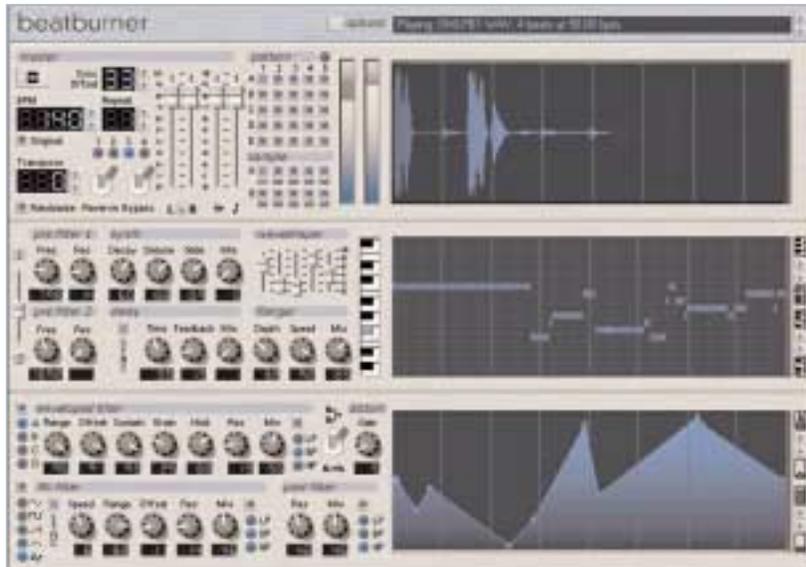


# Code Audio BeatBurner

Melodic Loop Synthesiser



Manual - 01/06/2003

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ALL TRADEMARKS ACKNOWLEDGED

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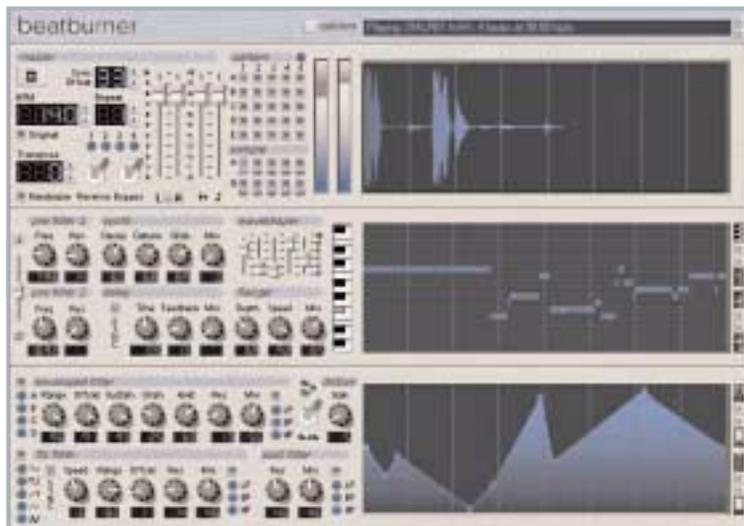
## 1 Installation

Insert the master CD-ROM into your computer's CD drive. Navigate to the CD-ROM drive and double click on the setup.exe icon to run the installer.

During installation you will be asked to specify a VST pug-ins directory. This is the directory in which your host application (eg Cubase) will expect to find the plug-in. If you are unsure of where this is located, check your host application's documentation.

## 2 Using BeatBurner VSTi

Run your host application and select the BeatBurner VSTi. You will be asked to enter your unique serial number, this can be found on the face of your master CD-ROM. Once you have done so you will be presented with the Main Window.



BeatBurner processes wav files to produce its output.



To load a wav file press the top left hand button. A number of files have been included on the CD-ROM. You will need to start your sequencer playing in order to produce any output.

BeatBurner will automatically synchronise to your host (although you can use it without synchronisation if you like - see the Options Window).



You can use the randomise button to get a feel for the type of sounds BeatBurner VSTi is capable of.

## 3 What is BeatBurner VSTi

BeatBurner VSTi is a synthesiser plug-in which generates its output by processing wav files. These files can be anything from percussive loops to vocals. This output is produced by passing the sound through a number of modules including a synthesis module, a number of variable filters, a waveshaper and some effects.

All of the processing is synchronised to the wav file which is looped. This can in turn be synchronised to the host.

