Fader Calibration - Summa

Revision History:

Version No.	Revision Date	Reason for Revision	Author/Revised by	Revision details
0.1	7th May 2014	Initial Version	Iain Mott	Initial Version
1.0	17th Aug 2015	Updated for Summa v3.0	Steve Gligorovic	Include fader type
1.1	14th Dec 2015	Upodated	Steve Gligorovic	Included images

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Fader Calibration - Summa

Overview

This document describes how to use the built-in fader calibration tool for the Summa console and toggle the fader type. Use this tool where faders do not align with the 0dB line-up position or following hardware replacement.

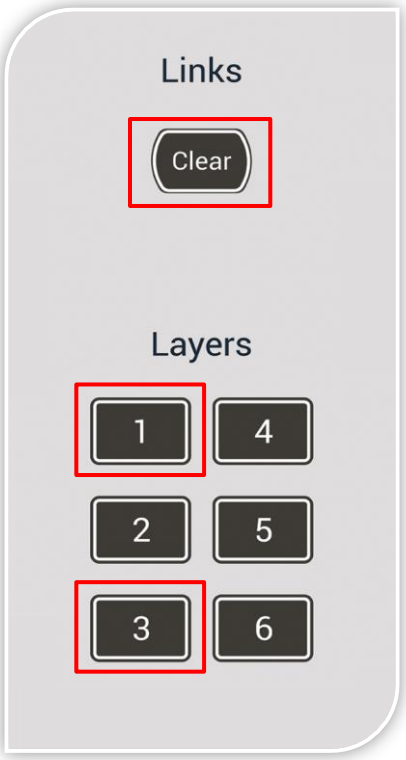
Calibration Process

Accessing the Calibration Tool

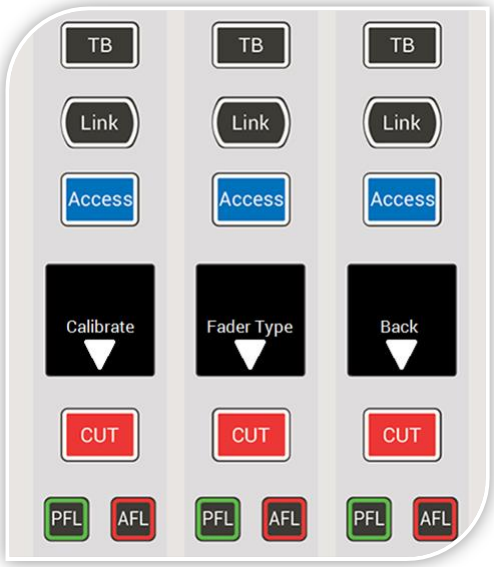
- The calibration tool is accessed by simultaneously holding down a combination of keys during the console boot. This will only work after powering the console; not from a surface reset or after a recovery reset (long-press reset).
- On a fader section the key combination is:
  - talkback (“TB”)
  - link (“Link”)
  - cut / open (“CUT” or “OPEN” depending on the console)

  of the first fader strip.
- On a main section the key combination is:
  - clear (“Clear”)
  - layer 1 selector (“1”)
  - layer 3 selector (“3”)
- Power off the console.
- Power on the console and wait for the Calrec splash screen to be displayed on the required surface section.
- Press and hold the appropriate key combination for the section to be calibrated.
- After approximately 20 seconds, the normal boot process will be interrupted and the up-stand display for the section will show the hardware manager log.
- The lower mini-TFT displays will display several options, press the ‘”CUT” or “OPEN” button below the ‘Fader Tools’ item and then the “CUT” or “OPEN” button below the ‘Calibrate’ item.

Fader Section



Main Section



Fader Tools menu

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Inspecting Fader Positions

1. Initially the calibration tool will move all faders to the 0dB line-up position as currently calibrated; or the default calibration position if the tool has not previously been run.

2. Visually inspect the position of the faders relative to the 0dB line-up position. If a fader's position is unacceptable it should be re-calibrated.

3. Move all faders to the bottom of their range. The values displayed at the centre of the mini-TFTs on each fader strip should be close to 0. If a value reads larger than 5, the fader should be re-calibrated.

4. Move all faders to the top of their range. The values displayed at the centre of the mini-TFTs on each fader strip should be close to 4095. If a value reads smaller than 4090, the fader should be re-calibrated.

Fader Calibration

1. To calibrate a fader press the "CUT" or "OPEN" button below the text 'calibrate' for that fader strip. The display will change to 'move to bottom'.

2. Move the fader to its lowest possible position without continuing into the fader over-press, then press the "CUT" or "OPEN" button below the text 'next' on that fader strip.

3. If the text changes to 'Too high!' the fader is incorrectly positioned. Check that the fader is correctly located at the bottom of its travel.
   If the text changes to 'noise!' then there is a hardware issue with that fader. You will not be able to continue calibrating the fader and the fader should be replaced.
   If the low fader position is acceptable the display will change to 'Move to line-up'.

