

Fully Revised For V2

**The
Solid State Logic
XL 9000 K Series
Little Gray Book**

The Ultimate Analogue Console

Solid State Logic

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As research and development is a continual process, Solid State Logic reserves the right to change the features and specifications described herein without notice or obligation.

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DATA STORAGE – PROJECTS

During sessions, any data created using the KSeries Computer is held within volatile RAM (Random Access Memory). If, for any reason, the power supplied to the K Series is interrupted, all data held within RAM will be lost. The K Series Computer also contains a hard disk, called the 'System Disk', onto which RAM data may be saved, and from which data may be loaded into RAM.

To organise the data on the System Disk, containers (ie. folders or directories) called Projects are used; a single Project should be used for each piece of audio material (be it a jingle, album track, film reel or specific broadcast segment). As much data as required may be stored within each Project.

Projects are kept on the System Disk until they need to be archived (for long-term storage or transportation), at which point they can be copied onto Magneto-Optical (MO) Disks (or in the case of small amounts of data, onto 3.5" HD Superfloppy Disks).

When information is saved, operators have the choice of saving the entire contents of RAM to the System Disk, or choosing instead to save individual elements (for example, just a Total Recall file). Regardless of which, anything saved will generate a user-named 'Version' to hold that information within the Project; if only specific items have been saved, the system will identify those elements which were not selected, and will refer instead to the most recently saved of these; this allows updated files to be saved without having to save everything all over again – for example, you have just saved Version 'Perfect', then realised that the grouping is wrong; you could change the grouping, save only a new Hard & Soft groups file, naming the Version 'Even More Perfect'; loading this Version (all files) would load not only the correct set of fader groups, but also every other file element previously saved in Version 'Perfect'. Long term users may recognise this as the previously manual 'Hold/Return Project' function.

The system uses a 'Current Project' principle to determine which Project information will be saved into or loaded from.

All session operations requiring management of Project data are carried out within **MIX-DESK / Projects**. Housekeeping tasks are carried out elsewhere (please consult the Computer Operator's Manual for details).

To create a new Project: **MIX-DESK / Projects / New Project**; select the basis of the Project from the list (we recommend using the SSL-generated 'Default Project'). When prompted, type a name, and choose to load the new Project (or not if you have already started working and had forgotten to create a new Project first, or you have already completed a mix and wish to begin a new one with many of the same settings – a live album mix for example).

Creating a new Project automatically makes it current, displayed in the blue **Current Project** bar. Stabbing on this bar allows selection of an alternative 'current' project from those stored on the System Disk.

This guide is designed as a quick reference for users who are reasonably familiar with K Series software.

Full details of all functions can be found in the latest edition of the K Series Computer Operator's Manual, and it is strongly recommended that this is studied carefully.

Throughout the text, all UPPER CASE lettering indicates front panel (console) buttons; **Bold** type indicates on-screen functions; *Italic* type indicates a handy operational tip or some useful background information.

Many of the operating procedures described are based upon the assumption that your system is operating with SSL's recommended Default Project – please consult facility staff to confirm this.

SSL's recommended Default Project settings include the following:

- Grouping:** All Large module faders set to Group 0.
(See Page 7) Group Master faders not grouped. Remove Motor Effect not set to activate when motors are turned off (a change from previous Default Project settings).
- Fader Protection:** Large, Group and Master faders: Automated
(See Page 8) Small faders: Protected Manual.
- Switch Protection:** Large fader Cut, Group fader Cut: Automated
(See Page 9) Small fader Cut, All FX, Cue, EQ, Insert, Group Solo: Protected Manual.
- Automation:** Motors On, Insert Mixing On, Absolute Status,
(See Page 10-16) Trim Renuil, Snap on. All others off.
- Automation Modes:** Large, Small, Group and Master faders: Rollback/Join.
(See Page 15) Large, Small, Group Cuts, Group Solos: Rollback. Auxes (FX 1-6, St Cue, EQ In, Insert In): Mix End.

To continue working with an existing Project:
If the Project is stored on MO, first use **Restore** to copy the Project onto the System Disk.

With a Project already present on the System Disk, use **Load** (on screen) or **LOAD ALL**(front panel) to select a version and load all data, or **Load individual elements**, using the **Selective...** function in the **Load pop-up** (**LOADSELECTIVE**) selecting the Project, version and file type(s) required.

Once loaded, all modified data is held only in RAM. To store this securely, use **Save** or **SAVEALL** to save all RAM data to the 'System Disk (creating a new version), or **Save Sel** (**SAVESELECTIVE**) to save only specified data (selected from the resulting pop-up). This also creates a new version, which includes the selected new data plus the remaining non-updated files.

Entire Projects or just individual Project Versions may be renamed at will using the Project menu **Rename** function.

Projects and/or their Versions may be deleted via the **Delete** function. *The Current Project and any Project that is Write Protected cannot be deleted.*

DATA STORAGE – ARCHIVING AND FORMATTING

When required, Project data should be archived to MO using **Backup**, stabbing in the large grey box, choosing the relevant Project(s) and/or Version(s) in the pop-up, and then **MO** from the choice of destinations.

Before saving to a new MO, it will be necessary to format it: Select **MISC / Tools / Format**, stab on the **Disk**: box to select **Mag Opt**, and provide a name for the MO by stabbing in the **Volume**: box; finally select **Do It**.

