



ELASTIQUE PITCH V2

REAL TIME PITCH SHIFTING

USER MANUAL

JUNE 26, 2015

© Copyright 2009-2015 zplane. development GmbH & Co. KG. All rights reserved.

This manual, as well as the software described in it, is furnished under license and may be used or copied

only in accordance with the terms of such license. The content of this manual is furnished for informational use only, is subject to change without notice, and should not be construed as a commitment by zplane.development GmbH & Co. KG.

zplane.development GmbH & Co. KG assumes no responsibility or liability for any errors or inaccuracies that may appear in this document. Except as permitted by such license, no part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, recording or otherwise, without the prior written permission of zplane.development GmbH & Co. KG.

zplane.development is a trademark of zplane.development GmbH & Co. KG.

Mac, the Mac logo and Mac OS are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Windows is a registered trademark of Microsoft Corporation in the U.S. and other countries. All other product and company names are trademarks or registered trademarks of their respective holders.

1. INTRODUCTION

This is the user manual for the second version of **ELASTIQUE PITCH**, the real time pitch-shifting plugin for VST/AU/AAX & RTAS. It uses the zplane élastiquePro pitch-shifting engine which is used by millions of end users around the world to ensure the highest, program independent pitch-shifting quality.

The plugin interface has been designed to allow quick and intuitive interaction with all parameters for maximum control. The key features of **ELASTIQUE PITCH** are:

- **Multi-channel** : support for synchronous pitching of up to **8** audio channels
- **Real time** : no offline pre-analysis required
- **Program-independence** : high pitch-shifting quality for all audio types (speech, monophonic instruments, complete mixes, etc.)
- **Phase coherence** : absolute phase stability between all input channels
- **MIDI input** : for pitch control
- **Formant shifting** : shift formants independently from pitch
- **Factory presets** : for typical film pull-ups/pull-downs

This makes **ELASTIQUE PITCH** the optimal pitch-shifting plugin for film and video conversion applications, for sound design and for adjusting pitch ranges in recording and rehearsal sessions.

This manual will be installed automatically (if selected) at:

On Windows

Start ⇒ Programs ⇒ zplane ⇒ ElastiquePitchV2_Manual.pdf

On OSX

Applications ⇒ zplane ⇒ ElastiquePitchV2 ⇒ ElastiquePitchV2_Manual.pdf

2. INSTALLATION

In order to download the installers you need to register your copy with zplane. After the successful registration (more info in chapter 3) the installers will be available in the download section of your personal account. Find below a step-by-step description of the installation procedure:

Windows

- Download the Windows installation binary (*.exe)
- double-click on the binary file
- click next in the installer window
- read the end user license agreement and if you agree, click next
- follow the instructions of the installer

Mac OS X

Download the Mac OS installation binary (*.dmg)

double-click on the downloaded file and run the .pkg-file which appears

- click continue in the installer window
- read the end user license agreement and if you agree, click next
- follow the instructions of the installer

3. REGISTRATION

This plugin is protected by a serial number and a corresponding unlock key. The serial number has been sent to you by email. In order to get the unlock key please log into your account at <https://products.zplane.de/index.php?page=login> and create an user account (in case you don't have one already). After logging in you are able to register your serial number and you'll receive your unlock key.

After opening the **ELASTIQUE PITCH** plugin in your host, you will see the following screen

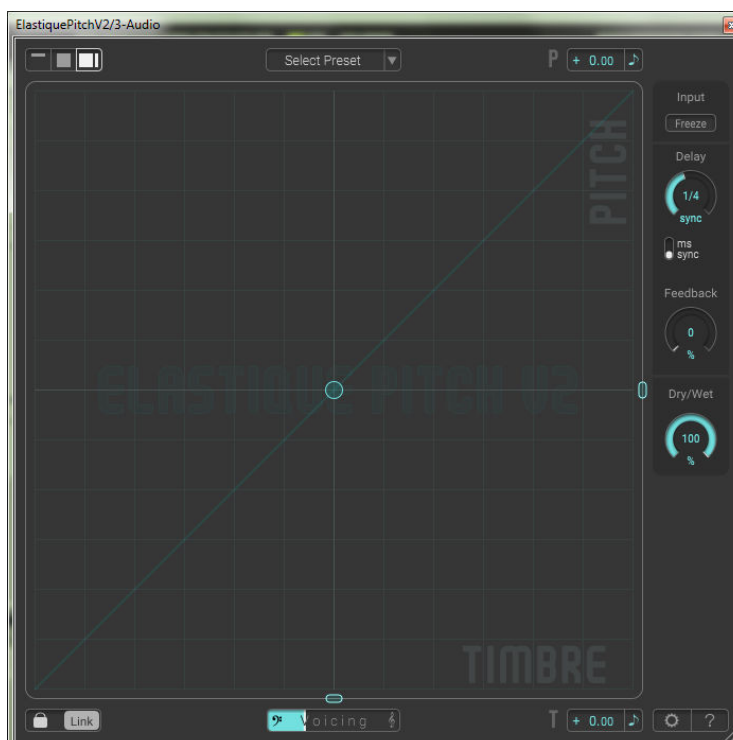


Figure 1: Advanced view



Figure 2: Registration window (ELASTIQUE PITCH)

Please enter your serial number and your unlock key here (use the right mouse button to 'paste'). Click Save to complete your registration.

