

Hidden features of the SL Interpreter

The SL Interpreter has several unadvertised features that customer service, sales, and repair groups should be aware of. There is a 'back door' sequence in the SL Interpreter code for these features so that they're available if needed. These features are generally only set once, which is why they are intentionally 'hidden' to keep user interface simple. This document introduces these features and explains how to use them.

Upon plugging in the unit, there are three combinations of depressed keys that will enter the SL Interpreter into a non-standard boot mode. 1 - Reset all settings controlled by the microcontroller to their factory defaults, 2 - Display the revision of code and enter setup mode for the two headphone settings, 3 - Setup Mic button mode.

The Amplifier for the headphones has two settings controlled by the microcontroller that could be useful to customers: gain and compression. Headphone gain is how loud the headphones can get. The settings are measured in dB; the higher the number, the louder the headphones. Headphone compression "compresses" the dynamic range of the audio; loud noises get quieter and soft noises get louder. The higher the ratio, the more the audio is compressed, and the greater the perceived loudness of the audio. This feature can help improve intelligibility, but makes the audio sound "flat" and loses some of the expressiveness of speech. Higher compression settings can also cause audio inconsistencies as the compressor is adapting to the audio real-time.

Please note that both of these headphone settings affect all headphone outputs on both sides of the console. Users will have to use their best judgment with these features to provide the best audio for both interpreters. Both gain and compression settings are saved when the unit is powered off and restored the next time the unit is powered on.

Thermal Shutdown

The SL Interpreter has a protection circuit built in that will shut down the headphone circuitry if a bad headset is plugged in (one that would damage circuitry). If there is intermittent audio on one or both sides of the console, or both headphones turn off, it's probably thermal shutdown feature kicking in. If the problem is on one side of the console only, the headphone on that side is the likely culprit. Do the following:

- Replace a headset with a known good headset.
- Unplug the SL Interpreter's power and plug it back in (this will reset the chip and turn it back on after the shutdown).
- Check to see if the problem has gone away. If not, repeat with the other headset.

Self Test

The SL Interpreter also has a built in self test that occurs at every power on to verify that the data bus communication inside the SL Interpreter console is working properly. If the SL Interpreter powers up and both mic buttons are flashing red, then the self test has failed and the SL Interpreter will not operate correctly. Any SL Interpreter with this symptom has been damaged in the field and must be returned to Williams Sound for repair. If the SL Interpreter powers up normally (the lights come on steady) the self test has passed.

Reset to Factory Defaults

Because the unit saves the gain, compression, and mic button mode settings; the SL Interpreter has an initialization sequence that will reset all features to factory defaults (gain = +6dB, compression = 1:1, mic button mode=Interlocked). This can aid in troubleshooting. To reset the unit to factory defaults:

- Press and hold down all three microphone controls (Mic On (🎤)), Mute (🔇), and Mic On (🎤)).
- Power on the SL Interpreter.
- Observe that the "relay out in use" LED is flashing quickly (indicating that the unit has been reset).

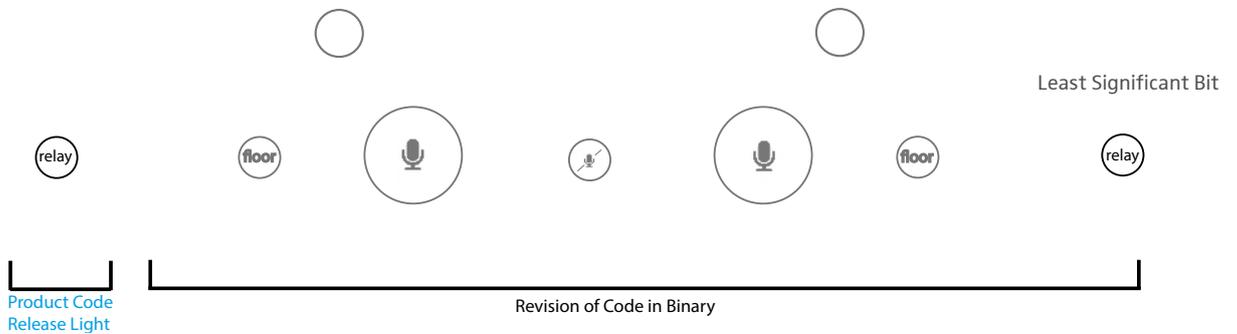
Code Revision

To check the code revision of the unit:

- Press and hold down the Mute button (🔇).
- Power on the SL Interpreter.
- Observe which lights are on.

The convention for the revision of firmware code is indicated by which lights are turned on while holding down the mute button. The leftmost light has two states: On = Code for this product has been released to Production, Off = Code for this product has not been released to Production.