4. Move the fader to the 0dB line-up position, then press the "CUT" or "OPEN" button below the text 'next' on that fader strip.

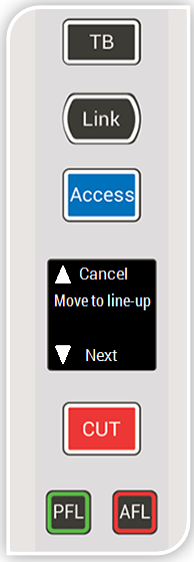
5. If the text changes to 'Too high!' or 'Too low!', check that the fader is correctly positioned at the 0dB line-up.
   If the text changes to 'noise!' then there is a hardware issue with that fader. You will not be able to continue calibrating the fader and the fader should be replaced.
   If the fader line-up position is acceptable the display will change to 'Move to top'.

6. Move the fader to its highest possible position, then press the "CUT" or "OPEN" button below the text 'next' on that fader strip.

7. If the text changes to 'Too low!', check that the fader is correctly positioned at the top of the fader's travel.

Step 1

Step 2



Step 4

Step 6

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If the text changes to 'noise!' then there is a hardware issue with that fader. You will not be able to continue calibrating the fader and the fader should be replaced.
If the fader calibration is acceptable the text will change to 'Complete'.

8. To complete the calibration and save the new calibration data to the section's flash storage device, press the "CUT" or "OPEN" button below the text 'next' on that fader strip.

9. Alternatively, to cancel or discard the new calibration data, press the "Access" button above the text 'Cancel' at any time during the calibration process.

10. To calibrate another fader within this surface section, simply repeat this process from step 1 with another fader strip.

11. To calibrate another fader within a different surface section, it will be necessary to repower the surface again (see Accessing the Calibration Tool).

Step 8

12. Once complete, perform a surface reset (not a long-press reset) to exit calibration mode and return to normal operation.

Notes on Hardware Replacement

- The calibration data is stored on a flash device on the section's ARM card. Even if a recovery reset (long-press reset) is performed, the calibration data will persist.
- If a fader is replaced, it will be necessary for the fader to be calibrated as the old fader's calibration data will persist in the flash storage on the section's ARM card.
- If a fader panel is replaced, it will be necessary for all faders within the surface section to be calibrated as the old fader panel's calibration data will persist in the flash storage on the section's ARM card.
- If an ARM card is replaced, it will be necessary for all faders within the surface section to be calibrated as the fader calibration data on the replacement ARM card will not correlate with the existing faders.
- If an ARM card and fader panel are both moved together from pone surface to another, fader calibration will not need to be repeated.
- Replacement Summa faders are:
  - 430-439: Penny and Giles
  - 430-441: Alps

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Fader Type

Summa consoles are supplied with Alps faders by standard, however an upgrade to P&G (Penny and Giles) faders can be purchased. Alps faders are not spring loaded, so PFL overpress functionality is achieved via software. As such, in addition to fader calibration data, each surface section must be told which type of faders are fitted.

N.B. *It is not permitted to mix and match faders within a surface.*

To access the “Fader Type” setting, repeat the “accessing the calibration tools” procedure as per above, however in the last step, select the ‘Fader Type’ item instead of the ‘Calibrate’ item:

- The lower mini-TFT displays will display several options, press the ‘”CUT” or “OPEN” button below the ‘Fader Tools’ item and then the “CUT” or “OPEN” button below the ‘Fader Type’ item.
- The mini-TFT will now display either ‘P&G’ or ‘ALPS’.
- Toggle between the two by pressing the “CUT” or “OPEN” button to cycle between the two options.
- Once complete, press the “Access” button above the text ‘back’ to return to the previous menu or perform a surface reset (not a long-press reset), to exit calibration mode and return to normal operation.

Troubleshooting

- **The calibration tool did not appear after pressing the key combination during boot** – ensure that the console is powered off and on before holding down the boot key combination.
  The calibration tool cannot be accessed after performing a surface reset or a recovery reset. Ensure you are using the correct key combination for the section and that no other keys are inadvertently pressed during boot.
- **The calibration tool becomes unresponsive** – Repower the console. This may occur after moving multiple faders simultaneously or moving the faders rapidly.
- **The fader calibration settings from a section are not retained after rebooting the console or after restarting the calibration process** – This may be caused by the tool having been previously run from the command line. Using a serial connection to the section – run the command:

  ```
  busybox rm /mnt/cal_flash/fader_calibration.dat
  ```

  Then repeat the fader calibration procedure.
- **The fader calibration settings from a section are not retained and there is no `/mnt/cal_flash/fader_calibration.dat` file present** – This may be caused by a hardware problem with the flash storage device – seek assistance.