Tonelux® TILT

USER'S GUIDE

Foreword by Paul Wolff

After the success of the TILT control on the MP1 and MP1a Mic Preamps, I felt that a rack mount unit would be a nice addition to the Tonelux product line. The decision was made to make it an 8 channel unit, with polarity, in/out and access with D-subs for ease of use.

After using the TILT rack unit on a few sessions, I was shocked at how useful it was, and how smooth and sweet it made tracks. I tried it on everything from Bass to Overheads, Guitars, Vocals etc. It did so much with only one knob that the only logical move was to make a plug in. While designing the features, Softube and Tonelux thought that having a few extra options would really fill out the module.

We decided to model the transformer in the Tonelux products, and added a very smooth high and low pass filter, not to fix problems, but to have the ability to use a filter that sounded like it wasn't there. On top of that, we added a loudness feature to the TILT knob, allowing the engineer to boost both low and high at the same time, much like a loudness control used in POST, to simulate near and far positioning. So far, the few friends that we have sampled it to have loved it, with comments like "*it's just smooth*" or "*beautiful on over heads, just enough sheen*".

After showing the TILT rack unit at a trade show, it was suggested that we consider a live version, which might include some different features, one of which was a way of limiting the boost, but retaining the TILT effect, to prevent feedback in wedges and side fills, so Softube came up with a unique "BOOST CEILING" control, where you can set the amount of maximum boost above normal, to prevent feedback, but when using in-ear monitoring you can still have the original effect. It works really well to compensate ear fatigue without altering a complex EQ or certain individual channel EQs. It never really gets "louder", it just gets "clearer".

Paul Wolff
Designer and Founder of Tonelux

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Contact Details

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Support

On the Softube website (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!

IF YOU BOUGHT THE PRODUCT IN A BOX you will have to register it in order to transfer the license to your iLok account:

1. Go to http://www.softube.com/register to transfer the license to your iLok account. You will need the **License Code** found in the box, your **iLok.com User ID**, and your iLok USB dongle. Follow the instructions on the web page.

IF YOU BOUGHT THE PRODUCT ONLINE and have got the confirmation e-mail, the license will already be deposited in your iLok account:

