

One moment please ...

About SMoRPhi

What is SMoRPhi?



SMoRPhi is a software synthesizer. It was designed to create samples for use in other programs, exact as you can do it with a real synthesizer. In order to generate a specific sound, you can change a lot of parameters that will be explained <u>here</u>.

The copyright



SMoRPhi Version 3.0 is copyright by André Karwath. This program is shareware, for information about the registration, click <u>here</u>.

Contacting the author



If you have questions about SMoRPhi,
* email to aka@informatik.tu-chemnitz.de or
* write to André Karwath, Fritz-Heckert-Straße 11, 09557 Flöha, Germany

Download the latest version of SMoRPhi from http://www.tu-chemnitz.de/~aka

The program



The mainpart of SMoRPhi is written in Delphi 2.0, the time-critical routines are written in Assembler.

A quick tutorial



OK, now let's go to the first interesting part of this help file - let's create a simple instrument. After each step you should press the play button to hear the result.



Start SMoRPhi - I think you know how to do this.

The result is boring because you hear the whole time a simple sawtooth wave. Let's change this:

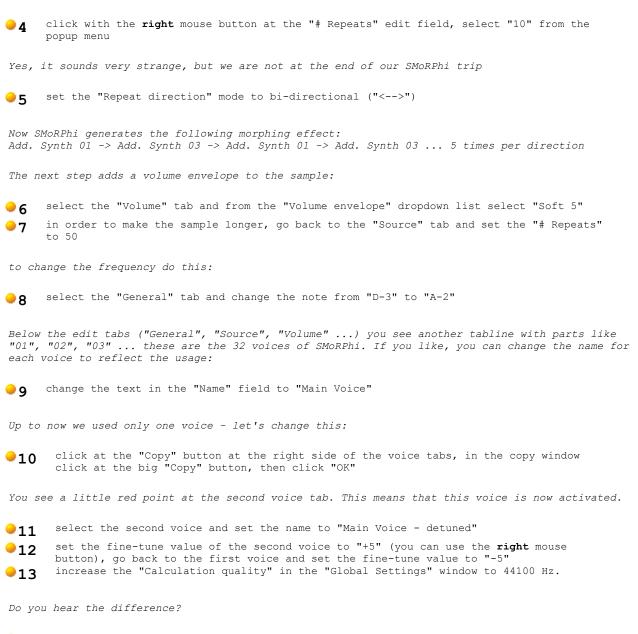


select in the "Wave Generation" window the "Source" tab to see the wave source for this voice, as you can see, the "Source" and the "Destination" windows shows both the sawtooth from the dropdown list below the source part select the preset "Add. Synth 01", from the dropdown list below the destination part select the preset "Add. Synth 03".

Now you will hear a morphing between the two selected wave presets "Add. Synth 01" and "Add. Synth 03". In order to demonstrate the morphing, I have included the "Morphing preview" window, which can be controlled with the "Morphing preview control" slider.

3 click with the right mouse button at the "Length" edit field and select from the popup menu "100 ms"

OK, the sample is now very short, but ...



- •14 type in a description for our new instrument, let's say "the tutorial instrument", or
 "SMoRPhi rules!"
- 015 click at the "Save Instrument" button, type in "Tutorial" and press "Return"

Now we are at the end of the tutorial, but I have included a lot of demo instruments for you to check out.

Version history

Get the latest version at "http://www.tu-chemnitz.de/~aka"

0.0 - 2.5 private and semi-private releases

2.6 (04/17/1997) first public release

3.0 (10/07/1997)

SMoRPhi - the next generation o MIDI-in support o improved wave preset editor (filter, function generator, .wav import \ldots) o wave-, FFT- or sonogram display of the calculated samples o noise mode for the oscillators o button to directly set the frequency o global detune parameter o new effect section - lowpass with resonance, 6/12/18/24/38/infinite dB - 10-band graphic equalizer - distortion with four parameters - volume - maximize - fade in/out o faster calculations up to 3 times o faster program start up to 5 times o more and better demo instruments o improved online help o improved design

- o improved registration possibilities (all major credit cards, many different currencies)
- o removed shareware nagscreen

Shortcuts



This is a list of shortcut keys available in SMoRPhi.

