut button, and the smaller switch refers to the solo-isolate function.

Setting soft switches

A double press on the **fader** switch (beside the channel fader) will reset all the non-latching switches in the channel strip. These are:

- Track bus routing switches
- Dynamics assignment and routing switches
- Mic/line selection
- EQ and Insert IN switches
- Aux on/off and EFX reassign switches
- REC and MIX bus assignment
- Cut switches
- Solo Isolate
- Fader position

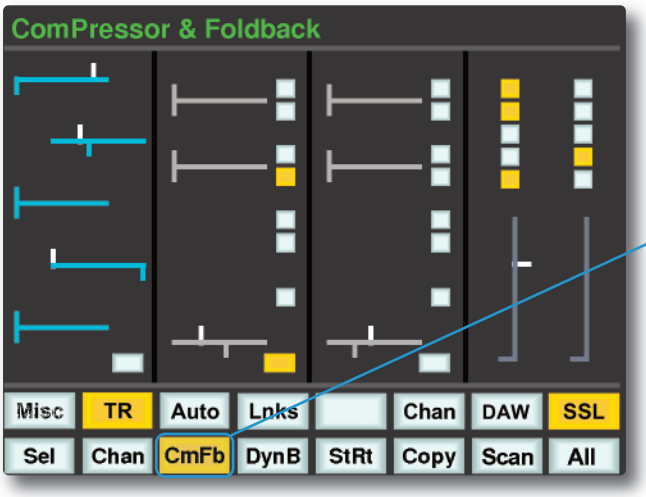
If you are confident that all of the soft switches in all of the channels can be reset to the TR position, double-tap on the **All** softkey.

Copying and Swapping settings between channels

Stored setups can be copied or swapped between channels by holding down the **fader** switch on the source channel then pressing the **fader** switch on the destination channel. If the **Copy** soft key is selected the source channel settings are copied to the destination channel: if not, the source and destination channel settings are swapped.

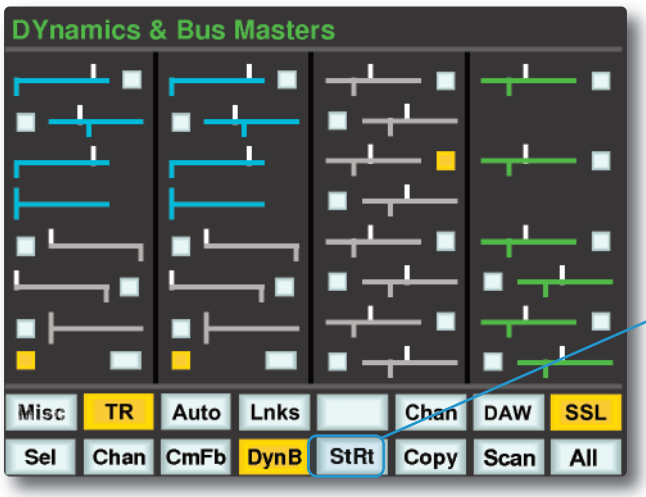
Centre section displays

Compressor and Foldback



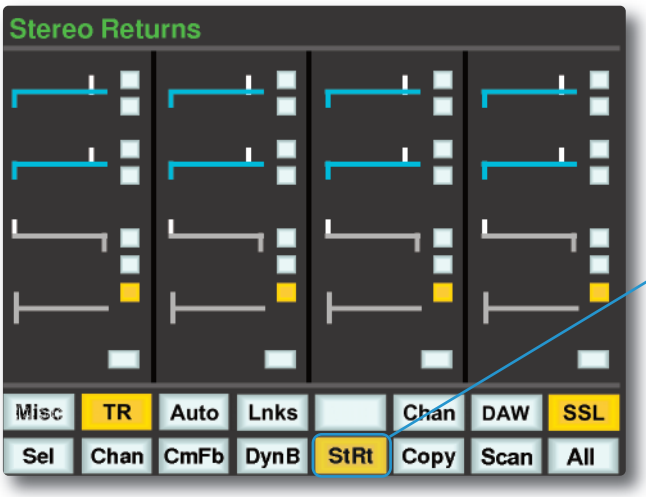
Pressing **CmFb** or pressing the master fader switch will display the centre section compressor, the master fader and foldback sections. A double press on the fader switch will reset the REC and MIX fader positions and the REC and MIX processing switches.

Dynamics and Bus Masters



DynB displays the mono dynamics sections and the track and bus masters.

Stereo Returns



StRt displays the four stereo returns.

Additional TR Functions

Storing setups

Setups can be stored at any time using the **STORE** soft key. This saves the current desk setup to the current title on the SD memory card.

> *Setups can be renamed from the AWS Remote – see later in this manual.*

New setups are numbered starting at '1'. If a setup is deleted (see below) then its number will not be re-used. The only exception to this is if all setups are deleted. The numbering will then restart from '1'.

Deleting Setups

Setups can be deleted from memory by highlighting the setup up you wish to delete, holding down the **DELETE** soft key and pressing the **CONFIRM** soft key.

Restoring Legacy MIDI Setups from a Mac or PC

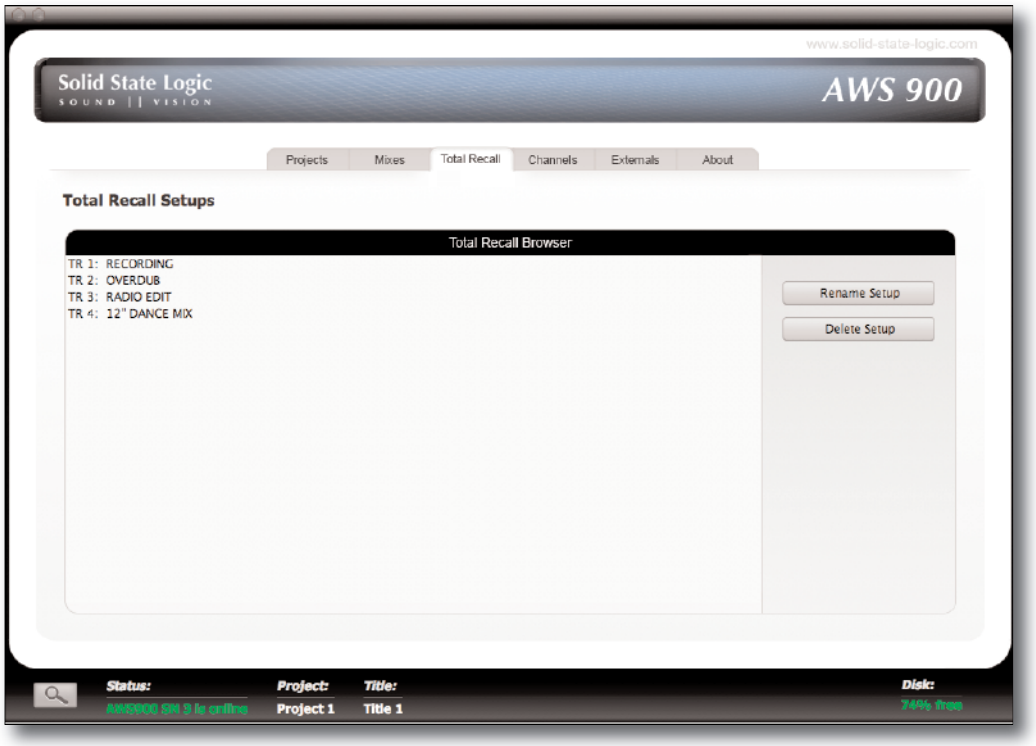
For legacy purposes, it is possible to load setups which have been saved via a MIDI SysEx dump. The AWS uses MIDI port 4, or ipMIDI port 8, for loading mixes.

- Locate the DAW to just before the SysEx data containing the setups you wish to load.
- Press the **Load** soft key.
- Play through the SysEx block of data. As soon as the AWS detects the start of valid data it will delete all the current setups and replace them with the stored ones from the MIDI track.
- The restored Setups can now be saved as part of a console Project using the AWS Remote.

> *Because the Load process replaces your current setups with the ones stored on your Mac or PC you should check you have saved any setups you wish to keep before loading new ones.*

> *Note that when importing older AWS projects, TR elements which cannot be matched will prevent Auto Scan from working properly.*

Total Recall via Logictivity



Further details on the Logictivity browser can be found later in this manual.

The **Total Recall** tab will show you all Total Recall setups for your current project.

If you would like to rename one of your Total Recall setups, highlight the one which you would wish to change and press the **Rename Setup** button.

If you would like to delete a Total Recall set up, highlight the one which you would like to delete and press the **Delete Setup** button.

Note that ranges of entries can be selected for renaming or deleting together – select the first entry, then hold shift and select the last entry. Rename or delete confirmation pop-ups will appear for each entry in turn.