The other lights (except the mute button) indicate the binary number for the revision of code, with the least significant bit on the right. The picture below shows an example of production release Revision A of the code.



As additional revisions of code are released, the light pattern will change as follows.

2 Revision B		5 Revision E	
3 Revision C		6 Revision F	
4 Revision D		7 Revision G	

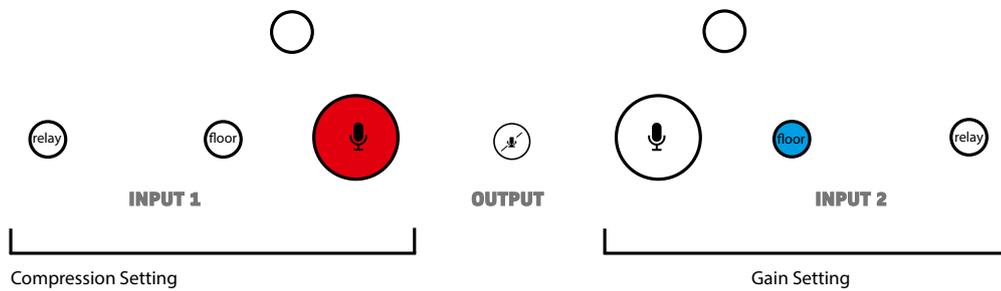
And so forth in binary.

Gain

To change the setting of the headphone gain:

- Press and hold down the Mute button (M).
- Power on the SL Interpreter.
- Verify that the current setting lights come on (see below).
- While continuing to hold the Mute button, toggle the CH2 (Relay Out) Feedthrough switch on the back from off to on.

The default gain setting is +6dB, but it can be increased by 3dB increments to 9dB, 12dB or 15dB (the headphones' volume level gets louder with each step). After the steps above, the lights will look like this (compression at 1:1 and gain at +9dB).



Each time the CH2 (Relay Out) Feedthrough switch is toggled from off to on, the gain setting light moves to the left as it increments, then wraps back to its default (+6dB) at the right.

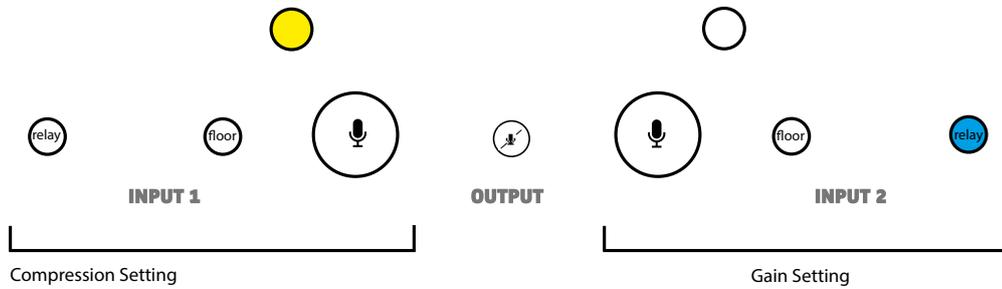
+ 6 dB		+ 12 dB	
+ 9 dB		+ 15 dB	

Compression

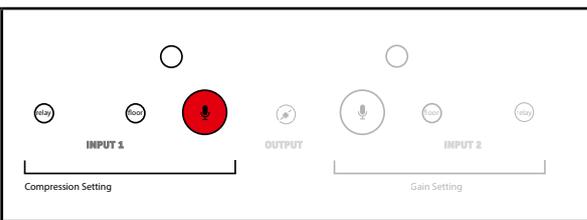
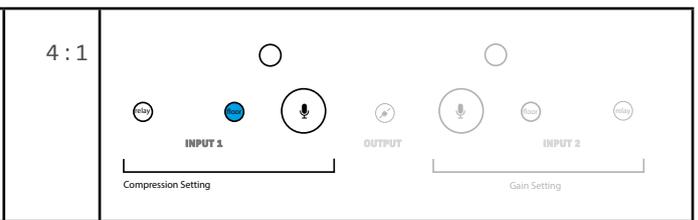
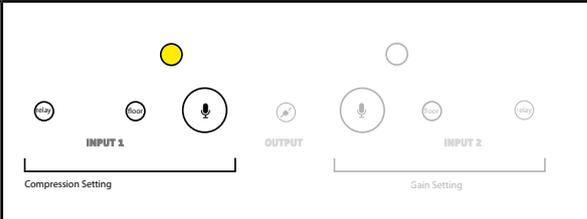
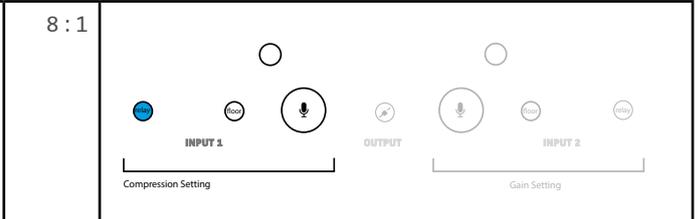
To change the setting of the headphone compression:

- Press and hold down the Mute button (M).
- Power on the SL Interpreter.
- Verify that the current setting lights come on (see below).
- While continuing to hold the Mute button, toggle the CH1 (Norm) Feedthrough switch on the back from off to on.

