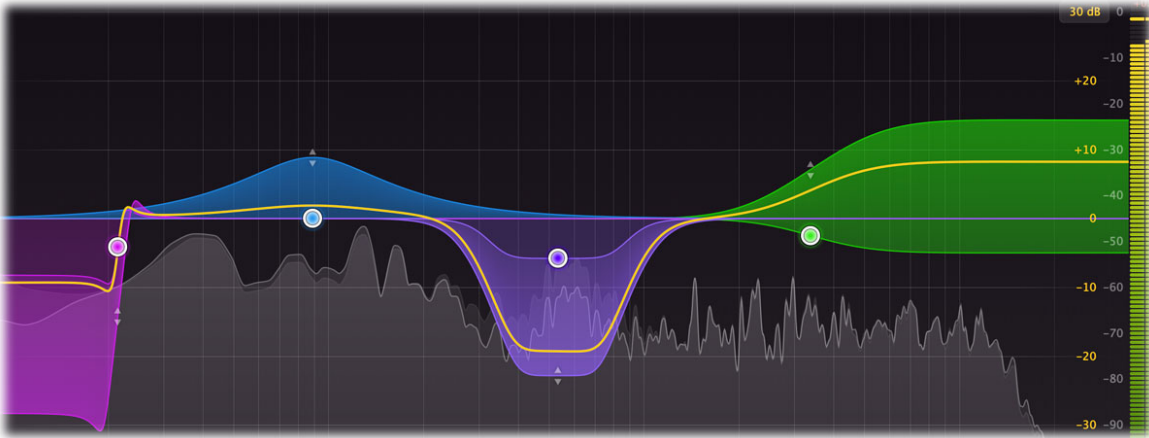## Dynamic EQ

One of the most important new features in Pro-Q 3 is dynamic EQ: any of Pro-Q's bands (with Bell or Shelf shapes) can be made dynamic, at any slope, with perfect analog matching and in Linear Phase mode.

Simply put, dynamic EQ changes the gain of an EQ band dynamically, depending on the level of the input signal. This makes it possible to perform subtle and surgical edits similar to a multi-band compressor, but in a way that's often more intuitive and easier to work with.

Since Pro-Q is used by many engineers and producers worldwide as their standard workhorse EQ, we have ensured that Pro-Q 3 remains very lightweight and ultra-fast to work with, keeping the existing natural workflow and shortcuts. Dynamic EQ in Pro-Q 3 is an intuitive and elegant extension of the regular workflow: the dynamic options and controls are only exposed when you actually start using them, and won't get in the way of your normal EQ work.

The dynamic behavior of Pro-Q 3 has been carefully tuned and is highly program dependent: attack, release and knee all depend on the processed audio, the frequency range of the EQ band and the current dynamic range. This results in very natural and smooth sounding compression and expansion, useful for a wide range of dynamic EQing applications.

Creating dynamic bands

Any of Pro-Q's bands can be made dynamic. This can be achieved in different ways:

- Select EQ bands in the EQ display, and then adjust the **dynamic range ring** around the Gain knob in the band controls, choosing a positive of negative value.

- Hover above an EQ band in the display, and use the **mouse wheel** while holding down the *Alt* key to adjust the dynamic range for this band or the selected EQ bands.

- Select EQ bands in the display, and then choose **Make Dynamic** on the band menu (which you can access by right-clicking the band dot, or via the menu button in the EQ parameter display).

- You can also **create dynamic bands** right away (initialized with a dynamic range instead of normal gain), by holding down the *Alt* key while creating bands in any of the normal ways: *Alt*+drag the result curve, *Alt*+double-click in the EQ display or *Alt*+*Ctrl*+click (*Alt*+*Command*+click on macOS) in the EQ display.

Internally, the dynamic EQ process will trigger on a band-limited version of the plugin's input, according to the frequency range the band works on.

Dynamic band controls

The following dynamic controls are displayed for dynamic EQ bands:

- The **dynamic range** ring sets the amount of dynamic EQing for a band, ranging from -30 to 30 dB (possibly limited by the maximum gain setting limits). Choose a positive (expansion) or negative (compression) value here enables dynamic EQing and exposes the additional dynamic controls. Note that this setting is only available for Bell and Shelving filter types. The current dynamic gain change is shown as a yellow bar inside the ring, on top of the dynamic range that is indicated in red.

  Note that you can also drag the dynamic range indicator for a band in the EQ display up or down to adjust the dynamic range.

- The **auto-threshold** button toggles the dynamic behavior between the default auto- or custom threshold mode. When in auto mode, the threshold is constantly adjusting to the level of the current, band-limited trigger signal. Click it to enable the custom threshold mode, revealing the threshold slider.

- The **external side chain** button, visible when using a custom threshold, lets you toggle between triggering on the plug-in input signal, or the external side chain input. Note that the plug-in input signal is band-limited and possibly M/S encoded depending on the settings of the band, but the external side chain input is not processed in this way, to give maximum flexibility when using this feature.

- The **threshold slider**, visible when not using auto-threshold mode, sets the threshold for triggering the dynamic EQ. The level of the trigger signal is shown in the slider, making it easy to find the correct threshold. Note that a soft knee is used internally by the dynamic EQ algorithm, so it can start triggering a little bit below the selected threshold value.

- The **bypass dynamics** button at the left top of the dynamic range ring makes it easy to bypass the dynamic behavior of the currently selected bands. While the dynamic behavior is bypassed, this is reflected in the EQ display, the dynamic range ring is shown as inactive, and a red light glows in the button.

- The **clear dynamics** button will reset the dynamic range to 0 dB for all selected bands, essentially turning them back into normal, non-dynamic bands.
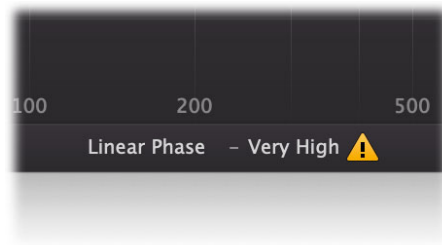
How and when to use dynamic EQ

Generally when mixing or mastering, making static EQ adjustments works very well. But sometimes, using EQ dynamically can be the key to solving specific frequency issues or bringing out certain elements in a mix. For example, you can use dynamic EQ to brighten a kick drum or tame a hi-hat in your drum track, highlighting or suppressing only the transients. Or you could use a narrow dynamic bell filter to suppress sibilance in a vocal recording. Especially in combination with the per-band mid/side/stereo options, the possibilities are endless.

Pro-Q 3's workflow is perfectly designed for this: you can use it as your go-to EQ on every channel, doing the usual static EQing, but when you need to you can make any band dynamic right away.

Linear Phase processing

Dynamic EQing also works in Linear Phase mode, but only for Processing Resolution settings up to *High*. The attack and release response will be slightly different from the normal behavior in Zero Latency and Natural Phase modes.

When using dynamic EQ in Linear Phase mode in combination with the Very High or Maximum resolution settings, you will see a warning sign next to the Processing Mode button to indicate that this is not possible. In this case, simply lower the resolution to High or lower to be able to use dynamic EQing.

Tips

● When using the mouse wheel above an EQ band while holding down both *Alt* and *Ctrl* (*Command* on macOS), you change both the dynamic range and gain or the band in a reverse linked way, i.e. you can trade gain for dynamic range.

Next: Solo

See Also
Overview
Band controls
Spectrum Grab