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AUTOMATION

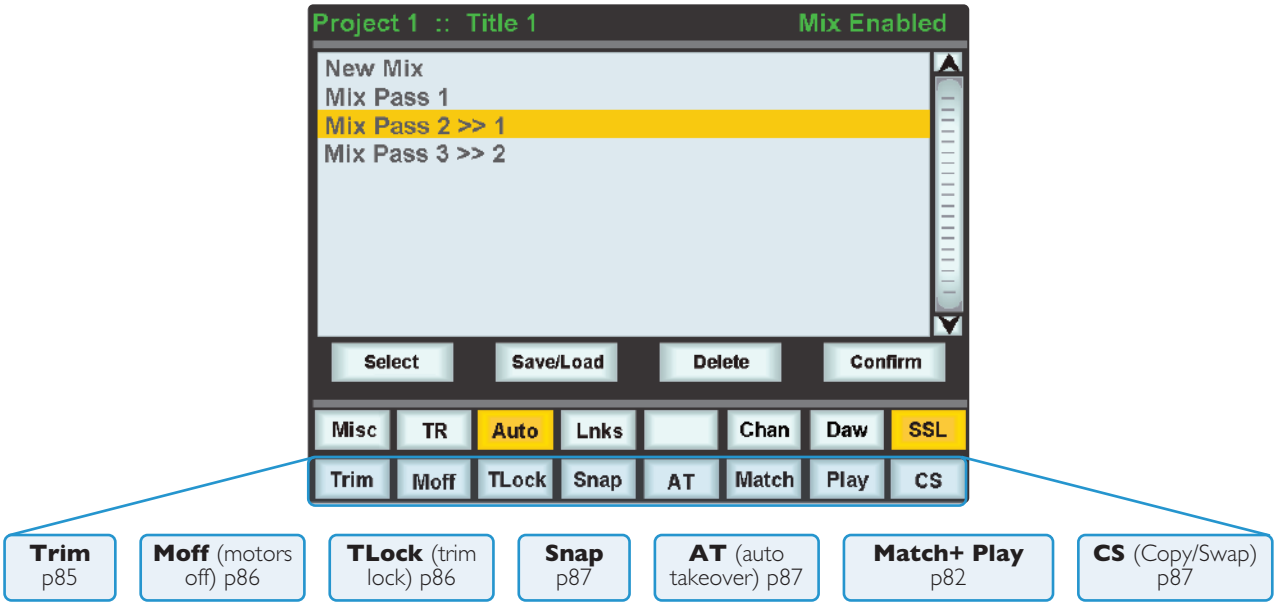
Overview

AWS consoles include a fully featured automation package, developed from SSL's renowned G and K Series Ultimation systems, but with a feature set designed specifically for the AWS. SSL automation utilises the classic SSL look and feel, familiar to thousands of engineers worldwide, to add dynamic fader and cut automation to the console. MTC (MIDI Time Code) serves as the mix timeline reference together with support for MMC (MIDI Machine Control) locate commands to follow non-play speed positional changes from the DAW. Automation Mix data is normally stored via Logictivity using the AWS remote. Legacy systems make use of System Exclusive MIDI data transfer allows mixes to be saved to a DAW workstation or SysEx librarian.

Key features

- Frame accurate fader and cut automation data
- Moving and non moving fader modes
- Trim updates
- Fader links
- Mix Pass history
- AutoTakeover
- Variable glide times
- Fader safe mode
- Match and Play Cut automation updates
- Mixes and Fader Links are saved together with Total Recall data (if applicable)

Quick Guides



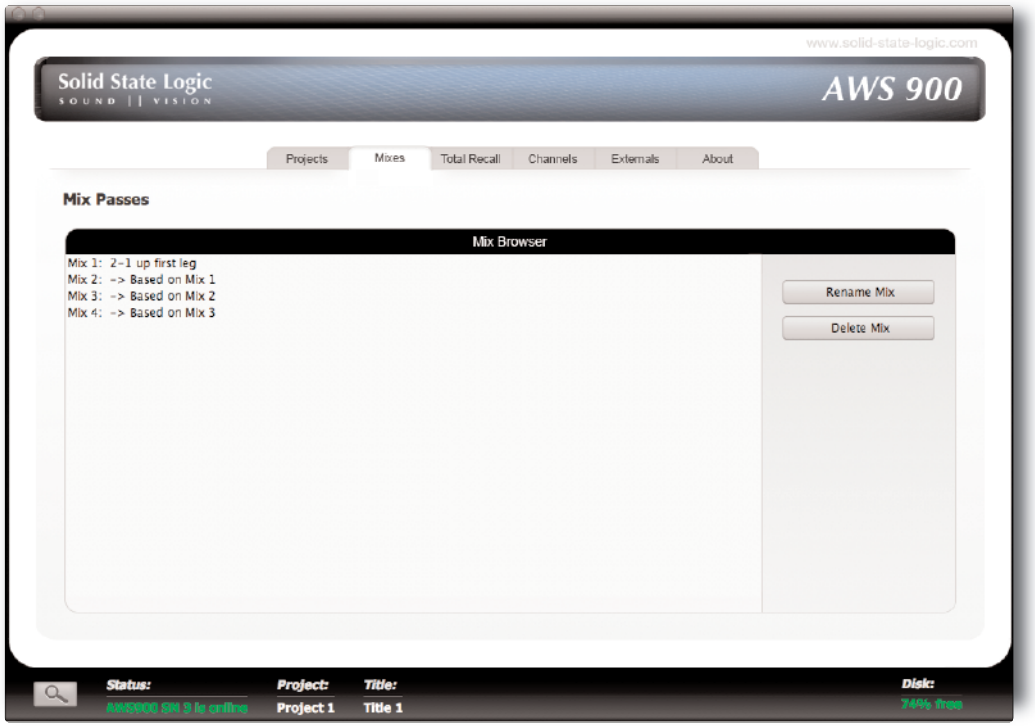
For quick, simple guides of how to use your SSL automation, please visit the SSL website for AWS tutorials: http://www.solidstatelogic.com/

A-FADA Analogue Automation

A-FADA (Analogue Fader Accesses DAW Automation) is an innovative new way of combining the ease of DAW automation with the audio qualities of analogue mixing by using DAW track automation to move the analogue faders, opening up a wide range of possibilities for creativity and convenience in mix automation.

Automation Management via the Remote

The **Mixes** tab in the AWS Remote Browser will show you a list of all current mix passes associated with your current project.



To rename one of your Mix passes, highlight the one which you would wish to change and press the **Rename Mix** button.

To delete a Mix Pass, highlight the one which you would like to delete and press the **Delete Mix** button.

OPERATION

Activating the Automation System

Use the softkeys below the centre section TFT to select **SSL** then **Auto**. This calls up the main automation display with its associated soft key menu (see next page).

List Mix Menu

The List Mix menu is the main file menu for the automation system, and shows a list of stored Mix Passes.

New Mix Passes are auto-numbered starting at '1'. If a Mix Pass is deleted (see below) then its number will not be re-used. The only exception to this is if all Mix Passes are deleted. The numbering will then restart from '1'. Mix Passes can be renamed from the AWS Remote — see Renaming Mix Passes.

Changing the selected Mix Pass

The left-hand encoder can be used to scroll through the list of Mix Passes. A yellow cursor band indicates which Mix Pass is currently selected for modification. The encoder's push-push switch can be used to either start a New Mix, or select a previous Mix Pass. Note that once a Mix is selected, the Mix may take a moment to load.

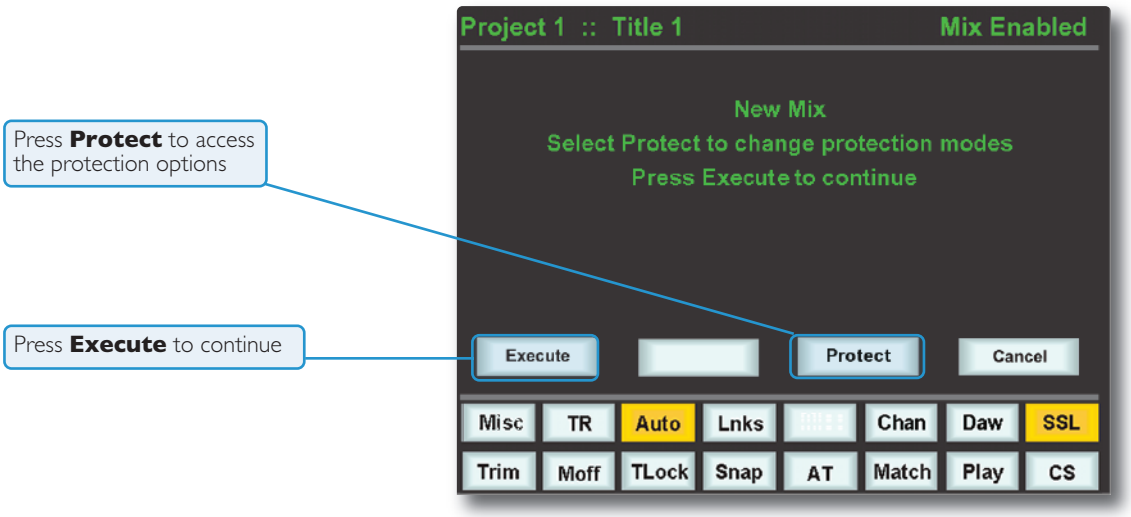
Deleting Mix Passes

Mix Passes can be deleted by selecting the Mix Pass you wish to delete, holding down the **Delete** soft key and pressing the **Confirm** soft key.

Creating A New Mix Pass

To create a new automated Mix Pass, enter the List Mix menu (shown below) and use the left-hand encoder to highlight the **New Mix** entry.

Now press the encoder switch or the **Select** soft key to select the New Mix Setup page.

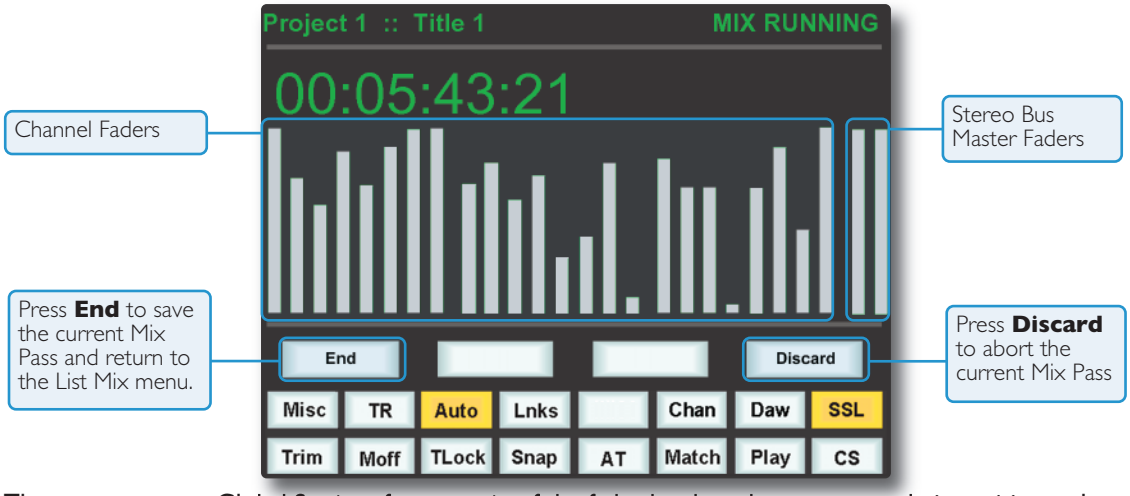


All the channel faders will enter Absolute mode, as indicated by a red LED next to each fader. Depending on the **Show channel names** option selected in the **SSL / Misc / Setup** menu (see Automation Setup Options), the current automation status for each fader may be displayed in the scribble strip above the fader, replacing the standard scribble label.