Until the plugin is unlocked it will behave like the demo version (introducing silence once in a while). After successful registration the screen will look like this:

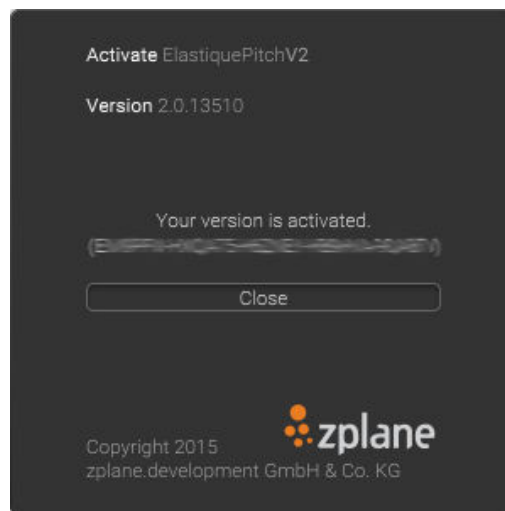


Figure 3: Activated window

You can return to the registration screen by simply clicking the gear wheel icon at the bottom right of the **ELASTIQUE PITCH** main GUI.

4. INTERFACE

The main GUI has been redesigned to allow the user to choose the amount of details and controls he wants to see at a time.

When you start the plugin for the first time the advanced view is shown to give you a general view of all available controls. Please keep in mind that the registration and access to the manual is only available in advanced view. In the top left corner you find the view selector. There are three different views:

- **Simple view**
- **Normal view**
- **Advanced view**

The simple view (Figure 4, left side) has the least available controls and it's best fitted for plain pitch-shifting tasks. Choose a preset or enter the desired pitch-shifting ratio via the text field input.

In Figure 4 on the right, you can see the normal view that you should be familiar with from the previous version 1. Basically the same controls are on hand. The voicing slider has substituted the input selector.

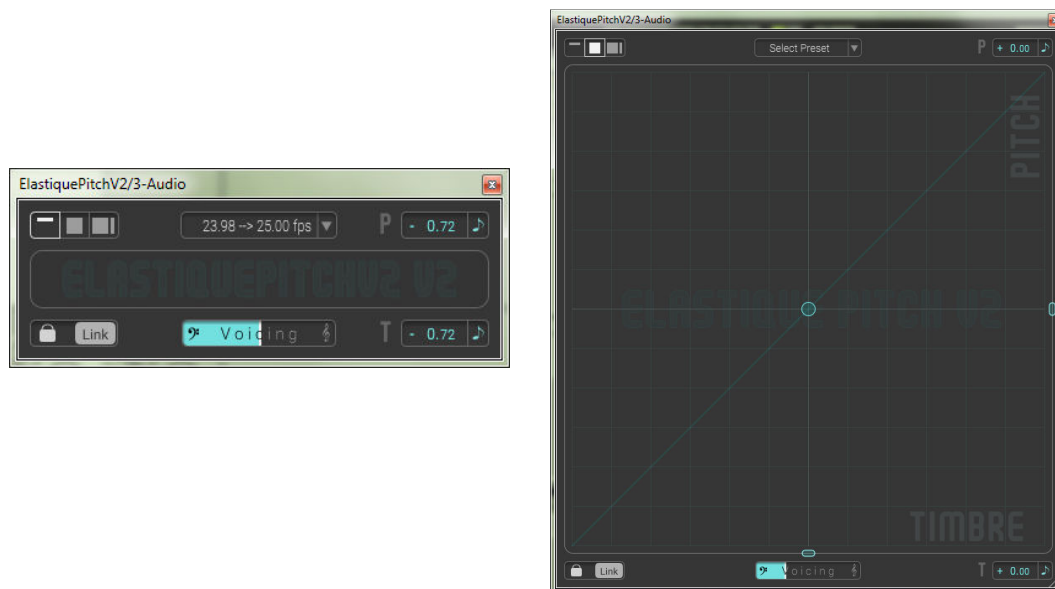


Figure 4: Simple view (Left) - Normal view (right)

On the following pages you'll find the controls of the advanced view explained in more details. As the controls of the simple and normal view are only subsets of the advanced controls they are not explained for each single view.