2. Make sure that you have the latest iLok drivers installed. They can be found at http://www.ilok.com.

3. Log on to http://www.ilok.com and transfer the newly received license to your physical iLok dongle.

4. Install the software from the DVD, or download the latest version from http://www.softube.com/installers.

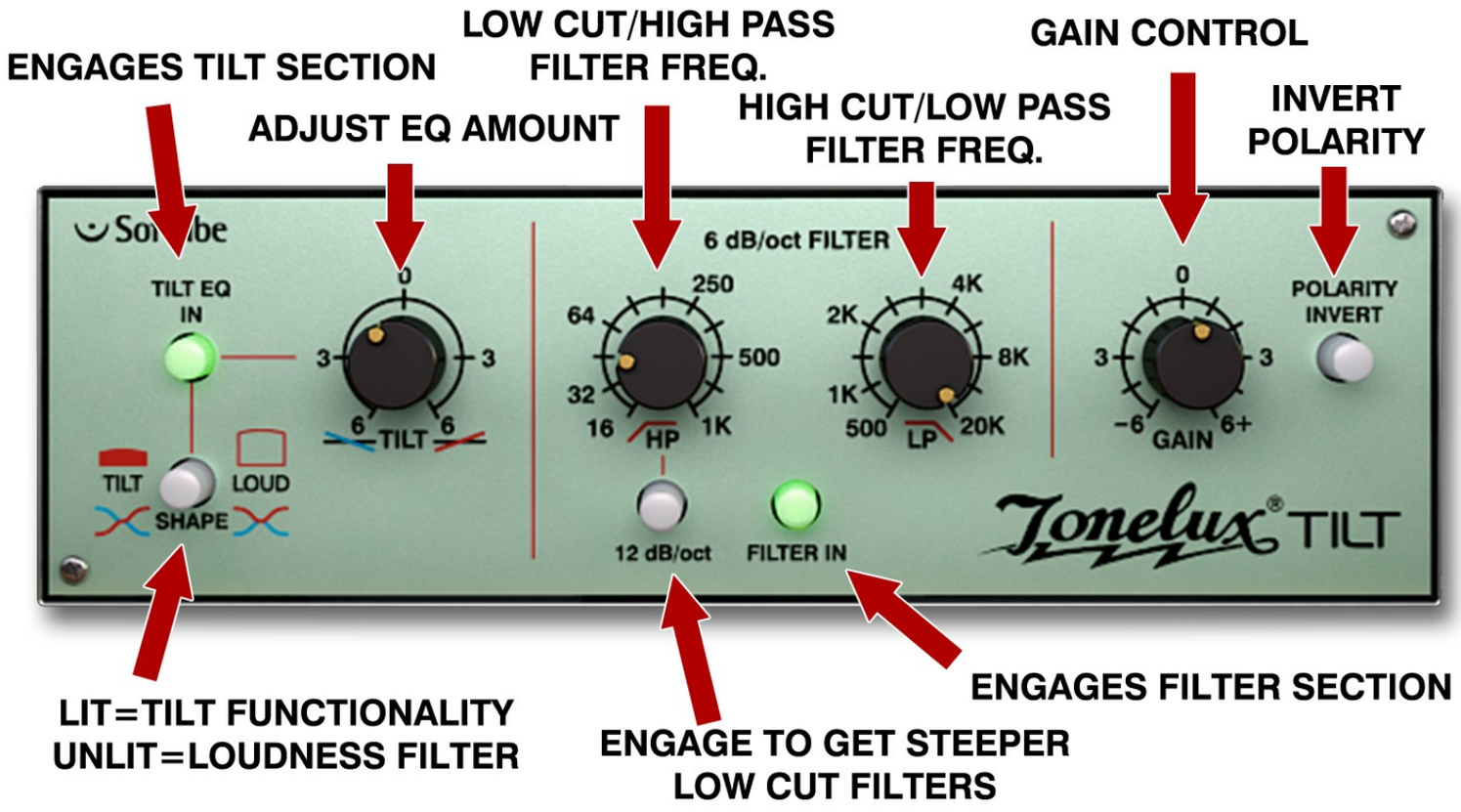
Sometimes the DVD contains installers for all Softube products, but you will only be able to run those that you have acquired licenses for. In some cases, extra demo licenses are included when you buy a Softube product.

THE TONELUX TILT PLUG-IN IS A JOINT DEVELOPMENT effort between Tonelux designer Paul Wolff and Softube, bringing the famous Tonelux sound to the digital world. The innovative Tilt design was first featured on the Tonelux MP1a discrete mic preamp module and has been a godsend for engineers and producers that need to take control of their sound in a fast and effective manner. Often, the Tilt knob is all you need to make a track sit better in a mix or to make a track “warmer” or “cooler” and it's perfect in a live situation where you need to tweak the whole mix to adjust for ear fatigue.

The TILT plug-in features not only the original Tilt design but also adds a couple of new features. A special "Live" version of the TILT plug-in is included which is optimized for the DIGIDESIGN VENUE system and contains features requested by live sound engineers. The TILT also includes modeling of the transformer found in the MP1a mic preamp, which adds a subtle distortion for bass frequencies that fattens up the low end of a track.

The TILT is all about getting the sound you want fast and easy. The interface is made up of three sections which will give you flexible and powerful control of your sound.

First section: **Tilt Eq In, Shape** and **Tilt**.
Second section: **High Pass**, **Low Pass**, **12 dB/oct** and **Filter In**.
Third section: **Gain** and **Polarity Invert**.



*Want to do a fast mix? Try inserting a TILT on each track of your mix and you'll find that often the **Tilt** knob is the only EQ you'll need.*

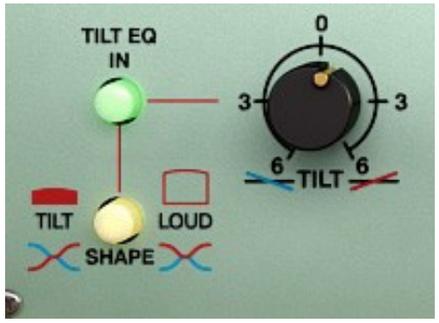


Figure 1: Tilt section with the equalizer engaged and set in Tilt mode.