Pressing the **CANCEL** button twice quickly will return you to the List Mix page.

Select **Protect** to disconnect controls from the automation system.

To start a mix, press **Execute**. The screen switches to show level bargraphs for the 24 channel faders and the two main faders, (for the **MIX** and **REC** busses).



The system saves a Global Static reference mix of the fader levels and cut status at their positions when the **Execute** key is pressed. This is useful because it allows you to locate before the start of the mix and recover your original levels (i.e.reference mix). Also, if you are writing automation in a section that had no previous mix data, when you drop out of write the faders go back to their original levels.

Mix Running

Press Play on the DAW to move forward and as soon as the Mix system has locked to the MIDI timecode (MTC), the Mix Status display will indicate '**Mix Running**'. Simply move the faders and press the cut switches to write your mix automation, and the fader moves and cut data will be recorded. The DAW may be toggled freely between Stop and Play and if Fast Forward is used or the DAW is located forward, the automation data will be extended to the new position and returned to play.

Mix Review

At any time you can rewind the system, and as soon as the DAW is located to an earlier time and valid MTC or a MMC locate position command is received, the mix system enters 'Mix Review'. All faders will switch to Replay status (all LEDs are off). This operation is known as a rollback.

Indicates how many times you have rolled back. Every time the Mix Review number will increase by 1.

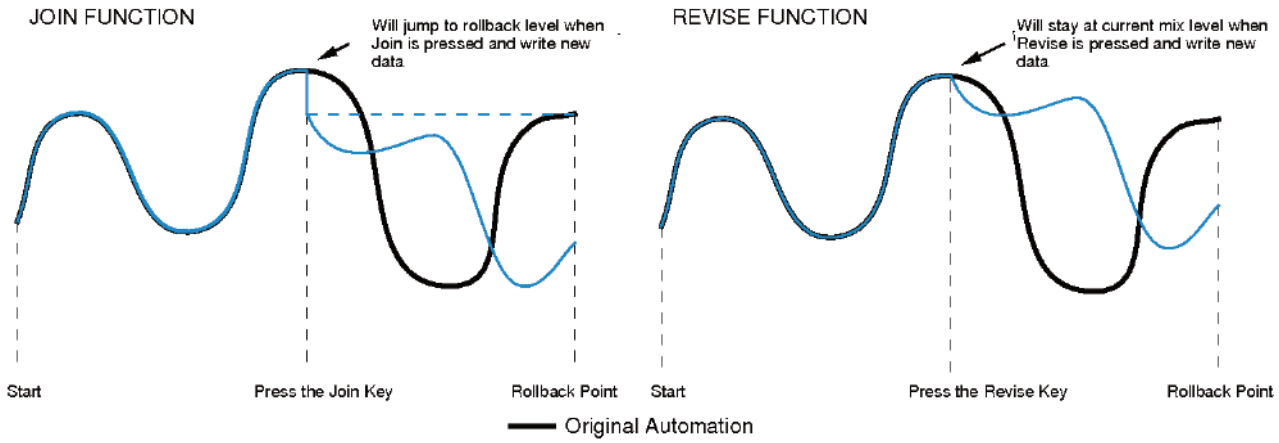
Mix Running Status
Displayed while writing new automation data;

Mix Review Status
Displayed when rolled back and playing previous automation data.

When the DAW returns to Play, previously written automation data is replayed. If no faders are returned to write, all faders in write at the start of the mix will drop back into write at the point where the DAW was rewound (the 'rollback point', and the Mix status will return to Mix Running. Whilst in Mix Review you may rollback as many times as required to allow the mix to be built up fader by fader. Each time a rollback takes place, the rollback counter in the mix status display increments. Faders in write at a rollback point will automatically switch to write when the system plays through the rollback point.

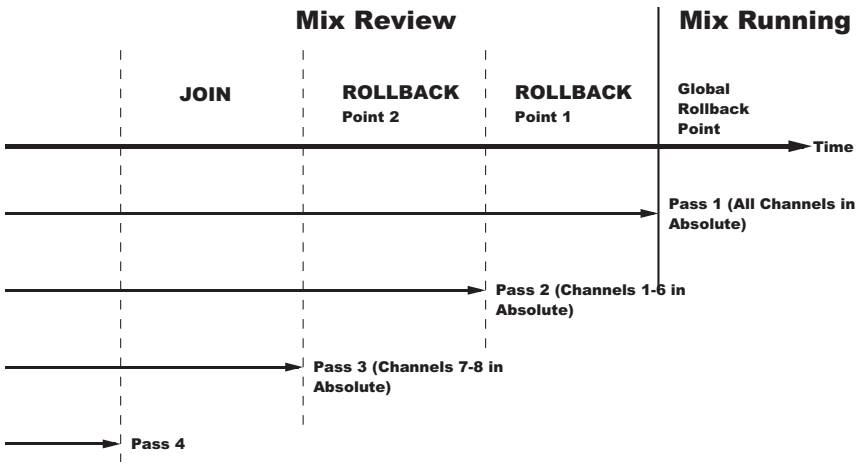
JOIN AND REVISE

At any time during Mix Review, the Join key can be used to switch all channels originally in write at the last rollback point back to write at the levels or state they were at the rollback point. This is useful, for example, when balancing a chorus level. When you have achieved this balance, you can rollback, hit Join and the levels will punch in at the balance set before rollback, and all channels immediately return to write.The Revise key has a similar action except that all channels in write at the Rollback point are returned to write at their current mix position. This is useful if you have been automating a section, but made a small mistake. Just rollback prior to the mistake, hit Revise and the channels will immediately go into write at the current fader level, allowing you to overwrite the mistake.



Multiple Rollback memories are supported so that successive operations of Join or Revise return different sets of faders back to the write state, if multiple Rollback operations have taken place.

To return all faders to Absolute, press the **Join** or **Revise** keys until the Global Rollback memory is reached, at which point all faders return to write either at the current position, via the Revise function, or at the balance at the Global Rollback point, via the Join function.



Discard

If the system is in play or stopped following a Rollback operation with any faders or cuts in Absolute mode, **Discard** clears any data made since the start of the Rollback pass and forces all channels in Absolute back to Replay. The **Discard** label is only shown when there is Mix data to discard.

Updating a Mix Pass

To update a Mix Pass, select the desired Mix Pass from the list on the **List Mix** menu by turning the left V-pot and press the V-pot switch. '**Updating Mix Pass**' will be displayed and the selected mix will now be the reference mix.

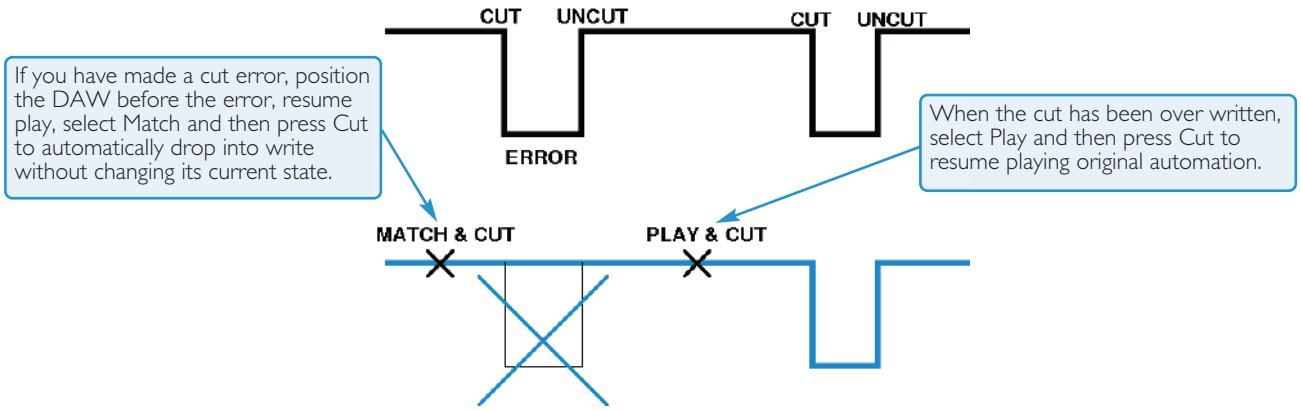
Cut Automation

Pressing a **Cut** switch will toggle its state and automatically start writing data. It can be returned to replay either by rolling back or by selecting the soft **Play** key, then pressing the cut switch.

The state of the channel **Cut** switch is stored separately from the fader data. Cut data is stored regardless of the current fader status unless channel Safe mode is selected. Whenever the **Cut** switch is in write, a '*' symbol is displayed in the scribble strip above the fader.

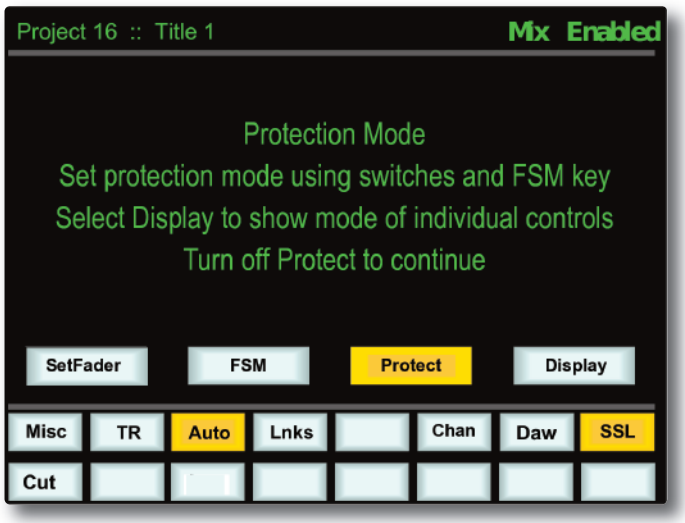
Match followed by the **Cut** switch drops the channel into Write without changing the current state of the Channel Cut. Match and Play are mutually exclusive. If one is active, selecting the alternate function cancels the first one.

Match and Play are automatically deselected after each operation unless the Latching option is enabled in the Setup Menu.



