



Chronotron Pro v2.x

User's Guide

Overview.....	3
What's the difference between Chronotron Pro and Chronotron v3.x?	3
Installation.....	4
Basic operation: Main window	6
Configuration.....	8
Processing Files with Chronotron Pro	10
Uninstallation.....	11
License Agreement.....	12
Change Log	14

Overview

Chronotron Pro is a professional audio plug-in that allows you to manipulate tempo and pitch separately, in other words, it allows you to change the tempo of the music without affecting pitch (time stretching) and/or change pitch without affecting tempo (key change).

The plug-in can be hosted on any DirectX plug-in host application (like Sony Sound Forge or Steinberg WaveLab) to permanently change the tempo and key of your audio material.

You can also use Chronotron Pro directly on Winamp and Windows Media Player 9.x or later during playback of most types of media, including video files (WMP only). Note, though, that both Winamp and Windows Media Player disable *all* DSP plug-ins when playing protected content (DVD, DRM-encoded WM files and so on). The player may also disable DSP plug-ins when playing certain file types, such as MIDI files. These limitations apply to all DSP plug-ins and are not related specifically to Chronotron Pro.

A standalone application is also provided to process audio and video files without any additional software.

Chronotron was the first plug-in to deliver high quality audio in real time at reasonable scaling ratios. The Chronotron Pro product line implement highly-tuned algorithms featuring superior performance, wider effect range and improved sound quality.

Chronotron Pro requires Windows XP SP2 or newer Operating System.

What's the difference between Chronotron Pro and Chronotron v3.x?

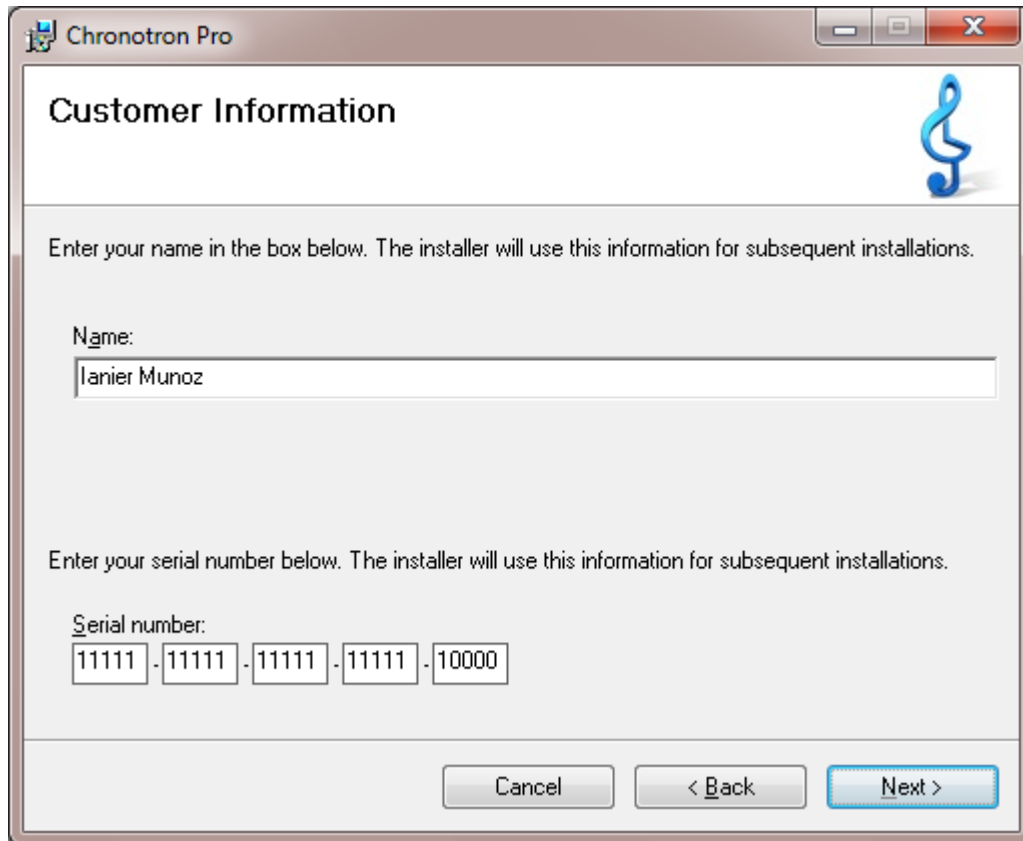
- A standalone application allows you to process audio and video files without any additional software.
- Can be hosted as a DirectX plug-in on professional audio applications (e.g. Sony Sound Forge, Steinberg WaveLab).
- Wider tempo range: from 12.5% to 800%.
- Improved set of algorithms offering superior quality and performance with support for virtually any sample rate and bit depth.
- Improved accessibility: all functions are accessible via the keyboard.
- Simplified configuration.
- WMP-only features:
 - Tempo and key settings can be recalled for different media files.
 - The loop function allows for easier music and speech transcription.
 - The plug-in runs in a separate window by default, but can be configured to run in the settings area.