Floppy disks are also supported for the purposes of archiving; procedures are the same as for an MO, although please carefully consider the limited capacity and reliability issues arising from the use of floppy disks.

TIMECODE – LTC AND MIDI

Where accuracy is essential (eg. automation), it is necessary for the K Series' Composite Video Sync to match the relevant LTC standard (PAL/625 Sync for 25 FPS, NTSC/525 for 30 FPS – Drop/Non-Drop). Please consult the Computer Operator's Manual for further details.

Stab **FILE/SETUP / Desk Setup / Timecode**:, and select the required system LTC (the standard the system expects to read from tape, and that the LTC/MIDI Timecode Generator will create).

In **MIX-DESK**, a timecode status display in the top right corner will confirm good timecode by displaying its type in green text, with errors indicated by red text. If the incoming timecode does not match the **FILE/SETUP / Desk Setup / Timecode**: setting, a message indicating the expected and received standard in flashing red text will be shown.

The **LOC** display indicates successful lock of the 'Desk Transport' and any controlled machine(s); *///* with a yellow background indicates a failure to successfully lock.

To generate timecode:
Stab MACHINES / TC Gen / LTC Gen for longitudinal timecode (turns blue when on), and **MTC Gen** to generate both MIDI (from computer MIDI ports 1-4) and LTC (both turn blue). The generator can be on at all times, its value corresponds to the system's 'Desk' Time (**Offset** for both LTC and MTC modify the generated values).

Static LTC is generated when the computer's transport is parked; **LTC Gen when Stopped** allows this to be limited (for example to a minimum of 1 second), when external equipment might not function reliably otherwise. Setting the value to 0 sets continuous static timecode. *Static LTC is generated following a locate, allowing timecode-chasing equipment to respond immediately.*

When using a master external machine in play, the computer's 'Desk' Time will lock to incoming LTC; the generator will do likewise. Note however that, for accurate sync, the machine must be locked to the same Video Sync source as the K Series, otherwise the LTC generated will differ from that of the free-running machine(s).

TIMECODE OFFSETS and MASKING

The **MIX-DESK 'S'** box contains a Display Offset function, influencing all timecode displays.

Stab the offset display box to produce a timecode pop-up into which an offset value may be entered, or use the **NOW** function (which can also be achieved by simply pressing and holding the pen button whilst stabbing on the offset display; this feature also works for any other timecode display). The **MIX-DESK** indicates that an offset is applied via a yellow background to the 'S' box.

Enter a zero value to cancel any display offset (the 'S' box returns to its usual brown background).

The content of all Timecode displays may also be modified (for example, not to display frames and subframes) from the **MIX-DESK 'S'** box, via the **Timecode Display Mask** box.

BARS AND BEATS

Instead of timecode, positional information can be displayed as a bar/beat value. Tempo data can either be imported from a generic MIDI file (from PC or MacOS floppy), or generated within the K Series: **Stab FILE/SETUP / Desk Setup / MIDI**.

To import a file, stab **Load File**, select **Floppy** and then the file; any tempo data will be imported. Stab **Start Time** to enter a timecode start time.

To create tempo data: Stab twice on **Timing** (changes to **Events** and back again); select **Edit**, and enter tempo and time signature values. To create a tempo change: Stab **'Insert'**, enter start/end times for the new data, and tempo and time signature values.

All displayed timecode values can be toggled to a bar/beat value by using the front panel **BAR/BEAT DISPLAY** button.

TAPE TRANSPORT CONTROL

It is assumed that machine control has already been established from the **MACHINES / Serial** menu (please consult facility staff if not).

Arm machines from the front panel SERIALM/C ARM and individual ENABLE 1-4 buttons.

Record arm by first enabling SER REC ENABLE, and then REC 1-4, depending on configuration and requirements.

LOCATING

Transport can be controlled from the front panel using:

Transport buttons, GOTO button, Jog Wheel, TC 1-5 locate buttons (press and hold until flashing to store, press and release to locate), < > buttons (set to **Event Jog** by default), Locate to Play macro button, and typing a mark number followed by OK.

To control transport from the KSeries display:

Stab a mark within the **Events** or **Overview** display's **Events** screen, or stab on 'Desk' Time display (enter locate time or stab a mark point and **OK**), or stab and drag the 'Desk' time display, or stab on the Overview display.

TC 1-5 values can be entered/modified from the **MIX-DESK 'S'** box.

Using above options whilst in Play will locate all transports and re-enter Play; doing so from Stop will locate and park.

Cycle times are programmed by using CYCLE START/END front panel macro buttons to capture the current time on the fly, or by stabbing the on-screen cycle start/end timecode boxes (stab and drag the values, or stab and then enter values using the timecode pop-up, or press the pen button while stabbing on the timecode boxes to capture the current time on the fly). Cycling is activated and deactivated by pressing the CYCLE macro button, or by stabbing the Cycle screen box.

TRACKLISTS AND CHANNELNAMES

Seven name displays are available: Track Lists 1-4 allow entry of up to 48 tape track assignments for 4 reels (or machines); Channel Lists 1-48, 49-96, 97-120 are designed for indicating mix channel assignments.

