Solid State Logic
SL 9000 J Series
Total Studio System

Computer Operator's Manual

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The Mix System

The SL9000 J mix automation system incorporates many automation features that will be familiar to users of SSL's G Series mix system software. A big difference, however, lies in the additional features provided by the J Series Computer. For example, as well as the Large Fader and Cut being automated, the Small Fader and Cut, the FX Send On/Off buttons, Stereo Cue On/Off, Channel Insert In/Out and EQ In/Out are also automated. If that wasn’t enough, you also have the ability to edit mix data via a graphic display.

You will find that this section is the longest in the manual – for fairly obvious reasons. However, before we dive into the automation system in detail, take a few moments to consider some other features that will be extremely useful during the mixing session.

Transport Control

There are many ways to move the Desk and external machines to specific timecode points. If you have read this manual from the beginning, you will be familiar with the locate facilities described in Section 3 (Machine Control) and Section 4 (Cue and Track Lists). For those who aren’t, here is brief description of the most commonly used locate methods.

Timecode Locates

The five buttons situated above the transport keys on the computer front panel, labelled TC 1-5, provide five one-shot locate stores. The current Desk time can be entered into these stores by pressing and holding the relevant button until its lamp starts to flash.

Alternatively, by stabbing on the S box above the on-screen Desk timecode readout, a pop-up will appear (see opposite) which not only displays the current values of the timecode locates, but also allows the entry of specific timecode values. As well as the default ‘absolute’ locates, you can also set up relative locates here (to roll back or forward 2 seconds etc.). To select a relative + or relative - locate, stab on the Abs box and choose from Rel +ve or Rel -ve. Now stab on the timecode box to enter the required time.

Once timecode locates have been setup, they can be write-protected by changing the ticks to crosses on the right of the pop-up. This will prevent erroneous timecodes being entered if you hold down a TC1-5 button for too long when instigating a locate. Note that the write-protect does not prevent you entering locate times on the pop-up itself.

These locate stores are saved as part of a Project under ‘Timecode Memories’ (see Section 2 for more details).
GOTO and Event Locates
At the top right of the front panel's numeric keypad you will find a GOTO button. Pressing this produces the timecode pop-up and mini Events List. Either stab on an event/cue to locate to that point or enter a timecode from the numeric keypad and hit OK. The CLEAR button can be used to clear an incorrect timecode entry. Use QUIT to clear the pop-up without effecting a change.

The GOTO function remembers the timecode of the last 'goto'. To repeat a locate simply press GOTO followed by OK.

Note that a mini Events List also appears under the Overview display (see Page 5-21). By having either this or the main Events list (see Section 4) on screen while mixing, you can locate very simply to any pre-marked spot in the mix by simply stabbing your pen on the appropriate cue. Alternatively, enter a cue's unique system-given number (1 *, 2 *, 3 * etc ) via the numeric keypad on the computer front panel (no need to add the *), and hit the OK button to action the locate.

Frame and Event Jogs
The < and > buttons, to the left of the TC 1-5 buttons, can be either used to provide a frame jog function, step from one event (mark/cue, DiskTrack audio clip etc.) to another, or move from the start of a mix to the mix end time (or vice versa). The choice is made in the Desk Config/ Transport Layout entry of the FILE SETUP menu. See Section 9 for more details.

The < and > boxes, below the timecode readout on the MIX-DESK display, step from one event to another (see Events List, Section 4).

Cycle
Use the dedicated CYCLE START and END buttons on the front panel to capture the current Desk time as the Cycle Start/End times. The two timecode boxes below the Cycle box on the right of the MIX-DESK display are used to show these times. Stab on these boxes to enter known timecodes on the timecode calculator. Instigate the cycle by pressing the CYCLE button or stab on Cycle. If you need to adjust the Cycle Start or End time by a few frames or seconds, simply use the pen to drag the appropriate timecode numbers up or down.

To cancel a cycle at any time, press STOP or deselect the CYCLE button or the Cycle box. If you use STOP to do this, the cycle will resume if you subsequently press PLAY.

Jog Wheel
Finally, remember the Jog Wheel when you just want to wind back a few seconds. Once you get used to it, you may find you don't need to tap at the RW and FF buttons as much as you used to.
Hardware Fader Groups

Any 'large' channel fader can be assigned to one of the eight Group Control faders located below the console centre section. The number of the Group fader to which a channel is assigned is displayed in a local 7-segment LED display on the fader (see opposite).

Group faders can also be freely assigned to other Group Faders, so many combinations of subgrouping can be achieved. Note for Ultimation users – higher numbered Group faders can be assigned as masters to lower numbered Group faders.

