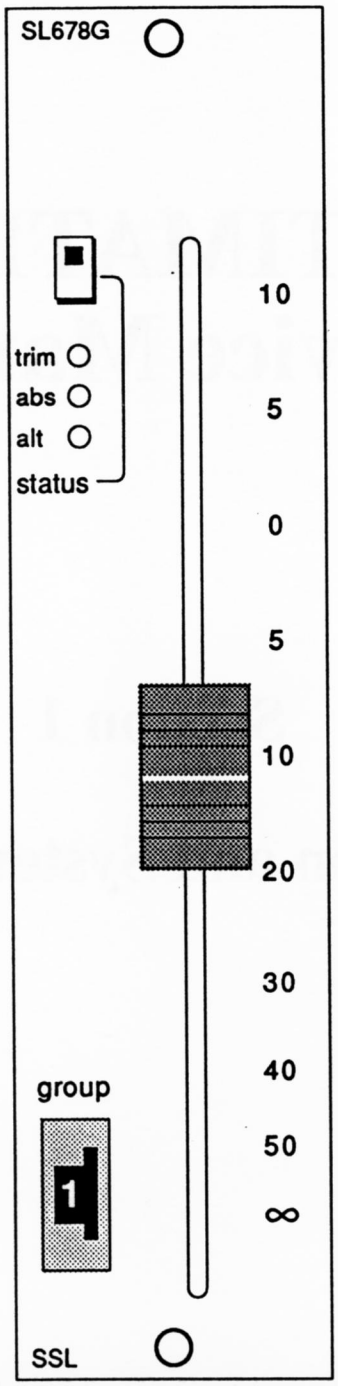
ULTIMATION
Service Manual

Section 1

Introduction and System Overview



IMPORTANT

SL678 FRONT PANEL CLEANING INSTRUCTIONS

The front panels of the SL678 Moving Fader Cassettes are manufactured from a polycarbonate material finished with a surface texturing coating which is designed to protect the panel detail against both normal wear and tear and attack from solvents.

These surfaces may be efficiently cleaned using a lint-free cloth or cotton pad moistened either with Ambersil 'Amberclens' or with a solution of commercial detergent (such as 'Teepol') in water.

Alcohols, acids, alkalis, or other solvents must *not* be used.

1. Introduction and System Overview

About this Manual

This manual is provided as a supplement to the G Series Console and G Series Computer Service Manuals, for both new systems *and* systems that have been retrofitted with the Ultimation dual path automation system.

In the case of retrofits, an additional Ultimation Retrofit Manual will be supplied. This is primarily for the use of the SSL service engineer who carries out the retrofit, but will be retained by the client as a record of the additions and modifications made to the system.

Hardware

Ultimation hardware consists of five principle elements:

- A number of SL678 Moving Fader Cassettes.
- An 82E354 VCA Card in each SL611 Input/Output module (replacing the 82E13 card in the case of Ultimation retrofits).
- An additional power supply (SL569) for the fader motors.
- An additional analogue PSU (SL668 or SL564) for the fader electronics.
- A G-Series computer with new versions of the Analogue Input Card (82E41E2) and Analogue Output Card (82E357). In addition, the 82E356 CA Interface Card replaces the existing Lights and Switches Card.

Software

Ultimation software is supplied on an 8" floppy disk. If your system has been retrofitted with Ultimation, you should be familiar with the procedures involved in making working copies of the software and also carrying over any relevant customised setup data to the new program. If the SSL Studio Computer system is new to you, please read Section 1 of the G Series Computer Service Manual.

In either case, our service engineer will leave you with a fully tested and running system.

System Overview

Whether the automated mix system is active or not, channel audio normally passes through the fader wiper. When mixing in 'Trim' mode (see the G Series Computer Operator's Manual), however, audio is switched through a VCA on the 82E354 card, thus combining the advantages of moving fader and VCA based automation systems. Any change in level on switch over will be within 1.0dB over the top 60dB of fader travel (i.e. inaudible). A free 10-way ribbon cable from the fader bus card connects to the 82E354 card via a further 10-way ribbon cable.

Audio always passes through the VCAs of SL611S stereo channels, patchable VCAs (G Series consoles only) and SL688 faders (SL6000 consoles only) but all the functionality of a moving fader is otherwise retained. In these cases, the law shaping circuits on the appropriate VCA cards are modified, as the control voltage from the moving fader is linear - not tapered. Faders for both mono and stereo channels are identical, with a bus card link distinguishing between the two.

The master fader is not motorised.

The fader motors can be turned on or off at any time by entering 'MO EX' (where EX represents the EXECUTE key) on the Studio Computer keyboard.

The fader front panel (see Page 1-2) is visually similar to that of the standard fader, with a single **status** switch and three status LEDs (**trim**, **abs**, and **alt**). Normal channel grouping is retained with selection via the **GROUP** thumbwheel switch. With the fader motors turned on, moving a grouper will move the associated channel faders. Once a fader reaches the end of it's travel, the Studio Computer supplies an offset voltage to prevent the fader trying to drive through the end stop. The Analogue Output Card provides either positive or negative offset correction as necessary. All the console electronics are contained within the fader and its associated bus card.

For Ultimation retrofits, the standard Lights and Switches Card is replaced by an intelligent interface handling up to 64 faders. This allows the Studio Computer to scan the additional inputs and outputs (status switch, touch sensor, thumbwheel setting, cut switch and motor stall *from* fader; three status LEDs, VCA in circuit, motor on, cut on, TR on, and group DC disconnect *to* fader) that the system requires.

The faders require ±15 Volts to power the analogue circuitry, +5 Volts to power the logic and ±12 Volts to power the fader motors. The analogue and logic rails are provided by either a SL668 Moving Fader Analogue Supply or (for some systems) a SL 564 Power Supply. The motor power rails are provided by a SL569 Motor Fader PSU.

One Analogue supply is needed per console, or two if redundancy is required. Note that the SL564 already offers redundancy up to 64 channels.

One SL569 Motor Fader Power Supply is provided for every 68 faders. One power cable is needed for each fader bus card. Unless otherwise specified, these will be 18 metres long. An additional connector panel is fitted below an eight module bay in the console - normally next to the main connector panel. This panel also contains a connector, switches and breakers for the analogue power distribution.