# Fader custom curve

What is a fader curve

Fader movement from bottom to top has a range from 0-1000, and by default this is a straight line - or **linear**. But sometimes you want the fader to have more details - or 'throw' - in certain areas, on the cost of less details in other areas. This can be described with points on the line that bends it in different ways - we call this a fader curve.

See these examples:

| Linear (default) | Details in top | Details in middle | No top/bottom | More points = smooth |
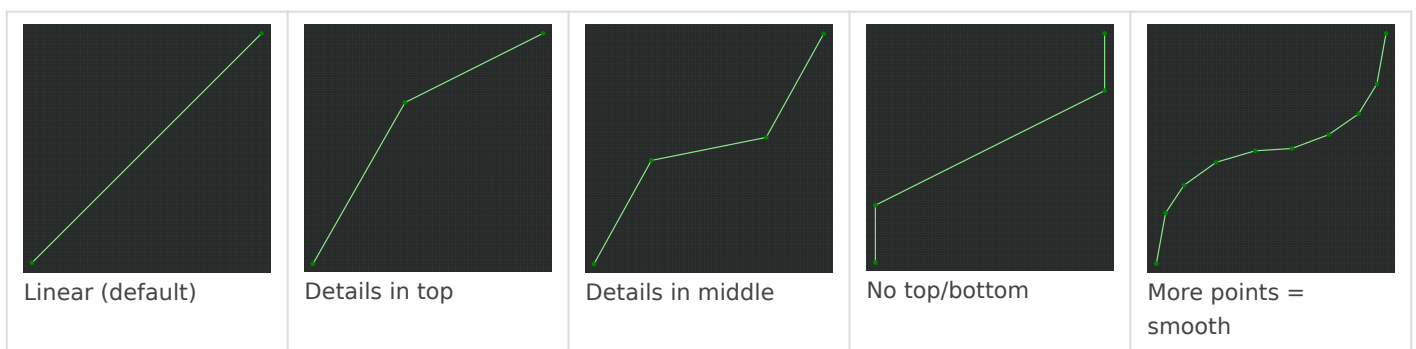
This means: The more vertical the line is, the faster it moves past an area (less detailed). And opposite: The more horisontal the line is, the longer it stays in the same area (more detailed).

So, if you have an audio channel and want more fader accuracy in the loud end, you'd make a curve similar to example 2; 'Details in top'.

Access the curve editor

Reactor has a built-in graphic curve editor. It allows you to create any custom fader curve you want, including the examples above. You access it on the Configuration page by selecting a fader hardware component, and open the advanced settings within the Inpector. The curve editor is, of course, only available when selecting a 'fader' component, and not on buttons or knobs.

Guide to open the curve editor:

1. click a fader to select it in Inspector

2. select a parameter that uses a behavior for 'Change value on fader' (fx. Audio volume / Camera Iris / Hyperdeck PlaySpeed)

3. click 'Show more'

4. click the Action 'Change' to open it

5. click 'Show Advanced Action Options

6. in 'Static Value Mapping' select 'Coords'