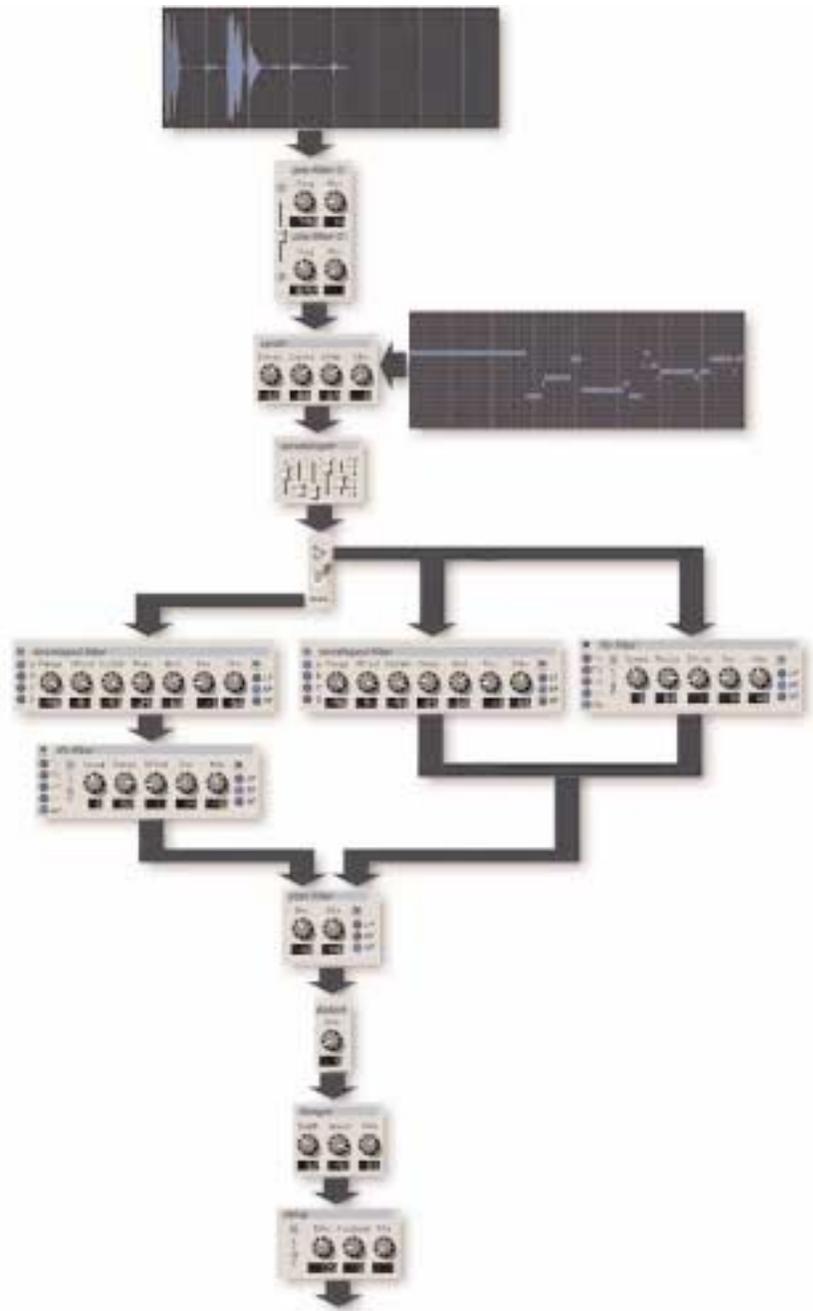
BeatBurner VSTi has a very low CPU burden and as such multiple instances can be used to good effect.

To find out what each of the knobs and sliders do, see the Main Window

## 4 The Host Application

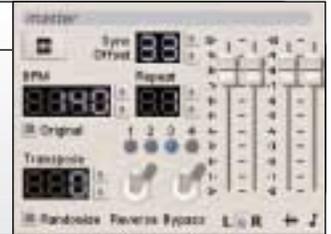
BeatBurner VSTi is designed to function in all VST hosts. However each host handles plug-ins in a slightly different way. In order to simplify its usage, the plug-in has only one program - the edit program. This can be used for duplicating a program via the host. It does not include the WAV file. Care must be taken when saving files as some hosts have the option to either save program by program or to save the entire plug-in data at once. Ensure that you have selected the latter so that all of the plug-in's data is saved.

5 Signal Path



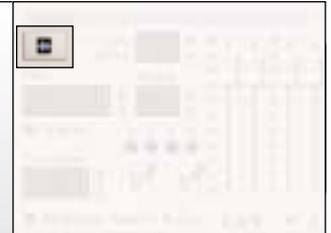
The Master Section

This section controls the global parameters.



