



MINI SSL

USER MANUAL

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MARK1 pro audio is a company specialized in repairing, revising, modifying and innovating iconic audio equipment used for professional music/recording studio's throughout the world.

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Disclaimer: This document is written based on basic knowledge of an SSL (4000) desk. As a result, this manual does not provide information on all the possibilities for using SSL channels. For this information we refer you to the SSL operator's manuals. We are not responsible for any damage of the product due to the actions of the user. Please be thoughtful operating the Mini SSL.

INTRODUCTION

The mini SSL is a compact version of the iconic SSL 4000 mixing desks, with the purpose to gain the classic sound of the SSL mixing desks without the need of a full SSL 4000. It is a plug & play modular bucket, handy for any situation in every location, for a starters or professionals private studio or an extension in a professional studio environment. It is the perfect tool for high quality mixing and recording sessions on a small footprint.

In this manual you will find the general information needed to understand and use the mini SSL in your studio and the specifications to give you the full understanding of the use of the mini SSL.

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PRODUCT OVERVIEW

The Mini SSL In-Line mixer consists of the following:

- The SSL 4000 classic sound
- 8x SSL611 4000 series I/O modules.
- I/O panel on Dsub25.
- Internal MARK1 Power Supply Unit (PSU).
- Wheeled frame, with additional 19" rackspace.
- MARK1 summing card. This PCB (printed circuit board) is responsible for summing the main busses, the auxiliary busses and the SSL routing of the SSL channels.

The Mini SSL no longer features a centre section, thanks to clever internal connections and the easily accessible I/O panel. The reduced size of this console has made options such as 'Master Ready Group' impractical. And by using an external Monitor Controller you will get the full SSL experience on a compact scale.

Inside the mini SSL, the triple status option is enabled by default (RECORD + MIX + VCAs to monitor). This status provides versatile options within the Mini SSL without the need for the center section. This status gives you all the necessary options to record, mix or both, depending on the status of READY GROUP and READY TAPE. The status of the desk can be changed internally. More detailed information about the status can be found in chapter 'Operation'.

INSTALLATION GUIDE

Prior to utilizing the Mini SSL, please follow these instructions to ensure the proper installation of the product. Before commencing operation, verify that external devices intended to be connected to the Mini SSL are deactivated to prevent potential issues with the Mini SSL or its surrounding equipment. Remember to power off amplifiers/speakers to prevent any sudden pops on your speakers!

The first step to perform is to connect the mini SSL to mains and verify if the voltages are present by monitoring the LEDs on the back of the Mini SSL. To verify, follow the start-up procedure:

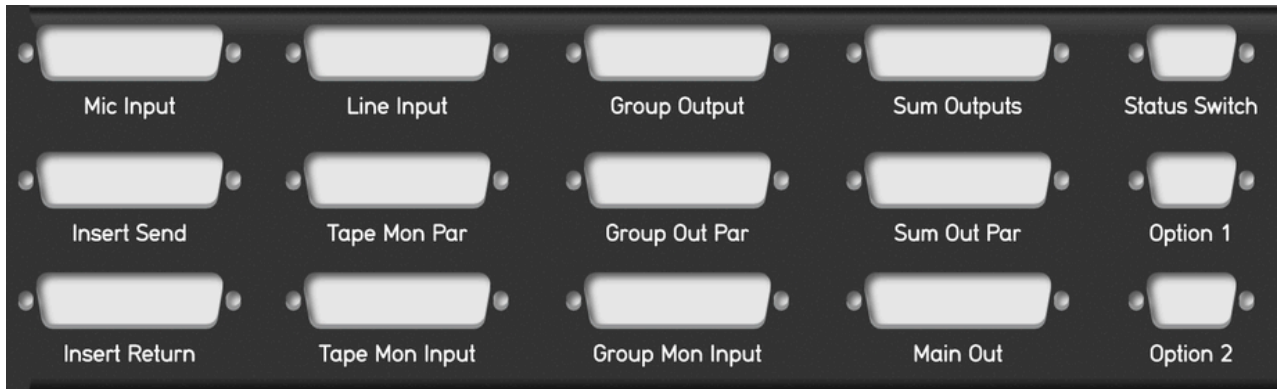
- Toggle the 'power' switch.
- Press the 'standby' switch for at least 5 seconds
- The PSU should be on and the indication LEDs should be powered on, indicating that the PSU provides the correct voltages for the mini SSL to work properly. Make sure the 'Audio +V', 'Audio -V' and the 'Logic' LEDs are lit!
- Now that the PSU is powered on you can start connecting the I/O panel. For practical information of how to wire the I/O panel, see chapter "I/O structure".

Unlike the original SSL desk, this in-line mixer is powered by the internal Mark1 PSU, saving space and producing less heat. This power supply is considerably more power efficient compared to the original power supply and can be used with any type of international mains and will work between 100-240 V (AC).

In our MARK1 power supply, there is a special protection mode that ensures that in the event of any failure within the power supply, the entire unit will shut down to prevent damage to the Mini SSL.

I/O STRUCTURE

Vital information for operating the Mini SSL involves understanding the configuration of the product's inputs and outputs. Located at the rear view of the device is the connection panel, where you'll find the Dsub connectors for connecting to the external environment of your studio.