Installation

Starting with version 2.2 the Chronotron Pro installer is distributed as a standalone executable. To launch the installation, locate **chronotron_pro.exe** using Windows Explorer and double-click on it.

Note: Previous versions of Chronotron Pro were distributed as Windows Installer packages. In these versions it is important to launch **setup.exe** rather than the accompanying MSI file so the installer runs with the correct security settings.

Enter your user name and Serial Number in the Customer Information dialog box, as shown below.



The screenshot shows a Windows-style dialog box titled "Chronotron Pro" with a treble clef icon. The main heading is "Customer Information". Below the heading, there is a text box for "Name" containing "Ianier Munoz". Below that, there is a section for "Serial number" with five input fields containing "11111", "11111", "11111", "11111", and "10000". At the bottom, there are three buttons: "Cancel", "< Back", and "Next >".

If you just want to try out the plug-in before registering it, just leave the default serial number unchanged (i.e. 11111-11111-11111-11111-10000). This will cause Chronotron Pro to be installed in trial mode, which has the following limitations:

- Upon loading the plug-in, a popup window opens to remind you of the limitations of the trial mode.
- The plug-in inserts random beeps in the audio stream after about 40 seconds of audio processing.

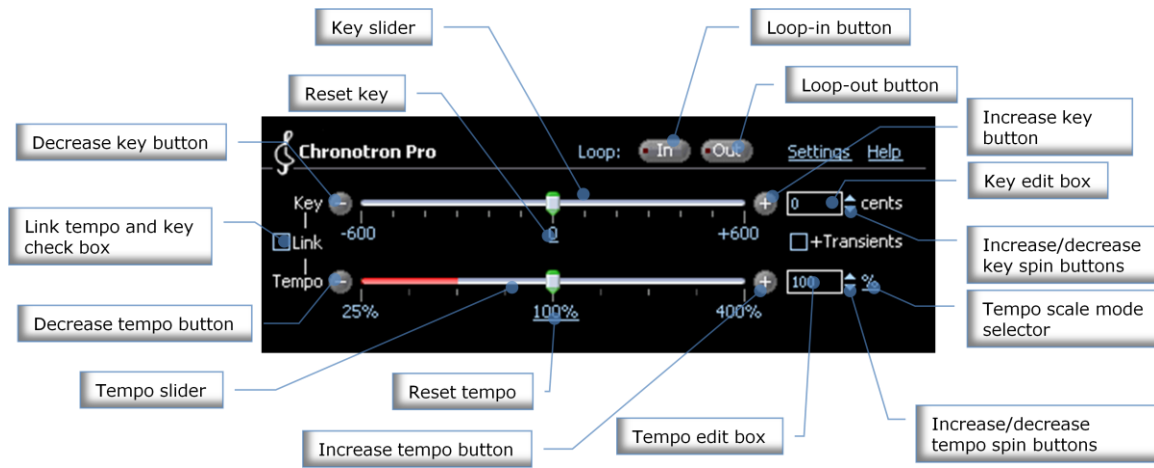
To obtain a serial number for full-functional operation you need to purchase a registration key from <http://www.chronotron.com>. Please note that the Customer Information dialog box is the only place where you can enter the serial number, so you must reinstall Chronotron Pro in order to enter your new serial number.

After installation, the plug-in will appear in the DirectX plug-in menu on your favorite audio editor under the name "Chronotron Pro Filter".

To use the plug-in on Windows Media Player go to the "View/Plug-ins/" menu and select "Chronotron Pro". Note that, unlike Chronotron v3.x, Chronotron Pro does not require explicit activation of any other DSP plug-in.

Basic operation: Main window

The main Chronotron window is shown in the screenshot below along with the description of its main elements.



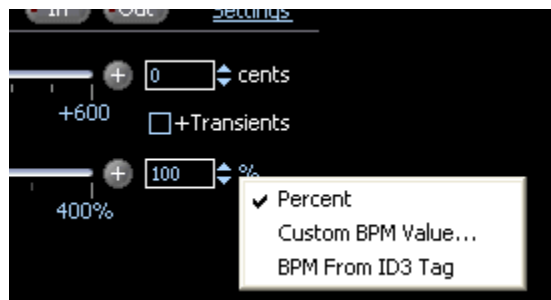
Moving the Tempo slider will make the music play at a slower or faster pace. You can move the slider at smaller increments by using the Increase Tempo and Decrease Tempo buttons.