To assign faders, select the HARD GROUP SETUP button on the front panel. Now by quickly pressing the switch at the bottom of a fader, the 7-segment display will increment by one. If the switch is held down for a short period it will decrement the display by one. If 0 is selected on the display, then the fader will be cut by Group Fader solos. If the display is blank then the fader is unaffected by group solos. Note that a fader must also be in this latter mode before it can be assigned to a Software Group (see below).

Current Group Fader assignments can be cleared via the MIX-DESK /Groups menu (see below).

In addition to the eight hardware groups, 32 Software Groups are also available (see Page 5-67).

The Groups Menu

As well as providing the means to clear down any Group Fader assignments – Clr Hard Groups, the MIX-DESK /Groups menu (see opposite) also contains the following useful functions:

- **Clr Chan Cuts** clears any currently selected Large or Small Fader cuts
- **Clr Group Cuts** clears any currently selected Group Fader cuts
- **Clr Chan Solos** clears any currently selected Large or Small Fader solos
- **Clr Group Solos** clears any currently selected Group Fader solos

If you stab any of the above boxes, the system will prompt you to confirm your selection.

Group Fader solos can be made to operate with, or independent of, the console’s solo modes. These solo modes are: normal – where multiple solos may be selected or deselected consecutively; ALT – where the solos alternate, i.e. when you press a solo it comes on and any other currently selected solo is cancelled; FLEET – where a channel is soloed for as long as you are holding the solo button down. Different modes may be selected in the console’s audio centre section.
If Group Solos linked to Desk (in the Groups menu) is selected, then the currently selected solo mode will apply to the Group Fader solos. If selected to Group Solos Independent then the groups remain in normal solo mode regardless of the solo mode set for the rest of the console. Stab in the box to toggle the choice.

Note that changing this option will not take effect on currently selected group solos until you change the state of one of the solo buttons.

Remove Motor Group Effect – If a hardware group has been set up with the fader motors turned on, and you subsequently turn the motors off, this function can be selected in order to reset grouped fader levels to their original positions. For example, if you have a Group Fader sitting at -5dB and the potential slave sitting at -10dB, when you group the slave it moves to -15dB and the signal is passing through the fader at -15dB. When you turn the motors off and hit the REM MTR EFFECT button, the slave fader will move back to its original -10dB position and the signal on the slave will still be passing via the channel VCA at -15dB. This feature enables you to keep slave faders at reasonable physical positions, without having to worry about the actual VCA level that the signal is governed by.

Note that Remove Motor Group Effect can be automatically activated when the motors are turned off if MtrsOff/GrpEffct Removed is selected in the Groups menu. Toggle this selection to MtrsOff/GrpEffct Unchanged and slave faders will remain in their original positions if you turn the motors off, until you press the REM MTR EFFECT button.

The Switch Groups and Soft Groups items in this menu are discussed on Pages 5-75 and 5-67 respectively.

The Desk Setup Menu

The FILE/SETUP/Desk Setup menu (see opposite) holds several items that may need checking before you start to mix.

Timecode – The correct timecode standard must be selected here to match the timecode on the tape. Details of both the video sync and timecode standard, that are in use when an automated mix is created, are saved as part of the automation data. Note that the setting here also governs the type of timecode that will be generated by the system (see Section 7). For more details on Timecode and Sync Standards, see Section 3.

Channel Names – This provides access to the Track/Channel Lists (see Section 4).

Follow Faders/Follow Output – The levels of Large or Small Fader control voltages may be displayed on the console’s channel meters by selection of the LF MIX or SF MIX meter selection buttons on the console’s audio centre section. This toggling entry in the Desk Setup menu affects the MIX-DESK/Faders display (see Page 5-59) which provides an overall view of fader levels and cut states. Follow Faders displays input levels to the computer; Follow Output displays the computer’s output levels, ie. the equivalent of G Series bargraphs.
<table>
<thead>
<tr>
<th>File Copy</th>
<th>SIO/TTY Locked</th>
<th>1:8 Y Y YY</th>
<th>9:16 Y Y Y</th>
<th>17:24 Y Y Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDX-DESK</td>
<td>Data</td>
<td>25:32 Y Y Y</td>
<td>33:40 Y Y Y</td>
<td>41:48 Y Y Y</td>
</tr>
<tr>
<td>RECALL</td>
<td>Import</td>
<td>49:56 Y Y Y</td>
<td>57:64 YY Y</td>
<td>65:72 YYY Y</td>
</tr>
<tr>
<td>MACHINES</td>
<td>SIO-LSL 0900</td>
<td>Set All</td>
<td>Clear All</td>
<td>Flip All</td>
</tr>
<tr>
<td>MISC</td>
<td>DeskConfig</td>
<td>Channel Names</td>
<td>Channel Faders</td>
<td>Follow faders</td>
</tr>
</tbody>
</table>
4 Channel Pan – The Small Fader can be used to provide an automated pan control between Large and Small Fader signal paths. On selection (red), 4 Channel Pan provides a Channel Selector pop-up (see opposite) which allows any, or all, channels to be switched to this mode. (See Section 1 for instructions on how to use the Channel Selector). Once channels have been selected, the 4 Channel Pan box turns blue.

