



**User Manual**  
**Tube-Tech PE 1C**

## Softube User Manual

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### Disclaimer

Every effort has been made to ensure that the information in this manual is accurate. However, there are a chance that we have made mistakes, and we hope that you understand that we are only humans. Please let us know about the mistake, and we'll fix it in the mix (or in the next version of this manual).

### Support

On the Softube website ([www.softube.com](http://www.softube.com)) you will find answers to common questions (FAQ) and other topics that might interest you.

Support questions can be posted at <http://www.softube.com>, where we will help you as fast as we can!

Web: [www.softube.com](http://www.softube.com)

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# 1 User Interface

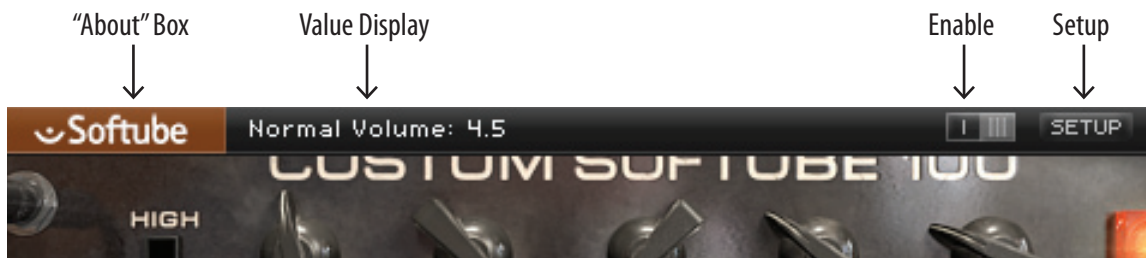
SOFTUBE PLUG-INS ARE “what you see is what you get” products. You should be able to intuitively learn the products within minutes, so that you can work fast and efficient with them. There are a couple of things that remain the same for all of our plug-ins, such as the menu row. These will be explained in this chapter. For detailed information of a particular plug-in, please see its chapter.

## Menu Row

In the bottom of the plug-in interface, you will see a thin black row with some buttons. We'll use the Dyna-mite plug-in as example, but the same goes for all plug-ins.

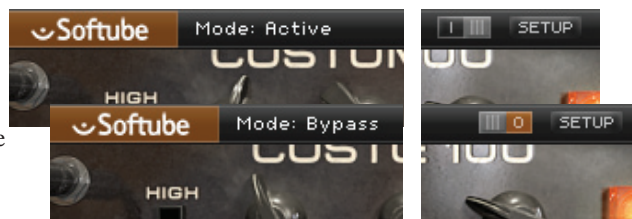
**About Box** Opens the “About” Box with version info.

**Value Display** Displays the knob value when the mouse is hovering over a control.



**Enable** Enable/Activate the plug-in. Set to OFF for bypass.

**Setup** Changes global options for all instances of that plug-in.



## Enable

When the **Enable** switch is set to ON (I), the plug-in is active and will process audio. When set to OFF (O), it will be bypassed and not process any audio. It will take considerably less CPU when it is bypassed.

## Setup

In the Setup window you can change settings that will affect all instances of that particular plug-in. If you for example de-select the “Show Value Display” option in the Bass Amp Room plug-in the value display will be off for all Bass Amp Rooms on your system until you select that option again.

The different options vary between Windows and Mac, and also different formats and plug-ins. The most common options are:

**SHOW VALUE DISPLAY:** Enables the parameter and value display in the bottom row of the plug-in.

**REVERSE MOUSE WHEEL DIRECTION:** (Mac OS Only) Changes if the a knob is turned up or down when the mouse wheel is turned up or down. *(Mac OS Only)*

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You need to restart your host software (DAW) before the changes to fully take effect!

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If you messed something up and manually need to set these options, you’ll find them in text format in the following locations:

**MAC OS:** ~/Library/Application Support/Softube

**WINDOWS:** username\Application Data\

## Key Commands

All numbers and labels in the plug-in are clickable. This allows you to easily select a setting by clicking on the wanted value. Hovering above a label will turn the mouse pointer into a pointing hand.