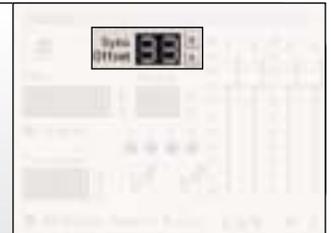
Loading WAV's?

This button loads up a new WAV file. This file is used as the basis of the sound synthesis. A WAV file must be loaded for the program to produce any output.



Sync Offset

In Sync to Host mode (set in the Options Window) Sync Offset are available. This can be used to change the zero reference for synchronisation with the host (in beats).



Play?

When not in Sync to Host mode (set in the Options Window) the transport controls are available. This button plays the file and synthesises the output sound.



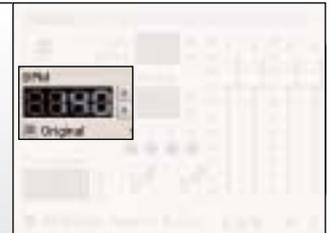
Stop?

When not in Sync to Host mode (set in the Options Window) the transport controls are available. This button stops the synthesis.



BPM

This controls the playback tempo in beats per minute (BPM). Use the up and down buttons to change the value of this parameter. The Original button resets the playback tempo to the loaded .WAV file's tempo.



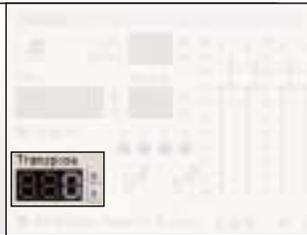
### Repeat

This controls the number of times the sample is played for each run from beginning to end of the sequence. Use the up and down buttons to change the value of this parameter.



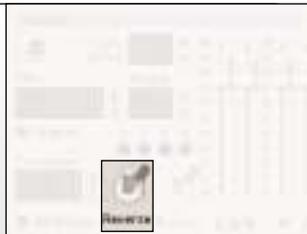
### Transpose

This controls the note pitch transpose. Use the up and down buttons to change the value of this parameter.



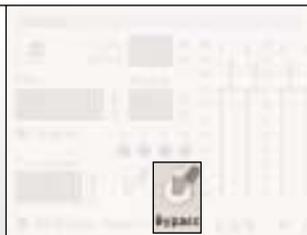
### Reverse

This switch reverses the direction of play of the WAV file.



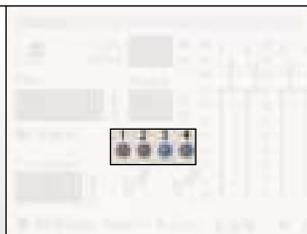
### Bypass

This switch to bypasses the synthesis and plays back the original WAV file.



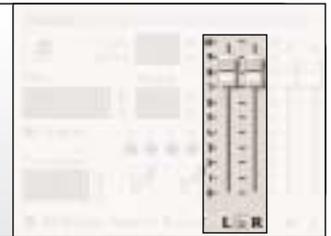
### Current beat

These four LED's light up to indicate the current beat in the file which is playing (all files are assumed to be 4:4).



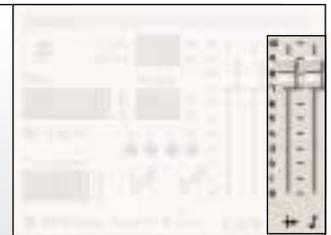
### Master volume

These two sliders adjust the master volume.



### Volume: input and output

These two sliders adjust volumes for the input WAV file and the synthesised output.



### Randomise

This button generates random patterns. The exact parameters which are randomised can be set in the Options Window.



## 6 The Pattern Stores

These buttons are used to select and store patterns. Patterns store all the parameters needed to synthesise your loop except for the input WAVEform.

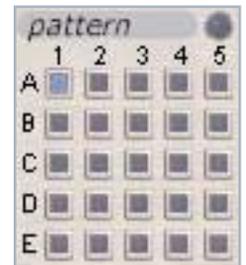
To select a pattern click on one of the numbered keys.

Patterns can either be automatically or manually stored (see the Options Window).

In automatic storage mode, the edit data is stored to the current pattern on selecting a new pattern.

In manual mode, to store a pattern click and hold down one of the numbered keys until the LED lights up.

Patterns can be selected via MIDI using program change messages. Most synthesiser keyboards send program change messages when a new sound is selected. You may need to enable the sending of these messages from your keyboard.



## 7 The Sample Slots

These buttons are used to select samples. When there is a sample loaded the LED below the button will light up. If no sample has yet been loaded this can be done by clicking the slot button. If there is already a sample in the slot, click the load button (in the Master Section) to replace the sample.