SELECTING PROTECTION

Each component which is included in the automation can be protected globally, on a per-channel basis, or individually. This is done in the **Protection Mode** page, accessed by pressing the **Protect** softkey.



When you update a previously stored Mix, three different data protection modes become available: **Auto**, **Safe** and **Manual**.

Auto (Red fader status LED) Automation data is replayed and can be over-written, either using the fader touch sensor (motor faders on), or by pressing the **fader** status button.

Safe (Green fader status LED) Existing fader and switch automation data can be protected with the **Safe** option. When channels are in **Safe**, automation data is replayed but no data can be written to these channels.

Manual (No fader status LED) Existing automation data is protected but not played back. The fader and switches affect the audio in the normal way but movements will not be written to the automation.

*Safe mode is **not** available in a new mix.*

When the **Protect** screen is active, the lower row of softkeys become selection softkeys for the automated **CUT** switches and the top left softkey now displays **SetFader** (as shown above). These two softkeys select which controls will be affected by the **FSM** softkey and the **fader** status buttons which are used to cycle through the available Protection Modes, on a global basis (**FSM** softkey) or on a per-channel basis (the **fader** status buttons). In either case all the selected controls in the channel will be set to the displayed mode. The protection mode is applied to the channel path which is currently assigned to the channel fader.

For example, to set all of the main channel faders to **Safe** mode, activate only the **SetFader** softkey and use the **FSM** softkey to cycle the Scribble Strip to **Safe**. Alternatively, to set the **CUT** switch on channel 1 to **Auto** mode, activate only the ***CUT*** softkey and press Channel 1's **fader** status button to cycle the Scribble Strip to Auto.

When the **Protect** screen is active, all automated controls can be reset to the same mode by pressing and holding the **FSM** softkey.

To display which controls are in each mode, press the **Display** softkey – the three Protection Modes will be shown in the lower left-hand softkeys. Pressing one of these mode softkeys will cause the LEDs for all controls which are in that mode become lit. (The fader status LED now lights to indicate when the fader's current mode is selected, regardless of whether or not that mode is **Auto**.) Pressing any individual controls (or in the case of the fader, the fader status button) will cause them to be assigned to that mode, and the new mode will be shown on the Scribble Strip display.

For example,if the **Manual** mode softkey is pressed, pressing a channel **CUT** switch will cause that switch to be put into Manual mode, and the Scribble Strip for that channel will display **CutC M**. Note that channel faders are shown as FdrC, monitor faders as FdrM, channel cut switches as CutC, monitor cuts switches as CutM.

Summary of fader status and FSM functions:

Note that the fader status buttons and LEDs and the **FSM** softkey fill a variety of functions:

- When in Mix Enabled, a red LED indicates Write, a green LED indicates Trim (see below) and no LEDs indicates Replay. The **FSM** softkey and fader status buttons switch any faders and switches in Auto-mode between Write and Replay (or, if Trim is active, between Trim and Replay).

- When the **Protect** screen is active, a red LED indicates **Auto**, a green LED indicates **Safe** and no LED indicates **Manual** Protection mode. The **FSM** softkey and fader status buttons switch any faders and switches which have been selected in the screen between Protection modes.

- When in **Protect** / **Display**, a lit LED (red for **Auto** or **Manual**, green for **Safe**) indicates that the channel fader is in the Protection mode which is currently displayed. The fader status buttons can be used to add faders to the currently displayed mode.

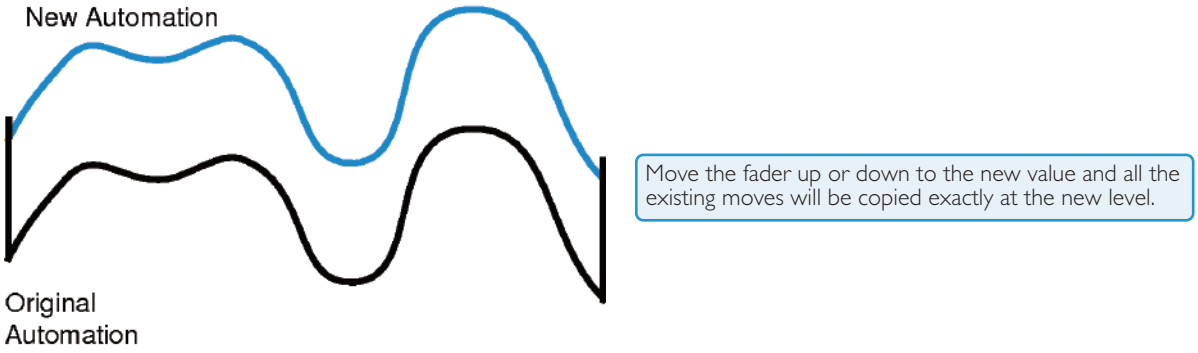
Automation Options

Trim

A method of updating fader data is to Trim the previous Mix Pass data. Trim mode originates from VCA (non-moving fader) automation systems and uses the fader to add or subtract level from the existing moves. It achieved this by setting up a 'null' fader position and then any subsequent moves trim the existing data by the amount of positive or negative change from the null point. Trim is useful, for example, when you have a complex automated vocal line which needs raising by 2dB. Rather than trying to re-write the complex moves, simply rollback, hit **Trim** and move the fader by +2dB. Locate to the end of the vocal line that needs this level increase, and press the **End** soft key to commit the trim to a Mix Pass.

The Trim mode is enabled by pressing the **Trim** key. Once active, faders can write in Trim, at anytime except during the first pass of a new mix, during Mix Running or in Mix Review. Trim is indicated by the green status LED next to the fader. When Trim is available at the start of the Mix, the **FSM** key will toggle all faders between Replay and Trim.

Trim can be used with the fader motors On or Off. If the motors are On, the null point will be the fader position prior to selecting the trim auto switch or touching the fader. If the motors are Off, the fader can be positioned at a suitable reference point on the scale before entering the Trim update status by pressing the fader switch. SSL's automation features an 'auto-nulling' feature so that each time Trim is re-enabled a new null point is set. When writing a Trim move, the dB trim value is displayed in the scribble strip above the fader.



Both Autotakeover and Snap functions (see below) used in conjunction with a Trim update allows a seamless or smooth return to the stored mix data.

When Join is used with faders in Trim at the Rollback point, any Trim offset will be retained and written from the point that the **Join** key is operated. **Revise** returns any fader in Trim at the Rollback point back to write but with a new null point to avoid a level jump.

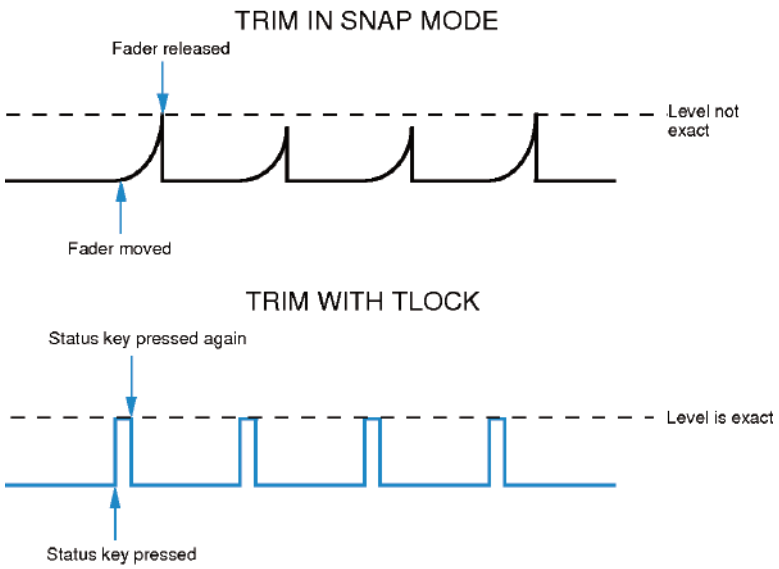
TLock

TLock (Trim Lock) defeats the auto nulling feature of the standard Trim function and 'locks' the null point to the position that the fader was in when Trim was first enabled in the current Mix Pass. This enables a defined trim offset to be repeatedly punched in and out throughout the subsequent Mix Pass. Deselecting **TLock** clears any stored nulled points. AutoTakeover can be used when TLock is active, however Snap and TLock are mutually exclusive; selecting one deselects the other and vice versa.

An example of TLock would be bringing up the levels of guitar licks in a track.

If Trim is used in Snap mode, the fader can be raised and let go repeatedly, returning to the previous level. However it is difficult to have an identical increase in level each time when using manually. If we use TLock, the reference value will be set, and the fader will be moved to the correct raised level. Every time you press the fader status key it will jump to that level, and when pressed again, it will return to the reference value. There will be no glide times and the value will be identical.

Note: This feature is only available with Motors OFF

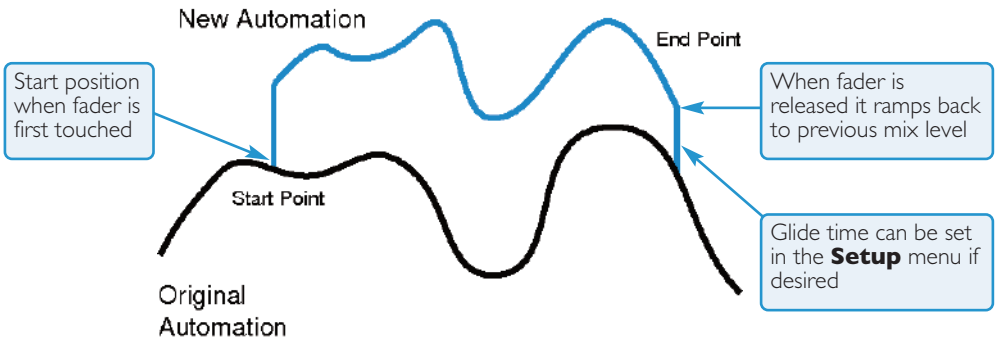


Motors Off

Moff (Motors Off) this mode suspends the motorised playback of Mix data via the moving faders. In this mode it will emulate a VCA automation system. **Moff** automatically activates the fader SuspdAll Links function.

