

SoniqWare T3 – User's Guide



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Introduction

Congratulations if you acquired SoniqWare T3!

SoniqWare T3 is a stereo MIDI trigger engine that listens to incoming audio, detects new events, and sends MIDI notes with appropriate dynamics and pan to control a drum sampler or any other synthesizer, all this live or in the studio. With T3, you will be able to:

- *Perform drum replacement,*
- *Enhance a drum or instrument sound by doubling it with a synthesizer,*
- *Trigger a synthesizer using any sound from instruments, voice, or others.*

T3 has a fast and accurate attack detection engine that does not only work for single percussive instrument tracks, but also for full drum loops, or other instruments tracks, provided that the sounds have a fast enough attack, like pitched-percussive instruments such as guitar or piano, but also wind instruments, bowed strings, and voice to some extent. The frequency band on which the detector operates can be adjusted, which provides for more control when triggering from complex material. Also, double triggering can be avoided thanks to an adjustable hangover time. Finally, two trigger modes are provided. The percussive mode sends a midi note on message quickly followed by a note off, and is appropriate for triggering from percussive sounds. The sustained mode sends the midi note off message only when the incoming signal decays, and is hence appropriate for triggering and controlling midi devices from non-percussive instruments. The mapping between the incoming signal loudness and the midi device loudness can be adjusted using several controls allowing for manual setting, linear and non-linear curves, and sustained notes tracking. Mapping between the incoming signal stereo pan to the midi device pan is also possible.

Finally, the interface also allows to store and retrieve programs, and provides a graphical display showing loudness and internal detection signals. T3 also handles all professional sample rates.

T3 will work best on percussive material. In some contexts, you may also find it useful on other instrumental sounds, or on voice.



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The main features of T3 are listed in the following table:

Features
fast and accurate detection engine
pinpoint frequency band used for detection using low-pass and high-pass filters
control both detection sensitivity and detection loudness threshold
adjustable guard to avoid faulty double triggering
percussive trigger mode, to be used for instance for drum replacement
sustained trigger mode, where sustained sound generate sustained MIDI notes
MIDI channel, program, and note control
continuously adjustable dynamics curve, linear and non-linear
velocity and pan captured from the input signal
velocity tracking in sustained mode: expressive changes in the loudness will generate appropriate MIDI expression messages
pan tracking in sustained mode: a left-right panned input audio will generate a left-right panned MIDI note
graphical display: signal loudness and internal detection signal
L/R vu-meter with hold peak and clip readouts
supported sample rates: 44.1, 48, 88.2, 96, 176.4 & 192 kHz
stereo operation
load/save programs and banks
VST automation of all parameters
silent controls
use of SSE1-SSE5 instruction sets
... interesting roadmap... stay tuned...

Purchase, Installation and Activation

Purchase

Web Store

Currently, there is only one way to purchase this software: access the web store via the <http://www.soniqware.com> web site.

After the purchase, you will be able to download the software installer and you will receive a *serial-number* via email. This *serial-number* is unique. Keep it in a safe place as you may need it for communicating with our customer support service, or if you wish to reinstall you plug-in at a later time.

Unzip the package that has been downloaded. If you are using Microsoft Windows, run the installer, and follow the instructions, briefly highlighted in the “Installation” section of this manual. If you are using Mac OS X, simply copy the bundle to the VST plug-ins directory, usually /Library/Audio/Plug-Ins/VST/, or /Users/username/Library/Audio/Plug-Ins/VST/

Run the plug-in (the method will depend on the VST host software you are using). A “Product Activation” dialog box will pop-up, prompting you to enter your *serial-number*, and click the “Activate Now” button. You can also decide to activate later by clicking the “Activate Later” button. In that case, when the plug-in is running, you can also select the “Activate” item in the plug-in main menu (this main menu opens when you click on the logo on the top-left of the plug-in interface). This opens up the same “Product Activation” dialog box.

When the *serial-number* has been entered and the “Activate Now” button has been clicked, the plug-in will connect to the web store servers and receive an activation key that will unlock the plug-in. This last step is fully automatic and does not require manual intervention. More information about software activation is provided in the “Activation” section of this manual.