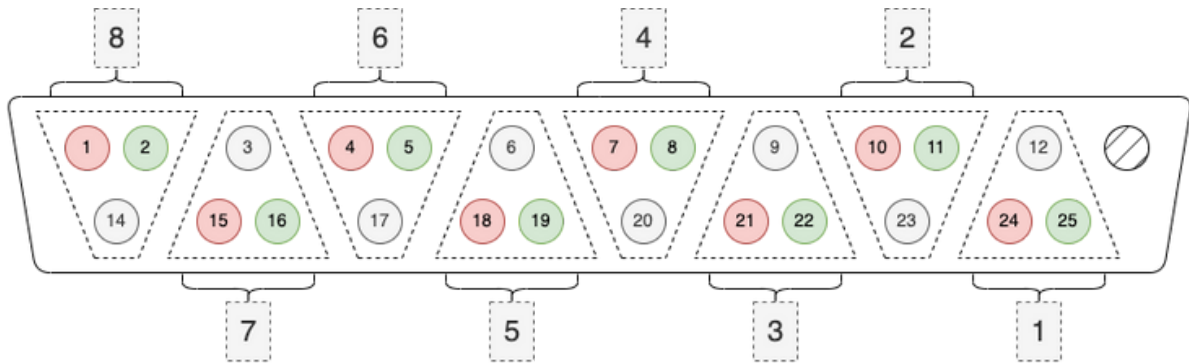
I/O STRUCTURE

The Dsub25 inputs and outputs work as follow:

- **Mic Input:** Channel MIC Input for the I/O modules.
- **Line Input:** Channel LINE Input for the I/O modules.
- **Tape Mon Input:** Input to the Tape Monitor path, meant for the Tape/DAW return.
- **Tape Mon Par:** This connector is meant to create a *link between the LINE input and Tape Monitor input*. To make this link you'll need to make a direct connection between Line Input and Tape Mon Par. Now your Tape Mon Input will go directly to your channel path as well. When using this link, you won't be able to record using LINE inputs. If this link is not utilized, you are able to connect 8 channels to LINE input.
- **Group Output:** Direct output coming from the Channels or routing outputs to DAW input (Multitrack bus).
- **Group Mon Input:** Input to the group monitor path.
- **Group Out Par:** This connection is parallel to the Group Out and is meant to create a *link between Group Out and Group Monitor Input*. If this link is not utilized, you are able to connect 8 channels to Group Monitor Input.
- **Insert Send:** Channel path send to external processing gear. Be aware: If you activate your insert send by switching in 'ins' and nothing is connected, no audio will pass through the channel. Only activate your send when outboard gear is connected!
- **Insert Return:** The return of the Insert Send after external processing (output from outboard gear).
- **Sum Outputs:** Summed output from the busses (Quad (LF,RF) + Auxes).
- **Sum Out Par:** Connector parallel to Sum Output. This can be used for connecting a monitor controller.
- **Main Out:** Quad bus output (LF,RF,LB,RB).
- **Status Switch (optional):** Dsub9 connector meant for the optional Status Controller to switch between the different SSL Centre Section statuses.
- **Option 1 & Option 2:** 2 extra Dsub9 connectors for extra user options.

DSUB REFERENCE

The sum output of the channels can be connected through the Dsub25 connector on the rear view of the mini SSL. The image below resembles the Tascam Standard construction of the Dsub25 connector. Keep this image in mind when connecting or producing cabling for this product.



Dsub male connector - rear view

OPERATION

The Mini SSL functions similarly to a SSL 4000 console with additional MARK1 exclusive features. To clarify its operation, this chapter focuses on the workflow and the various ways the Mini SSL can operate in. Each mode includes two diagrams, one connections diagram and one signal flow diagram.

The entire Mini SSL console is internally default-enabled with the SSL 4000 'RECORD + MIX + VCA's to monitor' status. By a certain way of connecting the I/O panel and adjusting the condition of READY GROUP and READY TAPE, it is able to get the full workflow of a SSL 4000 console.

This status works as follows: each channel is normally in MIX mode, however by selecting either READY GROUP or READY TAPE you can put individual channel into record.