Figure 5: Advanced View - Explanations

- ① View mode selection ② Factory presets ③ Pitch & Timbre field
- ④ Advanced controls ⑤ Link switch ⑥ Voicing setting
- ⑦ Settings & Info

1. View mode selection

To toggle between the three different view modes, click on the appropriate icon, from left to right: simple-normal-advanced.

2. Factory presets

There are applications that require a specific constant pitch factor, for example when the original material has been played back too fast or too slow in the conversion process between different frame rates. The factory presets cover a typical set of such conversion settings.

3. Pitch & Timbre field

Move the handle (the small puck) to control pitch and formant shift at the same time. In order to move the handle freely in the field, remember to disable the link between pitch and timbre shift factors.

Pitch slider

The right border of the field is the pitch slider at the same time. Move up or down to change the pitch of the signal.

Above the slider, the current setting is displayed. The exact value is also given as a numeric value. The display can be switched between the pitch factor in percent (%) and the pitch alteration in semi-tones (♯) by clicking on the appropriate unit.

To adjust the pitch independently from the timbre, disable the link between pitch and timbre shift factors.

The pitch factor can also be controlled by MIDI note input or the MIDI pitch wheel controller.

Timbre slider

Move left or right to change the timbre – i.e. the formants – of the signal. Right is up (→Mickey Mouse) and left is down (→Darth Vader). To ensure best shifting quality, select the proper fundamental frequency range with the voicing slider.

Below of the slider, the current setting is displayed. The display can be switched between the timbre factor in percent (%) and the timbre alteration in semi-tones (♯) by clicking on the appropriate unit. To adjust the timbre independently from pitch, disable the link between pitch and timbre shift factors.

4. Advanced controls

Besides the features from the previous version, **ELASTIQUE PITCH U2** works with the latest *élastiquePro* engine and comes with some additional improvements that open up new opportunities to use pitch-shifting/time stretching in a more creative manner. For a better understanding of the features, have a look at the signal flow chart below:

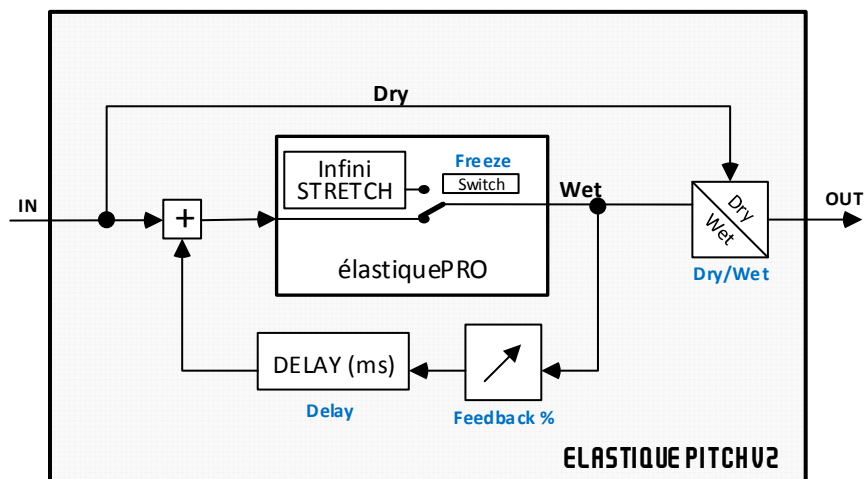


Figure 6: Signal flow chart - plugin

As you can see in the chart, a feedback path has been added. The delay can be configured either in Milliseconds (ms) or synced to the host's beat grid. The amount of feedback can also be controlled and set as a percentage of the wet output. Zero percent means no feedback, 100 percent that the output is completely fed back and added to the input

signal.

The output of the plugin can be set as the proportional amount of the dry and the wet signal.

When the Freeze-button is activated, the *infiniStretch*-feature of *élastiquePro* comes into play. The signal that is currently in *élastiquePro*'s input buffer is stretched or continued infinitely. In addition the feedback path is disconnected, that means all changes of Feedback and Delay won't have any effect.

5. **Link switch**

Pitch and timbre factors are linked by default with this switch. That means that the formants are shifted in accordance with the pitch factor. If the link button is activated when pitch and timbre have the same values (for example when both pitch and timbre equal 100%), then the plugin output is shifted *without* preserving the formants. If the sliders have non-equal values when the button is activated, formants will always be shifted by a constant amount.

When the link is disabled, pitch and timbre can be controlled independently. To preserve the original formants, set the timbre slider to the middle position (100.00% or $\pm 0.00st$).

When automating both Pitch and Timbre via the host, the link switch will be automatically disabled.

6. **Voicing setting**

To ensure best timbre shifting quality for different types of input signals, adjust the dominant frequency region of the input signal with this control. This setting has no impact on the pitch-shifting quality, only the formant shifting quality.

