

Modify Sampling Rate

What Is Modify-Sampling-Rate?



ModifySamplingRate is an accessory program of FalCon, not maintained as a product. The program is made available to our customers at no cost as shareware.

The program may be forwarded to third parties if the source from which it is obtained is indicated.

What Does Modify-Sampling-Rate Do?

ModifySamplingRate is used to display the **frame rate** of AVI files, and modify if it is necessary.

The **T0 time** (beginning time of the AVI file) can also be changed.

Background



Each AVI file contains a **header** specified by *Video for Windows*. This header also contains the **frame rate** of the file (= sampling rate or recording speed of the camera). The entire duration of the video is calculated from the sampling rate and the number of images.

Two entries are used for the frame rate: **dwScale** and **dwRate**. According to the AVI definition, dividing **dwRate** by **dwScale** yields the recording rate in the unit of measure [fps] = *frames per second*.

FalCon AVI Viewer also uses these values except that FalCon multiplies the two values instead of dividing one by the other.

This trick is used first to reach a recording speed that the *Windows Media Player* is capable of displaying (in the range between 1 and 25 fps) and secondly to be able to use the actual high-speed recording speed in FalCon products, since this speed is permanently entered in the header.

In our opinion, this “adapted” use of variables makes it much simpler to handle videos. Additional text files that would otherwise be necessary can quickly become confused or forgotten during a transfer – this source of error is eliminated. Each AVI file is thus capable of existing on its own and carries all relevant and necessary information within it.

ModifySamplingRate finds a combination of numbers that yields the actual recording speed when they are multiplied by each other, but also yields a compatible value for *Windows* when one is divided by the other. Priority is given

to the actual frame rate. In some circumstances, the result may be a value that is unfavorable for *Windows*.

A couple of examples of this:

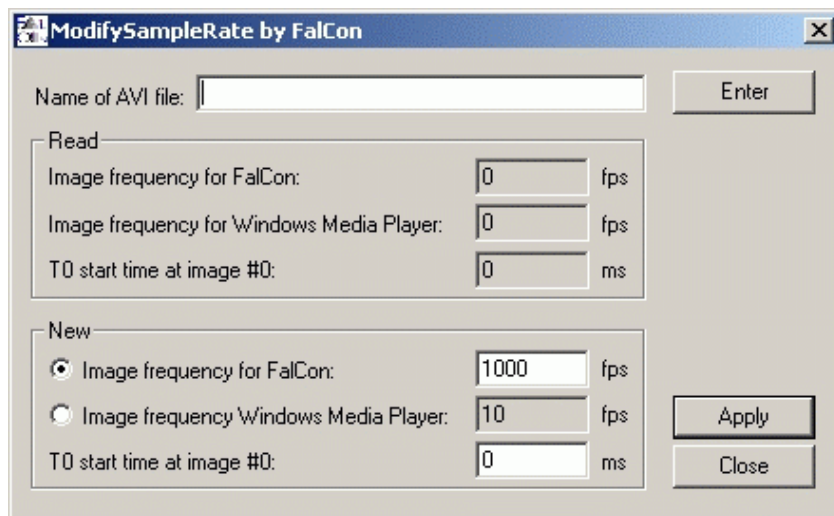
Frame rates:

Actual	Value for Windows	Value for FalCon
100	25	100
200	12.5	200
500	20	500
1000	10	1000
997	997	997

The **T0 time** is entered in the header as an additional parameter, since usual Windows applications start from an implicit starting time of 0 s in image # 0. The time value is written to the AVI file both as an integer value entry in [ms] and as a floating point number (for times between the millisecond grid).

Interactive Operation

Start the program without any additional parameters. The following dialog appears:



Use the **Enter** button and the **Name an AVI file** dialog to select the AVI file you would like to modify.

The values read from the file are written in the **Read** combo box.

Now enter the desired frame rate for FalCon in the **New** combo box (**Image frequency for FalCon** = actual recording rate).