Important Information

If you need to install the plug-in on another machine, such as a laptop, you may repeat the procedure above. Our license policy permits up to two installations provided you are the only user. Hence, make sure to follow the activation procedure on the machines the plug-in should be running on. If you need to run this software on more machines, you may purchase more licenses.

If you ever need to contact customer support, you will need your *serial-number*. You can always get it by clicking the “About” item in the plug-in main menu. This brings up the “About” dialog that displays the version number of the plug-in, its current registration status and, if available, its *serial-number*.

Security

The transactions with the web store are carried out via *esellerate* (www.esellerate.com), an industry leading on-line store service, utilizing the most up-to-date security and encryption mechanisms. You should hence feel comfortable during product purchase and activation.

Activation

The software is protected and all features will be available after activation only. The purchase procedures described above already highlighted that this activation procedure is automatic.

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Hence, you normally don't need to read the following paragraph. Just in case you are interested, this is how it works. Internally, activation follows the procedure described here:

1. the installed plug-in sends an *installation-key* to the web store servers. This *installation-key* is unique and it built based on the hardware configuration of your machine.
2. after receiving this *installation-key*, the web stores servers send an *activation-key* to the plug-in.

If you need to install the plug-ins on another machine, such as a laptop, you may repeat the procedure above. Our license policy permits up to two installations provided you are the only user. The web store servers will keep track of these activations. That is what will allow the plug-in to be activated on a second machine using the same *serial-number*. However, each computer will have a different *installation-key*.

Installation

Microsoft Windows

Double click on the installer executable "SoniqWare-T3.exe". This starts the installer that will guide you through the following screens:

1. **Welcome:** Click Next to continue.
2. **Read Me:** Displays information about purchase and activation procedures. Click Next to continue.
3. **License Agreement:** Read and click Yes if you agree to the terms of the agreement. The agreement is also provided in this user guide.
4. **Choose Destination Location:** Choose the plug-in destination location on your file system. The default destination folder is:
C:\Program Files\Steinberg\VSTPlugins\SoniqWare\T3\
Click Next to continue.
5. **Start Installation:** Click Next to perform installation.
6. **Installation complete:** Click Finish to exit the installer.

Mac OS X

Copy the bundle "SoniqWare-T3.vst" to the VST plug-ins directory, usually:

/Library/Audio/Plug-Ins/VST/
or else /Users/username/Library/Audio/Plug-Ins/VST/

Running the plug-in

SoniqWare T3 is actually used like any other VST plug-in. This will hence depends on the VST host software you are using (consult your host software documentation). In most cases, the plug-in will automatically be recognized by your host application. But, in some cases, you will need to add the appropriate folder to your host application's list of plug-in folders. Again, consult your host software documentation for instructions on how to do this, if necessary.

Operation in Details

This chapter provides more details on the different functions of the plug-in, and on the operation of those.

The T3 GUI is organized into several functional sections:

- **Top Bar:** this region displays the company logo and plug-in name. Clicking on the SoniqWare logo will open up the main menu, which contains four items, as shown in the following figure:
 - **Web Site:** will open the SoniqWare website in your default browser.
 - **User Guide:** will open the SoniqWare T3 User's Guide using your default pdf viewer.
 - **About:** will open the "About" dialog box, which displays important information, including your *serial-number*.
 - **Activate:** will be available if the software is not yet activated. It will open the "Product Activation" dialog box.



- **Graphical Display:** the lower display shows input signal loudness together with detector loudness threshold as a green line. The upper display shows internal detection signal together with detector sensitivity threshold as a green line.
- **VU-Meters:** on the right of the display, the vu-meters display the input signal levels in dBFS (dB fullscale) and have peak and clip reading (the relevant leds are kept on for a few seconds).
- **Detector:** this section of the user interface deals with the attack detector parameters. High-pass and low-pass filters are provided to adjust the frequency band on which attack detection is performed. Detection threshold and sensitivity can also be adjusted. The threshold adjusts loudness threshold above which triggering will start. The sensitivity adjusts the internal detector sensitivity, and lower values will cause the detector to trigger more often. The detector guard allows to adjust the minimum time between two detections to avoid double triggering on difficult material. Finally, the detector mode box selects between percussive and sustained modes. In percussive mode, the plugin sends a midi note off a short time after triggering a note on. In sustained mode, the plugin sends a midi note off when audio loudness gets below the detector threshold, or when a new event is triggered.
- **MIDI:** this section of the user interface deals with the MIDI settings. A MIDI on button allows to turn on and off the MIDI output. The MIDI channel box allows to select the channel to which midi events will be sent. The MIDI program box sends a midi program change message. The MIDI note box selects the note that will be triggered.