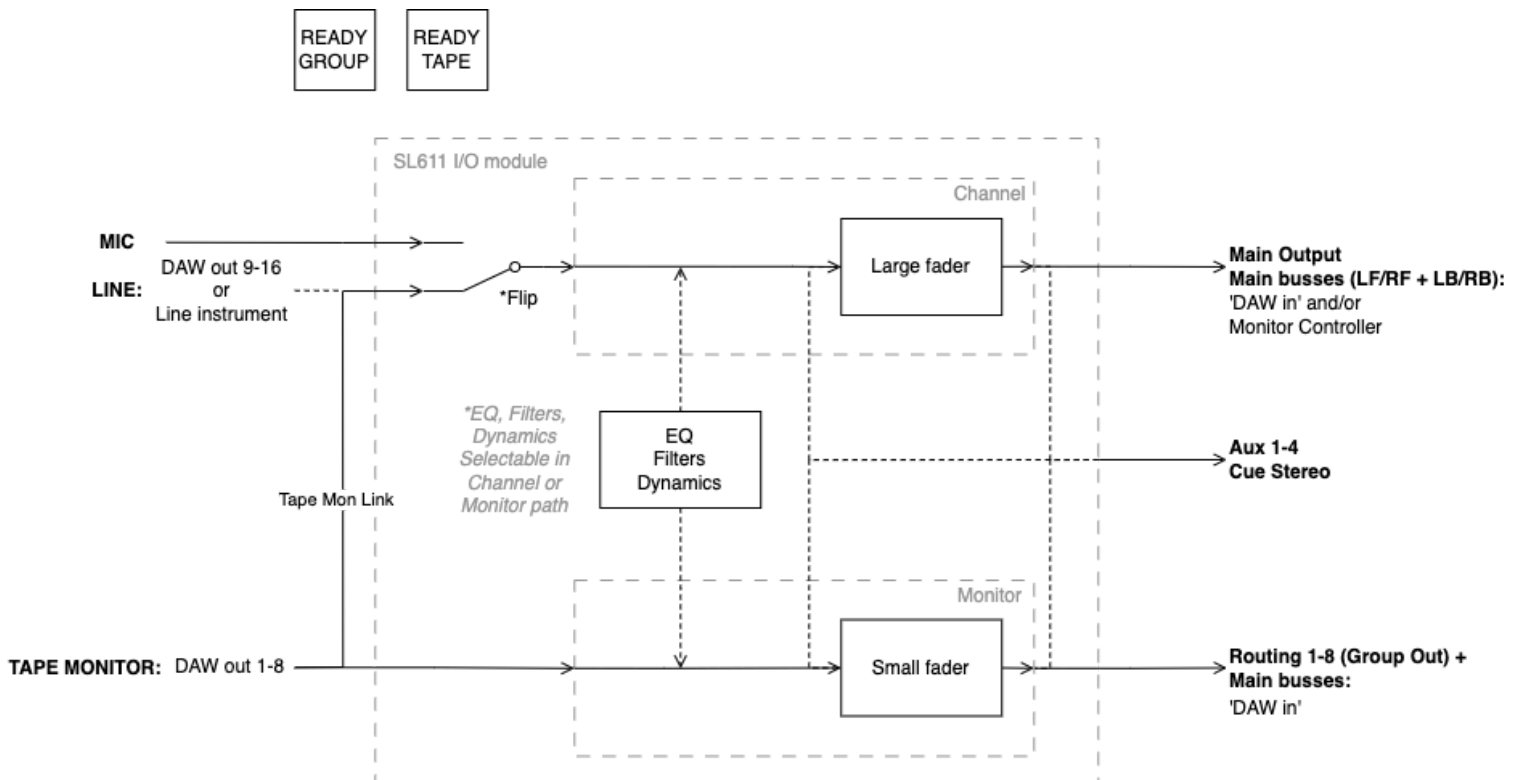
1. MIX MODE

If READY GROUP and READY TAPE are not selected, the channel is in MIX mode. In this case the monitor fader is always fed with the tape monitor signal (not with group monitor).

With Mix mode you've got 2 ways of working with the Mini SSL:

- Establishing the Tape Mon Par link, sending 8 channels to both channel path and monitor path, providing more flexibility with signal processing.
- No link, sending 8 channels to the monitor path and 8 channels to the channel path, having a total of 16 channels as input for mixing.

1.1 MIX MODE (8/16 DAW CHANNELS)



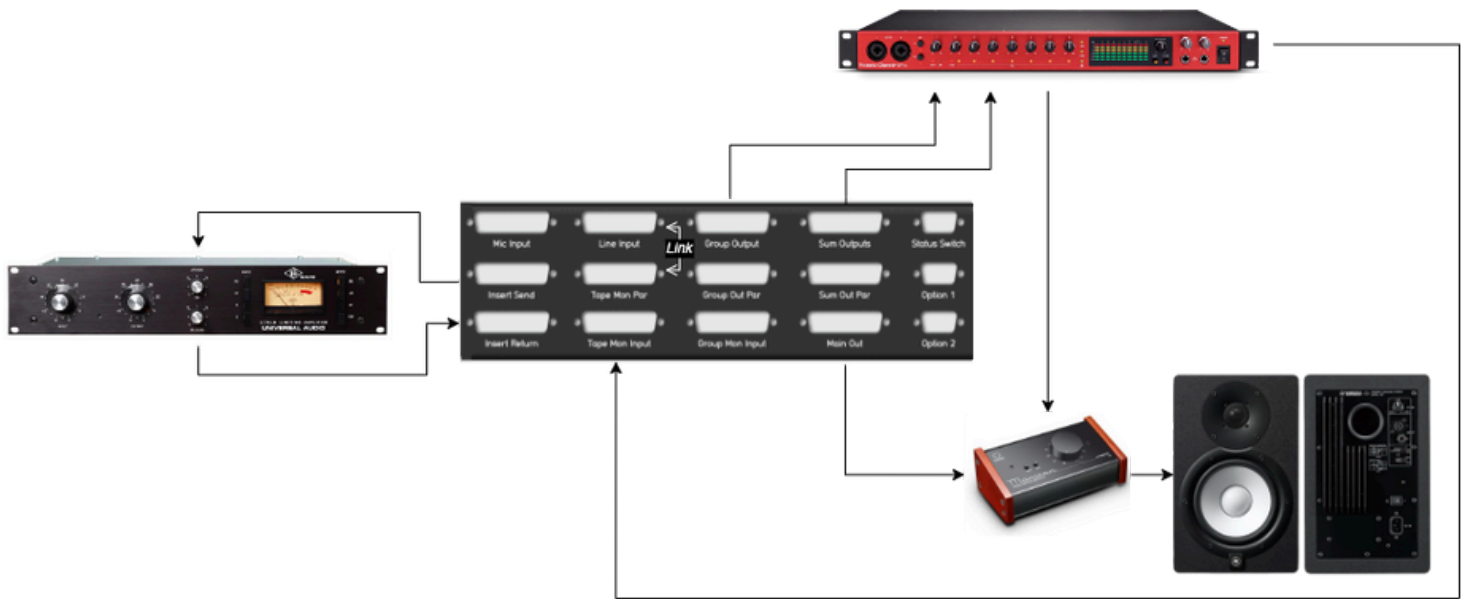
Signal flow diagram - Mix Mode

Now, the signal fed into Tape Monitor is also routed into the LINE signal through the link. Sending both DAW channels 1-8 to the channel path and monitor path.

