

Cronotron plug-in v3.1 User Guide

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Overview

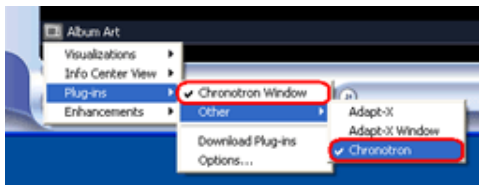
Chronotron 3.1 allows you to manipulate tempo and pitch separately, in other words, it allows you to change the tempo of the music without affecting pitch (time stretching) and/or change pitch without affecting tempo (key change). Based on a phase vocoder, Chronotron is the first plug-in to deliver high quality audio in real-time at reasonable scaling ratios.

This plug-in requires Win98/Me/2000/XP and Winamp 3.x or later and/or Windows Media Player 9.x or later.

Getting started

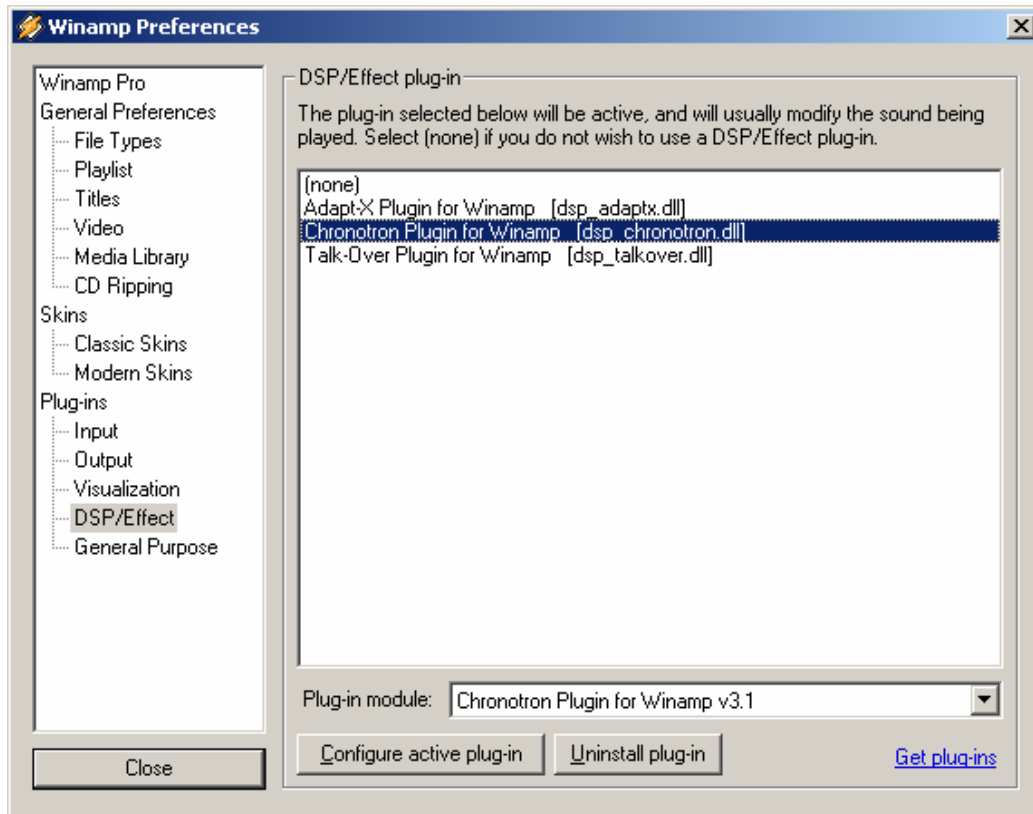
Windows Media Player 9

Chronotron is in fact a combination of two plug-ins: a DSP plug-in (**Chronotron**) and a User Interface plug-in (**Chronotron Window**). After completing the Chronotron setup program, open Windows Media Player. Go to the "View/Plug-ins/Other" menu and select "Chronotron", then go to the "View/Plug-ins/" menu again and select "Chronotron Window", as shown in the picture below.



Winamp 5

Press Ctrl+P on the main Winamp window to display the configuration dialog box. Under the *Plug-ins* node, select "DSP/Effect" and then select "Chronotron Plug-in for Winamp", as shown in the picture below.



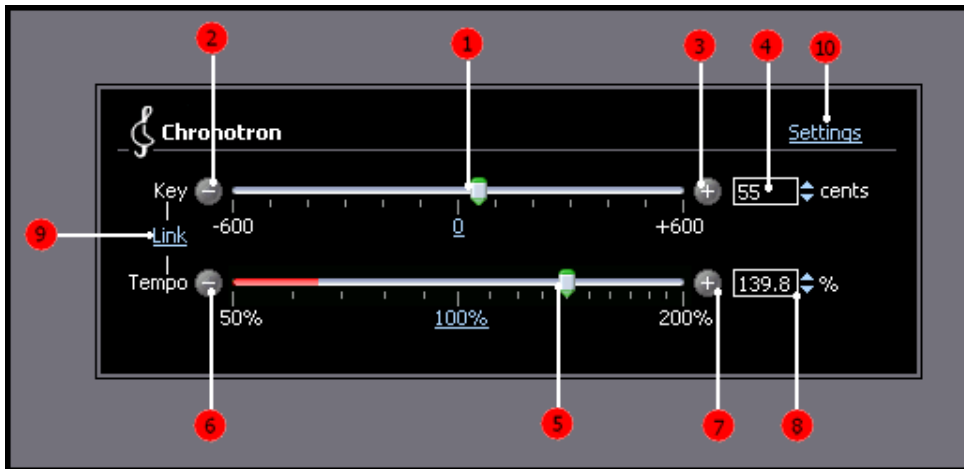
Winamp 3

Right-click on the main Winamp window to display the context menu, point to “Windows”, then select “Chronotron”, as shown in the picture below.