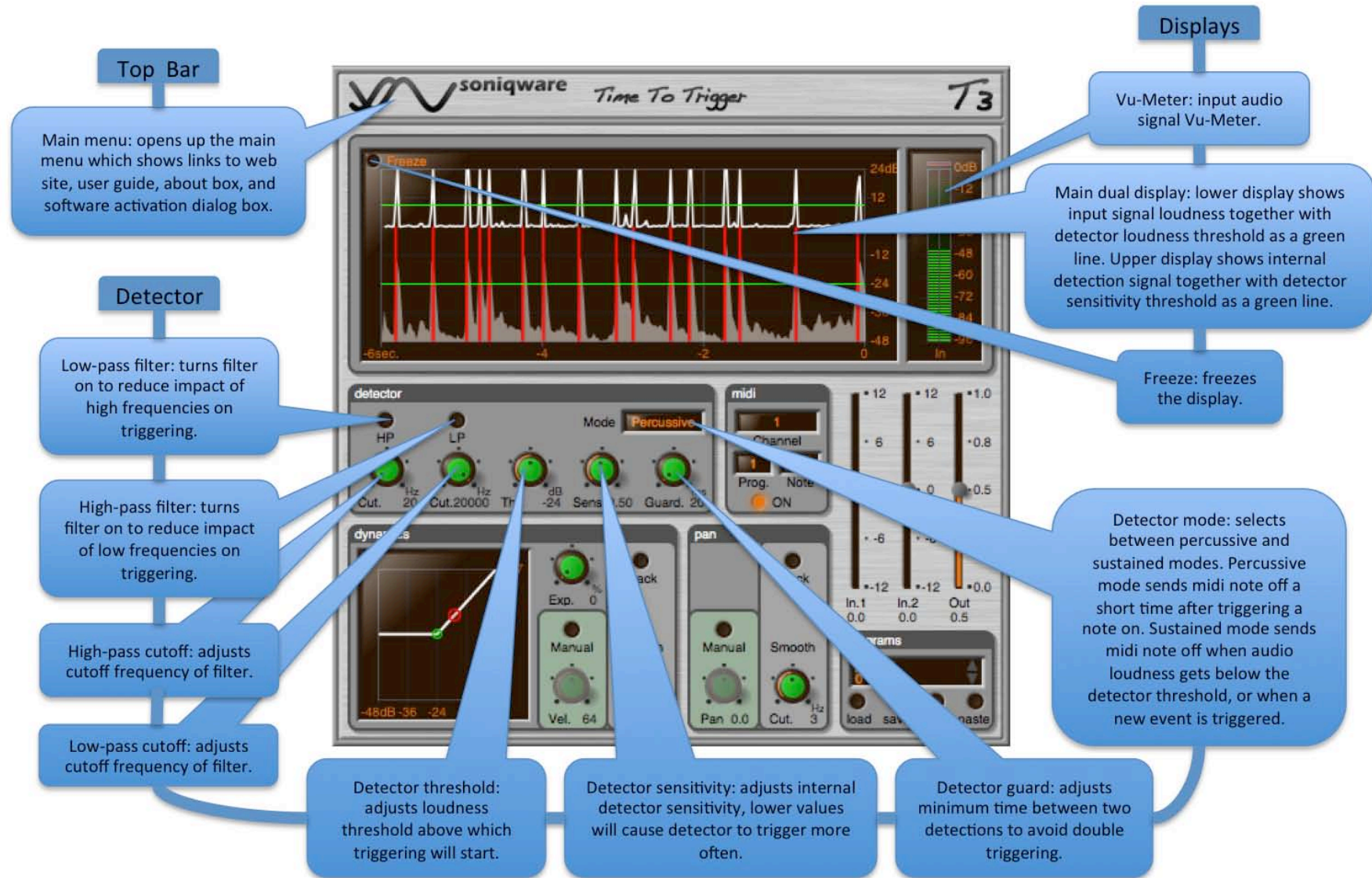
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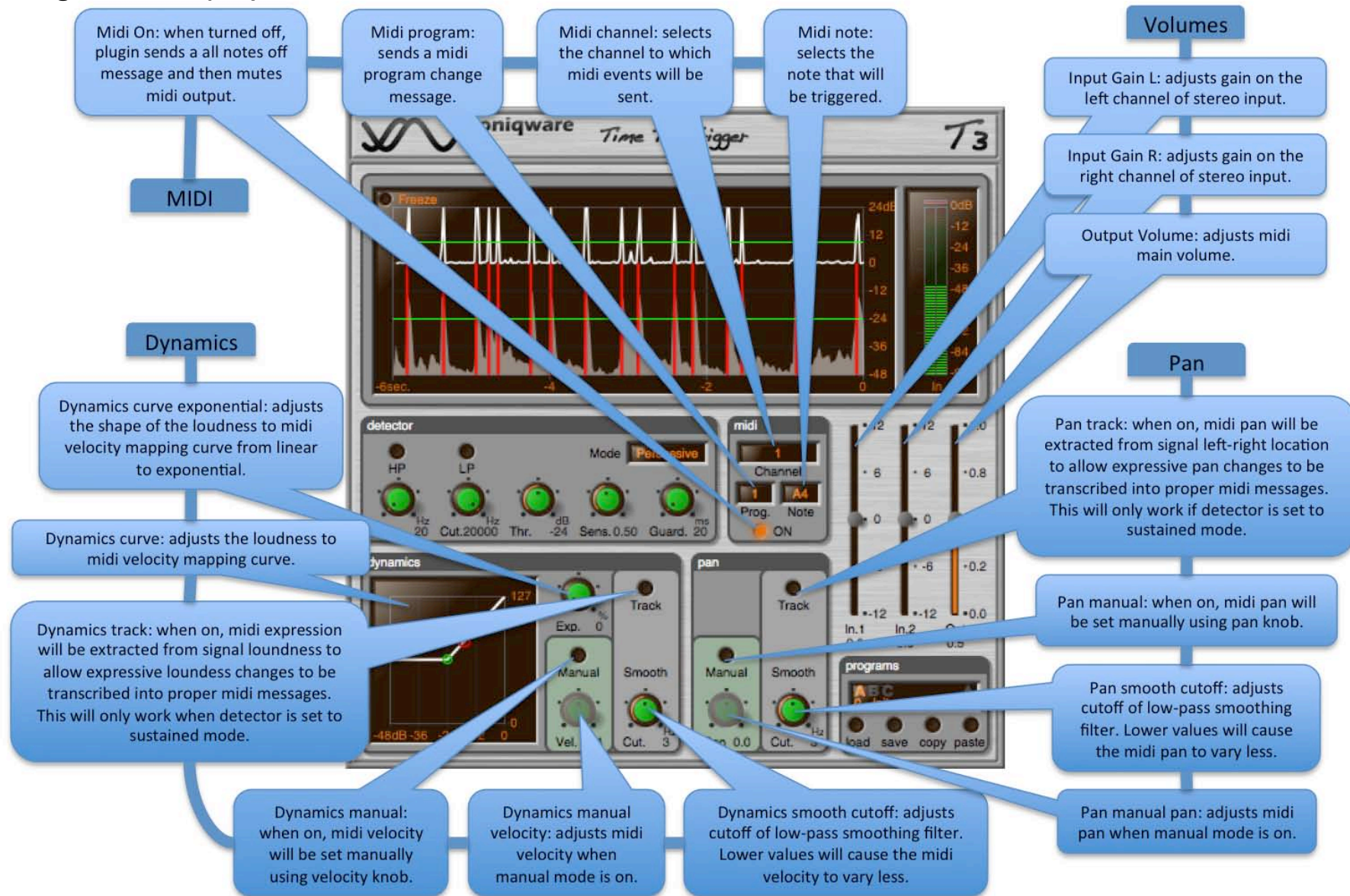
- **Dynamics:** this section of the user interface deals with the configuration of the mapping between signal loudness and MIDI velocity as well as MIDI expression messages. In manual mode, the velocity is adjusted manually so that each MIDI note has this velocity. When the manual mode is not activated, the velocity is computed from the signal loudness according to a mapping that can be adjusted through a graphical display and an additional knob for adjusting the shape of the mapping curve. Furthermore, a track mode can be activated. In this case, the evolution of the signal loudness is measured and used to send MIDI expression messages affecting the volume of the generated note during the sustained portion of the note. Low-pass filtering the expression signal further allows to avoid spurious variation that would happen from possible loudness estimation errors.
- **Pan:** this section of the user interface deals with the configuration of the mapping between signal stereo pan and MIDI left-right pan messages. In manual mode, the pan is adjusted manually so that each MIDI note is panned to this location. When the manual mode is not activated, the MIDI pan is computed from the signal stereo pan. Furthermore, a track mode can be activated. In this case, the evolution of the signal stereo pan is measured and used to send MIDI pan messages affecting the position of the generated note during the sustained portion of the note. Low-pass filtering the pan position signal further allows to avoid spurious variation that would happen from possible pan estimation errors.
- **Volumes:** this section of the user interface allows to adjust the gains of the left and right channels of the stereo input, as well as the global MIDI output volume.
- **Programs and Banks:** located on the bottom right of the GUI, the “programs” section allows the manipulation of 3 banks of 16 individual programs and provides access to load/save operations, as well as an internal program clipboard for copy/paste operations. Selection of a particular program, as well as edition of the program name is also done in this part of the interface.