The front panel CHANNELNAMES button displays the lists. Select a display by stabbing the top left box.

Enter/edit names by stabbing the relevant channel box.

Delete by stabbing **Delete** followed by a name box (or stab/dragging through a range).

EVENTS

Create timecode 'marks' by pressing the front panel **MARK** button.

The **Events** list will highlight the current mark in yellow.

Name the current mark by pressing **NAME MARK** on the front panel. To name a mark other than the current (highlighted) mark, stab **MIX-DESK / Events / Edit / Rename** and the relevant mark in the list.

When naming marks, it is recommended to retain the original system number (**X ***) to allow use of the numeric keypad and **OK** button for convenient locating.

Delete marks by stabbing **MIX-DESK / Events / Edit / Delete** and the relevant mark(s). Hold the pen button while selecting **Delete** to lock the function on for multiple deletion (deselect when finished); without the button, **Delete** is automatically cancelled after a single operation.

To reposition an existing mark, stab **MIX-DESK / Events / Edit / Move**, stab the mark, and enter a new timecode value.

Remember that the pop-up is a timecode calculator and allows addition and subtraction from existing values.

When **Edit** is inactive, stab a mark to locate to that position.

TOTALRECALL(TR)

To save a TR Setup, press the front panel **SAVE SELECTIVE(TR)** button.

To select a TR Setup for replay, use **MIX-DESK / Projects / Load Selective**, choose the relevant version, tick **Total Recall** in the pop-up and stab **OK**. If a TR file exists in the Current Project, it may be loaded from within the **RECALL** menu by stabbing on the TR name bar and selecting the file from the resulting pop-up.

TR can mask module sections and individual module/centre elements using **RECALL / Channel Objects** and **Centre Objects**; stab on objects to mask them (shown in white). Stabbing on the **Flip** boxes provides the option to mask entire sections. Autoscan ignores masked elements (shown in grey on display).

The range of channels and groups, as well as the centre section – relevant when Autoscanning – can be set using **RECALL / Options / Channels, Centre and Groups**.

Masking, and channel/centre/group selection are system-level settings and will remain as set until changed (regardless of Project).

Resetting of controls using **Manual TR**:

Stab **RECALL / Manual**, select channels by pressing fader status buttons, and reset required controls as prompted by white-surrounded display elements. Select the centre section by pressing the Master fader's status button.

Resetting of controls using **Autoscan**:

Stab **RECALL / Autoscan**. The system scans from the first selected channel (see above), and displays any channel that requires resetting. When reset, the system continues scanning. Once all channels have been scanned, the system scans the centre section.

Stab **Continue** to skip current channel, **Stop** to cancel Autoscan. When correctly set, the screen will clear (Autoscan ended).

SNAPSHOTS

Snapshots offer a static alternative to dynamic automation, and are particularly valuable when used as a scrapbook of balances and switch settings, for example, to instantly reset a monitor balance.

Snapshots store settings for all automated functions: Large, Small and group fader Level, Large, Small and Group fader Cuts, Group Solos, all FX, Cue, EQ In, Insert On switches.

The **Snapshot** display shows 62 different locations where snapshots can be stored. These are held only in RAM until saved to a Project by the operator.

Stab Take followed by a location to store current settings of all automated functions on all modules. The location box will turn yellow and the time and date of the first save will be automatically entered as the Snapshot name.

Stab Name followed by a location to name it.

Stab Delete followed by a location to delete its contents.

Snapshots can be repeatedly saved to the same location, overwriting the previous data (but keeping the original name).

Stab Do followed by a location to reset automated elements on all modules to the stored settings.

Operators can select **Ignore Protection** – all snapshot elements are reset; or **Use Protection** – elements in Protected Manual will not be changed. These settings can be independently set when mixing (**Auto On**) and when not (**Auto Off**).

SNAPSHOT TAKE and DO can be operated from front panel buttons; select **Draw** on the **Snapshot** display to make it (the display) visible whenever either SNAPSHOT TAKE or DO are used, (regardless of the current **MIX-DESK** display); on-screen **Inc** options allow **Take** and **Do** store locations to automatically increment whenever buttons are operated.

AUTOMATED PANNING (4 CHANNEL PAN)

FILE/SETUP / Desk Setup / 4 Channel Pan (or 4 CHANNEL PAN front panel macro button) – Select the required channels (stab on groups of channels, individual channels, or use fader status buttons); assign both Large and Small faders to a mix bus (LF Mix, SF Mix); pan both Large and Small faders to required position.

The Large fader controls level, the Small fader the balance between each fader's pan pot. Both fader's cut switches are automatically linked.

This mode automatically selects VCAs (no moving faders), and will require that the Small fader is set to 'Automated' protection mode.

Fader and cut group control on modules using 4 Channel Pan may be achieved using Software grouping.

Faders may be routed to other console outputs (not just Land Rmix buses) to provide automated surround panning.

HARDWARE FADER GROUPING

Select front panel **HARD GROUPSETUP** button.

Use individual fader group buttons to assign channel faders to centre section group master faders 1-8. Group assignment increments once when the button is pressed and released, and decrements once when the button is pressed and held (until the display changes).

Assignments are indicated in the faders' 7-segment LCDs.

