SSL SL613E Test Jig – User Manual

Signorini Audio Devices

Introduction

The SL613E test jig lets you power up and test every function of an SSL channel without access to a console. Through the extender connected to the channel, the jig powers the module and simulates all the inputs and outputs, both audio and logic, that the channel sees when it is in the console. This lets you test all of its functionality on the bench.

Compatible modules. Every SSL 4000 and 6000 channel type works with the jig:

- E Series channels (VCA)
- G Series channels (VCA and Ultimation consoles)
- Dual line modules
- Stereo modules

Colour-coded legends. Most controls serve every module type. Where a control means something different on a particular module, the panel shows a coloured legend:

Legend colour	Applies to
White	611E / G Series mono channels (default)
Blue	611 Dual Line
Green	611S stereo
Red	Alternative bus outputs AL/AR, BL/BR and CL/CR on the Output Select

For example, Input Select position LINE L/2 is the left line input on a 611S stereo module (green L) and line input 2 on a Dual Line module (blue 2).

Every jig is supplied aligned and ready to use, together with a channel extender card.

Setup

The channel lies flat on the bench, connected to the jig through the supplied extender, so every part of the module stays open and reachable while it runs.

1. With the jig switched off, connect the extender to the jig.
2. Connect the extender to the channel.

3. Set MODULE SELECT to the type of channel you have connected. Always do this before switching on.
4. Connect your test source (a tone generator, or a music track from a player or interface) to the jig's audio input.
5. Connect the jig's audio output to your monitoring: speakers, headphone amp, scope or analyser.
6. Switch on with the MAINS switch and check that the three supply LEDs (+18, +13 and −18) are all lit.

The BNC meter output carries the same signal as the audio output, but DC coupled. Use it with VCA TO METER to read the VCA level on a meter or DMM.

If a supply LED is out, switch off straight away and check the channel and extender connections before going any further.

Front panel reference

The right half of the panel sets up the test: which module, what status, where the signal goes in and where you listen. The left half simulates the console's centre section and shows the channel's status lines.



Selectors and faders

Control	Positions	What it does
MODULE SELECT	611E, 611 DUAL LINE, 611S	Set to the type of module connected.
STATUS SELECT	REC+M/R, REC, REP, MIX, MIX+REC	Puts the channel in the status the console would normally set (record, replay, mix).
INPUT SELECT	0, MIC, LINE L/2, LINE R/1, INS L, INS R, MIX AMP, SLATE, MON	Chooses which channel input the test signal is fed into. 0 = no signal.

Control	Positions	What it does
OUTPUT SELECT	Five cascaded knobs (table below)	Chooses which channel output you listen to.
VCA FADER	−50 to +10	Simulates the channel's long fader on a VCA console. There is no centre detent: for exact unity use VCA BYP.
ULTIMATION FADER	−50 to +10	Simulates the moving fader on an Ultimation channel. Has no effect on a VCA channel.

Output Select

The five Output Select knobs work as one long switch. Turn a knob fully clockwise, past its last legend, and selection passes to the next knob along.

Knob	Positions, anticlockwise to clockwise	Listens to
1	INPUT, MIC IN, INS L, INS R / GRP, MTR, LF (AL), RF (AR), LB (BL), RB (BR), CL, CR	INPUT = the test signal you are sending. Then the mic input, insert send, group output, meter feed, and the main mix bus outputs.
2	ST CL, ST CR, AUX1–AUX4, AFL L, AFL R, 1–3	Stereo cue left and right, aux sends 1–4, AFL, then routing buses 1–3
3	4–14	Routing buses 4–14
4	15–25	Routing buses 15–25
5	26–32	Routing buses 26–32

Centre-section switches (lower row)

Switch	Function
VCA FADER	Dims the signal through the VCA by a fixed amount (around 10 dB, set at alignment) to check the VCA is responding.

Switch	Function
VCA GRP MUTE	Simulates the VCA group master being pulled down in the centre section, with this channel assigned to the group.
PFL	Activates the channel's PFL.
MST IN FLIP	Master input flip: swaps the channel's inputs, as the centre-section input flip does.
MST READY GRP	Master ready group, part of the record circuitry.
SLATE	Simulates the centre-section slate.
VCA TO MON	Fader flip: moves the fader to the monitor path.
TR	Total Recall function. Ultimation channels only.
FADER SEL	Fader select. Ultimation channels only.
VCA BYP	Bypasses the VCA fader so the channel runs at unity gain.

Bus lines and indicators (upper row)

Control	Function
DYN SND / DYN RET LED	Tests the dynamics link (compressor sidechain) as if linked to another channel.
MON CUT BUS, CH CUT BUS, SOLO DIS BUS	Pull the monitor cut, channel cut and solo-disable bus lines. The LED above each switch shows its state.
VCA TO METER	Sends the VCA control voltage (DC) to the BNC meter output, so you can check it with a meter.
VCA, TAPE, GRP, REC LEDs	Mirror the channel's status lines. On a 611S they show the module's ><, R and L indicators (green legends).
REC CNT LED	Lights when the channel's record contact closes.
START SENSE, STOP SENSE + LEDs	611S only (green legends): exercise the start and stop sense lines.
+18, +13, −18 LEDs	Supply rails present.