Tilt Section

The Tilt section consists of **Tilt Eq In**, which engages the Tilt/Loud equalizer, the **Shape** switch, which lets you select between a Tilt style equalizer or a Loudness equalizer, and finally the **Tilt** knob, with which you adjust the amount of the equalization.

*When using the **Tilt** knob less is more! Remember that when for example cutting high frequencies, the perception can be that you're boosting low frequencies. Thus you will have double effect when turning the **Tilt** knob.*

Tilt Equalization

The **Tilt** control rebalances the whole sound of a track with just one twist of a knob, going from a bright and shimmering top to a warm and wide low-end.

The filter of the **Tilt** is shaped so when one end of the frequency spectrum goes down, the other end goes up, thus cutting frequencies in one end while boosting in the other. The center frequency of this equalizer has been carefully selected to work on a wide range of material and provides a safe way of altering your sound without it getting too harsh or too boomy. The gain of the filter goes from 0 to 6 dB.

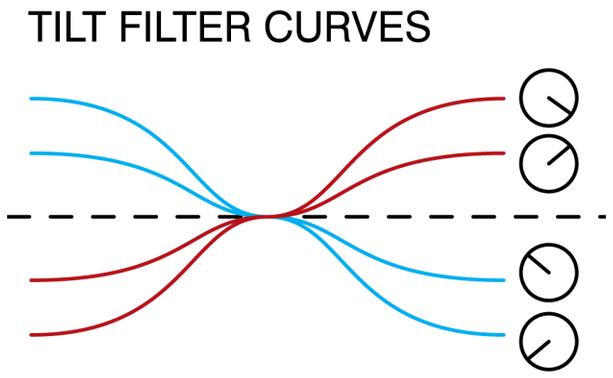


*Figure 2: Illustration of the Tilt frequency curves. With the **Tilt** knob fully clock-wise, you'll boost high frequencies and cut the lows.*

Loudness Equalization

By pressing the **Shape** button, making it unlit, the function of the **Tilt** knob is changed from **Tilt** to **Loud**. The **Loud** setting changes the shape of the **Tilt** filter to that of a loudness control, meaning that when you turn the **Tilt** knob clockwise you will get more bass *and* more treble and turning it counterclockwise will give you less of both.

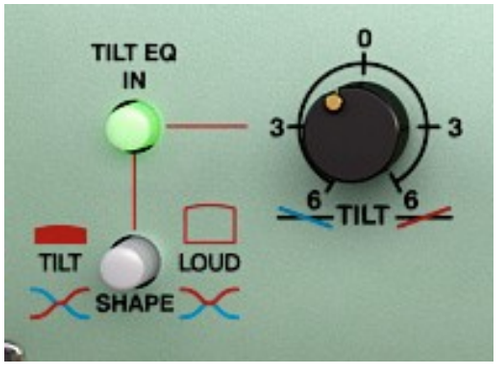


*Figure 3: Tilt section with the Loud filter activated (**Shape** switch unlit).*

*Turning the **Loud** control from min to max can give the illusion of a sound going from far away to up close. This is a handy effect for post production.*

*Try using the **Loud** filter with different settings on different sounds that needs to be separated. For example, imagine a guitar track and drum track getting in the way of each other. Boost the **Loud** filter on the drums and cut it on the guitar will place the two in the mix with less clashing frequencies.*