Faders which do not require group control should be assigned to group 0 to allow the use of group soloing (soloing a group master fader will cut all other groups, including group 0 to ensure that only the soloed group's members can be heard). A blank display indicates no group assignment – such channels will not cut when using group soloing (useful for FX returns).

Slaves of Hardware groups may be masters of Software groups. Hardware group master faders may also be Software group master faders (required, for example, when grouping signals in 4 Channel Pan mode – see Page 6).

SOFTWARE FADER GROUPING

Up to 32 groups, with any number of Large and Small faders in each, may be created. No fader under control of a Hardware group fader (1-8) may be a slave of a Software group (and vice-versa). Large faders assigned to Hardware group 0 (to allow group soloing) may be slaves of Software groups. Hardware group Master faders, in the centre section, can also be Software group Master faders. Uniquely, slaves within the same Software group may be of differing types.

Select front panel **SOFT GROUP** button – all status LEDs indicate group assignment. Use Left/Right cursor keys to select a group, and Up/Down keys to select slave type.

Select faders with fader status buttons – master first (red LED) followed by slaves (green LED). Aslave fader will become the slave type highlighted in the menu when it is first assigned to the group.

Individual slaves may be deselected and added at any stage.

Use **Clear** on the display to delete the current group.

An additional function, a **One of 'n' Uncut** collection, can also be selected from the Software group menu. This fader cut collection enables compilation from multiple takes, by ensuring that only one member can be uncut at any time; opening a fader cut automatically cuts the previously audible collection member.

Group information is written as automation data for the master only, until **Merge and Dissolve** is selected, and the group to be merged is current (with the exception of a **One of 'n' Uncut** collection where data is written to all group members). When merged, groups are automatically dissolved (again this does not apply to a collection).

SWITCH GROUPING

With the Switch group Setup display active, grouping may be modified; clear the display to allow normal use of switches.

All automated switches, Large/Small/Group fader Cuts, Group fader Solos, FX 1-6, Stereo Cue, EQ In and Insert In may be grouped to one of 500 groups, each containing as many switches as required.

Press the SWITCH GROUP SETUP button – switch LEDs/lamps indicate membership of the currently displayed group.

Toggle switches to be assigned to the displayed group; the first switch pressed will become the master of a **Master/Slave** group – only that switch can toggle the grouped switches' status. Up/Down front panel cursor keys toggle the group to become an **All Masters** group – any switch toggles the whole group. **Set Master** (stab on a listed member) sets a new master control (**Master/Slave** groups only).

Automation data is instantly created for all members of a Switch group.

Clear Group clears the displayed group; any automation already written is retained.

Use Left/Right cursor keys to toggle through existing groups and select the next empty group.

Select Group, followed by pressing a switch, toggles the display to indicate the group the switch belongs to (if any – otherwise, the switch is added to the next empty group).

New switches are assigned by selecting the group, and then the switch; existing members of the group can be removed in the same way, or by using **Remove** and **Add** options.

A group can switch some members on while switching others off; the relationship between switches must be set before assigning them; once done, pressing a switch (only the master in Master/Slave group) toggles all switches.

PROTECTION MODES

All automated objects (faders/switches), can be set to one of three possible 'protection' modes:

Automated – Changes can be written to the computer and replayed.

Protected Manual – No changes are recorded/replayed (the computer is effectively disconnected), but changes will be heard. **Snapshots** can be set NOT to change objects in this state. VCAs are bypassed on Small faders at all times, unless 4 Channel Pan is activated.

Protected Replay – Automation is replayed on objects, but none can be recorded; attempted changes are not heard. If touched, motorised faders switch to their VCAs path until released, to faithfully replay existing data.

Fader Protection

Set via FADER PROT front panel button – all fader status LEDs indicate their current protection status. Using the resulting pop-up's centre-most option, select the required Protection Mode (stab to toggle); stab **Large / Small / Groups** and choose the faders to set to the displayed mode.

or

To the right of the Protection pop-up, select the fader type to be modified (**Large/Small/Groups/Master**), and use the FSM button to toggle every fader of the selected type(s) in the order Automated, Protected Manual, Protected Replay.

or

Use individual fader status buttons (Large, Small, Group and Master) to toggle through modes.

Switch Protection

Accessed via front panel SWITCHPROT button – all switch LEDs and lamps indicate current protection status. *Match* and *Play* buttons illuminate to indicate 'Manual' or 'RePlay' modes; both are off when 'Automated' is displayed.

From the pop-up, select:

Display All – to view the current protection condition of all switches. Stab on the mode (top middle box) to toggle the current display.

Display All does not allow changes to Protection; for viewing only.

Set Single – Stab on the central switch identity box to specify a channel and object. The selected object will change to the currently selected Protection mode (shown in the top middle box).

Individual buttons can be pressed repeatedly to toggle through the modes (Automated, Protected Manual, Protected Replay). The display and M and Plamps also toggle to indicate the selected mode.

Set Multiple – Select the required protection mode (top middle box); Stab to select the actual objects required by highlighting the right hand switch boxes (which then turn blue).

Stab on **Channels** and **Groups** to set the channels on which the selected objects are to be changed. Stab **Do Multiple** and the chosen switches will change to the required mode on the selected channels.

Set Random – Stab the top middle box to select the required mode; any console switches pressed will now change to that protection mode.

