

Studio Time 1.0

User Guide

Acon Digital Media GmbH

Studio Time User Guide

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1 Introduction

Studio Time is a DirectX compatible plug-in suite for use in host applications such as audio editing or processing software. It consists of two plug-ins for time scale and pitch modifications:

- **StudioTime** allows you to change the length of a recording without changing the perceived pitch.
- **StudioPitch** allows you to change the pitch of a recording (transpose) with optional tempo and timbre preservation

Both plug-ins are based on Acon Digital Media's unique time scale modification technology, that gives excellent results even for large modification factors. It is not limited to one special type of audio material like many other algorithms and works well for rythmical and tonal audio material as well as for complete mixes.

1.1 Requirements

Before you install Studio Time, please make sure your computer fulfills the following requirements:

- A Pentium 4 or compatible processor with a CPU clock rate of 1 GHz or more
- A minimum of 128 megabytes RAM
- A Windows-compatible sound card

In addition, you will need the following software installed on your computer:

- Windows 98 SE, Windows Me, Windows 2000 or Windows XP
- DirectX 8.0 or later (the current version at the time this is written is DirectX 9.0c)
- A DirectX plug-in compatible host application. Please note that some host applications that claim DirectX compatiblity do not support plug-ins that modify the duration of the recording.

2 The Studio Time Plug-Ins

2.1 StudioTime

StudioTime allows you to change the length of the recording without changing the perceived pitch.

User Interface



The desired duration can be specified as a percentage of the original duration, by specifying the original and the target duration or by specifying the original and the target tempo in beats per minute (BPM).

Specifying the Duration Change in Percent

You can change the duration change in percent by moving the percentage slider with the mouse. If the percentage is set to 100%, there will be no change, whereas values higher than 100% slow down and values below 100% speed up the recording.

You can define the percentage numerically (using the keyboard) by clicking the number right to the percentage slider.

Specifying Original and Target Duration

If you want the recording to match a given amount of time, you can enter the original and the target duration. StudioTime will then calculate the correct time scaling. Both the original and the target duration must be entered in the following format:

Hours : Minutes : Seconds : Milliseconds

Thus, a duration of 3 minutes, 45 seconds and 10 milliseconds should, for example, be entered as 00:03:45:010.

Specifying Original and Target Tempo

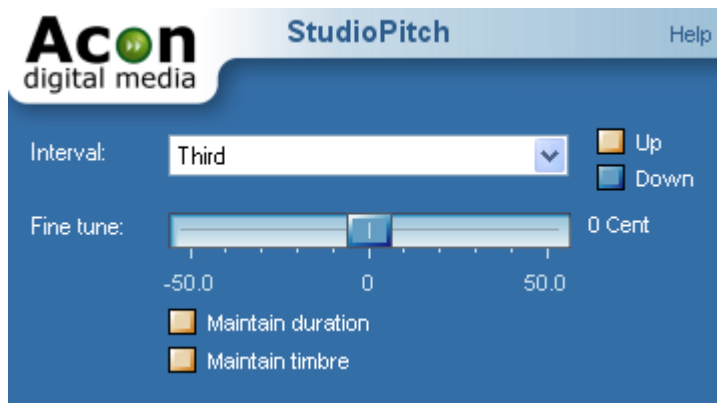
If you want the recording to match a tempo specified in beats per minute (BPM), you can enter the original and the target tempo. StudioTime will then calculate the correct time scaling.

2.2 StudioPitch

StudioPitch allows you to change the pitch of a recording (transpose), with or without changing the tempo. In many cases, large pitch changes lead to unnatural sounding results. The effect is especially pronounced when changing the pitch of the human voice, where higher pitched voices sound more like Disney's chipmunks than a human voice.

StudioPitch has an optional "maintain timbre" option that reduces this artifact.

User Interface



You can define the pitch change by selecting the desired interval and choosing the direction using the "up" and "down" radio buttons. The output pitch can be fine tuned by moving the "fine tune" slider with the mouse. The fine tuning is specified in Cents, where 100 Cents equal one semitone.

The pitch can be changed by playing the recording faster or by using the time scale modification engine so that the original tempo is preserved. You can activate the time scale modification engine by checking "**Maintain duration**".

To activate the timbre preservation, check "**Maintain timbre**".

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