The default gain setting is 1:1 (no compression), but can be increased to 2:1, 4:1 or 8:1 (the audio becomes more compressed with each step). After the steps above, the lights will indicate as below when compression is at 2:1 and gain is at +6dB.



Each time the the CH1 (Norm) Feedthrough switch is toggled from off to on, the gain setting light moves to the left as it increments, then wraps back to its default (compression = 1:1) at the right.

1 : 1		4 : 1	
2 : 1		8 : 1	

Microphone Button Modes

ONLY AVAILABLE IN FIRMWARE CODE REVISION C AND HIGHER (see Code Revision section above, to check SL Interpreter console code rev)

Code revision C added a new user feature which allows the mic buttons on the SL Interpreter console to operate in three different modes (SL Interpreter units with code revisions A or B always operate in the “Interlocked” mode described below).

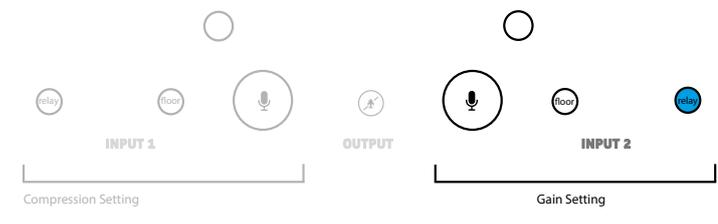
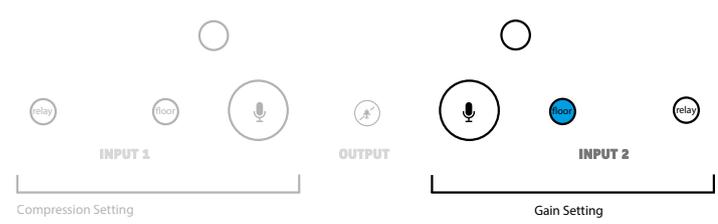
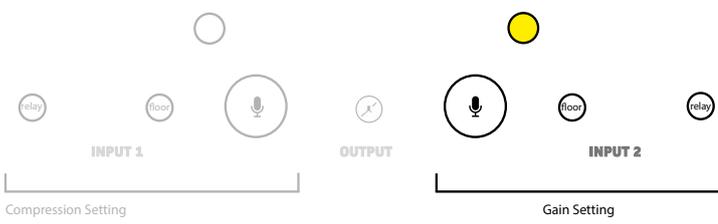
The three mic button modes are:

1. **Interlocked** – allows only one mic active at a time, the interpreter must turn their mic off for their partner to be allowed to turn their mic on. This is per IEC spec, and is most common with professional conference interpreters. This mode of operation prevents accidental mic button presses, but requires each interpreter remember to release their mic button when they are done speaking.
2. **Trade-off** - only one mic active at a time, but an interpreter can ‘steal’ the live mic from their partner by pressing their own microphone button. This mode risks accidental button presses, but has less risk of the hand off not going smoothly at the time when interpreters switch speaking (no action required for the interpreter who is done speaking). This mode generally fits interpreters have not developed the habits used with IEC compliant consoles.
3. **Free-for-all** - Either mic or both mics can be active (each mic button works independently). This mode is not desirable for most conference interpreters, as there is increased risk of forgetting a live microphone. This mode may however, be desirable in certain custom tailored applications where two live mics are needed.

To change the Microphone button mode setting:

- Press and hold the left mic button ().
- Power on the SL Interpreter.
- Verify that the current setting lights come on (see table below).
- While continuing to hold the left mic button, toggle the CH2 (Relay Out) Feedthrough switch from on the back off to on.

The right side of the console will indicate which mic button mode is currently active as shown below.

<p>Interlocked Mode (default)</p>	
<p>Trade-off</p>	
<p>Free-for-all</p>	

Each time the CH2 (Relay Out) Feedthrough switch is toggled from off to on, the mic button mode indication light moves to the left as it increments, then wraps back to its default (Interlocked) at the right.

The microphone button mode setting is saved when the unit is powered off, and is restored at the each power on event. The mic button mode is reset back to the 'Interlocked' mode when the user restores the SL Interpreter to factory defaults (see Reset to Factory Defaults section above).