AUTOMATION

Many of the front panel buttons described are replicated in the **MIX-DESK / Automation / Fader Status** menu.

Large fader cuts and other automated objects are written separately from faders (see Page 13).

The status of Insert Mixing (whether on or off) has a marked effect on the behaviour of the automation system (see Page 16).

The automation system generates a mix pass (in RAM) whenever changes written to a replaying mix are ended by rolling back timecode.

Prior to rolling back, the AUTO button will flash to indicate that new data has been created, which will become a new mix pass when rolled back. Before doing so, use DISCARD to 'forget' the new data – no new mix will be created when rolled back.

Up to 5 mix passes (or levels of undo) are held within RAM; the 'current' mix is shown in green. As subsequent mixes are created, the mix previously in position -4 (the earliest mix in RAM) is removed, and lost forever, to make space.

When using SAVEPROJECT, the green 'current' mix pass is saved to disk.

Stab Keep and a chosen mix pass to prevent it from being lost (the mix name will appear with a yellow background); up to 3 mixes may be kept in this way. **Stab Keep** and a 'kept' mix to deselect it.

Stab REVERT and a chosen mix pass to replay that mix (and save it when using SAVE ALL).

Use the REVERT macro function to instantly revert to the previously created mix in the Mix Pass list (as indicated by its purple bar). This function can be used repeatedly to toggle between mixes for on-line comparison. Any modified data that has not yet become a new mix pass (indicated by the flashing AUTO button) will be lost when the REVERT macro is used (as if the Discard function had been used).

Stab Name and then a Mix Pass to give it a name in RAM.

To start a new mix: Locate prior to the beginning of the audio, press CLEARAUTO (and OK the resulting dialogue), then press AUTO (illuminates).

To replay an existing mix: Load the required mix, then press AUTO (illuminates). If mixes were already in memory, the list will be shuffled as usual; any previous Reference Mix (see Page 16) will be forced into the numbered pass list.

If AUTO is turned on with a mix in memory, the existing fader balance and switch settings change to play that mix; if done in error, don't panic! Select **MIX-DESK / Automation** then **Pre Enable** (or the DO PRE front panel macro button). This resets original settings – **Pre** the automation being **Enabled**. Changed elements will be forced into Abs to write their conditions into the existing mix; at this point you will probably want to CLEARAUTO (to start a new mix with your original settings).

FADERAUTOMATION

At the beginning of a mix, before Play has been pressed, faders may be set to Manual (not Protected Manual), taking them out of Absolute automation status, by pressing their status buttons (use FSM to influence all faders). Manual faders do not generate automation data until their fader status buttons are pressed again (at the beginning of a subsequent mix pass), putting them into Absolute for the first time. This is especially useful when cuts need to be written early in the mixing process but fader automation is not required.

Once Play has been pressed, a fader can no longer be set to Manual, therefore use Protected Manual instead. To avoid faders 'snapping' back to the level of previous data (losing your new balance), turn the motors off, locate to the mix start time, reset protection to Automated, select Abs status, press the relevant fader status buttons, and then turn the motors back on – Voilà!

Faders can use two types of write status (selected from front panel): USE ABSOLUTE (redAbsLED); any existing data is overwritten by the true fader level.

USETRIM (green Trim LED); existing data is modified without erasing previous moves.

A fader in neither Absnor Trim is in Replay (no LED).

A fader must have first written data in Abs before Trim may be used. Closed faders cannot be trimmed open. Replay is the default status.

When motorised, faders will automatically drop into the selected status when touched; VCAfaders – Large faders with motors off and Small faders – can achieve the same effect by using IMMEDIATEPICKUP.

SNAP(motorised faders only) causes faders to return to Replay when released (yellow AltLED). When released, SNAPtakes a single frame to return to the playback level. While touching a fader, SNAP can be cancelled by pressing the fader status button.

If SNAPand AUTO GLIDE are selected, a released fader will return to Replay at a speed between 1 frame and 10 seconds (defined by stab/dragging the GL on-screen box or within the Fader Status menu).

A fader will snap back to Replay if its status button is pressed, regardless of SNAPbeing on, unless AUTO GLIDE is switched on (in which case, the fader will glide back at the specified rate).

VCAfaders – Large faders with motors off and Small faders – can approximate Snap/Glide by using AUTO T/OVER; LEDs flash to prompt manual movement up (red) or down (green) to return seamlessly to Replay. Once matched, faders automatically switch into Replay, regardless of further movement.

LEVEL MATCHallows non-motorised faders to be placed at the correct position to allow seamless drop-ins to write; Press LEVEL MATCH, then the status button of a relevant fader, or the FSM button, which puts all faders into Level Match.

TRIMRENULL determines whether a fader, following a rollback, will return to Trim by renulling its position to match existing data, without a level jump – Renull On,

or
will jump to the level reached at the rollback point (useful when a level needs to be written from a point earlier than the initial drop-in) – Renull Off.

Note that Motors On will cause Large faders to automatically renull at all times; thus Trim Renull is only valid with non-motorised faders.

FADER STATUSCOPY, when pressed until flashing, stores the current status of all faders, whether in Abs, Trim or Replay, which can be restored at any time (unless the computer is rebooted) by pressing the button briefly.