In 4-Channel Pan mode the Large Fader controls the overall level of both signal paths while the Small Fader controls their relative levels. This effect can be used to generate mono or stereo surround mixes by routing the Small Fader to one of the Stereo Subgroup busses. The Small Fader will then provide panning from front to surround outputs while the Small Fader pan will pan across the stereo surround outputs. The console’s output monitoring must be selected to 4CH mode.

Alternatively, 4-Channel Pan can provide automated left/right panning across the main Mix bus. If both faders are routed to the main stereo mix bus and one is panned left and the other right, then the Small Fader will pan from left to right. Select the monitoring to 2CH for this mode.

Having selected 4-Channel Pan, you need to return to the MIX-DESK display before you can hear the effect of either of the above modes. Note also that, when 4-Channel Pan is active, signals will pass via the VCAs, and the Large Fader motor will be turned off. Also, the Small Fader cut switch is inactive and the Large Fader cut switch or a Large Fader solo will cut both faders.

Talking of panning, it’s worth noting that if the console has been fitted with the LCR pan option, the Large and Small Fader pans can be selected to provide LR or LCR panning by selection of the 2CH or 4CH buttons on the SL952 Master Panel (see also the SL 9000J Console Operator’s Manual).

None of the other items in the Desk Setup menu are relevant to the mixing process. Check their location in this manual’s main Index if you want to know more about any of them.
<table>
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<th>FILE/SETUP</th>
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<th>Enable</th>
<th>Do Pre</th>
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<td>RECALL</td>
<td>Overview</td>
<td>Edit</td>
<td>Clear Data</td>
</tr>
<tr>
<td>MACHINES</td>
<td>SnapShots</td>
<td>Groups</td>
<td>Switch Protection</td>
</tr>
<tr>
<td>MISC</td>
<td>Faders</td>
<td>Project</td>
<td>Join to Mix</td>
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```
<table>
<thead>
<tr>
<th>Name</th>
<th>Discard</th>
</tr>
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<tbody>
<tr>
<td>DT Free</td>
<td>4:18</td>
</tr>
<tr>
<td>Free Mem</td>
<td>97%</td>
</tr>
<tr>
<td>Time</td>
<td>12:40:49:27</td>
</tr>
<tr>
<td>Cycle</td>
<td>0, 1, 2, 3, 4</td>
</tr>
</tbody>
</table>
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24.4.97
SL9000 J Automation – An Introduction

As discussed before, the J Series Computer provides automation facilities for the following:

Large Channel Fader and Cut
Small Channel Fader and Cut
Group Fader Levels
Group Fader Solos
Channel FX Send On/Off buttons
Channel Stereo Cue On/Off
Channel Insert In/Out
Channel EQ In/Out

In the following narrative, the automated switches may be referred to as ‘objects’.

The Large Faders and Group Faders are automated using SSL’s patented Ultimation system which provides the intuitive nature of moving faders, coupled with the flexibility of a VCA based system. Normally, the fader motors are turned on and channel audio passes through the fader, except when a specific automation mode dictates that audio should pass via the channel VCA. If the motors are turned off by deselecting the MOTORS ON button, audio will only pass via the channel VCAs whenever a fader is grouped or the automation is turned on.

Automation of the Small Faders is provided by separate VCAs. Note, however, that Small Fader audio will only pass via the VCA when the automation system is active. Even then, a specific automation mode (Protect Manual – see Page 5-57) may be selected to allow the audio to pass directly via the fader.

Regardless of the automation mode selected (see Page 5-15), there are two possible write statuses for Small and Large faders – Absolute and Trim. When the system is playing back previously written data, faders are in Replay status. At the start of a new mix only, faders can be set to Manual.

It is important to understand that, with the J Series mix system, Trim data is stored separately from Absolute data in RAM until the two data streams are merged. When a mix pass is saved to disk, an automatic merge takes place. Alternatively, an unsaved mix pass can have its Absolute and Trim data merged by using the Make Ref Mix function (see Page 5-53). Separate displays of Absolute and Trim data can be seen on the Overview display (see Page 5-25).