All icon buttons have keyboard shortcuts: Rest the the mouse cursor over the button until a tooltip pops up and describes the shortcut key.

CTRL+A	Additive Synthesis
CTRL+B	About
CTRL+C	Copy voice
CTRL+D	ADSR editor
CTRL+E	Reset voice
CTRL+F	Preset editor
CTRL+G	Manage volume envelopes
CTRL+H	Start macro recording
CTRL+I	Zoom in
CTRL+J	Stop macro recording
CTRL+K	Manage macros
CTRL+L	Save instrument as
CTRL+M	Manage wave presets
CTRL+N	New instrument
CTRL+O	Zoom out
CTRL+P	Play wave
CTRL+R	Load instrument
CTRL+S	Save wave
CTRL+T	Statistics
CTRL+V	Volume envelope editor
CTRL+W	Save instrument
CTRL+Z	Options
F1	Help contents
F2	General tab
F3	Source tab
F4	Volume tab
F5	Vibrato tab
F6	Lowpass tab
Alt+F4	Exit

The registration of SMoRPhi

General



SMoRPhi is Shareware, meaning that you can test the program free and check if it is useful for you.

A single registration is valid for all future versions, since registered users receive a registration code. You should register now, because SMoRPhi's registration fee will rise sooner or later (currently it's really inexpensive) due to the inflation. Of course, SMoRPhi is still under construction. I plan to add plenty more functions in the future.

A registration is valid for a single person or a single PC respectively. Please ask for prices of multiple licences (group licences).

The registration fee is \$20 US.

Registration

To register SMoRPhi please use one of the following two ways:

<u>Direct registration</u> Please complete and print the registration form ("register.frm").

You can pay with

* \$20 US or with * 30 DM (Deutsche Mark). If you do not want to pay cache, please use an Eurocheck (the amount must be in DM).

Send the form and the registration fee to

André Karwath Fritz-Heckert-Straße 11 09557 Flöha Germany

As soon as I receive you mail, I will send you the registration code. If you like, I can send the code by email, this is faster.



<u>Registration with the help of KAGI, a powerful registration service</u> Please start the program "Register.exe" and fill in the form that is presented. - just follow the online instructions of the program.

It accepts many different payment methods such as:

- * US Check
- * Money Order
- * Cash (in many different currencies)
- * Visa, Mastercard, American Express, First Virtual
- * Invoice

Then either email the data generated by the registration program or print it and send it via postal mail or fax to the given address. Sensitive information, like credit card numbers, is encoded for better security.

You will get your registration code in 0-4 days.

If you have questions, email to aka@informatik.tu-chemnitz.de

Warranty Disclaimer



I make no warranty of any kind, expressed or implied, including any warranties of fitness for a particular purpose. In no event I am liable for any incidental or consequential damages arising from the use of SMoRPhi 3.0.

André Karwath

The voice parameters

Overview



SMORPhi plays up to 32 voices at the same time. Each of these voices has the following parameter sets.



The voice parameters - general tab

Voice active

If this checkbox is switched off, all other parameters of the voice are unimportant. If the voice is switched on, you will see a little red point behind the voice name.

Name

This is the name of the voice. You can edit it to reflect the usage of the voice in the instrument. Click with the right mouse button for defaults.

Note

This is the note for this voice and one possibility to change the frequency of the generated sound. Related parameters: Fine-tune

Fine-tune

Here you can change the fine-tune value for the note. Click with the right mouse button for defaults. *Related parameters: Note*

The voice parameters - source tab

Source

This is the source wave for the waveform morphing. You can use one of the presets or noise. Related parameters: Destination, Length, Repeats

Destination

This is the destination wave for the waveform morphing. You can use one of the presets or noise. Related parameters: Source, Length, Repeats

Morphing preview / Morphing preview control

This gives you a demonstration of the waveform morphing and has no effect on the generated wave. Click with the right mouse button for defaults. Related parameters: Source, Destination

Length

Here you find the setting for the morphing length for one direction. Click with the right mouse button for defaults. Related parameters: Repeats, Repeat direction

Repeats

Here you find the setting for the number of morphing repeats. Click with the right mouse button for defaults. Related parameters: Repeats, Repeat direction

Repeat direction

This option has two possible settings: unidirectional (-->) and bi-directional (<-->)Related parameters: Repeats, Repeat direction

Phase

Here you can change the phase of the wave. Click with the right mouse button for defaults.