The following figures present the T3 graphical user interface with descriptive tooltips indicating the features of the individual controls of the plugin.

GUI Organization (1/2)



GUI Organization (2/2)



Operation of Controls

Knobs



Knobs are operated using a left click in the knob area and moving the mouse pointer up and down. Holding the “Shift” key down while moving allows for greater control accuracy (the knob will be turning more slowly). Holding the “Ctrl” key down before clicking and moving will bring the control to a center position. Holding the “Alt” key down before clicking and moving will change the operation mode to a “circular mode”, where the knob position follows the mouse pointer while it is operated circularly around the knob. This also allows to bring the knob directly to a particular position.

Besides, all knobs have a text readout displaying the current control value.

Operation	Result
Shift key	Greater accuracy for fine adjustments
Ctrl key	Brings knob to center position
Alt key	Circular mode

Sliders



Sliders are operated using a left click in the slider handle area and moving the mouse pointer up and down. Clicking below or above the slider handle will directly bring the handle to this new position. Holding the “Shift” key down before clicking and moving allows for greater control accuracy (the slider will be moving more slowly). Holding the “Ctrl” key down before clicking and moving will bring the control to a center position.

Besides, all sliders have a numeric readout displaying the control current value.

Operation	Result
Shift key	Greater accuracy for fine adjustments
Ctrl key	Brings slider to center position

Selection Boxes



Selection boxes allow to make a choice in a limited list of alternatives. Left click on the box display area will switch to the next choice in the list, and when the last element of the list is reached, this cycles back to the first element. Right click on the box area will open a pop-up menu where you will be able to directly choose one of the alternatives, as shown in the figure above for selecting a crossover filter slope.

Operation	Result
Left click	Switch to the next choice in the list
Right click	Opens a pop-up menu

Individual Controls

Banks and Programs

The “programs” section of the GUI allows the manipulation of 3 banks of 16 individual programs. Left click on the program name region to edit the name using the keyboard. Left click on the up and down arrows to browse through the different programs. Click on “A”, “B”, or “C” to switch bank.

Click on the “load” button to open a file selection box that allows to load an individual program (.fxp file) that will overwrite the currently selected program, or a full bank (.fxb file) that will overwrite the whole selected bank of 16 programs. In a similar manner, the “save” button allows to save the currently selected program (in case you select a .fxp file), or the whole bank (in case you select a .fxb file).