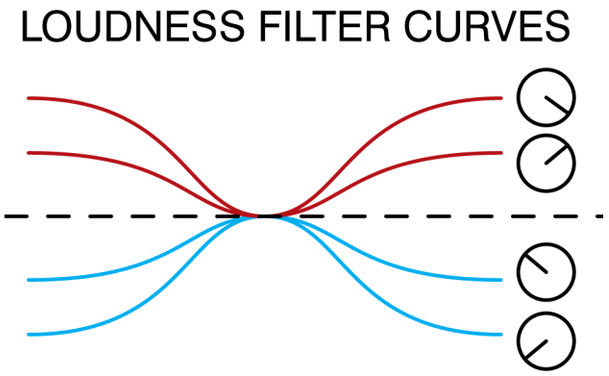


*Figure 4: Loud filter curves. With the **Tilt** knob fully clock-wise, you will boost both the low and high frequencies.*

The EQ In button will engage or disengage the Tilt/Loud filter making A/B comparisons easy.

Filter Section

The filter section with its two filters will further shape the sound or help you get rid of problematic frequencies in a track. The **Low Pass** filter cut-off frequency goes from 16 Hz to 1 kHz and will attenuate the signal 6dB per octave. When the **12 dB/Oct** switch is engaged the signal will be attenuated 12 dB per octave.

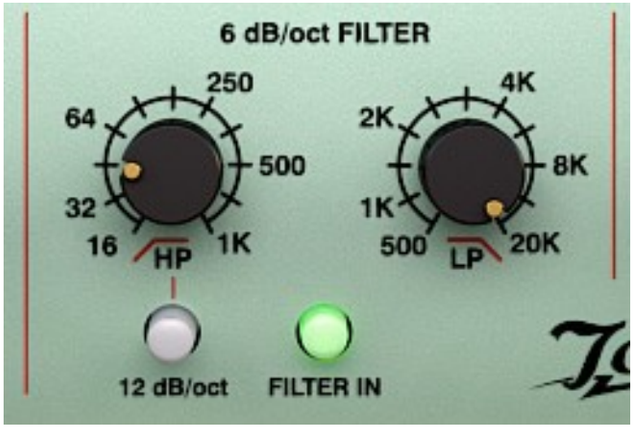


Figure 5: Left knob: Low cut filters, right knob: high cut filters.

The **High Pass** filter cut-off frequency goes from 20 kHz to 500 Hz and is set to attenuate the signal 6 dB per octave.

By engaging/disengaging the **Filter In** button the **HP** and **LP** filters will be enabled or in bypass respectively.

Output Section

Depending on what version of the TILT you are running, the TILT or TILT LIVE, the knob in the output section will be either a **Gain** control (TILT) or a **Boost Ceiling** control (TILT LIVE). The **Boost Ceiling** is explained below in the TILT LIVE section.

The **Gain** control is a standard make up gain going from -6 dB to +6 dB.

The **Polarity Invert** button inverts the phase when pressed (as seen in the picture).

*Figure 6: Polarity has been reversed (**Polarity Invert** engaged).*

The TILT LIVE plug-in is optimized for the Digidesign VENUE system and contains features requested by live sound engineers. The TILT LIVE version does not include the transformer modeling to preserve DSP power and features the **Boost Ceiling** control.

> *The TILT LIVE is perfect for in-ear systems when you want to tweak the mix to adjust for ear fatigue, without changing the actual volume of the mix.*

In normal operating mode (**Boost Ceiling** on full), the filters in the Tilt/Loud circuit will attenuate some frequencies while boosting others, just like the normal TILT plug-in (top illustration on the next page). For live performance purposes this can be a drawback, since boosting frequencies can sometimes cause feedback in a live monitoring system.

By setting the **Boost Ceiling** on min (bottom illustration), you have limited the amount of boost to 0 dB, ie., no boost at all. Whatever setting you put on the TILT LIVE plug-in, it will never boost any frequencies.

> *For monitor systems on stage the TILT LIVE can help you changing the balance of a mix without having to risk getting feedback from increasing the volume.*

Boost Ceiling

When using the TILT LIVE the **Gain** control will be replaced with a **Boost Ceiling** control.

The **Boost Ceiling** control makes the Tilt filter behave differently depending on the **Boost Ceiling** setting.

When the **Boost Ceiling** is at its minimum (bottom image) the audio level will never be amplified. The filters will have the same shape but will always be below 0 dB.