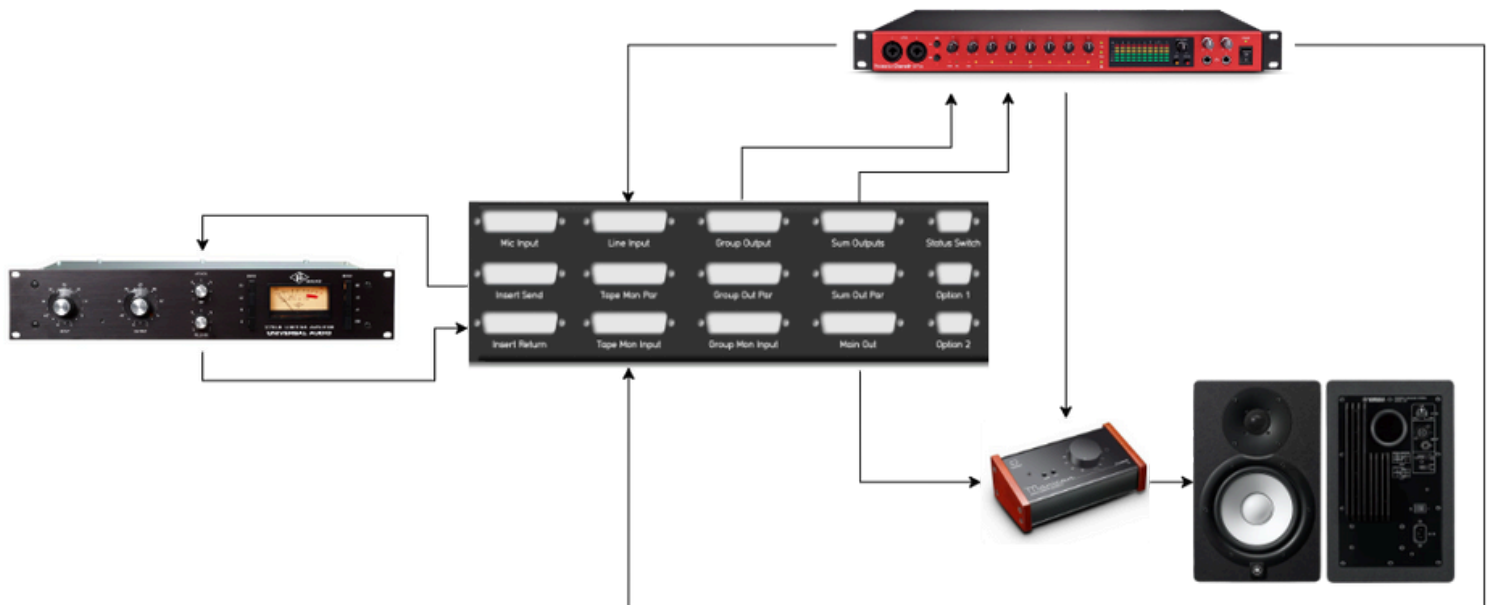
If you choose to disconnect the link, LINE input is open and can be connected with 8 other DAW channels, for example DAW out 9-16. Now channels 1-8 will go to the monitor path via TAPES MONITOR and channels 9-16 to the channel path via LINE INPUT.

The two following pictures shows the way of connecting the Mini SSL in both ways of operating the Mini SSL in Mix mode:

1. Mix mode with link established: 8 channel mixing.
2. Mix mode without link establishes: 16 channel mixing.



Connecting diagram - Mix Mode with link



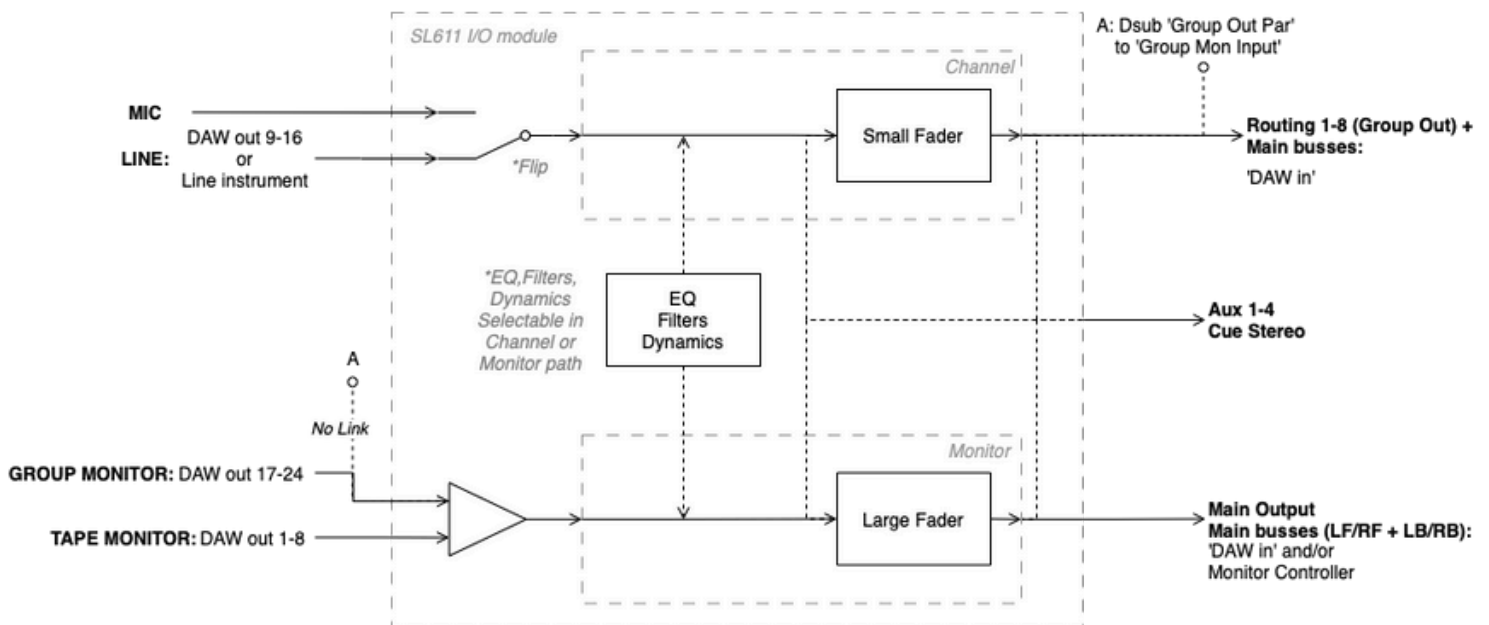
Connecting diagram - Mix Mode without link