Unlike G Series, the Large Fader Cuts, along with all the other automated objects, are treated quite separately to the faders, and may be selected independently to any one of the automation modes. In any mode, objects can be in one of two statuses – Record or Play, ie. write or read. G Series users need not worry about complex cut editing statuses; all you’ll ever need to edit mix data for cuts (and all the other automated switches) can be handled effortlessly with two new features – Match and Play (see Page 5-38) and the graphic mix data editing facilities (see Page 5-83).
The Mix Pass Structure

Compared to G Series, the J Series Computer has a new way of handling mix passes. Every time you roll back, having made updates to the mix, the system will store a new ‘Mix Pass’ in RAM (memory). Each new pass will update the previous pass, unless you elect to update a different pass (see Revert below).

The Mix Pass list is located to the right the main MIX-DESK display (see opposite). Note that this list is a permanent feature of the display, whether the automation system is active or not. Up to five mix passes can be held in RAM; beyond this figure, the system operates on a first-in-first-out basis unless you elect to ‘keep’ a mix. In turn, this allows for four levels of undo. Note that your most recent mix will be designated pass 0 and the previous mixes will be designated -1 to -4, where -4 is the ‘oldest’.

The box at the top of the list (with a * at the left hand end) is known as the Reference Mix box. This is used to display the name of the last mix saved to disk or loaded from disk. Apart from providing a local reference, this mix becomes important when you are working in ‘Insert Mixing Off’ mode (see Page 5-33).

A new mix pass is only created if you have updated the mix information. This means that just rolling back, and listening to your mix a number of times, does not create a new mix pass. Passes are automatically named with an incrementing number and time-stamped (stab on any Mix Pass box to toggle between Time and Name).

The actual mix pass start and end times will be shown in the Fr: and To: boxes above the Mix Pass list.

To name a mix pass, simply select Name, stab on the pass you wish to name and the QWERTY pop-up will appear. Type in the mix name using the pen or the dedicated keyboard.

As the Mix Pass list is updated, earlier mix passes will ‘drop off’ the list and are unrecoverable. It is therefore imperative that you put a hold on important mixes in the list (see Keep below) or save them to disk (see Saving Mixes on Page 5-43) otherwise you may run the risk of losing them as the Mix Pass list overflows. Unless you have used the Revert function (see below), the last pass (ie. the one you are be currently updating) is always highlighted in green in the pass 0 box.

To ‘keep’ a mix in the pass list, select Keep and stab on the relevant mix pass. The selected mix and the Keep box will be highlighted in yellow. As mix passes accumulate, the kept mix will reach pass -4 and be held there. The rest of the list will update as normal. You can only keep one mix at any one time. To deselect a kept mix, stab on the Keep box and then on the kept mix. This will highlight the mix in green which signifies that this is the mix you are about to update. If you do not wish to update this mix, use the Revert function described below.

If you wish to update another mix pass other than the mix you have just created, use Revert to choose an alternative. Simply select Revert and then stab on the mix you wish to update. The selected mix will be highlighted in green.
Rollback Points

Rollback points have an important role to play in the J Series automation system. If you have read about Automation Modes (Page 5-15), you will know that a number of different things may happen at the rollback point, depending on which status and automation mode is currently selected for any automated control.

A rollback point is created, for any object in write, by using any method that moves the system backward by more than a frame. This can include the TC1-5 locate buttons, the Rewind key, the Jog Wheel or even Rewind on an external tape machine remote.

If new mix data has been written, the action of rolling back will create a mix pass (saved in RAM) and the mix To : time will be updated. If you rewind before the current Fr : time and start writing new mix data, the next time you roll back, the Fr : time will be updated.

Rollback points are created whatever Automation Mode is in use, and each mix pass has its own set of rollback points. Each automated object can have one rollback point associated with it, i.e. the point at which the system was rolled back with that object in write. As you mix, be aware that rollback points may be created at different times for different objects. If you Discard the current mix pass, or Revert to a different pass, the system will reinstate the rollback points from whichever pass you then choose to update.

If you change to a different Automation Mode, the rollback points for the current pass will still be in place. This is particularly relevant if you have made your first pass in Overwrite or Static (creating a number of different rollback points) and then switch to Rollback/Join. Rollback points for faders are indicated on the Overview display (see Page 5-21).

Rollback points will be cancelled if you:

- Play through a rollback point
- Switch back into write before the rollback point
- Save a mix pass to disk

All of the above may seem unnecessarily complicated to you. Rest assured that rollback points are far more transparent when you are actually mixing!