Snap Mode

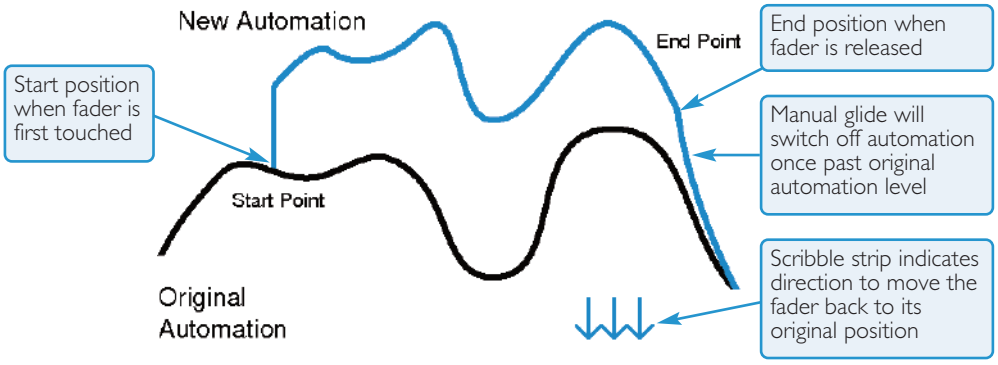
Snap mode uses the fader touch sensor to control both the start and end of a fader update for fast hands on changes to mix levels. When the fader is released it ramps back to the previous mix level at a user determined rate, then returns to replay.



This feature is only available with Motors ON

AutoTakeover

To avoid a level jump when dropping out of write, AutoTakeover introduces nulling indicators in the scribble strip to display the direction to move the fader to match the underlying mix level. When the fader crosses the current mix level, it is automatically returned to replay and disconnected from the audio gain element. The fader returns to following the mix data as soon as it is physically released.



Copy and Swap

CS (Copy and Swap) are used to interchange or transfer mix data between channels. The required function is selected by pressing the **CS** key to toggle through modes. Copy is displayed as a highlighted **Cpy**, Swap as an **Swp**. Select the function required then hold down the source channel auto switch then press the destination channel using its auto switch. Whilst the auto switches are active, 'src' and 'dest' will be displayed in the scribble strips above the fader. To Copy or Swap automation data the system must be in Mix Running or Mix Review.

Copy is to a single channel only. To copy to multiple channels, repeat the Copy operation as many times as required.

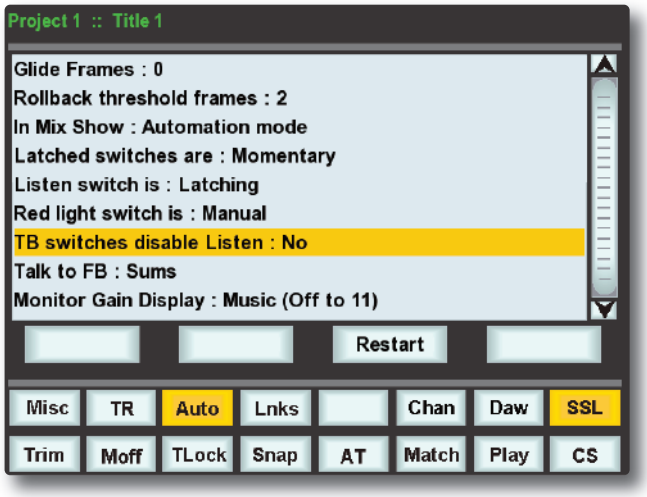
The new Mix data is not saved until the subsequent Mix Pass is Ended.

Deleting Mix Passes from the Console

Mix Passes can be deleted from memory by highlighting the Mix Pass you wish to delete in the TFT screen, holding down the **Delete** soft key and pressing the **Confirm** soft key. Mixes can also be deleted from the AWS Remote.

AUTOMATION SETUP OPTIONS

The **SSL>MISC>SETUP** contains various options for the mix system. Scroll to the option to be edited and select using the Left V-pot push switch. Once the option is active, the left V-pot will increment/decrement a numerical value as it is turned or page through the various option states. Press the V-pot push switch a second time to complete the setup operation.



Glide Frames — Sets the ramp time in frames for Snap mode. The range is from 0 (no glide) to 255 (10 second glide).

Rollback Threshold frames — Sets the number of consecutive descending frames that the system needs to see to determine if a rollback has taken place. The range is 2-10 and the default is 2 frames. Increase as required if a rollback occurs on stopping the timecode master.

Latched Match & Play — Normally Match and Play are automatically deselected after a Cut switch is operated. This option latches the Match or Play function until deselected manually.

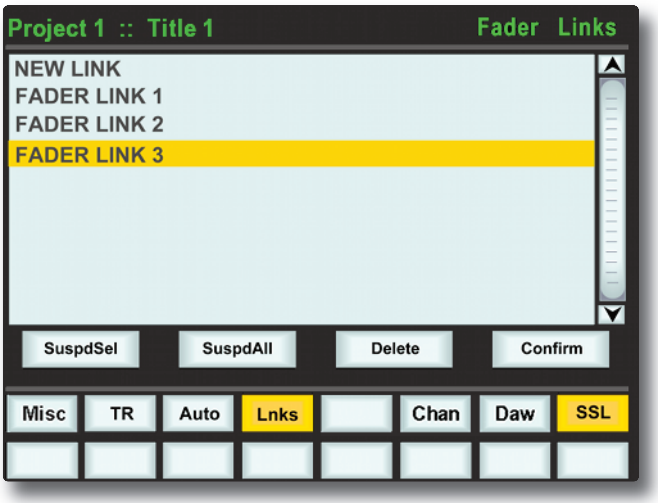
In Mix Show — This determines what is displayed on the channels scribble strips when using automation. Choices are:

- **Automation Mode** - shows **Manual**, **Safe** or **Auto**
- **Channel names in mix running** - After pressing **Execute** will display channel names
- **Channel names** - will always display channel names

Fader Links

Fader Links are a useful method of ganging channels without the complexity of a Master/Slave style grouping system. In a Fader Link, operating any Fader, Cut, Solo or Status switch will apply the same action to all the channels in the Link. Fader retain any level offsets provided no fader in the Link reaches the upper or lower extremes of the fader scale. If any member of a link reaches the end of its physical travel all members of the link will not move beyond this point. To access Fader Links, press the **Lnks** soft key next to the **Auto** key.

Note: Links are not available in 'MOTORS OFF' mode.



To set up a new Link, scroll to **New Link** and press the V-pot push switch. This will create a new entry in the list suffixed with a number. This entry will be automatically highlighted and faders can be added (or removed from the Link) by pressing the fader auto switch. Link numbers are shown in the scribble strip above the fader and the read fader status LEDS will indicate the faders in the currently selected Link.

To adjust the Link balance, hold one fader whilst moving another. This automatically isolates the second fader from the Link whilst the remaining faders continue to track the first fader touched or used.

As far as the SSL automation system is concerned, operating one fader places all the faders in the Link in write. Links can be dissolved at any time and all the automation data will still play out correctly.

To edit existing Links, scroll to the Link using the pot. Channels can be added or removed by pressing their **auto** switches.

Viewing Links

To view links without entering the Links page, press the **MISC** Function key followed by the **SLNK** key which appears beneath it.

Suspending Links

Links can be globally or individually suspended at anytime. A link which is suspended will allow the user to move all faders independently.

If a Link is highlighted, then the **SuspdSel** key will deactivate the selected Link and 'suspended' will be shown next to the link number.

SuspdAll will suspend all links in the list. **Moff** automatically activates the SuspdAll function. Touching two faders in the same link group will suspend all faders within that group.

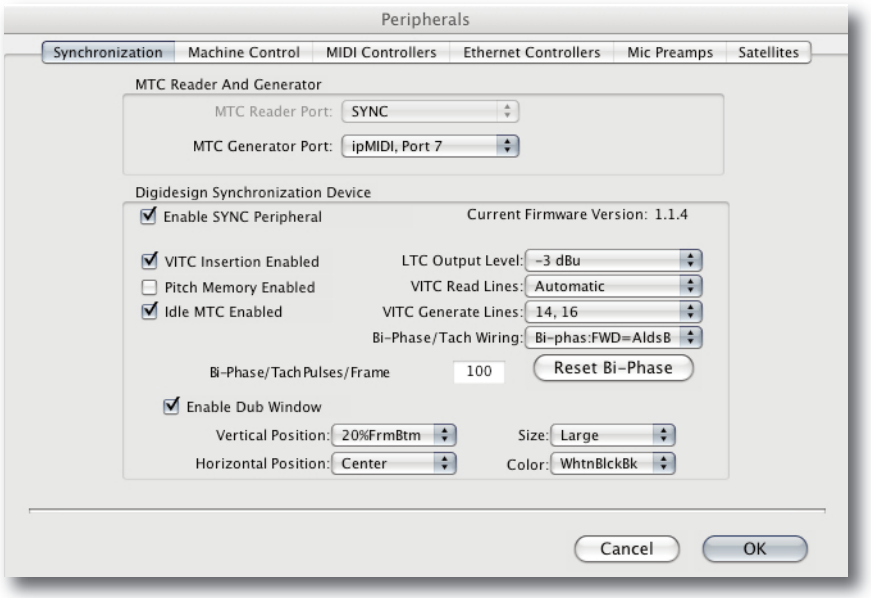
Deleting Links

To delete a Link highlight the Link, then use the **Delete** and **Confirm** keys.