You may alternatively enter the desired tempo scale in the Tempo edit box. While the keyboard input focus is in the Tempo edit box, you can press the Up and Down arrow keys to increment or decrement the tempo value. To reset the tempo to its original value, click on the Reset Tempo hyperlink.

The tempo value is expressed using one of the three different scale modes, namely Percent, Custom and ID3.

The default tempo scale mode is Percent. In this mode the tempo value represents the speed ratio with respect to the original material expressed in percent.

To change the current scale mode click on the percent symbol to display the context menu, as shown in the screenshot below.



The Custom BPM Value mode allows you to manually enter an arbitrary number that will be used as the reference tempo value, that is, the number that you enter will take the place of the 100% value in the tempo scale. As an example, if you enter the number 128, moving the tempo slider to its leftmost position will change the current tempo value to 32 (i.e. 25% of 128).

Finally, the BPM from ID3 Tag mode has the same meaning as the Custom BPM Value mode; however, the original tempo value will be taken from the Beats per Minute ID3 tag, if present.

The current version of Chronotron Pro does not detect the BPM value automatically. You can use any tag editor to edit this value for your media files, such as the Windows Media Player Advanced Tag Editor, which you can access by right-clicking any item on the Media Library and selecting Advanced Tag Editor out of the context menu.

Moving the Key slider will make the music play at a higher or lower pitch. You can move the slider in whole steps by pressing the Increase Key and Decrease Key buttons. To move the slider in smaller increments use the Increase Key and Decrease Key spin buttons.

You may alternatively enter the desired transposition value in the Key edit box. While the keyboard input focus is in the Key edit box, you can press the Up and Down arrow keys to increment or decrement the value.

Pressing Shift in conjunction with the Up and Down arrow keys will increment or decrement the value by 100 (one semitone). To reset the pitch to its original value, click on the Reset Key hyperlink.

The +Transients check box activates transient processing, which improves sound quality. This control has effect only when the Highest quality setting is selected in the configuration window. See the next section for more information on configuration options.

The Link check box links the key and the tempo together, effectively turning Chronotron into a resampler. The high-quality resampling algorithm is implemented using state-of-the art technology to deliver crystal clear sound.

The Loop-in and Loop-out buttons allow you to play simple loops. Loops played through Chronotron Pro are not seamless. This feature is intended to be used during music and speech transcription, where the ability to repeat a section is a requirement.

Note: The looping functionality is available only when the plug-in is hosted natively on Windows Media Player.

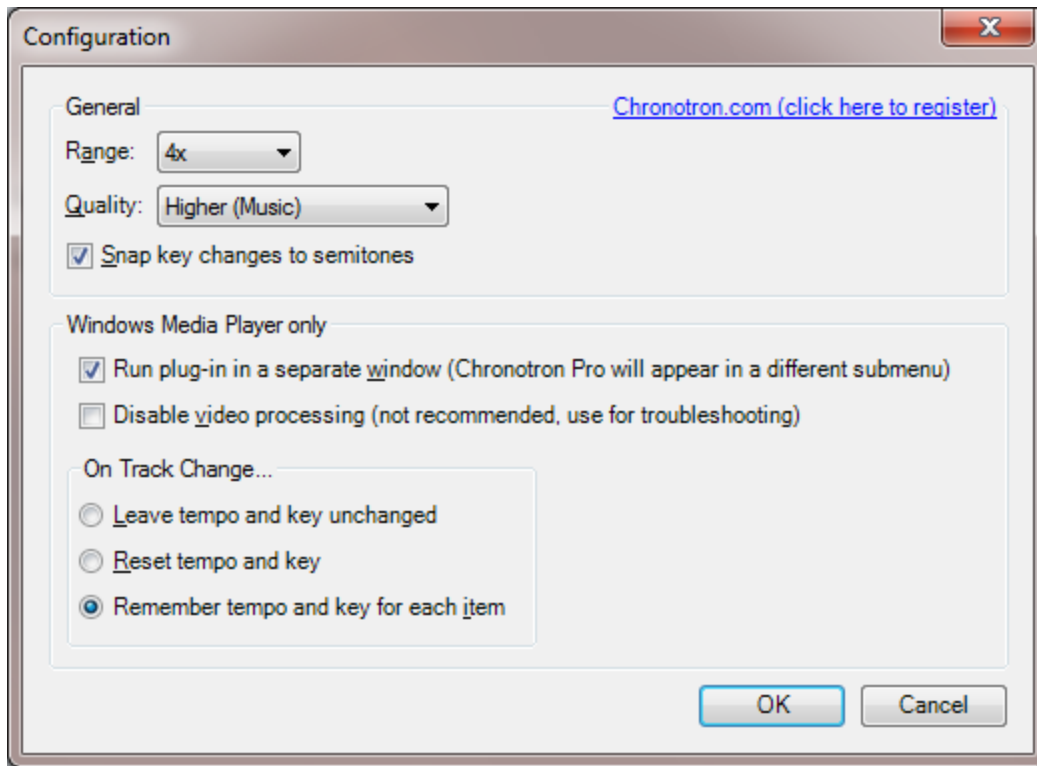
Press the Loop-in button during playback to mark the initial position of the loop. The Loop-in button will glow red. When the music reaches to the point where you want the loop to end, press the Loop-out button to start playing the loop from its initial position.