See also the JOIN button on Page 5-19.
All of the above may seem unnecessarily complicated to you. Rest assured that rollback points are far more transparent when you are actually mixing!

See also the JOIN button on Page 5-15, and Roll Threshold in Section 7.

The J Series automation system has eight different types of automation mode – Rollback, Rollback/Join, Mix End, Mix Fill, Clip End, Clip Fill, Cycle End and Cycle Fill. Note that these modes only affect the mix data after a rollback (see opposite) has been performed, and if the fader/object is in write at the rollback point. If you drop out of write manually (for example, by using the fader status button), any changes you have made will be held in RAM, but will not be saved to a mix pass until you roll back.

Since the modes provide many possibilities, we will initially cover the two modes that you will find most useful when starting out. Each type of automated object can be assigned to different modes on an individual basis (see Page 5-17 for details).

**Mix Fill** – This mode allows basic mix levels to be set up without being written to the mix, even though controls will be in a write status. As soon as the system is rolled back, the levels and switch settings at that point, as long as faders and switches are still in a write status, will be recorded for that mix pass, from the start of the mix to 23:59:59:24 (24h).

Referring to the diagram above, a previous Mix Fill mix pass was created from time 00:00:00:00 to time 23:59:59:24 (EBU), with the fader well below 0dB (light grey line), which the operator thought was too low. The fader is dropped into write and moved at the point marked 'start'. The level is varied until the operator is happy, at which time a rollback is executed (note that no rollback point will be generated). Mix Fill mode then ignores all information except the value at the point of rollback, which is extended forwards and backwards to fill all 24 hours (dashed line).

**Mix Fill** is the SSL Default Project mode for Auxes and useful for setting up FX sends etc. in a new mix.

* Previously known as Static.
Automation Modes (cont)

Mix End* – This mode keeps all recorded data up to the rollback point, and then extends the value at rollback to the mix end time:

![Graph showing Mix End mode](image)

As you can see, the operator has made the same movements as in the Mix Fill example, starting and rolling-back at the same times, but the automation system has interpreted the data quite differently. All of the movement is kept, and the final (rollback) level has been extended to the mix end time. This is useful for dynamic passes, whose final level you want to extend, perhaps in order to provide a basis for later changes.

Note that this mode does not generate a rollback point, so when you subsequently pass through the point at which you rolled back, faders and objects will remain in Replay until manually forced back into a write status on an individual basis.

* Previously known as Overwrite.

Two macro buttons – FILL MIX and WRITE MIX END are (normally) provided so that Mix Fill and Mix End can be quickly and temporarily selected for all objects without having to call up the Automation Modes pop-up. The button lamp flashes whenever that function is active. As soon as the system is rolled back, objects return to their previous mode as set in the Automation Modes pop-up. See Page 5-17 for more details.
Rollback – Do not confuse this mode with the action of ending a mix pass by putting the console into a rewind state – we refer to the automation mode with a capital ‘R’ and in bold, and the action of rolling back is referred to using a lower-case ‘r’.

Rollback mode keeps all the mix data between the start of recording, and the rollback point:

![Diagram showing the effect of Rollback mode](image)

The diagram above shows the effect of Rollback mode when a previous static pass (here at a continuous +5dB – light grey line) is updated. The operator has begun to move the fader (black line) at the start point, and has executed a rollback with the fader at a different level than the previous pass. All of the new data is kept, but when the whole pass is replayed, and the automation system passes the rollback point, the fader quickly jumps back up to +5dB (dashed line).

Rollback is the SSL Default Project mode for Channel/Group Cuts and Group Solos.
Rollback/Join – This mode approximates to the update process in SSL's G Series, and is the SSL Default Project mode for large, small, group and master faders. It is very similar to Rollback but with an added feature.

If a fader is dropped out of write before rollback (using its fader status button), then the result will be the same as Rollback mode. If, however, the fader is still in write when a rollback is executed, a rollback marker will be placed at that point and, when the automation system plays back again through this point, the fader will drop back into write (eg. 'Join' – see Page 5-15) at the level marked * in the diagram below:

![Diagram of Rollback/Join](image)

Rollback Join is the mode usually chosen for faders, as it allows the mix to be developed stage by stage, with the faders dropping back into write at the same level whenever a new section is entered.

Note that in Rollback/Join and Rollback faders will drop back into Absolute when the mix To: time is crossed. Once this has happened, faders may not be dropped back out of Absolute.

Hitting DISCARD after the mix To: time has been played through, with faders in Rollback and Rollback/Join, will switch faders into Absolute at the level they were at at the mix To: time.