Control	Function
MAINS	Power switch.

Getting started: mix mode

The simplest first test is to put a signal into the line input in mix mode and follow it through the channel.

1. MODULE SELECT to your module type, for example 611E.
2. STATUS SELECT to MIX.
3. INPUT SELECT to LINE (LINE R/1 on a mono channel).
4. OUTPUT SELECT knob 1 to INPUT. You are now hearing the test signal itself, before it enters the channel. Use this as your reference.
5. Move OUTPUT SELECT to INS. You are now listening at the channel's insert send.
6. Work through the EQ and dynamics controls and listen to each one act on the signal.
7. Press DYN SND to check the compressor's sidechain link to another channel.
8. Move OUTPUT SELECT to the mix bus outputs (LF, RF and so on) and check the fader with the VCA FADER knob, or the ULTIMATION FADER knob on an Ultimation channel.

A music track (drums work well) makes it easy to hear EQ and compression changes. Use a tone and an analyser when you need measurements.

Record mode test

In record mode the jig recreates a full tracking path: mic in, out to the group (tape send), back in on the monitor return and out to the mix bus.

1. OUTPUT SELECT back to INPUT to confirm your source.
2. STATUS SELECT to REC. In record mode the channel defaults to the mic input.
3. Move OUTPUT SELECT to INS. If you hear nothing, the signal is still going to the line input: set INPUT SELECT to MIC.
4. Check the mic gain responds, then move OUTPUT SELECT to GRP to listen to the group output.
5. Check which fader is driving the group send. Press VCA TO MON (fader flip) to swap the fader between the channel path and the monitor path, and confirm the send follows.
6. Switch the channel's direct routing on and off and check the group output follows.

7. Move OUTPUT SELECT to LF, RF, LB and RB. The signal now returns through the monitor path and the large fader to the mix bus. Check the pan left to right and front to back.
8. Check the channel cut, and use CH CUT BUS and MON CUT BUS to check the cuts work from the bus lines.
9. Watch the REC LED and REC CNT LED to confirm the record status and record contact.

Testing auxes and routing buses

Every aux send, the stereo cue and all 32 routing buses can be checked one at a time from OUTPUT SELECT.

Auxes and cue. Turn OUTPUT SELECT knob 1 fully clockwise so knob 2 takes over. Step through ST CL, ST CR and AUX1 to AUX4 while you bring up each send on the channel.

Routing buses 1–32

1. STATUS SELECT to REC, INPUT SELECT to MIC, and make sure MST IN FLIP is off.
2. Route the channel to bus 1 on its routing matrix.
3. Turn OUTPUT SELECT knob 1 fully clockwise, then knob 2 to position 1. You should hear the signal on bus 1.
4. Move the channel's routing to the next bus and step OUTPUT SELECT with it. For buses 4 and up, turn each knob fully clockwise to hand over to the next one (knob 3 covers 4–14, knob 4 covers 15–25, knob 5 covers 26–32).

This is a quick way to find dirty or intermittent routing matrix switches. Listen for dropouts and crackle as you press each button.

VCA, automation and centre-section checks

The lower row of switches stands in for the console's centre section, so you can check how the channel responds to it without a console. You don't need to use all of them on every channel, but they are there when a fault points that way.

VCA channels

- Turn the VCA FADER knob and check the level follows smoothly across its range.
- Press VCA BYP to set the VCA to unity. Use this whenever you need an exact 0 dB reference, as the knob has no centre detent.
- Press VCA FADER. The level should drop by a fixed amount (around 10 dB). This shows the VCA is responding to control voltage.

- Press VCA GRP MUTE. The channel should behave as if its VCA group master had been pulled down.
- Press VCA TO METER and measure the DC on the BNC meter output to check the VCA control voltage reaching the meter.

Ultimation channels

- Use the ULTIMATION FADER knob as the moving fader.
- Use TR and FADER SEL to test the channel's Total Recall and fader select functions.

Centre-section functions

- MST IN FLIP: check the channel swaps inputs.
- MST READY GRP: check the record-ready circuitry.
- SLATE: check the slate reaches the channel.
- VCA TO MON: check the fader flips to the monitor path.
- PFL, MON CUT BUS, CH CUT BUS, SOLO DIS BUS: check each line and its LED.

Extender card and mic mute

The supplied extender card has a switch that mutes the mic input. With the input muted, turn up the mic gain and listen to the channel's own noise floor. This makes noisy 5534s easy to find.

1. STATUS SELECT to REC and INPUT SELECT to MIC.
2. Set the extender's mic mute switch to mute.
3. Turn the mic gain up and listen at INS, then GRP, then the mix bus.
4. Hiss, popcorn noise or crackle that changes between stages tells you where the noisy op-amp is.