Introduction

In 1978 Solid State Logic designed the first A Series Console and Studio Computer. The idea behind the project was to build a system for the company's studio which was buried deep in the Oxfordshire countryside, in a small village called Stonesfield. The studio was called Acorn. It was small and as there was only one room it became known as Huge One.

Not satisfied with the first console, SSL went on to build yet another system, the B Series. It too was innovative and somebody suggested that it should be shown at the Paris AES show in 1978.

Following the show, orders were received from several studios worldwide and SSL became the world's greatest console manufacturing company and not the world's greatest studio. In total, nine B Series consoles were made, featuring a VCA based automation system, Dynamics sections on every channel and many other features that are now accepted as industry standards.

The B Series console achieved cult status amongst those brave engineers who managed to understand the philosophy behind the system. Many of the initial users sent back suggestions about improving the console and the computer. So, in 1980, a third design went into production and was named the SL 4000 E Series Master Studio System. The new system was a giant leap forward, solving many of the operational limitations of the B Series. It was an instant success. As well as sonic improvements there were several changes to the routing system, enabling the small faders to be used as additional inputs to the main mix busses and as extra auxiliary sends via the routing matrix. This doubled the number of inputs that could be mixed down to the main outputs as well as solving the problem of not having enough aux sends. Changes in the signal processor routing also gave the system much more flexibility.
Another major addition to the range came in 1981 when Total Recall™ was first introduced. For the first time, engineers could store and recall all the console module settings, from the very first mic EQ at the start of a tracking session to the final take of the mix.

The E Series was designed as a system. Not only a mixing console, but also a central control station for signal processing, machine control, fader automation and Total Recall™.

Over 500 installations later, the system underwent its fourth major change with the introduction of the SL 4000 G Series Console and Computer at the 1987 New York AES show. Most of the audio circuitry has been redesigned to improve sonic performance, reducing cross-talk, distortion and noise. The tracking path now features new EQ, Mic and Line amps, Group amps and Monitoring sections.

There are a few other differences between E Series and G Series Consoles, such as the addition of patchable Stereo VCA Faders, a split Cue system, Channel in to Meters and individual Solo Isolate functions, but for the most part the systems are operationally the same.

The philosophy behind these changes stems from the fact that more and more engineers are using the system for entire projects. There was a need for greater computer data storage and sonic and operational changes to improve tracking performance. The 20MByte Data Cartridge used with the G Series Computer and Total Recall™ allows engineers to store every desk setting, from the start of a session all the way through to the final mix. It is now common for engineers to automate the monitor mix and each mix can be stored and improved upon as the tracking process progresses, without having to sort through dozens of floppy discs. At any time, each monitor mix can be accessed and parts of it used during final mix if required. To compliment the new computer facilities, the audio signal paths through the console have been scrutinized and redesigned to meet the ever more exacting audio integrity that today's engineers demand. These changes encourage the desk to be split during the tracking process, with a full monitor section to the left of the centre section and source channels to the right.
About This Manual

This manual is divided into eleven sections. Sections 2 to 6 act as reference sections, giving exact descriptions of each control, the meters and the patch. The key to understanding the power behind the G Series system is to master the routing and signal flow. Sections 7, 8 and 9 cover this in great detail. Some people may wish to start with the applications guide (Section 10) and then consult the reference sections as they read. How you use this manual is up to you; if you get stuck, just skip to a new section as information about a particular desk function may be found in several different sections. It will help if you refer to the foldout drawing of the modules and centre section (included at the back of this book) while you read the manual.

The manual has been written so that you may learn to operate the console without actually having one in front of you. However, there is no substitute for putting up a mic and going through the process of laying tracks and then remixing, as you refer to the book. It would also be helpful, when learning the system, to sit in on a session with an engineer who knows the console.

If you are new to the system it is suggested that you read the manual from cover to cover a couple of times and then try out a session. Once you become more familiar with the controls you will begin to understand the flexibility of the system, and also why the routing needs to be so complex. This system was designed for professionals who spend ten or more hours a day, seven days a week using the desk. They want to push the console to its limits, hence the limits are far beyond those of lesser systems and it may take you several weeks to completely explore all the possibilities that a SSL system has to offer.

Once you have mastered the art of tracking and mixing, without getting lost in the routing, it is strongly suggested that you go through the manual one more time. It is very easy to settle into one particular way of working, to the exclusion of others, and you may discover some operational possibilities that you previously overlooked. For instance, many engineers don't realize that whilst tracking, the main VCA fader may be bypassed on the patch. This frees the quad compressor for use in stereo subgroups or as a master compressor on the drum overheads, for example.
Differences between the SL 4000 G and the SL 6000 G

It is probably worth describing the differences between SL 4000 G and SL 6000 G Series consoles, as they are basically very similar and it will be possible to apply 92% of this manual to the SL 6000 G (or for that matter, the SL 6000E).

The main difference between the two systems lies in the output bus structure:

The SL 4000 G Series console has four output busses designated Left Front, Right Front, Left Back and Right Back. Each Input/Output module routes directly to the main outputs via the master fader on the SL 651G Master Facilities module.

The SL 6000 G(E) Series console has three stereo output busses designated A, B and C which can be combined to feed a main stereo Programme output. There are therefore four stereo outputs from the console - the clean stereo feeds from the A, B, and C busses and the stereo Programme output. The SL 688V Mix Matrix panel fits in an additional centre section and deals with the matrixing and control of these busses. The main Programme output feeds through the SL 651V Master Facilities Module in exactly the same way as the Quad bus feeds through the SL 651G on a SL 4000 G Series console, with identical control of such functions as the main fader, master compressor and echo returns.

Where this manual refers to the "Quad Bus", just substitute "A, B or C Bus" if you have an SL 6000 G(E) Series system. The stereo Programme output on the SL 6000 is the equivalent of the Quad output on a SL 4000 system. Apart from the main output routing, all other functions and controls are identical. The patch layout and metering, however, reflect the different output configurations.

The G Series Studio Computer system and its operation are identical for each system, so transfer from one type of system to the other is effortless and makes logical sense. Ultimation™, SSL's unique dual path moving fader automation system, may be optionally fitted to both G and E Series SL 4000/6000 consoles.
If you are working on an SL 6000 E System frequently, you may be interested in obtaining a copy of the operational manual which deals specifically with this console. Contact your nearest SSL office to purchase a copy.

Finally, if you have any comments on this book please contact us. We will be updating the contents from time to time and would appreciate your input.

**Definition of Terms**

Although most of the terminology in this manual should be familiar to you, there are a few things that we should cover now to avoid confusion.

**BUS** - A common term used to describe a mixing bus bar. It refers to a signal path within the console, prior to mix amps and output level controls. As an example, the main Quad outputs will often be referred to as the Quad busses when, for instance, talking about SL 611G I/O module signals routed to the SL 651G Master Facilities module. Signals are sent from the I/O modules, at low level, and mixed together on bus bars running the length of the console. The SL 651G picks up these signals, amplifies them and feeds them to the console outputs at line level (nominally +4dBm). So "output" refers to a line level signal leaving the console via the patchbay whereas "bus" refers to an internal route for signals at low level.

**THE PATCH** - A jack in the SSL patchbay is designated by a letter for each row and a number counted from the far left of that row. e.g. Channel Mic Input 7 is designated as B7 etc. Section 6 includes patch drawings for reference.

**SL 611G** - This is the Input/Output Module.

**SL 611S** - The Stereo Module.

**SL 651G** - The Master Facilities Module. Located to the right of the centre section. (In E Series consoles this is usually located to the left of the centre section.)