The voice parameters - volume tab

Volume envelope

Here you find the volume envelope. You can select a predefined envelope from the dropdown list or define a new one in the edit window. Related parameters: Volume

Volume

With this slider you can define the volume of the voice. Click with the right mouse button for defaults.

Related parameters: Volume envelope

The voice parameters - vibrato tab

Vibrato speed

This is the speed of the vibrato, which will be multiplied with 100 if the "x 100"-checkbox is switched on. Click with the right mouse button for defaults. *Related parameters: Vibrato depth*

Vibrato depth

This is the depth of the vibrato, which will be multiplied with 100 if the "x 100"-checkbox is switched on. Click with the right mouse button for defaults. *Related parameters: Vibrato speed*

The vibrato speed and the vibrato depth will be morphed. That's why there are two settings for each parameter - the setting for the start of the wave and the setting for the end of the wave. If both settings are equal, you will hear no morphing.

Vibrato direction

Here you can define the start direction of the vibrate - up or down. You will only hear a difference if the vibrato speed is very low. Related parameters: Vibrato speed, Vibrato depth

The voice parameters - lowpass tab

Active

If this checkbox is switched off, no lowpass will be used.

Intensity

With this parameter you can define the intensity of the lowpass. I have implemented a so-called FIR (Finite Impulse Responsive) filter, which has no cut-off frequency. Click with the right mouse button for defaults.

The Intensity will be morphed, that's why there are two settings for each parameter - the setting for the start of the wave and the setting for the end of the wave. If both settings are equal, you will hear no morphing.

The main windows

Overview



SMoRPhi has three main windows.

 $\underline{\mbox{The "Wave Generation" window}}$ This is probably the most interesting window of SMoRPhi and the only one you really need. In the wave generation window you can set SMoRPhi's voice parameters of the 32 voices.

The "Global Settings" window

Here you can edit some global settings for the instrument.

- * the calculation quality
- * an instrument description
- * all the global effects like distortion or the EQ

<u>The "Waveform View" window</u> Here you see the graphical representation of the calculated sample. You can choose one of the three view modes:

- * Waveform
- * FFT
- * Sonogram

The main windows - wave generation

At the bottom part of the main window you find a tab line with the name of all 32 voices. If you select one of them, the parameters of the selected voice will be shown in the main part of this window.

If you want to learn more about the parameters, click <u>here</u> for detailed explanations. Another way to learn more about SMoRPhi's voice parameter is to execute the <u>quick tutorial</u>.

The main windows - global settings

Instrument description

Here can you type in a description for the instrument.

Calculation quality

Choose between 11025, 22050 and 44100 Hz.

Global detune

This detunes all voices and is mainly useful to create multi-sampled instruments.

Effects

Here you can add additional effects to the voices and change the order of the effect calculation.

- Graphic EQ

This effect lets you reduce or increase frequency parts of the sample. If the calculation quality is not 44100 Hz, not all sliders are enabled - the highest possible frequency in the sample is always the half of the sample frequency.

- Lowpass

Frequencies greater than the cutoff frequency are attenuated and frequencies less than the cutoff frequency are not affected.

- Distortion

This effect lets you distort the signal: all values over the Threshold level are set to the clamp level. The Dry slider regulates the amount of the unprocessed signal mixed into the output, the Distorted slider regulates the amount of distorted signal mixed into the output.

- Volume

The volumeslider lets you change the volume of the signal.

- Maximize

Use this effect to maximize the volume of a signal without clipping.