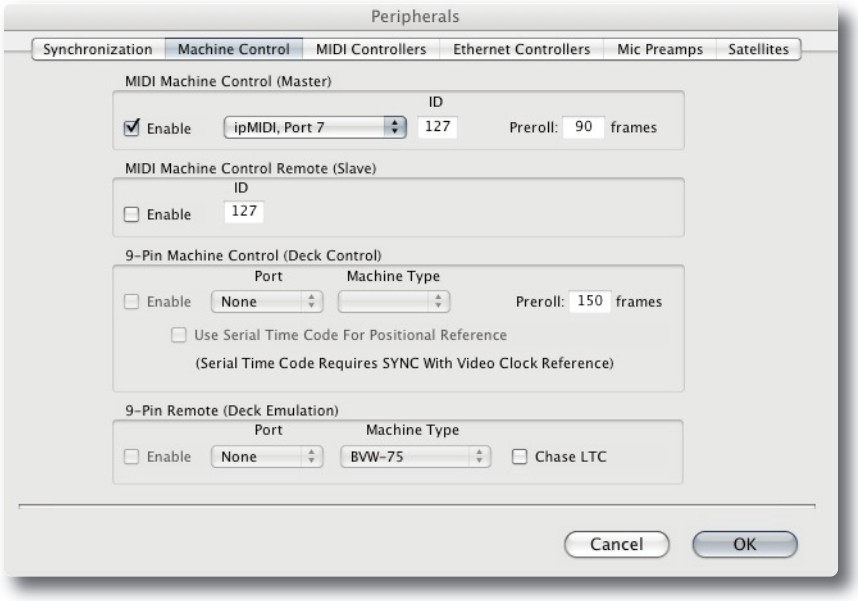
Pro Tools Setup Notes

To enable timecode generation, click on the GEN MTC button in the transport window:

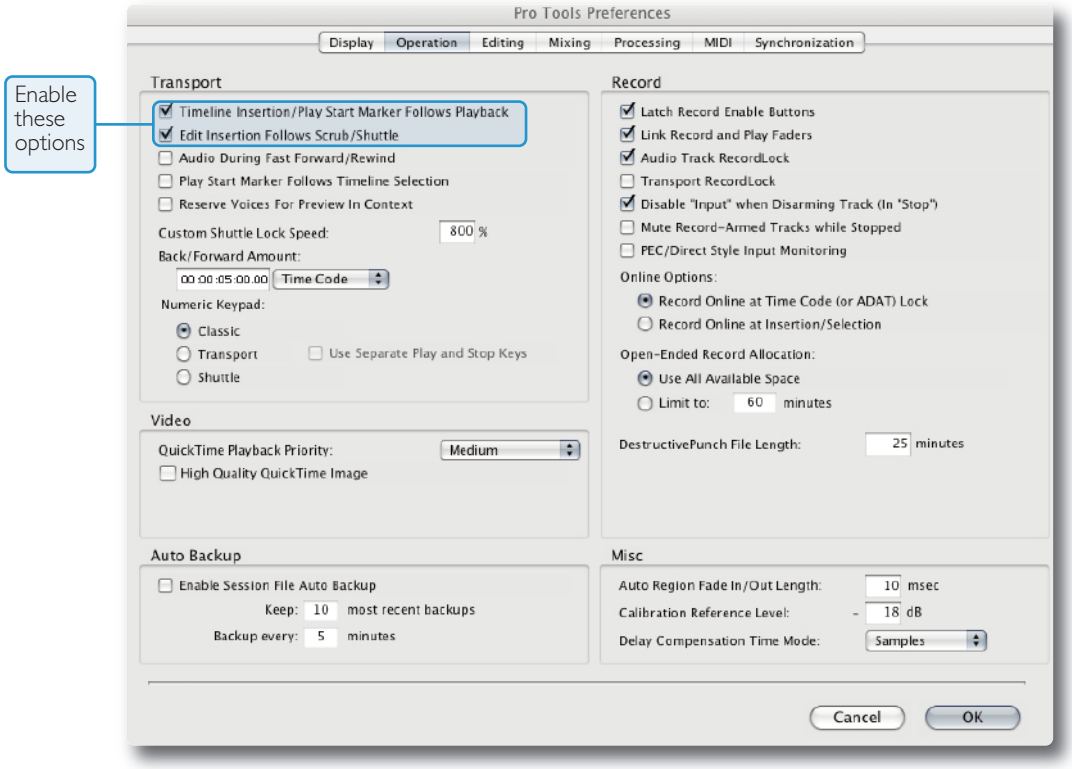
Now open the Synchronisation tab in the Setup/Peripherals window and select the port on the MIDI interface that is connected to AWS Port 4 MIDI IN or IP MIDI Port 7. Also select the timecode rate for the session and the session start time. It is expedient to make a note of the timecode standard that was used for a particular AWS mixing project. Automation automatically detects the timecode standard from the incoming MTC messages. It will quite happily attempt to play out stored mix data to incoming timecode with a different frame rate, but this will result in small but potentially annoying timing errors in automation playback.



To set up MMC locates, open the Machine Control tab in the Setup/Peripherals window and follow the configuration shown below:

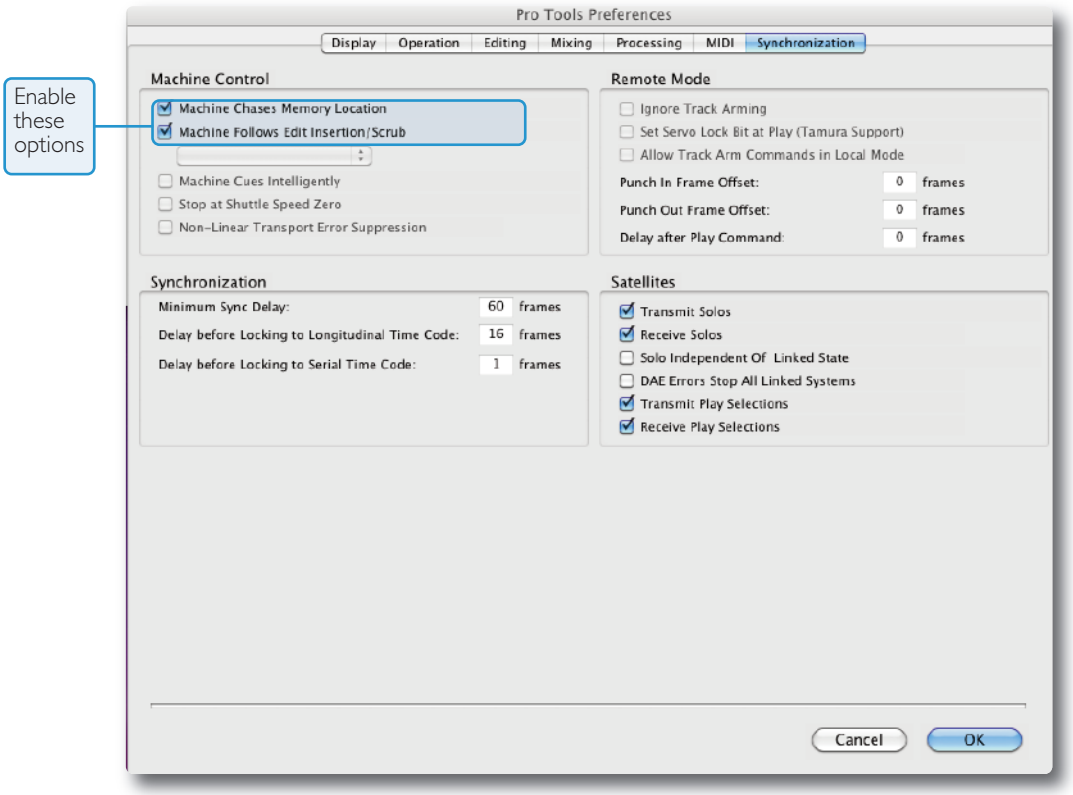


Enable MIDI Machine Control and select the Port on the MIDI Interface that is connected to AWS Port 4 MIDI IN or IP MIDI Port 7. Leave the ID as 127 (this sends to all connected devices). Open the Operation tab in Setup/Preferences:



Enable the two options circled above. This ensures that the MMC locate messages are transmitted correctly from Pro Tools.

Finally, open the Synchronisation tab in Setup/Preferences:



When mixing with the AWS 948 it is advisable to enable the two options circled above. This ensures that a Rollback operation will occur following a locate or rewind operation in Pro Tools. If the first options are not enabled, then Pro Tools does not send a locate command following a Stop command even though the desk counter will show the position that Play last occurred from and where Play will resume from. The automation Rollback will then occur when the system is returned to play which can be disconcerting. Enabling the option ensures that Rollbacks occur prior to entering play but at the expense of defeating the Pro Tools feature of automatically returning to the last Play position following the Stop command.

Please note:

- When 'MIDI connects via network' option is used all mix passes can be saved via Logictivity.
- If you are not connecting via Ethernet the standard MIDI ports will be used.
- The AWS uses the same MIDI port for saving and loading mixes and receiving MTC.
- Ensure that any MIDI tracks containing SysEx data are muted while mixing, as SysEx data will interfere with MTC transmission.

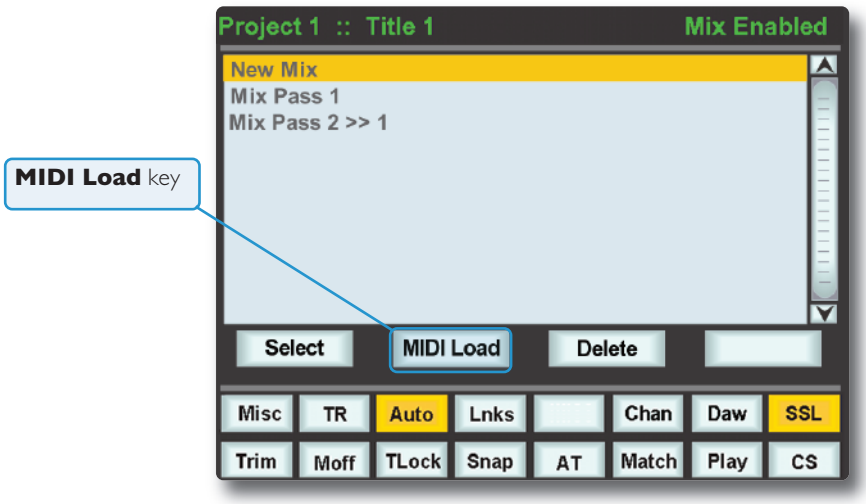
MIDI SysEx Load

For legacy purposes, it is possible to load Automation setups which have been saved via a MIDI SysEx dump. The AWS uses MIDI port 4 for loading mixes.

Note that MIDI port 4 is also used for MTC. SysEx data will interfere with MTC transmission, so ensure these tracks are muted while mixing.

- Locate the DAW to just before the SysEx data containing the Mix Passes you wish to load.
- Press the **MIDI Load** soft key.
- Press the **Load** soft key.
- Play through the SysEx block of data. As soon as the AWS detects the start of valid data it will delete all the current Mix Passes and replace them with the stored ones from the MIDI track.

