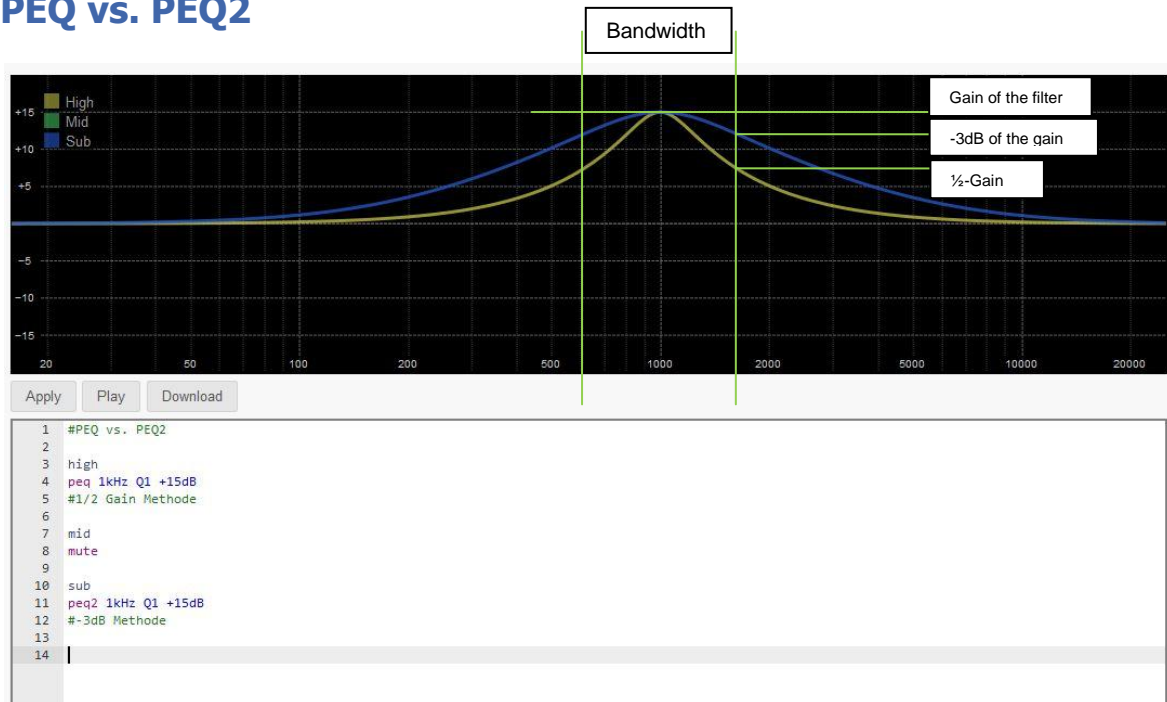


## PEQ vs. PEQ2



*For the same gain and quality factor, the filter calculated according to PEQ2 is wider than the filter calculated according to PEQ. The resulting frequency response curve always depends on the gain and on the quality factor of the filter.*

There are two (common) methods to calculate the parametric filters (PEQ) in DSP controllers:

### **1/2 gain method:**

The width of the filter is defined at half the gain value (FWHM\*). In the HDLM 8 as well as in the LPI this method is called **PEQ** and corresponds to a filter with adaptive quality.

### **-3 dB method:**

The width of the filter is defined 3 dB below the gain value (bandwidth). In the HDLM 8 as well as in the LPI this method is called **PEQ2** and corresponds to a filter with constant quality.

\*) full width at half maximum

To find out according to which principle your controller calculates, proceed as follows:

- The controller must visualize the electronic frequency response either in the display or in the associated software.
- Set the following EQ:
  - Frequency: 1 kHz
  - Q-factor: 1
  - Gain: +15 dB
- If the displayed curve has the value +5 dB at 500 Hz, then your controller most likely calculates the filters according to PEQ.
- If the displayed curve crosses the +10 dB line at 500 Hz, then your controller most likely calculates the filters according to PEQ2.

#### Calculation methods of some controllers

PEQ	PEQ2
SEEBURG HDLM8	SEEBURG HDLM8
SEEBURG DSP2.6	SEEBURG DSP2.6
SEEBURG Powerstick	SEEBURG Powerstick
Lake	Crown
LAB Gruppen	BSS
Powersoft	XTA
RAM Audio (adaptive PEQ)	RAM Audio (constant PEQ)
	Electro-Voice
	Dynacord
	Xilica
	Behringer
	MC <sup>2</sup>
	Yamaha
	QSC
	Ashly