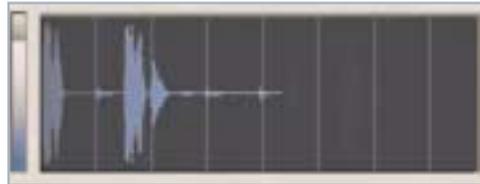


Samples can also be selected using the bottom 10 MIDI notes.

## 8 The Waveform

This display shows the input WAVEform as it plays in real time.

The level meters to the left display the output level.



## 9 The Pre Filters

These two band pass filters are applied to the WAVE file before the main part of the synthesis.

The knobs can be used to adjust the cutoff frequency and resonance for each filter.

The slider adjusts the mix between filter 1 and filter 2.



## 10 The Synthesis Section

This section controls the main part of the conversion of the WAV file to a pitched sound.

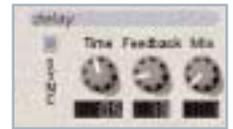
The Decay knob adjusts the duration and resonance of the notes. The Detune knob changes the tone of the sound and the Glide knob sets the portamento range. The Mix knob adjusts the output mix between the synthesised sound and the dry input sound.

This section can be bypassed using the bypass switch.



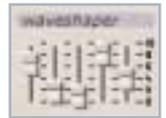
## 11 The Delay Section

This is a stereo 'ping pong' delay. The three knobs control the delay time (in seconds), the feedback ratio and the wet/dry mix for this effect. The sync button synchronises the delay time to the tempo.



## 12 The Waveshaper

The WAVeshaper affects the timbre of the sound. The sliders to the right have more effect on the high frequencies whilst those to the left have more effect on the lower frequencies.



## 13 The Flanger Section

The Flanger Section has three control knobs. The Depth knob controls the frequency range of the flange. The Speed knob controls the flanger's oscillating frequency and the Mix knob controls the wet/dry mix.



## 14 The Sequencer

The sequencer controls the notes which sound as the WAVE file is played.

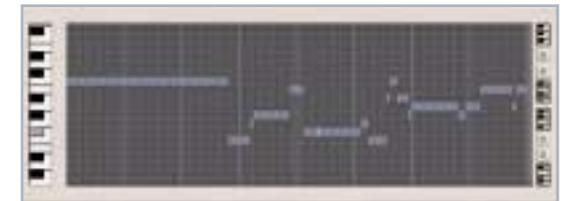
Sequences can be input via MIDI from

the host or by drawing in the sequencer with the mouse.

MIDI data will either overwrite the complete sequence on each repetition or it will only overwrite the sequence whilst notes are down (see the Options Window for more information).

The piano keyboard to the left indicates the note which is currently being played and the note which being input by the user.

The up and down buttons on the right change the view scale and view position of the grid.



## 15 The Enveloped Filter Section

This is a filter whose frequency is based upon the envelope of the input WAV file.



There are four filtering profiles A, B, C and D.

In profile A the frequency of the filter is proportional to the envelope of the WAV file.

In profile B the frequency is inversely proportional to the envelope of the WAV file.

In profile C the frequency is proportional to the envelope of the WAV file whilst the envelope is rising and whilst it is greater than the sustain level. Otherwise it is equal to the sustain level.

In profile D the frequency is inversely proportional to the envelope of the WAV file whilst the envelope is rising and whilst it is greater than the sustain level. Otherwise it is equal to the sustain level.

The Range knob affects the amount that changes in the envelope value affect the frequency of the filter.

The Offset knob controls the base frequency of the filter.

The Sustain knob controls the sustain frequency of the filter.

The Grain knob affects the envelope smoothness. Large values lead to longer sweeping envelopes. Small values lead to shorter sharper envelopes.

The Hold knob should be used in conjunction with the Sensitivity knob to fine tune the filter profile. This knob is only functional in profiles C & D.

The Res knob controls the resonance of the filter.

The type of filter (LP = low pass, BP = band pass, HP = high pass) can be changed.

The Mix knob controls the mix level between the Enveloped Filter and the input signal. This filter can be used in series or in parallel with the LFO Filter. See the Filters Routing Switch section for more details.

## 16 The LFO Filter Section

This is a low frequency oscillator controlled filter.



Various oscillator types can be selected.

These are:

- Sine WAVE
- Square WAVE
- Random
- Sawtooth WAVE
- Triangle WAVE

These oscillators can be synchronised to the WAV file during playback. This is controlled with the Sync button.

The frequency of the oscillator can be controlled using the Freq knob. In Sync mode the value of this knob is equal to the number of oscillations per bar (4:4 time is assumed).

The Range knob controls the magnitude of change in cutoff frequency of the filter caused by the oscillator.