Fader Status Copy can also be used to drop all actively writing faders instantaneously into Replay:

Perform a rollback, forcing all faders into Replay; press and hold the FADER STATUS COPY button until it flashes. (Until alternative information is stored in the same way), pressing and releasing the FADERSTATUSCOPY button will ensure that all automated faders are immediately returned to Replay, regardless of their previous condition.

FADERSTATUSLOCK enables an arrangement of faders in Trim and Abs to be repeatedly toggled between Replay and write without having to preselect the desired status on the front panel.

PREVIEW allows fader level changes to be rehearsed. When selected, putting a fader into write (Abs or Trim) causes status LEDs to flash, and level changes can be heard without being written.

FSM toggles from the audition (PREVIEWlit) to mix playback (PREVIEWflashes). Transport may be rewound while in Preview – selected faders will not move.

Deselecting PREVIEW will cancel the function without a change to the mix data. A level may be written, from that point onwards, by pressing the status button a second time (the LED will stop flashing).

A key element of Ultimotion-style automation is the ability to choose to work in VCAmode (MOTORSOFF) or moving fader mode (MOTORSON). Do remember that the ability to switch can be used creatively, so that when working with moving faders, a physical fader balance may be preserved by temporarily switching the motors off. In a similar way, temporarily turning motors on while working in VCAmode will immediately 'level match' all motorised faders.

SWITCH AUTOMATION – MATCH (M) and PLAY (P)

All Automated console switches (referred to as objects) write their data under the control of M and P buttons located on each module (and also the Group faders). In order to record on switches, they must be set to 'Automated' within **MIX-DESK / Automation / Fader Protection** (and not in Protected Manual or Protected Replay).

To place any object into record, simply press it (changing its condition – ie. from Cut to Uncut); a red Record LED between the M and P buttons illuminates, indicating that objects are (over)writing data.

Drop out of record by first pressing the Play button (it illuminates) and then, at the appropriate time, pressing the object – it will drop out to the existing data.

Multiple switches, on a single module, may be placed in record at the same time; to drop out of record on all objects at once, switch Play on/off quickly (and all objects will return to replaying previous data).

To record without changing condition (ie. from cut, into record, but remaining cut), first press the Match button (it will illuminate) and then, at the appropriate time, press the required object; it will drop into record without changing its condition (allowing an extension of existing data). Drop out using the Play button (as above).

Multiple switches, on a single module, may be placed in matched record at the same time. To do so, press and hold the Match button for 1 second; the Match button will flash, indicating that Match is locked on – any objects placed in record will Match when doing so. Deselect the flashing Match button to cancel Match Lock.

All Match or all Play buttons may be toggled from the centre section ALL MATCH and ALLPLAY macro buttons. ALL PLAY has an interesting side effect – setting all Play buttons 'on' effectively places all switches into a Protected Replay condition, as switches on a module cannot be put into record whilst that module's Play button is pressed!

Match and Play buttons also assist drop-outs to Replay: Before dropping objects into record, press both M and P buttons (they illuminate); M lets objects dropped into record match their existing condition; P ensures the system remains in record and overwrites the first change of state in the old version of automation data (the Plight will flash), and then automatically drops into Replay, replacing a single event and retaining all others. While the Play light is flashing, a switch may be operated to force an immediate drop-out.

G SERIES USER? LOOKING FOR PLAY CUTS ONLY?

Although KSeries software does not specifically offer 'Play Cuts Only', there are several ways to write and playback switch automation without having to replay fader data:

1/Before pressing play at the beginning of a mix, Absfaders (red LED) can be switched to Manual (no LED) by pressing their 'Status' buttons.

These faders are effectively 'disconnected' from the automation system, until their 'Status' buttons are pressed again (red LED), at which point data may be written.

Always wind to the beginning of a mix before putting faders back into Abs – otherwise, winding back from the point you do start to write will cause the faders to close, as no data has been written for them!

2/Even if you have already generated fader data, faders can be disconnected from the automation system by placing them into Protected Manual (see Fader Protection - Page 8).

Having set faders to Protected Manual, no automation is played back, and faders can be moved freely to any level and the results constantly monitored.

When you're happy with your balance and wish to automate the faders, they will need to be returned to 'Automated'. Doing so will cause the computer to compare the existing fader positions to those already recorded in the automation, and the faders will be repositioned if necessary – disaster! You're new balance will be lost!

To prevent this from happening, before returning to 'Automated', turn the motors off; now return to 'Automated', wind the tape to the beginning of the mix, put the relevant faders into Abs, and THEN turn the motors back on. Hey Presto!

Note that unlike GSeries'Play Cuts Only, both of these methods do not create a new balance automatically; however, if you locate to the beginning of the mix (as advised above), then defeat SERIALM/CARM, place the required faders into Abs and then locate to the end of the mix, you can generate a new balance quickly and simply.

Alternatively, rather than having to wind through the mix to create a static balance, why not use the Static automation mode? (See Automation Modes, opposite).

3/Another commonly used method is to put faders into Static automation mode (see opposite), with Motors and USEABS on, and SNAPoff. While cuts are written (or in a 'Replay only' condition using the ALLPLAY macro button), fader balances can be adjusted at will; moving faders to new positions will automatically drop them into Abs, and when the system is 'rolled back', these faders will write their new levels for the entire mix.