### Mouse

**Up/Down or Mouse Wheel** Change a parameter, such as a knob or a switch.

### Keyboard

**Fine Adjust** ⌘ (Mac) or CTRL (Win), while changing the parameter value.

**Reset to Default** ALT, while clicking on the knob or fader.

## Plug-In Specific Key Commands

In many plug-ins, you can SHIFT-click on a knob or a switch to get some extra functionality

### Metal Amp Room

SHIFT-click and drag a mic will move both mics simultaneously.

### All Amp Rooms

SHIFT-click in the cabinet background will change cabinet (or amp) without any animations

# 2 Tube-Tech PE 1C “Pultec” Equalizer

## Foreword by John G. Petersen

*In the eighties I got really fascinated by the design and quality of classic tube processors such as Pultec and Teletronics. I felt there was a need to continue that tradition. TUBE-TECH Program Equalizer PE 1A (now PE 1C) was my first unit in production, and it started me off designing the whole TUBE-TECH range. We are excited to experience the PE 1C in the digital domain and impressed once again by the skills of Softube.*

*Yours sincerely,*

*John G. Petersen*  
President, Lydkraft/Tube-Tech

## Introduction

“*Tube-Tech is Pultec.*” This is a quote from when the very first Tube-Tech product, the PE 1A, was promoted back in 1985. The vintage US made Pultec EQ1P (designed and sold during the fifties) was the inspiration for Tube-Tech designer and founder John Petersen who was determined to produce a modern unit that could capture the magic of the original Pultec. The final testing, before shipping the PE 1A, was the EQ1P and the PE 1A on different channels on a stereo track, making sure that each and every setting behaved exactly the same.

Today, decades later, the PE 1C (with minimal changes from the PE 1A) is still in production and

the famous PE 1C has now entered the digital world with the PE 1C plug-in!

## About the PE 1C

The Tube-Tech PE 1C is a passive, tube-based equalizer suitable for many different sources ranging from bass drums and guitars to vocals.

The equalizer features a Low Frequency section made up of two low shelf filters which can be combined to attenuate and boost at the same time.



These filters are actually bit apart in frequency even if they are controlled by the same frequency selector. The High Frequency section has a peak and shelving filter working in parallel, which provides a smooth top end while not getting too bright.

The ability to combine the different filters and sections is what gives the PE 1C its characteristic sound and is something which plays a crucial part in explaining the classic Pultec sound.

## User Interface

The user interface of the PE 1C, or of a Pultec for that matter, can be confusing if you haven't used a Pultec before. First you have a low frequency section where you select the frequency with one knob, and boost and attenuate frequencies with two different knobs.

The high frequency section is made up of two subsections, the boost and the attenuation section. If you want to boost high frequencies, you select the frequency with the **High Frequency** knob, the width or "Q" of the bell filter with the **Bandwidth** knob, and then the amount of boosting with the **Boost** knob. You'll get a bell shaped boost filter for mid to high frequencies.

But for cutting high frequencies you only get three frequency choices selectable with the **Atten Sel** knob. The amount of high frequency attenuation is dialed in with the **Atten** knob. This section gives you a high shelving type filter.

In addition to this you get an **Output Gain** control. It isn't included in the original hardware, but we thought it might be useful in a plug-in.

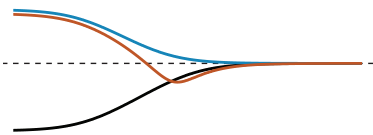
## Low Frequency Section

**Boost** The **Boost** knob goes from 0 to 14 dB and controls a low shelf filter with a cut-off frequency that is actually a little lower than the ones that are printed on the panel. This gives the unit a unique frequency response when combined the the **Atten** setting.

**Atten** The **Atten** knob will attenuate the signal 0 to -18 dB using a low shelf filter.

**Low Frequency** Sets the cut-off frequency for the low frequency **Boost** and **Atten** controls. The frequency settings are 20 Hz, 30 Hz, 60 Hz and 100 Hz.