While the loop is playing both the Loop-in and Loop-out buttons will glow red. Note that you can adjust the tempo and key during loop playback.

To exit the loop, press either the Loop-out or Loop-in buttons again. It is possible to reset the initial loop position to the current playback position without clearing the loop out position by pressing the Loop-in button while holding the Ctrl key down.

Configuration

A screenshot of the setting window is shown below.



The *Range* combo box defines the operation range of the tempo slider.

The *Quality* combo box can be set to either of the following values:

- Highest (Music): This is the highest quality setting. It gives the best results but requires a fast processor.
- Higher (Drums/Vocals): High-quality time-domain algorithm. Good for transient rich content (e.g. speech).
- Higher (Music): Quality level of Chronotron v3.x with moderate processor usage.
- High:
- Fair: Medium quality level with fair processor usage.
- Preview: Modest quality level with low processor usage. Use this mode when using Chronotron Pro on a slow PC.

Snap key changes to semitones causes the key + and key - buttons to align the key to the closest half step (i.e. 100-cent bar). If you don't check this option, the key + and key - buttons will just increase or decrease the current key by 100 cents.

The following features apply only to Windows Media Player:

By default, the Chronotron Pro window appears in the WMP Settings area (under the Now Playing tab). When *Run plug-in in a separate window* is checked, WMP will show Chronotron Pro in a separate window. Note: if you change this setting you will need to restart WMP and select Chronotron Pro again out of the Plug-ins menu.

You can disable video processing if you experience issues during video playback by checking the *Disable video processing* option. Please note that you can still process video files using the standalone File Processing application.

The *On Track Change* setting can take the following values:

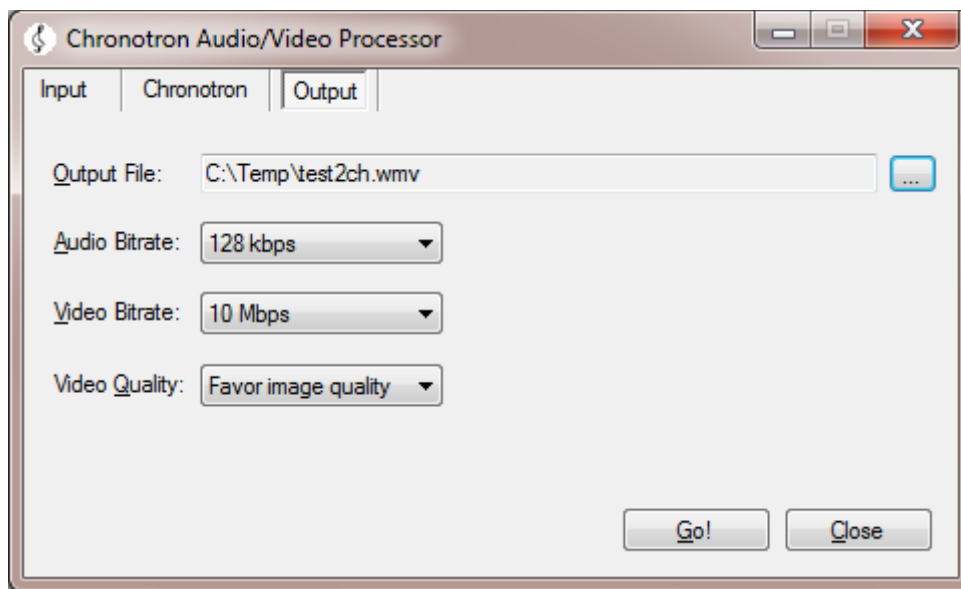
- Leave tempo and key controls unchanged.
- Reset the tempo and key to 100%.
- Set the tempo and key to the values used when the current file was last played.