Basic operation: Main window

The main Chronotron window looks like this:



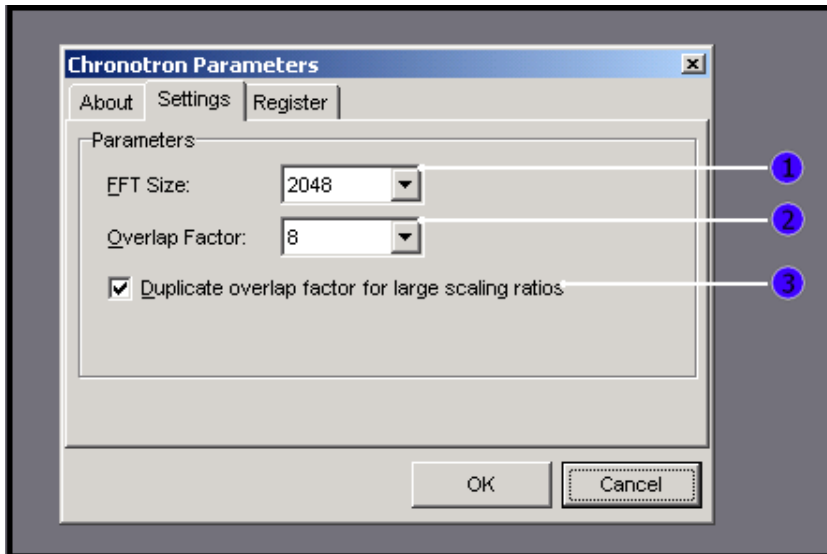
Moving the *tempo slider* 5 will make the music play at a slower or faster pace. You can move the slider at smaller increments by using the *increase tempo* 7 and *decrease tempo* 6 buttons. You may alternatively enter the desired tempo scale in the *tempo edit box* 8. While the keyboard input focus is in the *tempo edit box*, you can press the *Up* and *Down* arrow keys to increment or decrement the tempo value. For restoring the tempo to its original value, double-click on the *tempo slider* or click on the *reset tempo* hyperlink.

Moving the *key slider* 1 will make the music play at a higher or lower pitch. You can move the slider at smaller increments by using the *increase key* 3 and *decrease key* 2 buttons. You may alternatively enter the desired transposition value in the *key edit box* 4. 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 tempo value. Pressing *Shift* in conjunction with the *Up* and *Down* arrow keys will increment or decrement the value by 100 (one semitone). For restoring the key to its original value, double-click on the *key slider* or click on the *reset key* hyperlink.

The *link button* 9 links key and tempo together, turning Chronotron into a normal resampler. This high-quality resampler is implemented using state-of-the-art algorithms to deliver crystal clear sound.

Configuration window

When clicking on *Settings* 10, the configuration window appears:



Chronotron 3.0 always uses a high-quality phase vocoder algorithm to process audio data. The legacy TDHS mode is not available anymore.

The *FFT Size combo box* ❶ allows you to define the length of the Fast Fourier Transform used by the phase vocoder. Increasing this parameter improves sound quality, but causes the plug-in to consume more system resources.

The *Overlap Factor combo box* ❷ lets you adjust the overlap factor of the phase vocoder algorithm. As with FFT size, you can adjust this parameter to trade sound quality for processing speed and vice-versa.

Finally, a *checkbox* ❸ allows you to configure Chronotron to duplicate the overlap factor when performing time-stretching beyond 65% or 150%. As with the other parameters, duplicating the overlap factor increases quality but also increases CPU usage.

FAQ

How do I uninstall Chronotron?

Go to the Windows Start Menu, open the Control Panel and select Add/Remove Programs. Select Chronotron and then click Remove.

I get no change in the sound when using Chronotron

Please note that most players, including Winamp and WMP, disable all DSP plug-ins when playing protected content (DVD, DRM-encoded WM files and so on). The player can 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.

WMP 9 Specific: Chronotron for Windows Media Player 9 is in fact a combination of two plug-ins: a DSP plug-in (Chronotron) and a User Interface plug-in (Chronotron Window). Go to the “View/Plug-ins” menu and also to the “View/Plug-ins/Other” menu and make sure that both “Chronotron” and “Chronotron Window” are enabled.

I'm a developer and I would like to use this cool time-stretching effect in my application. Can you help?

The Chronotron algorithm is licensed on a per-case basis. If you are interested in licensing the Chronotron technology, please email [me](#).