When the **Boost Ceiling** is set to its maximum (top image) it will work as the ordinary TILT. When set between, there will be some boosting of frequencies, but never more than you dialed in.

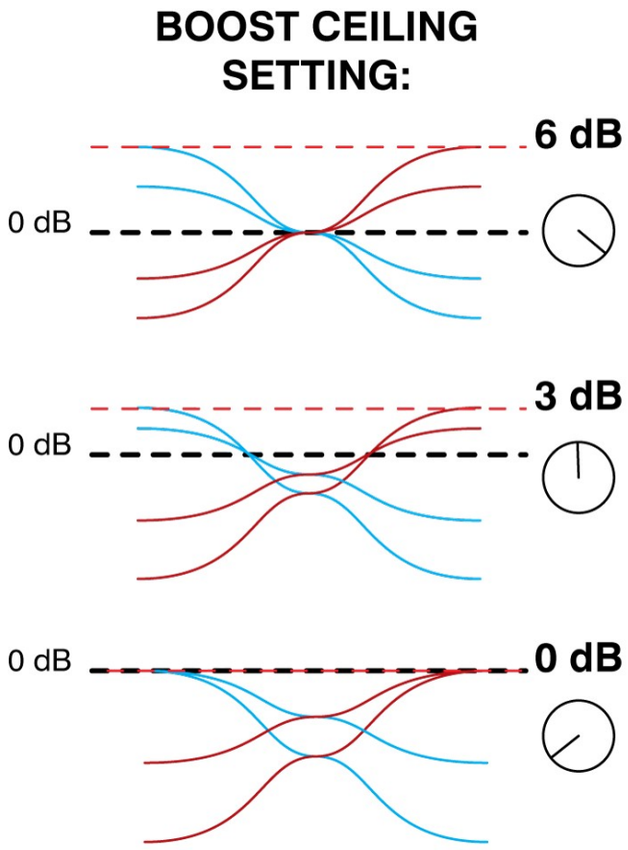


*Figure 7: The **Boost Ceiling** control adjusts the maximum amount of gain (red line) in the Tilt Live plug-in. With **Boost Ceiling** set on max (top), the Tilt/Loud curves will behave as normal. With a lower **Boost Ceiling** (middle) the gain will be lowered to fit under the ceiling. If **Boost Ceiling** is set at min (bottom), the Tilt Live plug-in will never boost any frequencies, just cut frequencies.*

All labels (such as the dB or frequency labels) are clickable. This allows you to easy select a setting by clicking on the wanted value. Hovering above a label will turn the mouse pointer into a pointing hand.

Figure 8: From top to bottom: Knob- and switch-changing cursor, Label cursor and the "About" box cursor.

Mouse

UP/DOWN:

Change a parameter, such as a knob or a switch.

CLICK:

Clicking on labels or activate the "About" box.

MOUSE WHEEL:

Use the mouse wheel to change parameters.

Keyboard Commands

FINE ADJUST: ⌘ (Mac) or *Ctrl* (Win), while changing the parameter value.

RESET TO DEFAULT: *Alt*, while clicking on the knob or fader.

Pro Tools Specific Keyboard Commands

AUTOMATION CONTROL WINDOW: *Ctrl*+⌘/⊞+*Alt*+click

SHOW AUTOMATION TRACK: *Ctrl*+⌘/⊞+click

Mono and Stereo Operation

The TONELUX TILT plug-in is designed to work in both stereo and mono. How the different modes are selected depends on your host software. In most hosts you can select these when you select the plug-in. In other cases, inserting one the plug-in on a mono track will usually make it use the MONO mode, while selecting it on a stereo track makes it use the STEREO mode.

RTAS on Pro Tools|HD

There are some specific issues to consider when using an RTAS plug-in in recording mode on a Pro Tools|HD system. First of all, an audio buffer latency is introduced in the RTAS version.

Secondly, all RTAS plug-ins are automatically bypassed in recording mode, unless an TDM plug-in is inserted on the insert slot *before* the RTAS plug-in.