This method brings the benefit of being able to drop out of write (into Replay) on selected faders before the system is 'rolled back', preserving any dynamic changes written.

AUTOMATION MODES and JOIN

Automated objects dropped out of record while moving forward (in time) return to Replay; faders in Abs or Trim and switches in record when the system is 'rolled back' create rollback points, and are influenced by **Automation Modes**.

Automation data which is visible within the Overview display will indicate rollback points using horizontal lines in Red (to indicate rollbacks on faders in Absolute and switches in Record), and in Green (to indicate rollbacks on faders in Trim) on the relevant channel displays and at the relevant timecode positions. *This may be of use when anticipating the actions of the following modes upon mix data.*

Rollback/Join approximates to G Series automation; having replayed data, objects will Join back to record when the rollback point is passed through, thus extending new data.

Rollback mode ensures faders and switches remain in Replay until manually returned to write (for those of a nervous disposition!), ignoring Rollback points.

Mix Fill allows adjustment of an object until satisfied, and when rolling back will write the final Abs fader position or final Trim amount /final switch state for the whole mix (previously known as 'Static').

Mix End behaves similarly, but retains changes until the rollback point and then continues the final state for the whole mix (previously known as 'Overwrite').

Cycle Fill/End (and **Clip Fill/End**) are similar to Mix Fill and Mix End, but only modify data between Cycle (and Clip) Start/End times. *Clips are generated by recording the action of module noise gates – please refer to the Computer Operator's Manual for more information.*

Please note: All items in record when rolling back generate rollback points; changing modes may cause some unanticipated results – for example, rolling back with a trimmed fader in MixFill will write the final amount of level change for the entire mix; changing the mode to Rollback/Join and then playing through the rollback point will cause the fader to drop back into record! Don't worry though – the drop in will record at the level written in Mix Fill, and so will not cause a change to the mix data (but it does create a new Mix Pass).

Automation modes, as well as AutoGlide and AutoFade times, are displayed in grey boxes beneath the OVERVIEW display when automation is active.

The front panel JOINbutton forces objects in **Rollback/Join** mode to return to record before they reach their anticipated rollback point. Repeatedly pressing JOIN will cause the system to search for the next occurrence of a rollback point, and force the associated objects back into record, in Abs or Trim, depending on their original write condition.

To simplify the system and ignore Automation Modes, simply drop out of record manually before rewinding (or use Snap/Auto Glide). Note however that Mix Fill is particularly useful in preventing automated switches from playing unwanted data made whilst auditioning changes, and for quickly trimming fader levels for that 'Final Mix with Lead Vocal 2dB louder'.

MERGING TRIM DATA/INSERT MIXING

New trim data is written as a separate 'stream' (from Abs data) into RAM, allowing concurrent replay of the previous Mix Pass. Dropping back into Trim over an existing trim will erase it, and again trim the previous Mix Pass. To trim without losing existing trim data, first save the mix (SAVEALL) or use MAKEREFERENCEMIX, both of which will merge the existing Trim data with the original mix, thus creating a new Reference Mix in the *: on-screen box.

In Version 4 software, if a Reference Mix already exists in the *: Reference Mix box in the Mix Pass List, creating a new one will cause the original Reference Mix to fall into the numbered Mix Pass List with an R prefix (indicating that it was once a Reference Mix). In this way, multiple mixes may exist within the Mix Pass list for comparison.

When a mix is saved, the resulting Reference Mix contains none of the previously created rollback points; it may be desirable to continue an existing write operation using rollback points; *Don't* let this prevent you from saving mixes!

Once the save has been performed (and a new Reference Mix has been created), use the REVERT macro button (see Page 10) to return to the pre-saved Mix Pass, complete with all original rollback points and continue on (note the following passage when using Insert Mixing Off).

Once a Reference Mix exists, Insert Mixing may be switched off. Instead of data being replaced while in write only – as with Insert Mixing On – Insert Mixing Off causes the loss of any further data (beyond the drop-in point), that has been created since the Reference Mix. Dropping into record on an object at a specific timecode point will cause the system to discard all previously written changes for that object, and revert to the Reference Mix.

If you have not previously used Insert Mixing Off and are uncertain of its use, we recommend working in Insert Mixing On at all times.

When is the Master fader shut?

In Version 4 software, a fully closed Master fader is indicated by a change to the colour of the fader cap on the **Faders** display, from red (open) to yellow (- , or fully closed), so no more chasing the fade on the monitor pot!

OFFLINE AUTOMATION

Multiple edits and changes to mix data performed during a single visit to offline editing displays result in a single Mix Pass; these include: **Edit Mix Data (MIX-DESK / Edit / Edit Mix / Trim Mix)**, **Join To Mix (MIX-DESK / Automation)**, **Offline Trim (MIX-DESK / Automation)**, **Copy & Swap (RECALL)**. **Merge/Dissolve** Software groups creates a single pass each time it is used.

OFFLINE (LEVEL) TRIM

MIX-DESK / Automation / Offline Trim produces a pop-up display to enable trimming of written fader levels.

Stabbing on the **Large Faders, Small Faders, Hard Groups, Soft Groups** boxes allows selection of the faders to be modified.

Use hard/soft groups with care – selecting group members as individual faders can cause doubling-up of trims.