- Fade

Use this effect to linearly fade a signal from a volume of 0 to a volume of 100% over the given time.

The main windows - waveform view

Here you see a graphical representation of the calculated instrument in different ways:

Waveform view

This shows you a graph of the signal where the horizontal axis corresponds to the time and the vertical axis corresponds to the amplitude of the wave.

FFT view

This shows you the frequency spectrum of the signal. The horizontal axis corresponds to the frequency, the vertical axis corresponds to the amount of this frequency. In addition you can set a window function. The window function has a strong effect on the "sharpness" of peaks in an FFT graph and the "leakage" into neighboring frequencies.

Sonogram view

This shows you the frequency over the time. The horizontal axis corresponds to the time like in the waveform view. The vertical axis corresponds to the FFT view at this time. The FFT Size sets the number of discrete frequencies analyzed. Higher numbers correspond to more frequency resolution at the expense of lower time resolution and longer computational time.

The preset edit windows

Overview

You have two possibilities to add, modify or delete wave presets.



With the help of the Wave Preset Manager you can sort, rename, delete and print the waves:

The Wave Preset Manager

The preset edit windows - free

Overview

In this window you can easily draw your own waves.

To create a new wave draw the wave in the paint window, type in a name in the "Name" field and press the "Add" button.

To modify an existing wave select the wave in the dropdown list, then - modify the wave in the paint window and/or - edit the name in the "Name" field. Then press the "Update" Button.

To delete an existing wave select the wave in the dropdown list, then press the "Delete" button.

The "Modify" functions

Smooth
removes the high frequencies.

Maximize

scales the wave to get the highest possible volume without distortion.

Mix

mixes the wave with another selectable one.

Mirror H. / Mirror V. mirrors the wave. This function change the wave without changing the sound of it.

Double / Half frequency

creates the same wave with the half or double frequency.

Volume

lets you change the volume interactivly.

Filter

lets you change the spectrum of the wave interactivly.

The "Create" functions

Silence

creates a silent wave.

Random

creates a random wave.

Import

lets you import a wave from a text file (see below) or from a .WAV file.

Function generator

lets you calculate and use functions for the wave.

Possible variables are x (the time axis) and y (the current value of the wave). Possible constants are Pi (3.1415) and E (2.71828).

simple examples:

Func	tion	<u>X min</u>	<u>X max</u>	<u>Result / Comment</u>
sin	(x)	0	1	part of a sine
sin	(2*3.14*x)	0	1	a complete sine
sin	(2*Pi*x)	0	1	"
sin	(x)	0	6.28	"
sin	(x)	0	2*3.14	"

sin (x)02*PiYou can use calculations for X min and X max ...Y02*Pi"Ydo not caredo not carecreates the same wave like the existing one
creates the same wave like the existing one, but with
the half volume.(y + sin (x))/202*Pi

If you do not want to overide the whole existing wave, use the window settings.

To import a text file it must have the following structure:

```
first line - the header
                                    SMoRPhi Preset Text File
second line - the wave preset name
                                    An Extreme Sine
next 150 lines - the Y-values as
                                    0
decimal numbers, range 0..149
                                    3
                                     6
                                     . . .
You can simply write these files with the help of a text editor, or you can write a little
program that generate these files.
An example in Pascal:
var OutFile: Text;
    x : Byte;
          : real;
    У
begin
  assign (OutFile,'c:\out.txt');
                                               { open the file }
  rewrite (OutFile);
  writeln (OutFile, 'SMoRPhi Preset Text File'); { write header text }
  writeln (OutFile, 'A Half Sine');
                                                 { write the preset name }
  for x:=0 to 149 do
                                                 { the loop }
  begin
    Y:=sin (Pi*x/149);
                                                 { a half sine, y-range 0..1 }
    Y:=Y*149;
                                                 { new y-range 0..149 }
                                                 { write it to the file }
    writeln (OutFile, round (Y));
  end;
  close (OutFile);
                                                 { close the file }
end.
```

The preset edit windows - add. synthesis

Here you find the Additive Synthesis tool, which you can use to create new waves.