As soon as you exit the input text box (by clicking on another box or pressing the Tab key, for example), the figure for frame rate (image frequency) with the gray background for the Windows Media Player is automatically recalculated (**Image frequency for Windows Media Player**) and displayed.

In this interactive mode you can only assign the frame rate for FalCon applications, thus not for the *Windows Media Player*.

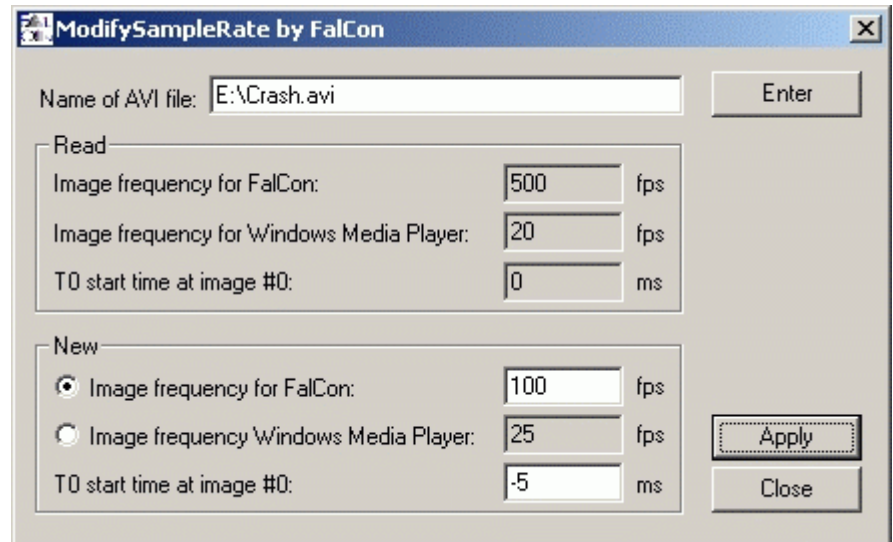
Alternatively you can enter the frequency for the Windows Media Player as master; in that case the frame rate for FalCon will be derived accordingly.

Until 30 fps both frequencies are identical.

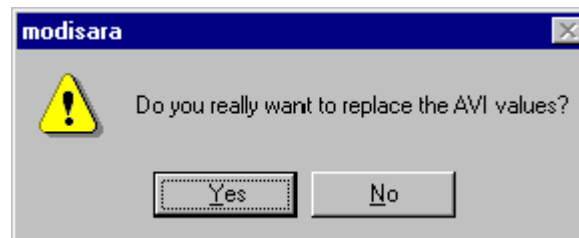
Special Case:

In order to get the correct NTSC frequency for Windows applications, e.g. Adobe Premiere, enter exactly(!) **29.97 fps** as **Image frequency for Windows Media Player**. The corresponding FalCon frame rate will be 299700 fps.

If necessary, adjust the T0 start time in Image #0 as well (**T0 start time at image #0**).



If you would like to accept the values into the file (writing) click on the **Apply** button. A confirmation question now appears:



After you respond to this with "Yes", you will find the new values in **Read**.

Now select the next AVI file to be processed or exit the program with the **Close** button.

Batch Mode

There is no further input or output on the screen when you use this mode.

If errors occur while the program is running, the exit status is set to EXIT_FAILURE (== 1), otherwise to EXIT_SUCCESS (==0). You can query this status through ERROR_LEVEL.

Various parameters are available to communicate commands to be executed by the program:

- **/W** means that the frame rate should be set to the Windows frame rate. The default setting is the frame rate for FalCon programs.
- **/Q** means that the frame rate should be set to the FalCon frame rate. (= default setting)
- **/AVI** + name of the AVI file to be processed.
Please specify the complete path. If blanks “ ” occur in the name, delimit them with double quotation marks (“”).
- **/RATE** + frame rate = the sampling rate in frames per second [fps].
The default setting is 1000 fps.
- **/T0** The T0 start time of the video in ms. The default setting is 0 ms.

Example:

```
modisara /Q /AVI=J:\AVI\CRASH.AVI /RATE=1000 /T0=-5
```