Because the Load process replaces your current Mix Passes with the ones stored on your Mac or PC you should check you have saved any Mix Passes you wish to keep before loading new ones.



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PROJECTS AND THE REMOTE BROWSER

INTRODUCTION

AWS Remote

The AWS Remote Browser is used to manage Projects and their associated files. It also allows renaming of mixes, TR setups, channel scribble strips and monitor external sources, and includes space for session notes.

The Remote software is a Java application that runs on both Mac and PC. Section 1 describes how to install the application and how to configure the network connection to the console.

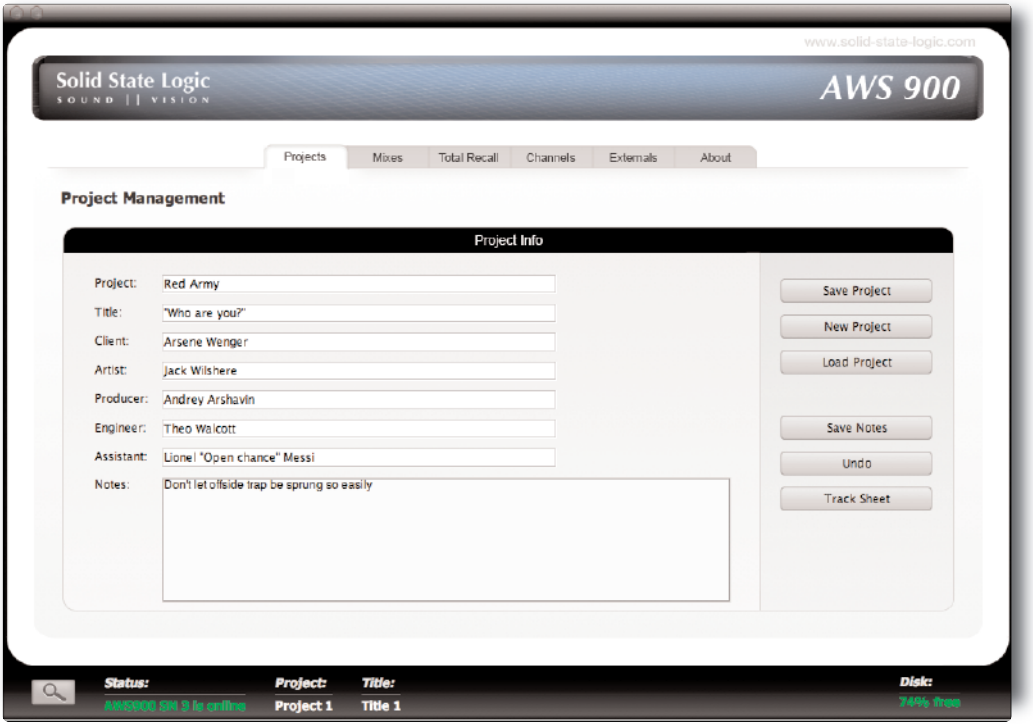
MIDI SysEx data

Mixes and TR Setups saved as MIDI SysEx dumps using earlier versions of software can be uploaded using either ipMIDI port 8 or MIDI port 4 (dependent on which MIDI system is enabled in the desk **MISC>SETUP** menu), then saved off as part of a new Project.. This has been described previously.

CONNECTING THE REMOTE TO THE CONSOLE

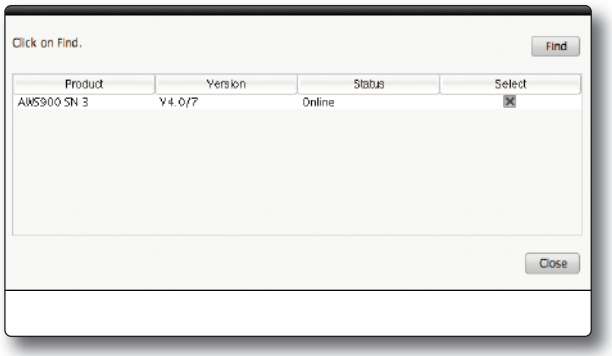
Double click on the Remote icon to run the software - see the beginning of this document for installation details.

When the Remote first opens, it searches for an AWS console to control. If it finds one, it will automatically link to that console. This will be indicated by the **Status** at the bottom of the Remote window displaying a green '**AWS 900 SN XXXXX is online**' message (where SN XXX is the ID of the console).



The first time you run the software the status bar will display the message '**No AWS Found, click on Find**' in red. If the Remote cannot find the console it usually connects to, it will display '**AWS 900 SN XXXXX is offline**'.

- If this happens, check your connections and press  (in the bottom left corner of the Remote window) to bring up the **Find** pop-up and press the **Find** button in the top right-hand corner to rescan for consoles.
- When the Remote finds any consoles, they will appear in the pop-up. Check the **Select** box for the required console and click on **OK**.



Once a connection has been made to the console, the green '**AWS 900 SN XXXXX is online**' message will appear in the **Status** field:

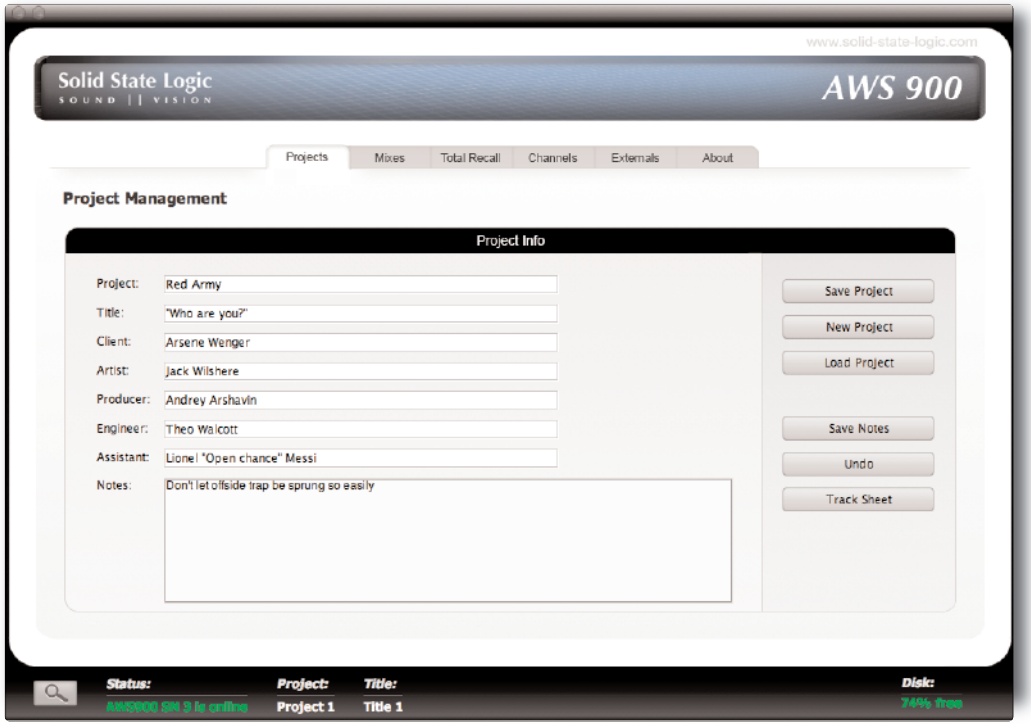
Once you have successfully connected to the console, the Remote pages will become populated with the current data stored on the console.

The tabs which will be visible allow you to do the following:

- **Projects** Change Project and Title names, add or edit info, and manage session data.
- **Mixes** Rename and delete Mix passes
- **Total Recall** Rename and delete Total Recall setups
- **Channels** Rename channel scribble strip displays
- **Externals** Rename EXT A and EXT B source names
- **About** Shows current software version of console and remote, links to the SSL website

The Projects Tab

This shows a range of details for the current Project.



Each Project contains:

- Multiple Mixes (number limited by available memory)
- Multiple Total Recall Setups (number limited by available memory)
- Fader Link setup
- Channel scribble strip text
- Project Notes, Artist, Engineer etc details

Renaming Projects, Titles, Mixes or Total Recall Setups

In order to rename a file or folder, right click (Mac: '<Ctrl> click') the file or folder and select '**Rename**'. Enter the name then click on **OK**.

Saving a Project

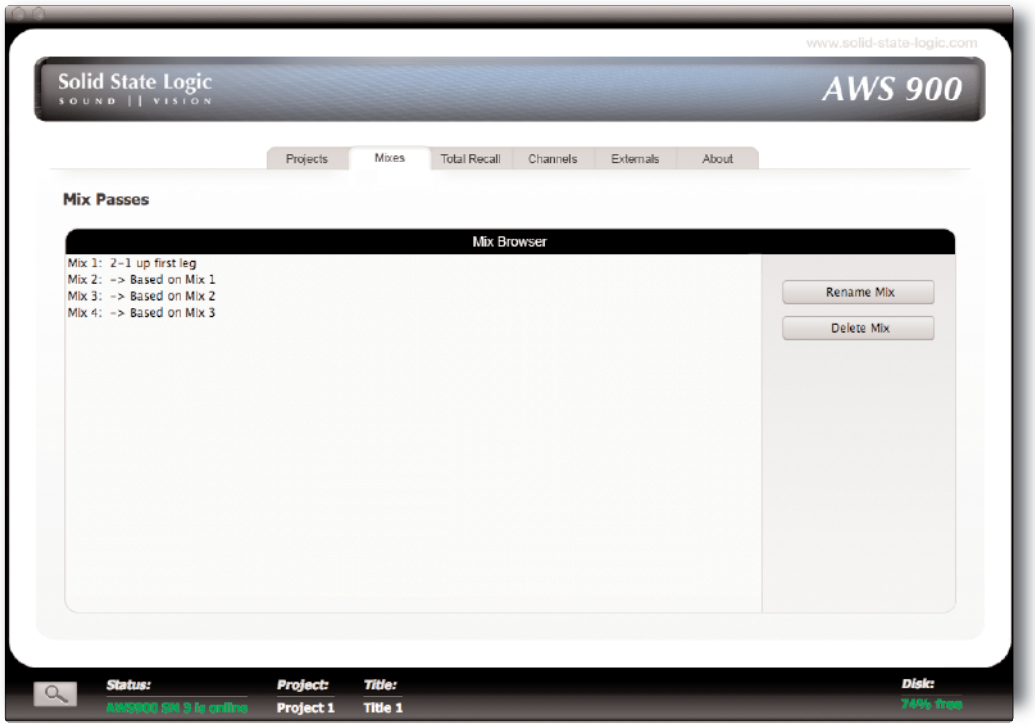
Simply click on "Save Project", enter a name and save your project as a .zip file in the location of your choice.