Enabling the plug-in in recording mode (Pro Tools|HD 7 or higher):

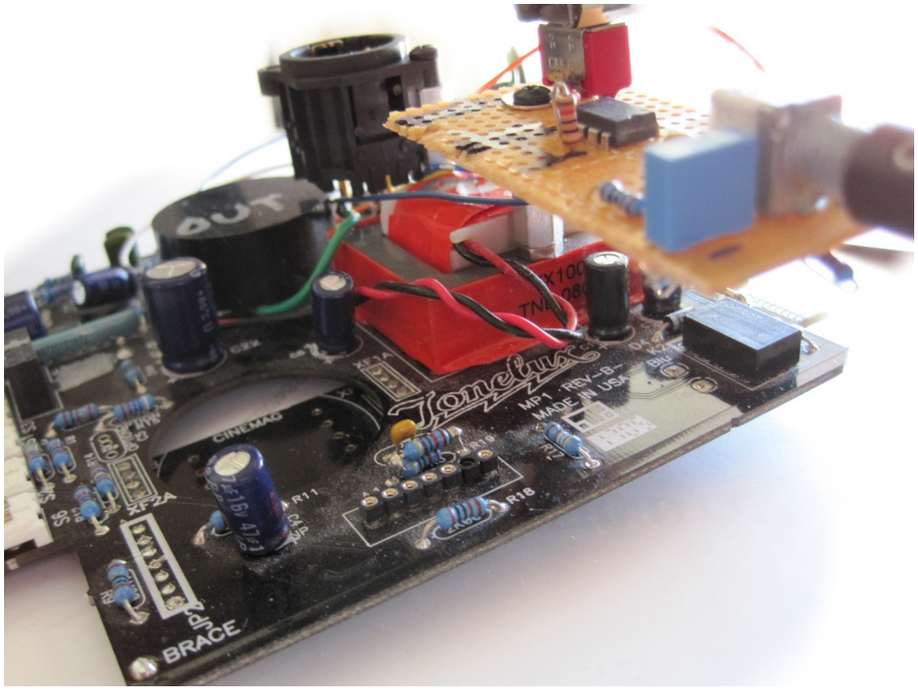
- Insert a TDM plug-in (such as the “Trim” plug-in) on your track.
- Insert the Tonelux Tilt plug-in as RTAS on an insert slot *after* the TDM plug-in.

Please see your Pro Tools reference guide for more info.

Buying Recommendations

The TILT and TILT LIVE plug-ins aren't based on a single piece of hardware. Designer Paul Wolff wanted to create some extra functionality for the plug-in version of his Tilt module, and worked night and day to design a hardware prototype that is the basis of these two plug-ins. However, if you are desperate to find the Tilt control in a hardware package, we can strongly recommend the fantastic sounding Tonelux MP1a mic preamp module that features the Tilt filters, or the eight channel Tonelux Tilt rack unit.

Above you can see the eight channel Tilt unit by Tonelux, and to the right is a photo of the prototype Paul Wolff sent us. It looks like, well, a prototype, but sounds fantastic!



Supported sample rates: 44.1, 48, 88.2, 96, 176.4 and 192 kHz, in both mono and stereo.

All native versions

- Mac OS 10.4 (or higher) on a G4 or Intel CPU (or higher)
- Windows XP (or higher) on a PIII CPU (or higher)
- 512 MB RAM
- Any VST, Audio Units or RTAS (Pro Tools 7 or higher) compatible host application
- **iLok USB key and the latest iLok drivers** (download them from http://www.ilok.com)
- DVD drive or Internet access for installation

TDM and VENUE versions

- Pro Tools|HD compatible system

Please, make sure that you always use the latest iLok driver. It is not included in the Softube installer, but can be downloaded from www.ilok.com.

Tonelux Tilt plug-in was made by: Niklas Odelholm – modeling, Oscar Öberg – DSP programming. Torsten Gatu – framework programming. Arvid Rosén – framework programming. Ulf Ekelöf – 3D rendering. Original hardware was designed by Paul Wolff at Tonelux.