Clip End, Clip Fill, Cycle End and Cycle Fill are discussed on Page 5-56.
If a fader or automated switch object is in a write status when you roll back, and you want to drop it back into write before it reaches its rollback point (where this would automatically occur if you are using Rollback/Join) then you can, of course, press the fader status button, or switch the object into write (in conjunction with the Match facility, if necessary – see Page 5-26).

To achieve the same effect with multiple faders/switches, use the JOIN button which enables a number of automated objects to be dropped into write at the same time.

Dropping switch objects back into write with JOIN will put them into write in the state they were in at the rollback point. Any fader or object that was in Replay at the rollback point will be unaffected by the JOIN button.

Bearing in mind that you may have a number of rollback points for different objects, occurring at different times, JOIN will ‘play out’ rollback points in time order. For example, write a pass in Mix End to 4:00 minutes and rewind to 1:00. Select Rollback/Join, play forward, and drop a single fader into write at 1:30. You then realise that you should have punched the fader into write at 1:20, so roll back, hit JOIN at 1:20 and that single fader will drop into write. If you hit the JOIN button again, once the single fader is in write, the system will have remembered the next rollback point at 4:00, and the JOIN button will switch the rest of the desk into write – logical, huh?

In all modes, the rollback point will be cancelled if played through. In other words, if you play past the last rollback point and hit JOIN, the system will not drop back into write. Remember that, in Rollback/Join, the system automatically drops back into write at the rollback point.

Any faders physically in the wrong position when you hit JOIN (this could be the case if you are working with the fader motors off), will drop into write with a level jump. Note that if TRIM RENULL is selected (see Page 5-35), and you use JOIN to drop faders into Trim, the system will recalculate the null position to avoid a level jump.

See also Rollback Points on Page 5-10.
The JOIN Button

If a fader or automated switch object is in a write status when you roll back, and you want to drop it back into write before it reaches its rollback point (where this would automatically occur if you are using Rollback/Join) then you can, of course, press the fader status button, or switch the object into write (in conjunction with the Match facility, if necessary – see Page 5-38).

To achieve the same effect with multiple faders/switches, use the JOIN button which enables a number of automated objects to be dropped into write at the same time.

Any faders physically in the wrong position when you hit JOIN (this could be the case if you are working with the fader motors off), will drop into write with a level jump. Note that if TRIM RENULL is selected (see Page 5-49), and you use JOIN to drop faders into Trim, the system will recalculate the null position to avoid a level jump.

Dropping switch objects back into write with JOIN will put them into write in the state they were in at the rollback point.

Any fader or object that was in Replay at the rollback point will be unaffected by the JOIN button.

Bearing in mind that you may have a number of rollback points for different objects, occurring at different times, JOIN will ‘play out’ rollback points in time order. For example, write a pass in Overwrite to 4:00 minutes and rewind to 1:00. Select Rollback/Join, play forward, and drop a single fader into write at 1:30. You then realize that you should have punched the fader into write at 1:20, so roll back, hit JOIN at 1:20 and that single fader will drop into write. If you hit the JOIN key again, once the single fader is in write, the system will have remembered the next rollback point at 4:00, and the JOIN key will switch the rest of the desk into write – logical, huh?

In all modes, the rollback point will be cancelled if played through. In other words, if you play past the last rollback point and hit JOIN, the system will not drop back into write. (Remember that, in Rollback/Join, the system automatically drops back into write at the rollback point.)

See also Rollback Points on Page 5-17.
The Overview Display

The Overview display has a variety of different uses. One of these is to display mix data on a per-channel/per-object basis. If this is of interest, and you are familiar with the basic functions of the Overview display, turn to Page 5-21.

Select **Overview** from the **MIX-DESK** menu and the screen will look similar to that shown opposite.

The main part of the display consists of 24 vertical windows representing Channels 1-24; use the scroll bar below the display, or the O/VIEW < > buttons on the front panel (in the USER DEFINED FUNCTIONS group), to view higher numbered channels, Groups 1-8 and the Master Fader. These windows are used to display marks, automation data, and a representation of audio (when **Capture Clips**, see Page 5-87, is in use) to assist in the editing of mix information. If your system is fitted with DiskTrack, SSL’s hard disk recorder, then the Overview display takes on a new importance. See the DiskTrack Operator’s Manual for details.

The timecode numbers, at the top and bottom left of the display, show the current range of the Overview display. Pressing either of the O/VIEW ^ v buttons on the front panel will move the display forward or back in time by half the size of the current window. The same effect can be obtained by stabbing in the bottom or top timecode boxes respectively. Selecting O/VIEW START or O/VIEW END allows you to enter, via the timecode calculator, new start and end times. Stabbing and dragging on the start and end boxes also enables new range times to be entered.