Loading a Project

Again, simply click on "Load Project", choose your archived .zip file and restore it.

> *You will be warned that you are about to over-write your current project. Please use 'Saving Project' if you wish revisit it later.*

THE MIXES TAB



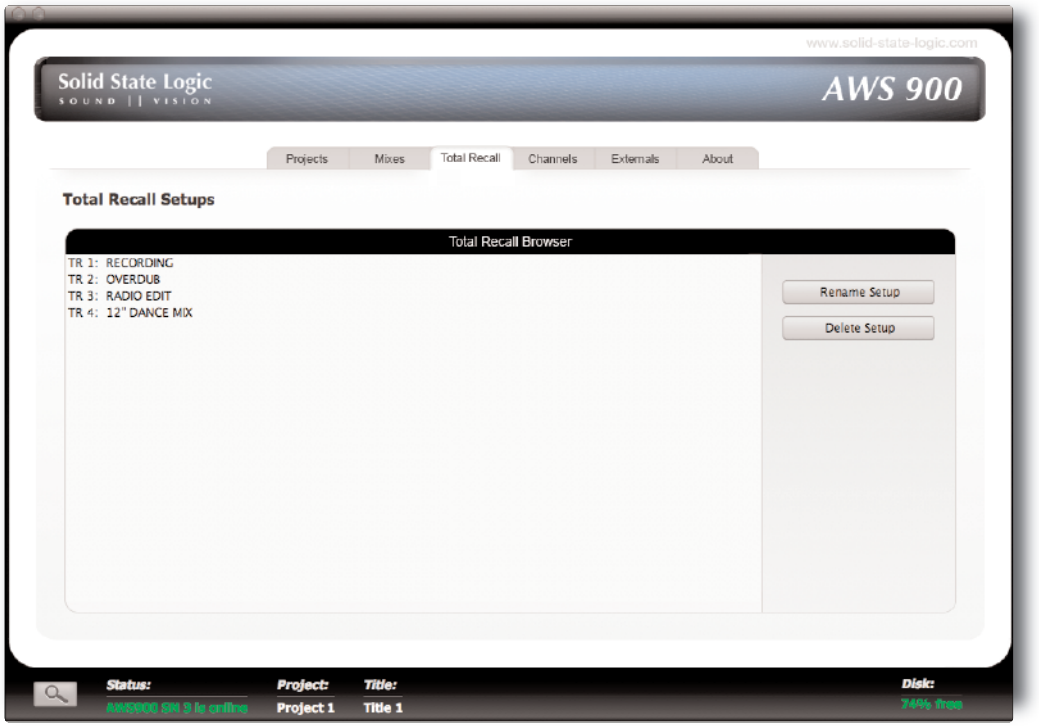
The **Mixes** tab will show you a list of all current mix passes associated with your current project.

To rename one of your Mix passes, highlight the one which you would wish to change and press the **Rename Mix** button. Type a new name in the pop-up which appears and press **OK**.

To delete a Mix Pass, highlight the one which you would like to delete and press the **Delete Mix** button, then click **OK** in the warning pop-up which appears.

> *Note that ranges of entries can be selected for renaming or deleting together – select the first entry, then hold shift and select the last entry. Rename or delete confirmation pop-ups will appear for each entry in turn.*

The Total Recall Tab



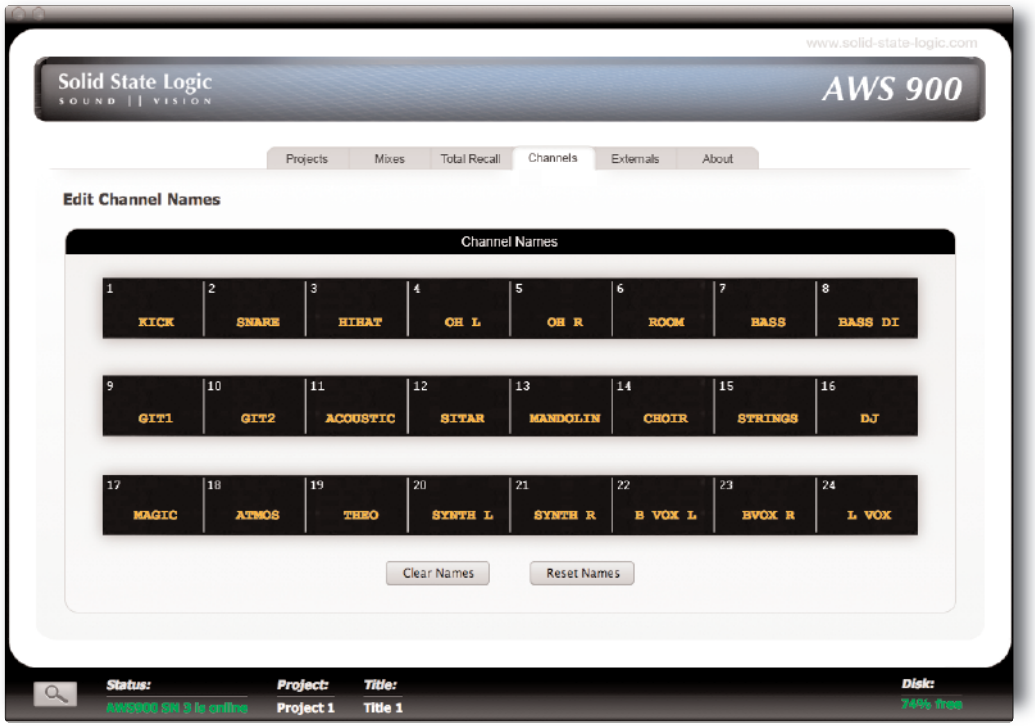
The **Total Recall** tab will show you all Total Recall setups for your current project.

If you would like to rename one of your Total Recall setups, highlight the one which you would wish to change and press the **Rename Setup** button.

If you would like to delete a Total Recall set up, highlight the one which you would like to delete and press the **Delete Setup** button.

> *Note that ranges of entries can be selected for renaming or deleting together – select the first entry, then hold shift and select the last entry. Rename or delete confirmation pop-ups will appear for each entry in turn.*

THE CHANNELS TAB



The **Channels** tab allows you to enter names for the AWS console channel scribble strips.

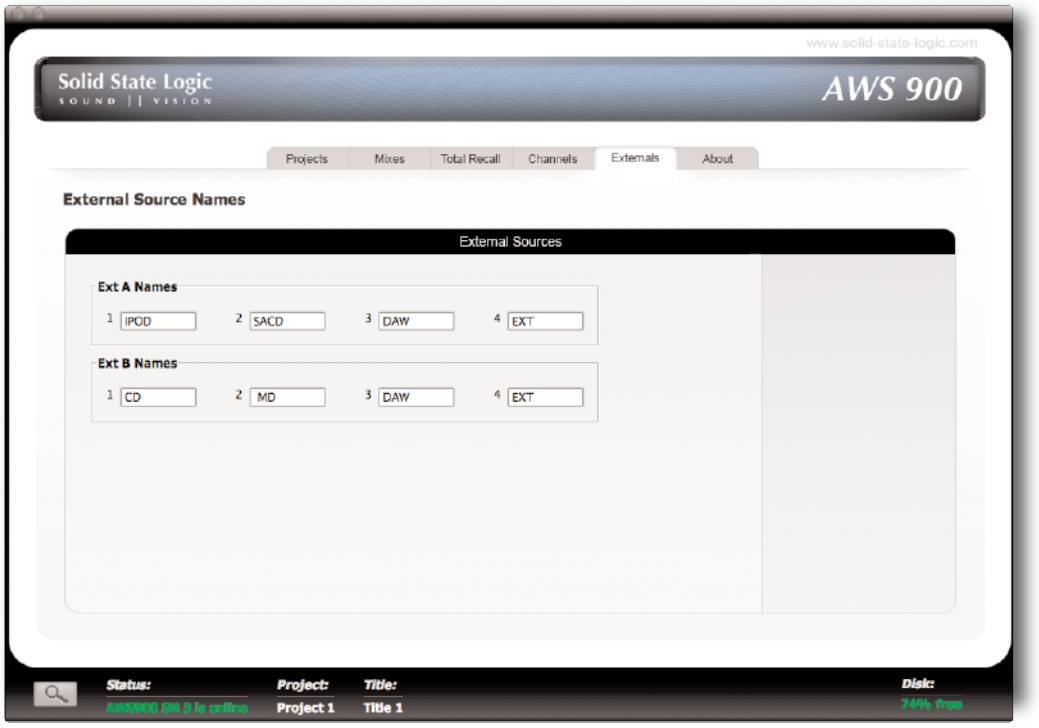
To change a Channel name, click on the desired field and type the desired name (to a maximum of 8 characters).

It is also possible to clear all channel names by pressing the **Clear Names** button. You can reset them to the default numbered layout by pressing the **Reset Names** button.

Furthermore you can use your computer keyboard's 'TAB', 'SHIFT' and navigation arrows to move within and between the fields.

The channel names are stored as part of each project, so loading a different project will automatically reset the channel scribble strips to the stored set of names.

The Externals Tab



The **Externals** tab allows you to rename the External sources (Ext A + Ext B). These will appear on your console's monitor section.

To rename a source simply click on the desired field and enter your prefered name (to a maximum of 4 characters).

Furthermore you can use your computer keyboard's 'TAB', 'SHIFT' and navigation arrows to browse the fields.

> *External names are stored in the console in non-volatile RAM so they are retained after restarting or powering off. Also note that External names are not project-specific*

The About Tab

The **About** tab shows the current software versions of both console and browser and provides links to the SSL Support, FAQ's, Downloads and Registration areas of the SSL website.