1.2 MIX-OVERDUB MODE (24X DAW CHANNELS)

When you activate both READY GROUP and READY TAPE you are able to have 24 DAW channels as inputs to your Mini SSL for mixing:

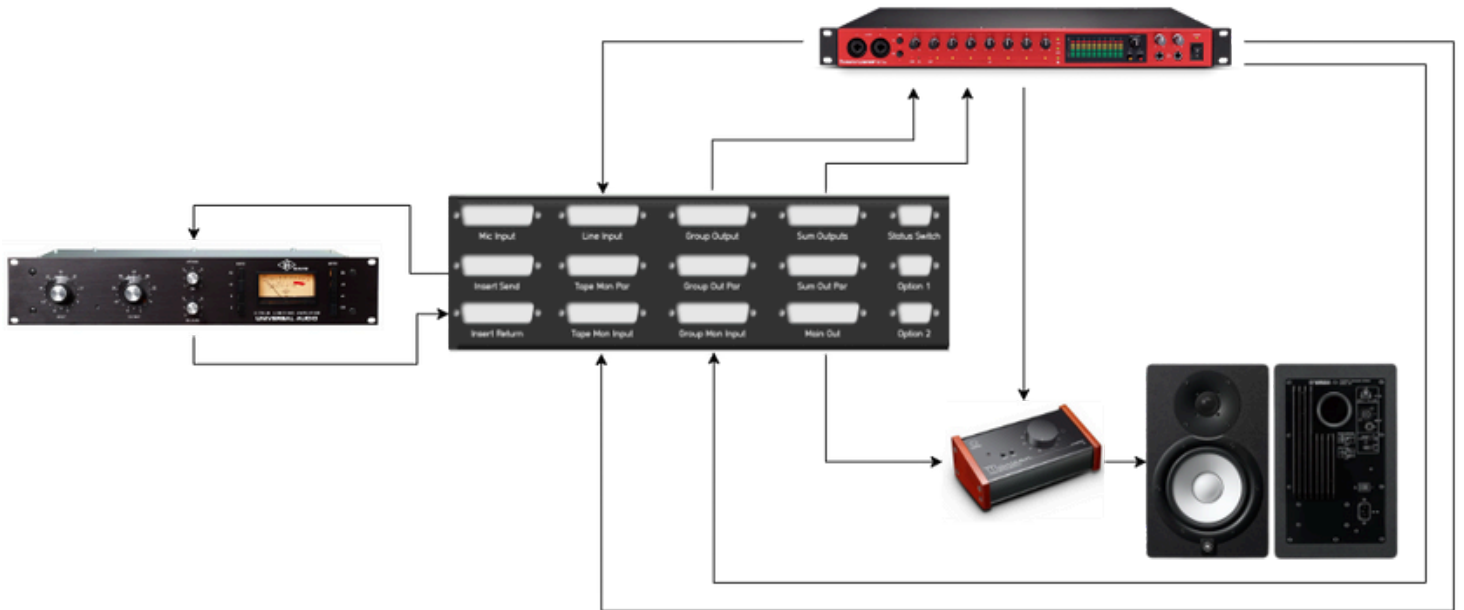
- 16 inputs for monitoring via TAPE MONITOR and GROUP MONITOR. In this case, the 16 input signals on TAPE MONITOR and GROUP MONITOR are combined into 8 summed signals going to your monitor path.
- Additionally, there are 8 input signals for recording via MIC/LINE. As in the other example in Mix, LINE could be used to route 8 DAW channels to the channel path. Giving you the opportunity to route a total of 24 channels to the mini SSL.

To use the mini SSL in this mode, you are required to disconnect all links!



Signal flow diagram - Mix-overdub Mode

In this mode you are capable to use single channels to record via MIC. Depending on the state of the flip switch, you can route the MIC input to your channel path, presenting the opportunity of overdubbing.