The broken red line across the display represents the current Desk (‘playhead’) position. You can locate the system, including external machines, to any timecode point within the Overview window by simply stabbing at the position you wish to be at, or by dragging the red line to a new locate point.

Marks (cues), created with the MARK button, are represented by horizontal black lines across all the channel windows.

Rollback points for faders are indicated by a coloured bar across any channels with a rollback point. If the bar is red, the write status at the rollback point was Absolute, green if it was Trim. Rollback indications are cleared from the screen when you stop, or roll back, after playing through them.

Other basic options available for the Overview display are:

- **Fit Audio** Causes the display to re-size to the length of the Events List or, if applicable, Mix Start and End times and/or DiskTrack audio
- **Zoom In** As implied. Stab on the area you wish to zoom in on
- **Zoom Out** Stab on this box to zoom out
- **Playhead** Centres the display on the current Desk position
- **Re-Center** Re-centres the display on a pen stab point
<table>
<thead>
<tr>
<th>Time</th>
<th>Action</th>
<th>Module</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:40:57:27</td>
<td>Mark</td>
<td>Del Mark</td>
<td>Up/Down</td>
</tr>
<tr>
<td>12:41:19:18</td>
<td>Re-Center</td>
<td>Fit Audio</td>
<td>Zoom In/Out</td>
</tr>
<tr>
<td>16:38:51:12/66</td>
<td>1</td>
<td>Top</td>
<td></td>
</tr>
<tr>
<td>16:39:11:13/00</td>
<td>2</td>
<td>Phones</td>
<td></td>
</tr>
<tr>
<td>16:39:49:23/00</td>
<td>3</td>
<td>Pipes</td>
<td></td>
</tr>
<tr>
<td>16:40:09:29/00</td>
<td>4</td>
<td>Intro Chorus</td>
<td></td>
</tr>
<tr>
<td>17:48</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:38:43:12/66</td>
<td>6</td>
<td>Top</td>
<td></td>
</tr>
<tr>
<td>10:57:41:13/00</td>
<td>7</td>
<td>Phones</td>
<td></td>
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<td>10:57:49:23/00</td>
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<td>Pipes</td>
<td></td>
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<tr>
<td>10:58:09:29/00</td>
<td>9</td>
<td>Intro Chorus</td>
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<tr>
<td>10:58:48</td>
<td>10</td>
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<td>12:41:19:18</td>
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**FILE/SETUP**
- DiskTrack
- Trim Mix

**RECALL**
- Events
- Automation
- Edit

**MACHINES**
- SnapShots
- Groups
- Edit Audio

**MISC**
- Faders
- Project
- Edit Mix

**Note:** Mix Data moves with Audio.
Note that the channel number boxes above each window, when stabbed, toggle through a palette of 16 different colours. If your system is fitted with DiskTrack, this provides up to 16 different audio edit groups. Non-DiskTrack users may find this function useful to identify specific channels by colour.

The two boxes above the display, Mark and Del Mark are used to make and delete individual marks used for editing DiskTrack audio. See the DiskTrack Operator’s Manual for more details. Note that Del Mark cannot be used to delete marks made with the front panel MARK button.

The Print box at the top right of the Overview display calls up the Print Overview pop-up. With a suitable PostScript™ printer connected to the J Series Computer’s ‘Remote’ port, a diagrammatic representation of the display, complete with listed details of all audio clips (if your system is equipped with DiskTrack), including start/end time, duration, name and mark information etc, may be printed out for reference.

For Time per Page, enter the amount of time to be displayed vertically per A4/US Letter landscape page. An entry here automatically updates the Pages Used (ie. the number of pages that will be printed) figure below. Grid Spacing may be set to taste – the grid provides a quick way of measuring time on the printed page. Start and End Time should be set to closely match the audio you are interested in, otherwise you will end up with wasted sheets of paper. The Length below will automatically be calculated from values entered here.

The Print Destination may be selected as direct to the printer or to a file on the J Series System Disk. Select Page Size from A4 or (US) Letter as appropriate. Default resets to the pop-up’s default settings. Print starts the print or file transfer process.

The correct parameters must be set up for the Remote port before printing. See Serial Xfer in the MISC menu – Section 9.