Mix trimming is performed between two timecode points, **Start and End Time**, which can be edited by stabbing on the current values. By default, these times will be the length of the mix.

The box beneath the word **Value** allows the amount of trim to be edited (to tenths of a dB, within the range +/- 10 dB). Stab and enter a value, and then, if required, stab the +/- button on the calculator for a negative trim value, followed by **OK**.

Stab Do Trim A new Mix Pass will be generated with an **O** prefix.

Using the preset **-1dB** and **+1dB** buttons will immediately perform a trim of that value, on the selected faders, between the current **Start and End Times**.

OFFLINE MIX JOINS

Offline **Join To Mix** offers:

Butt Join – joins between two mixes at a specific timecode point until the end of automation data; **Insert Join** – joins two mixes between two specific timecode points; **Timeshift Join** – joins a selected portion of one mix into another mix at a specified timecode point.

Joins are performed between a mix on disk and a mix in memory, and vice-versa (the direction is selected on-screen).

If both mixes are currently in RAM, simply save one of them; likewise, if both are on disk, load one into RAM.

*To take data from a mix on disk and join it into the current Mix Pass (in memory), the screen settings should read 'From **Current mix To The project**'. The order describes the mix **from** which you begin, **to** the mix you join data from.*

Complete the on-screen options within **MIX-DESK / Automation / Join to Mix**. The result will be a new Mix Pass with a **J** prefix. Once done, the screen retains all settings to assist repetition.

COPYING/SWAPPING DATA

Within the **RECALL** menu, the **Copy/Swap** function allows:

Data to be copied from one channel to another – **Single Copy**

or from one channel to multiple channels – **Multiple Copy**

or, by stabbing on the word **Copy** in '**Copy Chan X To...**', swapping data between two channels – **Swap**.

The relevant channels to be Copied/Swapped are selected by stabbing both channel numbers displayed on screen.

Data types can be selected by toggling crosses to ticks alongside the relevant options. **Do It** performs the Copy/Swap (generating C or S prefixed Mix Passes where relevant).

Changes to TR effects replay of previously stored data (and not the saving of new). All changes are generated in RAM only – use SAVEALL to store the information on the System Disk.

OFFLINE MIX DATA EDITING

The scope of Mix Data Editing is too great to be covered within this guide (please refer to the Computer Operator's Manual). There is, however, a unique feature worthy of inclusion:

Master fader cuts (despite the absence of a cut button!)

Scroll the **Overview** display to the far right; select **MIX-DESK / Edit / Edit Mix/Trim Mix** and stab on the Overview display's Master fader.

On the screen, move the two green bars to the timecode values of data to be edited (for example, move the first bar long before mix audio begins, and the second bar to precisely the point where you wish the Master fader to open).

Select **Shift** and stab/drag the fader line to the far left.

You have now written a Master fader cut; stab **OK** to create an **E** prefixed Mix Pass.

SESSION START CHECK-LIST

Assuming a new session; modify accordingly to continue an existing Project.

1. Reboot – **MISC / System / Shutdown / Reboot from Disk**.
2. Check Project setup is suitable – **MISC / System / Proj Setup**.
3. Create new Project – **MIX-DESK / Project / New**.
4. Check system timecode standard – **FILE/SETUP / DeskSetup**.
5. Setup tape transport – **MACHINES / Serial**.
Select desired machine, proper interface type and, if necessary, set tach rate – interface menu, stab on **Pulses per second, automatic** and **OK** the result. Ensure correct timecode input port.
Turn State **On** and enable **Master. Stab Motn**.
Press **PLAY** button and verify Valid LTC.
Stab Desk Here (unless using offsets).
6. Press **MIX-DESK** on front panel and begin working!
7. Have fun!

MIXSESSION START CHECK-LIST

Assuming a new mix; in addition to the 'Session Start Check-List' items:

1. **Clear** any existing automation data.
2. Check Auto Modes and set accordingly.
3. Check Fader and Switch Protection and set accordingly.
4. Locate to start of material.
5. Select Motors On or Off as required.
6. Turn on Automation (front panel AUTO ON).
7. Set Glide and AUTOFADE times to taste (**MIX-DESK / Overview** or **MIX-DESK / Automation / Status**).
8. Press **PLAY...** and mix!
9. Remember to **SAVE, SAVE, SAVE**.

Unless intentionally choosing otherwise, ensure Insert Mixing On remains active at all times.

MISCELLANEOUS REMINDERS

1. Recall – Confirm that all Channel and Centre section objects, on all Channels and the centre section will Autoscan (See Page 5).
2. Projects – Ensure periodic System Disk backups are made to MO.
3. Projects – Remove unwanted Projects (ensuring an archive exists) to provide sufficient System Disk space – ensure a minimum of 10% of the disk remains unused at all times.
4. 4 Channel Pan – Remember that assigned modules operate under VCA control (see Page 6 for further details). For effective control, Software grouping must be used (to facilitate control of both Large and Small fader VCAs).
5. Grouping – Remember: a fader in a Hardware group (1-8) cannot be a slave of a Software group (and vice-versa).
6. When rebooting the system, always use the 'Reboot From Disk' option (unless advised otherwise).
7. Try to find time to read the Console and Computer Operator's manuals.

Solid State Logic