Connecting diagram - Mix-overdub mode

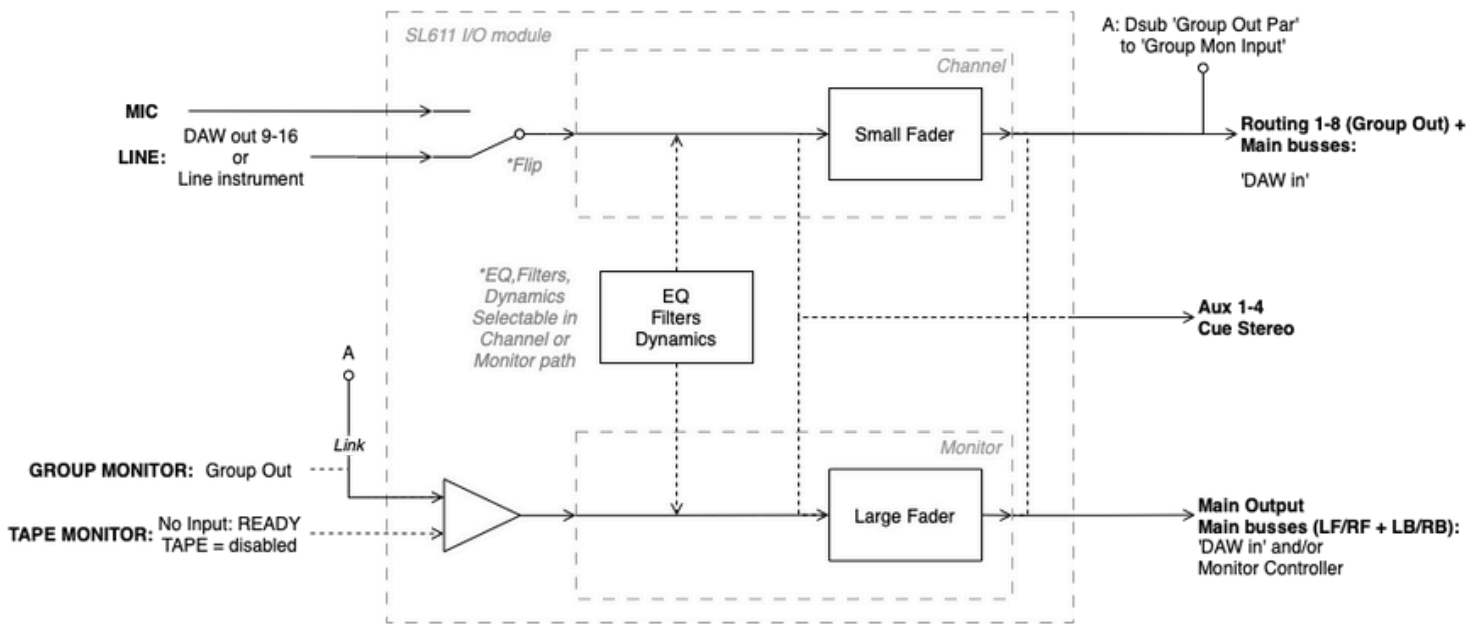
2. RECORD MODE

Enabling either READY TAPE or READY GROUP puts your channel in RECORD mode. Sending your MIC/LINE input via the Small Fader to the routing bus and your Group Monitor/Tape Monitor via the Large Fader to the main output.

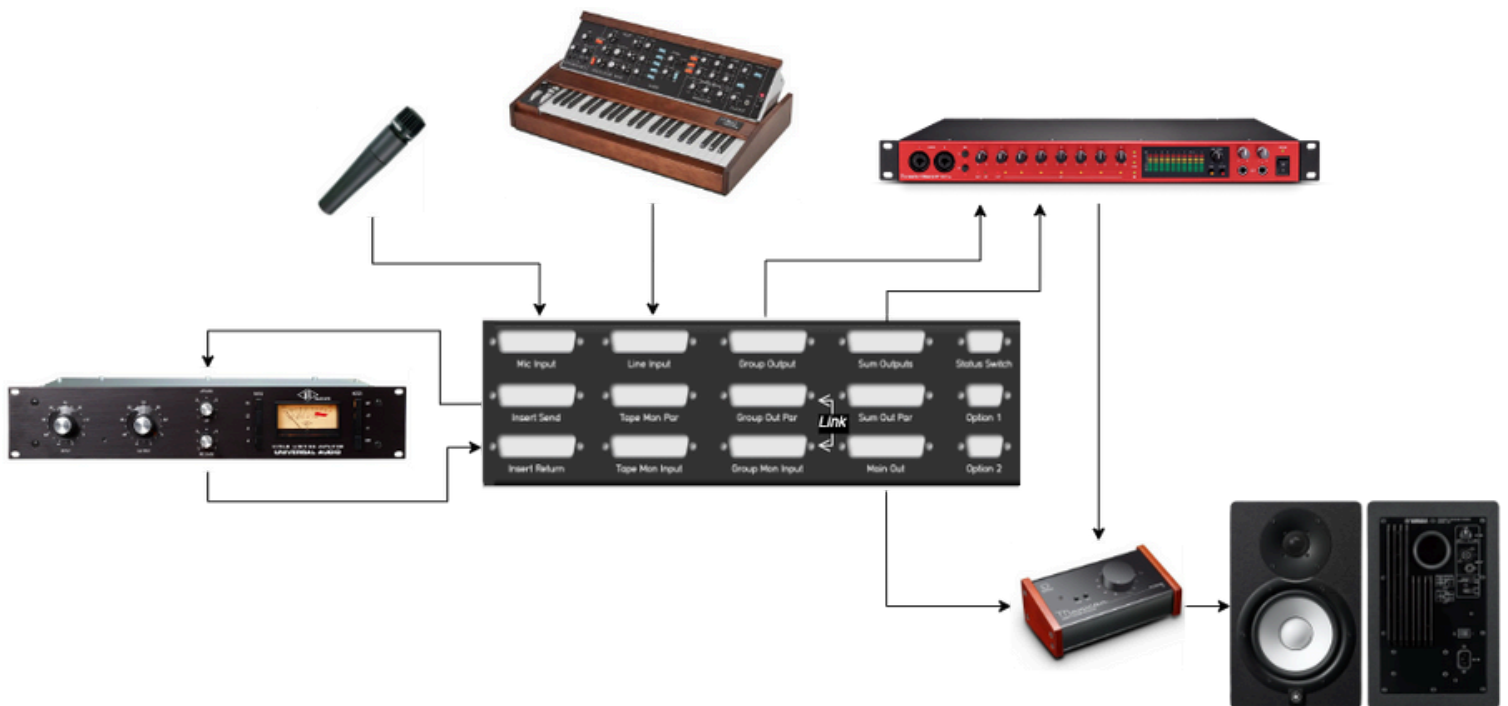
2.1 REC MODE - READY GROUP (MONITOR MINI SSL OUTPUT)