Mini Events List

Beneath the Overview channel display you will see a smaller, scrollable, version of the Events List (see Section 4 for more details). The provision of this list facilitates immediate locates by stabbing on Events List entries, and gives a clear indication of where in a track the system is positioned.
The Overview Display and Mix Data

One of the most useful functions of the Overview display is to show the mix pass levels for faders and automated objects. Select Edit in the MIX-DESK menu, followed by Edit Mix. This will reveal three groups of boxes, to the right of the menu area, that enable colour overlays to be selected for the faders or objects of your choice (see opposite). Mix data for the current mix (i.e. the one in green in the Mix Pass list – see Page 5-13) will be displayed by a continuous coloured line, with excursions to the right indicating an increase in fader level or, in the case of switches, the ‘on’ condition.

Stab on a box in the chosen colour group and a list of items whose automation data can be displayed in that colour will appear, with the most commonly used items at the top of the list (see lower screen opposite). Channel module information can be represented with white, blue or yellow overlays showing mix data for L(arge) Fader, L(arge) Fader (Trim), S(mall) Fader, S(mall) Fader (Trim), L(arge Fader) Cut, S(mall Fader) Cut, EQ (In/Out), Ins(ert In/Out), Cue (Stereo On/Off), and FX1-6 (On/Off). Group information can be displayed with white or blue overlays representing G(roup) Fader, G(roup) Fader (Trim), G(roup) Cut and G(roup) Solo data. Finally, M(aster) Fader or M(aster) Fader (Trim) data can be displayed in white.

For example, by selecting L Fader and L Fader Trim in two different colours, the display will show both your Large Fader Absolute mix levels as well as subsequent Trim levels (see also Make Ref Mix on Page 5-53). Default settings provide displays of L(arge) Fader, L(arge Fader) Cut, G(roup) Fader and M(aster) Fader.

Note that the mix data overlays only update when you roll back and create a mix pass.

The Mix Data moves/doesn’t move with Audio entry in the Edit Mix menu is only applicable to systems fitted with DiskTrack. The same applies to Edit Audio and Sift in the Edit menu. Note also that DiskTrack, the first entry in the MIX-DESK menu (see opposite), will only be present if DiskTrack is fitted to your system. For all these functions, and many more, please see the DiskTrack Operator’s Manual.

Trim Mix and Ref: Ch 1 are described on Page 5-83.
Starting a Mix

OK, let's start mixing! First determine the approximate start and end times of the track you are mixing and store these points in TC1 and TC5 timecode stores, if you haven’t already done so (see Page 5-1).

We'll assume you are going to mix with the fader motors on. Check that the MOTORS ON button on the front panel is lit. We also assume that you are in 'Insert Mixing On' mode; check that the INSERT MIXING ON button is lit (see Page 5-33 for more on Insert Mixing).

Note that when the mix system is enabled, if any previous automation settings have not been cleared in the Project Settings pop-up, these settings will be restored to the console. This may have the alarming effect of destroying the basic fader balance you have just set up! To avoid this, hit the CLEAR AUTO button, before you enable the automation, to clear the automation RAM; you will be asked to confirm your request (see opposite) so hit the OK button. This function is replicated by Clear Data in the Automation menu.

Select Automation in the MIX-DESK menu and stab on Auto Modes. Alternatively press the AUTO MODES button on the front panel. The resultant pop up (see lower screen opposite) enables you to choose the type of automation mode, eg. Overwrite, Rollback, Rollback/Join etc., for different types of automated controls.

First select the control group, Large Faders etc., then select the mode; the pop-up will reflect your choice. The pop-up can be driven from the front panel cursor keys – the up/down keys cycle through Large Faders, Small Faders, Group Faders etc. and the left/right keys advance the current mode through Overwrite, Rollback, Rollback/Join etc. Note that the Auxes selection covers the EQ In/Out, Insert In/Out, Cue Stereo On/Off, and FX1-6 On/Off.

Finally, enable the mix system by either pressing the AUTO ON button on the front panel or stabbing on Enable in the Automation menu. When you do this, the AUTO ON button on the front panel will flash to indicate that new mix data has been written to RAM. As this is a first pass, fader levels and object settings are stored by the computer to define the mix start time. Note also that the current Auto Modes are now displayed in a narrow strip above the Status Bar (see opposite). To change the current mode for any group of controls, stab on the appropriate box (LF, LC etc) to call up the Auto Modes pop-up (see above).

As soon as the mix system is enabled, the Large and Small Faders, Group Faders and Master Fader, will indicate that they are selected to Absolute status (red status LEDs lit). When faders are selected to Absolute they are ready to write new mix data. In other words, the moves you make will be recorded by the computer and the position of the fader is the actual level you are writing to the mix. As you will see later, this is not necessarily true of Trim status.