To create a new wave or update an existing one

select from the "Source Wave" dropdown list the source, then edit the resulting wave by changing the positions of the sliders. The first slider changes the amount of the base frequency, the second one the amount of the double base frequency and so on. The result is a mix from all 16 waves. At any time you can click at the "Play" button to hear the result, or you can click with the right mouse button at the window for the same effect.

Then edit the name of the wave in the "Name" edit field. If you want to create a new wave, press the "Add" button now. If you want to update an existing wave, select the destination wave and press "Update".

To delete an existing wave

select the wave in the dropdown list, then press the "Delete" button.

The preset edit windows - manager

Use this window to manage your wave presets.

To move a preset up select the name and press the "Move Up" button.

To move a preset down select the name and press the "Move Down" button.

To sort the presets alphabetically click at the "Sort Up" or "Sort Down" button.

To rename a preset select the name, press the "Rename" button and enter the new name. The names must be unique.

To delete a preset select the name and press then "Delete" button.

To create SMoRPhi's "Wave Preset Report" click at the "Report" button to get a preview. In the appearing window you can print or save this report.

The volume envelope edit windows

Overview

You have two possibilities to add, modify or delete volume envelopes.



With the help of the Volume Envelope Manager you can sort, rename, delete and print the envelopes:

The Volume Enveloope Manager

The volume envelope edit windows - free

Here you can add, modify or delete volume envelopes.

To add a volume envelope

draw the envelope with your mouse - you can
- move a point by clicking on it with the left mouse button, hold down the button and move the
mouse
- create a new point by clicking with the left mouse button on a place without a point
- delete a point by clicking with the right mouse button on it.
Then type in a new "Preset Name" and click the "Add" button.

To modify a volume envelope

Select the envelope from the "Volume envelope" dropdown list and modify the points and/or the name as described above. Then press the "Update" button.

To delete a volume envelope

select the envelope from the "Volume envelope" dropdown list, then press the "Delete" button.

To import a volume envelope from a textfile

click the "Import" button and select the file, then press OK.

The textfile must have the following structure:

first line - the header	SMoRPhi Volume Envelope Text File
second line - the envelope name	An Extreme Sine
third line - the number of x-y-pairs	3
next lines - the X- and Y-values as	0 0
decimal numbers, range 0255	50 255
	255 0

You can simply write these files with the help of a text editor, or you can write a little program that generate these files.

An example in Pascal:

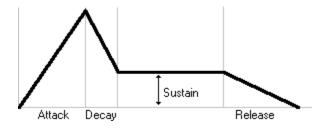
const NumberOfPoints=50;

```
var OutFile: Text;
   count : Integer;
MultiX : real;
   Х,Ү
         : real;
begin
  assign (OutFile,'c:\out.txt');
                                                            { open the file }
  rewrite (OutFile);
  writeln (OutFile, 'SMoRPhi Volume Envelope Text File'); { write header text }
  writeln (OutFile, 'A Name');
                                                            { write the preset name }
  writeln (OutFile, NumberOfPoints);
  MultiX:=255/(NumberOfPoints-1);
  for count:=0 to NumberOfPoints-1 do
                                                           { the loop }
  begin
   X:=MultiX*count;
    Y:=sin (Pi*X/255);
    Y:=255*Y;
    writeln (OutFile, round (X), ' ', round (Y));
  end;
  close (OutFile);
                                                            { close the file }
end.
```

The volume envelope edit windows - ADSR

This window is the second way to add, modify or delete ADSR volume envelopes.

ADSR stands for Attack, Decay, Sustain and Release:



To add a volume envelope

Move the sliders to create the envelope, then type in a new name and click the "Add" button.

To modify a volume envelope

You can only modify ADSR envelopes, to edit other ones, use the "Freely Volume Envelope Edit" window.

Select the envelope from the "Volume envelope" dropdown list, modify the envelope and press the "Update" button.

To delete a volume envelope

select the envelope from the "Volume envelope" dropdown list, then press the "Delete" button.