By increasing both the **Boost** (blue curve) and **Atten** (black curve) knobs at the same time, you'll get the very Pultec specific sound (red curve), sometimes referred to as the "Low End Trick", which is commonly used for equalizing bass drum. Tube-Tech has some nice instruction videos about this on their web site.

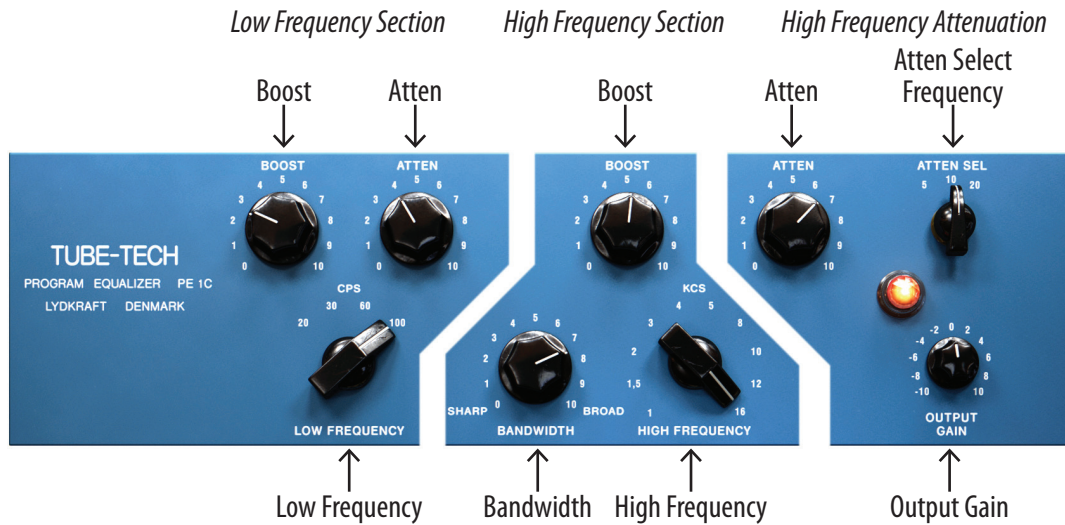


## High Frequency Section

**Boost** Controls the gain for a boost peak filter that goes from 0 to 18 dB for sharp bandwidth and 0 to 10 dB for broad bandwidth.

**Bandwidth** Sets the width, or  $Q$ , of the **Boost** peak filter. Goes from SHARP to BROAD.





**High Frequency** Sets the cut-off frequency for the high frequency **Boost** control. The frequency settings are 1 kHz, 1.5 kHz, 2 kHz, 3 kHz, 4 kHz, 5 kHz, 8 kHz, 10 kHz, 12 kHz and 16 kHz.

## High Frequency Attenuation

**Atten** The Atten knob will attenuate the signal 0 to 18 dB using a high shelf filter.

**Atten Sel** Sets the cut-off frequency for the high frequency Atten control. The frequency settings are 5 kHz, 10 kHz and 20 kHz.

## Output Gain Section

**Output Gain** The Output Gain knob controls the output volume from the plug-in. The range of the output volume is -10 dB to 10 dB.

## Buying Recommendations

The best way to get as close as possible to the original Pultec sound in hardware is to get the PE 1C from Tube-Tech. As mentioned on Tube-Tech's web page, the sound of a PE 1C is exactly like the sound of a brand-new Pultec—not a dusty, old, and un-serviced Pultec. The difference is that a meticulously serviced Pultec has a wide and open frequency response, without graininess or harshness. The PE 1C is not a dull and muddy old school equalizer, it's in fact pretty much the opposite!

Anyway, Tube-Tech makes great gear. Period. Every time we get to borrow Tube-Tech stuff we immediately fall in love and want to keep it.

## Credits

**Arvid Rosén** – modeling, **Oscar Öberg** – DSP programming, **Torsten Gatu** – framework programming, **Niklas Odelholm** – DSP programming, **Ulf Ekelöf** – 3D rendering. Original hardware was designed by **John G. Petersen** at Tube-Tech/Lyd-kraft ApS, Denmark.

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