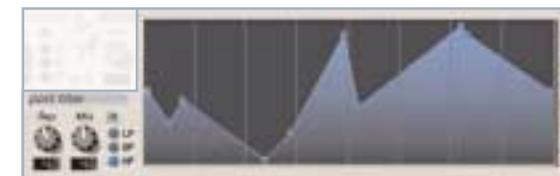
The Offset knob controls the base frequency of the filter.

The Mix knob controls the mix between the LFO Filter and the input signal. This filter can be used in series or in parallel with the Enveloped Filter. See the Filters Routing Switch section for more details.

## 17 The Post Filter

This is a time variable filter.

The display controls the cutoff frequency of the filter at any point in time.



To add points simply double click in the green display. To delete a point, click on the point and press **Delete** on your computer keyboard.

This resonance can be controlled with the **Res knob** and the filter type can be controlled with the type button (LP = low pass, BP = band pass, HP = high pass). The **Mix knob** controls the mix between the output of this filter and the input signal.

The grid in this display lines up with those in the Sequencer section and the Waveform display.

## 18 Filters Routing Switch

This switch determines whether the Enveloped Filter will be used in series or in parallel with the LFO Filter.



## 19 The Distortion Section

The Gain knob controls the distortion level.



## 20 The Options Window.

This window is accessed by pressing the options button in at the bottom of the main window.



### Wav File

- *Preview before loading*

With this option set the WAV files can be auditioned prior to loading. When opening a WAV file the currently selected file will be played if this option is on.

- *Preview in bypass mode*

This option determines whether files are auditioned with processing applied or without.

### Sequencer

- *Note data from host completely overwrites sequence data*

In this mode any incoming midi note data will overwrite the entire sequence from the time that the first note down occurs until the end of the sequence. Note off messages are ignored in this scenario. This option can be useful when there are gaps in the incoming sequence data. If the option is not set in such cases notes from previous loops would be played in the gaps which may not be desirable.



- *Note data from host completely only overwrites sequence data while notes are down*

In this mode incoming midi note data will only overwrite the sequence data when notes are down.

- *Enable playback when notes are down*

In this mode sound will only be produced when notes are down.

- *Enable playback all the time*

In this mode sound be produced whilst the host sequence is playing (if in sync to host mode) or when the play button is pressed (if not in sync to host mode).

- *Enable playback sustain pedal is down*

In this mode sound will only be produced when the sustain pedal is down.

This can be useful when playing live.

- *Sync to host*

This is used to select whether synchronisation to the host application is required. When synchronising to a host application a sync offset will be displayed in the main window. Transport is handled by the host in this mode and therefore there is no play or stop button in the main window. When not synchronised to the host application, play and stop buttons are available.

### Pattern

- *Automatically store existing pattern on new pattern selection.*

When this is selected, patterns are automatically stored when a different pattern is selected. Otherwise the current edit data can be stored in any pattern location by clicking a pattern button and holding down the mouse button until the pattern led flashes.

- *Morph between patterns*

Select this option if a smooth transition between patterns is required. All parameters will automatically adjust over a period of time from one pattern to the next.

- *Morph duration*

This slider determines the length of time over which the morph will occur.

### Randomise

This section controls which parameters will be randomised on hitting the randomise button in the main window. Items can be transferred between the randomise and do not randomise lists by double clicking the or by highlighting them and clicking the appropriate arrow button.

### Display

The width and height of the plug-in window can be specified. This is useful in situations where the entire plug-in window will not fit on screen. The slider determines how often the graphics are refreshed and can be used to lower the cpu overhead if necessary.

### Set as Default

Clicking this button will save the options as the default options which will be applied on start-up of each new plug-in.

#### The Info Panel



This display gives information about the currently selected WAV file.

## 22 Credits and thanks

Lee Stacey - special thanks for fantastic loop content and all the additional product support.

Cover and manual artwork - Ian Legge.

GForce: FXpansion, GMEDIA Music and Ohm Force.

The excellent beta-tester team.

## 21 Midi Learn

BeatBurner VSTi features the ability to link knobs, sliders and buttons in the plug-in to physical hardware (eg Phat\*boy). In order to do this simply click the right mouse button on a knob, slider or button in BeatBurner VSTi and turn a knob on your hardware. The two will then be linked. Adjusting the hardware controller will adjust the knob or slider in the plug-in. Remember to ensure that you have routed MIDI information from your hardware to the plug-in.

If you would like to disconnect the hardware controller from the plug-in simply hold down the "Ctrl" button and click the right mouse button on the appropriate knob, slider or button.