In T3, as in other SoniqWare plugins, when changing the parameter values, these are immediately stored in the currently selected program, so that nothing will be lost when changing a program from the GUI (see above) or from the host functions and then coming back to the previous program. Also, no Undo function is provided. This is not an issue though as the software provides a simple clipboard mechanism that allows the user to use a program as starting point for another one. This is done using an internal clipboard. Click on the “copy” button to store the current program parameters in the clipboard. Change the selected program using the arrows (see above), select a program that you can scratch. Click on “paste” to paste the stored parameters to the newly selected program. In this process all parameters, except the program name, will be copied.



These features are summarized in the following table:

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Operation	Result
Left Click on A, B or C	Select internal bank A, B or C
Left Click on Program Name region	Allows edition of program name
Left Click on Up and Down Arrows	Browse through programs
Load	Load a program or a bank
Save	Save current program or bank
Copy	Copy current program parameters to internal clipboard
Paste	Paste internal clipboard parameters to current program

Technical Information

Specifications

Specifications	Values	Comments
High-Pass Cutoff	20 Hz to 20000Hz	To be adjusted according to your material. For instance, this control allows to filter out the bass line and only trigger on drum hits when triggering from a drum and bass mix.
Low-Pass Cutoff	20 Hz to 20000Hz	To be adjusted according to your material. This also provides more control on the triggering conditions.
Detector Threshold	-48 dB to 0 dB	To adjust the loudness threshold above which triggering will start.
Detector Sensitivity	0.1 to 1.0	To adjust the internal detector sensitivity, lower values will cause detector to trigger more often.
Detector Guard	20 ms to 200 ms	To adjust the minimum time between two detections. Used to avoid double triggering.
Detector Mode	Percussive or Sustained	Percussive mode sends midi note off a short time after triggering a note on. Sustained mode sends midi note off when audio loudness gets below the detector threshold, or when a new event is triggered.
MIDI Channel	1 to 16	To select the channel to which midi events will be sent.
MIDI Program	1 to 128	To send a midi program change message.
MIDI Note	C-2 to G8	To selects the note that will be triggered.
Dynamics Exponential	0% to 100%	To adjust the shape of the loudness to midi velocity mapping curve from linear to exponential.
Dynamics Manual Velocity	1 to 128	To adjust midi velocity when manual mode is on.
Dynamics Smooth Cutoff	1 Hz to 10 Hz	To adjust cutoff of low-pass smoothing filter. Lower values will cause the midi velocity to vary less.
Pan Manual Pan	-1.0 to 1.0	To adjusts midi pan when manual mode is on.
Pan Smooth Cutoff	1 Hz to 10 Hz	To adjust cutoff of low-pass smoothing filter. Lower values will cause the midi pan to vary less.
Input Gain Input 1	-12 dB to +12 dB	To adjust gain on the left channel of stereo input.
Input Gain Input 2	-12 dB to +12 dB	To adjust gain on the right channel of stereo input.
Output Volume	0.0 to 1.0	To adjust midi main volume.
Latency	2.6 ms to 5.8 ms (depending on sample rate and signal attack strenght)	The detector uses a spectral approach to increase robustness and allow the detection of attacks from various instruments, while a temporal approach would mostly only work for percussion and drum hits. This creates a short delay. Thanks to the overlapped analysis used by the plugin, the delay is however kept very low, and is hence appropriate for live use.

Supported Sample Rates	44.1, 48.0, 88.2, 96.0, 176.4 and 192.0 kHz	All current professional sample rates.
Internal Processing	32-bits floating point	N/A
CPU Load (approximately)	~5% (at 44.1 and 48.0 kHz)	For stereo processing / Intel Core i7 @ 2.2 GHz.

System Requirements

- Microsoft Windows XP/Vista/7,
- Mac OS X 10.5/10.6/10.7,
- 512 MB RAM,
- VST compatible host software.

Closing

We hope you will enjoy our products. Feel free to contact us for support, or just to give us feedback:

- Customer technical support: support@soniqware.com
- Other matters: contact@soniqware.com

The Web site will provide additional and up to date information and downloads:

- Web Site: <http://www.soniqware.com>