The volume envelope edit windows - manager

Use this window to manage your volume envelopes.

To move an envelope up select the name and press the "Move Up" button.

To move an envelope down select the name and press the "Move Down" button.

To sort the envelopes alphabetically click at the "Sort Up" or "Sort Down" button.

To rename an envelope select the name, press the "Rename" button and enter the new name. The names must be unique.

To delete an envelope

select the name and press then "Delete" button.

To create SMoRPhi's "Volume Envelope Report"

click at the "Report" button to get a preview. In the appearing window you can print or save this report.

Other windows

Overview



select one of the following links.

t<u>he "Load An Instrument" window</u> <u>the "Options" window</u> <u>the "Statistics" window</u>

the "Copy Voice" window the "Reset Voice" window

the "Macro Recording" window the "Macro Manager" window

the "Registration" window

Other windows - "Load An Instrument"

With the help of this window you can load saved instruments. To open it, click at the "Load Instrument" button or press CTRL+R (read).

Select the path and instrument, then press "Load" or double-click at the instrument name. As soon as you select a file, some information are displayed at the bottom of the window. The most significant one is the "Version To Load". This is the version of SMoRPhi you need to load this instrument. If you have an older one, pay a visit to my homepage (http://www.tu-chemnitz.de/~aka) to download the latest version.

Other windows - options

In this window you can set various options to adjust SMoRPhi to your personal wishes.

General tab

Show Hints If this checkbox is switched on, move your mouse over an element (for example a button) to get a short help text.

Auto-convert saved .WAV files With this feature of SMoRPhi you can specify an auto-convert program. This program should do something with a saved wave file, for example it can convert the file to another format. Use MAZ's great wav_2_xi.exe to convert all samples you save with SMoRPhi to the XI format (Fasttracker 2).

Background tab

To use an individual graphic as background select the window part, then switch off the "Default" checkbox. Now click at the "Image" radio button and type in (or select with the help of the "..." button) an image. Now select on of the three image draw modes: "Tile", "Stretch" or "Center" and press "OK".

To use an individual color gradient as background select the window part, then switch off the "Default" checkbox. Now click at the "Gradient" radio button and select the two colors for the gradient.

To use nothing as background except a plain color, select the window part, then switch off the "Default" checkbox. Now click at the "Gradient" radio button and select two equal colors.

Default tab

Here you can set the default description, instrument names and calculation quality of new instruments.

MIDI Input tab

If "Enable Midi Input" is switched off, then the MIDI support is disabled. Else you can select a MIDI input device from the list below. If "Use velocity for note events" is switched on, the volume of the played note depends of the velocity of the pressed key. If "Use Sustain Pedal to start sample playing" is switched on, you can use the Sustain Pedal to start the calculation and replay of the sample.

Other windows - statistics

This window shows you some more or less useful statistics about SMoRPhi, for example the number of calculated samples and the number of starts of SMoRPhi.

Other windows - copy voice

Use this window to copy one voice of an instrument to another voice of the same instrument. After you have opened the window, select the source voice, then select the destination voice and press the "Copy" button.

You can copy all parts of a voice, or you can select the parts individually.

I have included some useful options:

Auto increment source After you have clicked the "Copy" button, the next source instrument will be the current source instrument. Use this in connection with the "Auto increment destination" or the "Auto decrement destination" feature, so that you can copy easily more than one voice.

Auto decrement source The same as above, except that the previous instrument will be selected.

Auto increment destination After you have clicked the "Copy" button, the next destination instrument will be the current destination instrument.

Auto decrement destination The same as above, except that the previous instrument will be selected.

Example:

The first 8 voices have the names "01", "02", ..., "08". The current source instrument is "01", the destination instrument is the "05". If you have switched on the "Auto increment source" and the "Auto increment destination" option, you can click four time at the "Copy" button to copy the voice "01" to the voice "05", the voice "02" to the voice "06" and so on.

Other windows - reset voice

Use this window to reset the parameters of voices.