Move slider to the left, when the dominant frequency region is low and to the right if it is high. The middle position of the slider is the default value that should work for most of the audio.

7. **Settings & info**

A click on the gear wheel opens the registration dialog or (if already registered) displays the used serial number.

After clicking the help symbol (question mark), a new panel appears where you can open the manual or visit *zplane*'s website for more help and information.

6. HOW-TO?

⇒ Load the plugin

Locate **ELASTIQUE PITCH** in the channel insert of the track you want to apply it to and click on it. This procedure may differ on different hosts.

⇒ Control pitch or timbre by MIDI input

Route the MIDI input from a keyboard or controller to **ELASTIQUE PITCH** and play using the following options:

The pitch factor 100.00% ($\pm 0.00\text{st}$) corresponds to a MIDI pitch of 60 (C3). MIDI pitches in the octave below will shift down, higher MIDI pitches will shift up. The shift factor is calculated by the semi-tone distance from pitch C3.

Additionally, you can use the Pitch Wheel controller to smoothly change the pitch factor in a range of ± 2 semi-tones

When pitch and timbre are linked, only the pitch input can be automated or controlled by MIDI. Changing the Timbre values will have no effect! In order to control both, unlink them.

⇒ Reset slider to default

Double-click on the control, the 2D-field or double-click on the slider handle. To reset values.

⇒ Standard timbre settings

No formant preservation:

Activate the link switch when both pitch and timbre have the same value, e.g. 100% (default position). Pitch and timbre factors will now equal each other.

Formant preservation:

Deactivate the link switch and reset the timbre factor to 100.00% or $\pm 0.00\text{st}$.

Formant shifting:

Activate the link switch when both pitch and timbre do not have the same value. Formants will now be shifted by a constant amount.

⇒ Pitch shift in semi-tones

Click on the Percent Unit in the pitch (or timbre) display to show the shift in semi-tones. The decimals represent the pitch-shift in cents.

⇒ Compensate latency

Pro Tools

First, you have to find out the latency introduced by the plugin. To do so, determine the exact latency in samples by Ctrl-Click (PC) or CMD-Click (Mac) on the Vol/Peak/Delay view below the track fader of your **ELASTIQUE PITCH** track. Add the *Time Adjuster* plugin to all the other tracks and adjust their delay to fit the pitch-shifting latency.

Digidesign gives some detailed instructions on how to do that in [this document](#)¹. On Pro Tools HD systems, you can also use the automatic delay compensation. In this case make sure that the plugin latency is not higher than the maximum delay that Pro Tools is able to compensate. If it is, increase your hardware buffer size and/or use *Time Adjuster* as described above to compensate for the remaining amount of samples.

Should the required delay be higher than the maximum latency, please insert another instance of time adjuster and set the delay that the sum of the delays in both instances equals the intended delay.

Other VST/AU hosts

Most hosts provide automatic latency compensation. In case your host doesn't provide that feature, please contact the manufacturer of that host.

5. TIPS & TRICKS

Audio Pre-Processing

As a rule of thumb, you could say that the quality often benefits from applying audio effects *after* the pitching instead of before.

This is especially true for dynamic processing tools like limiters – you cannot expect a signal to remain limited after the pitching process.

6. TECHNICAL SPECIFICATIONS

Technical Spec	
Audio formats	1-8 channels (I/O) 32-192kHz sample rate
plugin format	VST/AU/RTAS/AAX
parameter ranges	pitch: ± 12 semi-tones = 50-200% timbre: ± 12 semi-tones = 50-200%
plugin latency	150 ms @48kHz
min. system	OS X 10.6.8 (and higher) Windows XP, Vista, 7, 8

¹http://akmedia.digidesign.com/support/docs/Delay_Comp_PT_Host_Systems_33000.pdf

7. FEEDBACK & SUPPORT

Our website products.zplane.de always provides the latest information and news about our products. You can also post in our forum to discuss your impressions, tips and tricks, questions, and feature requests with other users and the zplane team.

Any issues you encounter may either be reported in the forum, or directly to us via post or email. Before contacting us directly, please ensure you are using the latest version of the plugin. Please also make sure that your issue is not covered in the manual, the forum, the FAQ or elsewhere on our website.

In your email or letter, please provide the following details to enable us to help you as fast as possible:

- Your registration information
- Your system specifications (hardware, operating system, host software)
- The exact version number of the plugin (see the about dialogue by clicking on help symbol (question mark) inside **ELASTIQUE PITCH** (located at the bottom right of the plugin interface).
- A detailed description of your problem, including a step-by-step description of what led up to it so we can try to reproduce the issue

Please use the following contact information:

zplane.development GmbH & Co. KG

Grunewaldstr. 83

D-10823 Berlin-Germany

🌐 : www.zplane.de
@ : support@zplane.de