Processing Files with Chronotron Pro

Starting with Chronotron Pro version 2.0, the Chronotron Audio/Video Processor application lets you change the tempo and/or pitch of audio and video files without using any additional software. You can find this application in your Windows Start Menu.

Processing a file is simple:

- In the Input tab select the file you want to process.
- In the Chronotron tab set the pitch, tempo and other settings. The Chronotron tab is visible only when an input file has been selected.
- In the Output tab set the output parameters.
- Hit Go!



Uninstallation

To uninstall Chronotron Pro, go to the Windows Start Menu, open the Control Panel, select Add/Remove Programs, search for Chronotron Pro and then click Remove.

License Agreement

The Chronotron Pro software (hereinafter referred to as the "Licensed Software") and accompanying materials are protected by copyright law. Making copies, adaptations, or derivative works without the prior written authorization of Ianier Munoz (hereinafter referred to as the "Author"), is prohibited by law and constitutes a punishable violation of the law. The Author retains all ownership rights to the software and its documentation.

The Author grants you a non-transferable, non-exclusive license to use the Licensed Software, under the terms and conditions stated in this agreement. Use of the Licensed Software for any period of time indicates your agreement to the following terms and conditions.

License

You may:

- Use the Licensed Software on only one computer.

You may not:

- Make copies of the Licensed Software or of the user manual in whole or in part except as expressly provided for in this agreement. Your right to copy the Licensed Software and the user manual is limited by copyright law. Making copies, verbal or media translations, adaptations, derivative works, or telecommunication data transmission of the Licensed Software without prior written authorization of the Author, is prohibited by law and constitutes a punishable violation of the law.
- Make alteration or modifications to the Licensed Software (or any copy) or disassemble or de-compile the Licensed Software (or any copy), or attempt to discover the source code of the Licensed Software.
- Sub license, lease, lend, rent, or grant other rights in all or any portion of the Licensed Software (or any copy) to others.

Term of the Agreement

This agreement is effective until terminated by you or the Author.

In the event of breach of any of the terms of this agreement, you shall pay the attorney's fees of the Author that are reasonably necessary to enforce the agreement plus resulting damages.

Chronotron is a registered trademark of Ianier Munoz. All other trademarks are the property of their respective holders.

Limited Warranty and Disclaimer

THE LICENSED SOFTWARE AND ACCOMPANYING MATERIALS ARE PROVIDED 'AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The Author does not warrant that the functions contained in the program will meet your requirements. The entire risk as to the use, quality, and performance of the Licensed Software is with you. The Author warrants the medium on which the program is furnished to be free from defects in materials and workmanship under

normal use for a period of ninety (90) days from the day of delivery to you as evidenced by a copy of your receipt. The Author's entire liability and your exclusive remedy as to the medium will be the replacement of the medium.

SOME JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

Limitation of Liability

IN NO EVENT WILL THE AUTHOR BE LIABLE FOR ANY DAMAGES, INCLUDING LOSS OF DATA, LOST PROFITS OR OTHER SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES ARISING FROM THE USE OF THE LICENSED SOFTWARE OR ACCOMPANYING MATERIALS. THIS LIMITATION WILL APPLY EVEN IF THE AUTHOR OR ITS AUTHORIZED AGENT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE. YOU ACKNOWLEDGE THAT THE LICENSE FEE REFLECTS THIS ALLOCATION OF RISK. SOME JURISDICTIONS DO NOT ALLOW LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Change Log

Version 2.2.1

- Fixed a bug that caused an audio gap on WMP track change.

Version 2.2

- The installer is now packaged in a single executable.
- Improved DirectX host compatibility.
- Automatic online version check.
- A bunch of bug fixes.

Version 2.1

- Remoting API compatible with Chronotron v3.x.
- Improved 64-bit OS compatibility.

Version 2.0

- New standalone application to process audio and video files.
- A new quality setting is available which is more suitable for voice.
- Video support has been improved. Video support can now be disabled via the Settings window.
- The product version is now displayed in the Settings window.
- A bunch of bug fixes.

Version 1.5

- Windows 7 fix: the plug-in now runs in a separate window by default. WMP 12 does not properly handle settings-area plug-ins, not even the built-in ones (e.g. SRS WOW).
- Windows 7 fix: fixed a bug that caused the window to lose its connection to the DSP (so moving the tempo/key sliders had no effect on the sound).
- Windows 7 fix: settings can now be changed even when UAC is on.

Version 1.2

- Ability to run in a separate window when hosted on WMP.

Version 1.1

- Native Winamp support.
- Range is configurable up to 8x.

Version 1.0

- Initial Pro release.