7. next to 'Static Value Mapping Coords' click '+' to create curve, and click the small white 'curve' icon to open the curve editor
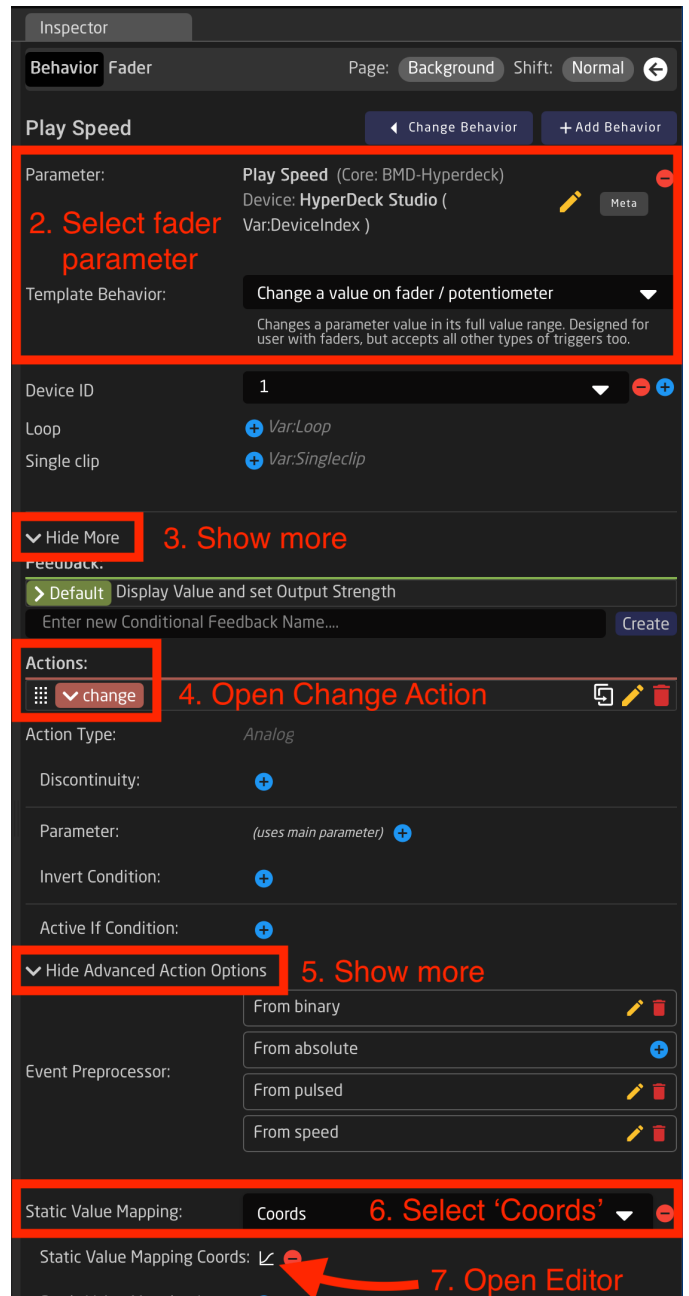

Edit curve

In the curve editor you add points, and drag them in the 0-1000 grid (0,0 being bottom and 1000,1000 being top).

Here's a guide to the features:

1. click '+' or '-' to add or delete points.

2. adjust the grid size. For many uses 100x100 is fine.

3. drag points to adjust the curve. It always start in bottom left and ends in top right. Steeper vertical means less detail in this area - more horisontal means more detail in this area.

4. click the 'circle-arrow' icon to create an 'inverted feedback'. This can be vital to match return-values from the device you control, and avoid fader jumps.

5. hover mouse over 'brackets' icon to see all coordinates.

6. click 'Submit' to save the curve. Changes are applied immediately.
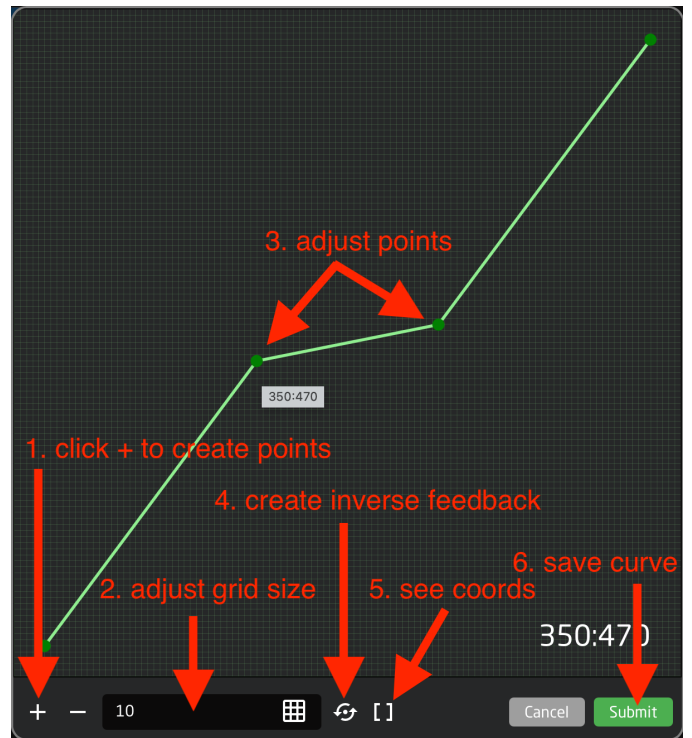
Inverted feedback

Please know that often a SKAARHOJ panel **sends** values to a device - and then it **listens** for return-values from the device. So, you may move the motor-fader, but the fader position is actually updated by the return-value from the device.

In this case, having a custom curve on the data you send (the **Action**) - also makes it necessary to have an **inverted** version of the same curve on the data you listen for (the **Feedback**). This will prevent the fader from 'jumping' in strange ways.

As mentioned above (in line 5), you simply click the 'circle-arrow' icon to automatically create a feedback with an inverted curve. And do remember to click it again to update it, if you have edited the curve.