With READY GROUP you need to connect the Group Out Par link. This link is necessary to monitor the group out. By doing so, you monitor the output of the SSL going into your DAW.

READY GROUP READY TAPE



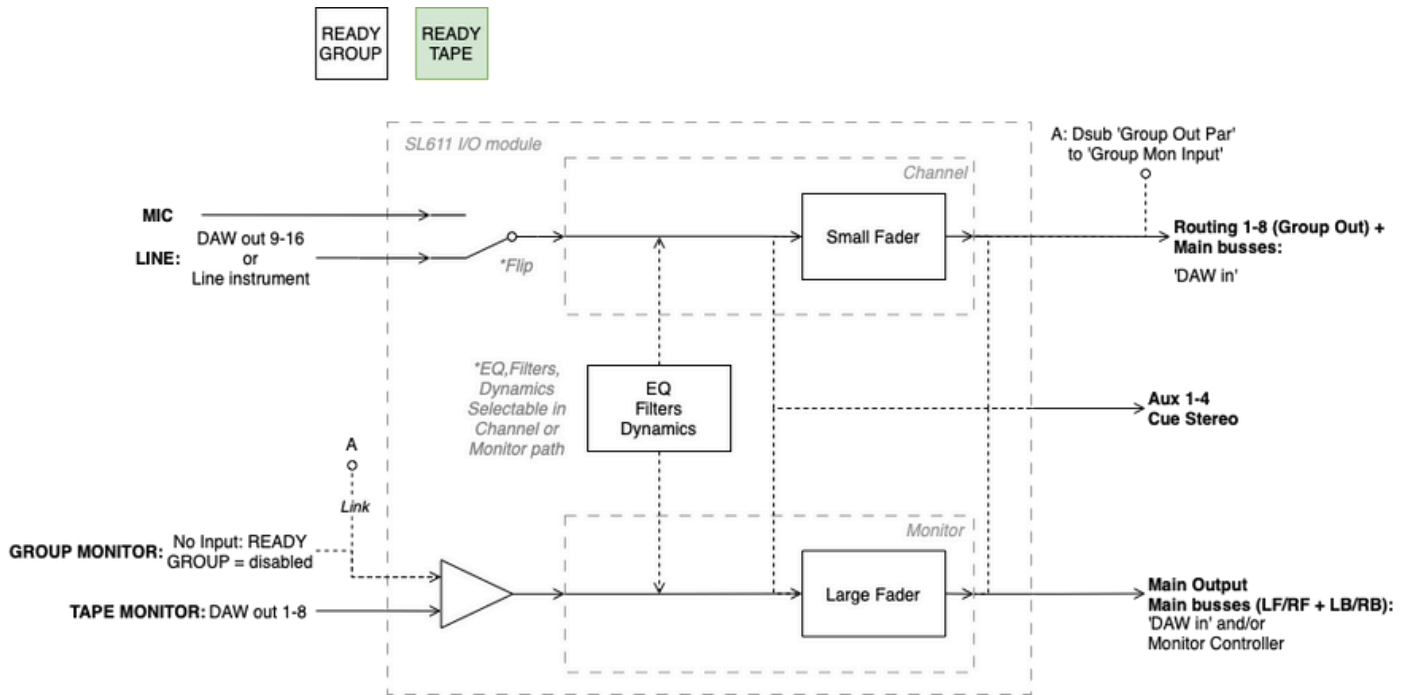
Signal flow diagram - Record Mode Ready Group