To reset one voice Select the wave in the "Wave Generation" window, then open this "Reset Voice" window and select "Selected Voice Only", click "OK".

To reset more than one voices at the same time Open the "Reset Voice" window, select "Voices From ... To ..." and choose your first and your last voice you want to initialize, then click "OK".

To reset all voices at the same time Open the "Reset Voice" window, select "All Voices" and click "OK". Another way to reset all voices is to select "New Instrument" from the main menu or to press CTRL+N.

Other windows - macro recording

With the help of this window you can record macros.

To record a macro

select the menu entry Macro->Start Recording. In the appearing window you have to type in at least a name for the macro. After the recording you will see this name in the macro menu. To create a menu shortcut (this means a underlined letter), put a "&" before the shortcut letter. For example: "a &cool macro" will result in "a <u>c</u>ool macro".

There exists some more parameters:

<pre>description</pre>	If you like, you can type in a description for the macro. When you move the mouse above the menu entry for the macro, this text will appear in the status line.
🔶 shortcut	Here you can type in a real shortcut for the macro. You can use the additional keys Shift, Alt and Ctrl.
relative parameters	If this box is checked, SMoRPhi records only the changes of the parameters, if this box is not checked, the real values are stored in the macro. An example: The value of the volume is 50. Now start the recording and change the value to 75. Stop the recording, set the volume to 0 and execute the macro. If the "Relative parameters" box was checked, the value is now 25, because while the recording you increased the parameter by 25 (75-50). If you execute the macro again, the value jumps to 50, then to 75 and then to 100. If the box was not checked, the value after the execution is always 75, independent of the value before.

Now press the "OK" button and change the parameters you want. Then select "Stop Recording" from the macro menu to store the recorded macro. To execute it, select it from the macro menu.

Other windows - macro manager

With the help of this window you can view, move, sort, rename and delete a macro. Also you can change the macro parameters, for example the description or the shortcut.

To move a macro up select the name and press the "Move Up" button.

To move a macro down select the name and press the "Move Down" button.

To sort the macros alphabetically click at the "Sort Up" or "Sort Down" button.

To rename a macro select the name, press the "Rename" button and enter the new name. The names must be unique.

To delete a macro select the name, then press the "Delete" button.

Other windows - registration

Use this window to type in your received registration code. Type your name in the first field, your registration code in the second one and press OK. Now you are a proud registered user of SMoRPhi.

Tell me more about getting the full version of SMoRPhi.

Main menu



For more information select the corresponding menu entry.

SMoRPhi

Play Wave Save Wave Options Statistics Exit Edit Wave Presets <u>Free</u> <u>Add. Synthesis</u> <u>Manager</u> Volume Envelopes <u>Free</u> <u>ADSR</u> <u>Manager</u> View Zoom <u>In</u><u>Out</u> Voice Part <u>General</u><u>Source</u> Volume <u>Vibrato</u> <u>Lowpass</u> Top Panel <u>Left Panel</u> Bottom Panel

Help

<u>About</u>

<u>Contents</u> <u>Registration</u> Voice Copy Reset

Instrument

<u>Load</u> <u>Save</u> <u>New</u> Load Again Macro Start Recording Stop Recording Manager Click here to calculate and play the sample. You can then play it as often as you like without any new calculations.

Click here to calculate and save the sample. The format of the saved wave is .WAV, but you can specify an auto-convert program in the $\underline{options}$ window.

Click here to close SMoRPhi.

Click here to decrease the zoom factor of the waveform view window.

Click here to increase the zoom factor of the waveform view window.

Click here to select the corresponding tab of the wave generation window.

Click here to open the instrument save window where you can save instruments. SMoRPhi instruments consists of all parameters and other settings, but not of the calculated samples.

Click here to initialize all parameters and settings of the current instrument.

Click here to open a list with the ten last loaded or saved instruments. Select one of these instruments to load it.

Click here to open SMoRPhi's about window with copyright information and greetings.

Click here to open this online help and jump to the $\underline{\text{main page}}$.

Click here to change the visibility of the panel.