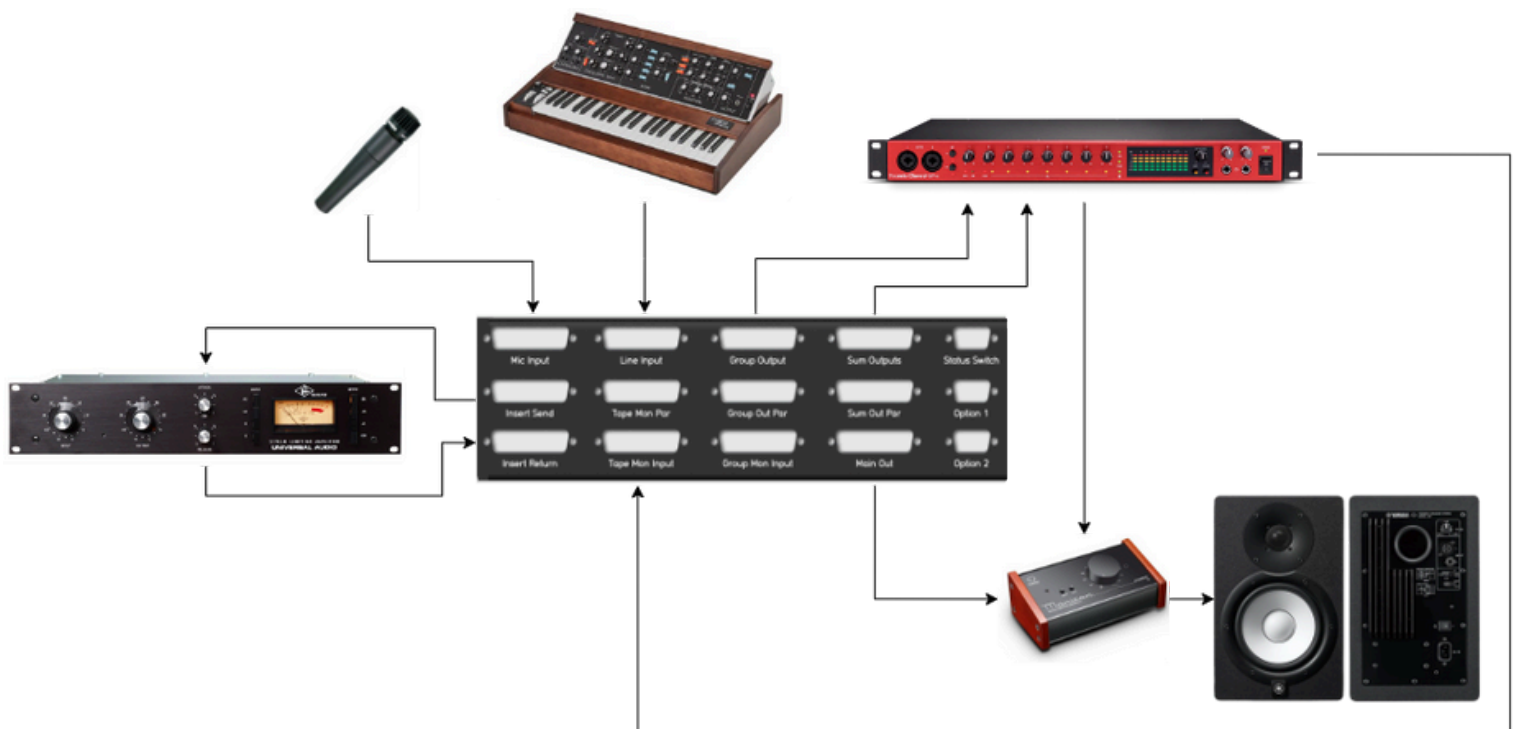
Connecting diagram - Record Mode Ready Group

2.2 REC MODE - READY TAPE (MONITOR DAW OUTPUT)

When READY TAPE is activated you monitor the output of your DAW going into the Mini SSL whilst recording via MIC or LINE.



Signal flow diagram - Record Mode Ready Tape



Connecting diagram - Record Mode Ready Tape

TROUBLESHOOTING

This chapter outlines several key points to aid in isolating setbacks while using the mini SSL. It is important to note that this chapter does not teach you how to identify every type of error within the Mini SSL or how to resolve them.

The first step in checking errors in the mini SSL is to rule out errors in surrounding products that the mini SSL is connected with. First check the connections and then whether the other devices are switched on and whether they provide the correct signal to the mini SSL. If the SSL does not receive the correct information, it cannot send out the expected sound. If it is clear that the setback(s) is not due to the other equipment, then follow the next steps.

In case an unwanted action occurs or functionalities fail to operate, the first step is to check the power supply (PSU). Are all the indication LEDs still on, indicating that the console receives the correct voltages? If this is not the case, restart the PSU and see if all the LEDs are lit this time. If the PSU still does not display everything or turns off itself (safety shutdown), turn off the PSU and contact us. In case the PSU does work according to the indication LEDs and the product still gives unwanted result, check if the errors occur on 1 specific module or globally in the desk. You can isolate this by turning off the mini SSL and swapping one of the “defective” modules with one of the working modules. Is the working module now also not working as expected? Then the error is not within the single module, but globally inside the desk.

We recommend that you do not take any steps in repairing the device, if you are not experienced in electrical devices. This chapter provides information only to identify any errors. If you have completed these steps and need further assistance in repairing the mini SSL, please contact us! In case there are errors inside a specific module, you have the option to ship these modules directly to us for repair. In the unlikely event of such an error, you can contact us for online support.

APPENDIX

In the following appendixes you'll find the general specifications of the Mini SSL, including technical specifications and dimensions. Be aware: these specifications are applicable for one 8 channels Mini SSL!

A - FEATURE SPECIFICATIONS

Channel count: 8

Channel type: Original SSL611E/G

Total input count: 24

Routing busses: 8

EQ type (E-channels): Brown, Black

EQ type (G-channels): G-eq (Pink), Black

Large Faders: VCA

Aux Sends: 1x stereo, 4x mono

Summed output: LF, RF, LB, RB (Quad bus) +Auxiliaries

B - TECHNICAL SPECIFICATIONS

Power consumption: 100W, 0,42A

Headroom: +25dBu, measured @1kHz

THD+N (22Hz-22kHz filter): 8 channels routed, Line to Quad mix bus

- 0,024%, measured @100Hz
- 0,013%, measured @1kHz
- 0,008%, measured @10kHz
- 0,019%, measured Full Range (input: 1kHz sine)

Noise (22Hz-22kHz filter):

- -86 dBu, 1 channel in-line
- -82 dBu, 24 inputs routed to LF bus

Frequency response:

±0,5 dB, 20Hz-22kHz sweep

C - DIMENSIONS

Width: 37 cm

Height Mini SSL: 60 cm

Height wheeled frame: 44 cm

Depth: 115 cm

Weight Mini SSL: 60 kg

Weight wheeled frame: 10 kg