

TOONTRACK solo



Operation Manual

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CREDITS

Toontrack Development Team:

Concept development: Fredrik Ärletun, Daniel Dermes, Mattias Eklund, Nils Eriksson, Henrik Kjellberg, Christoffer Lindmark, Rogue Marechal, Erik Phersson, John Rammelt, Andreas Sundgren, Olof Westman.

Programming: Christoffer Lindmark

Andreas Sundgren (name and specification)

Erik Phersson (project management)

Rogue Marechal (configuration manager)

Fredrik Ärletun (graphic artist)

Manual written by: Rogue Marechal.

Betatesters (to whom our undying gratitude goes):

Kevin Afflack, John Alcock, Tony Artimisi, Damian Blunt, Philippe Decuyper, Chaim Goldman, Scott Griggs, Brad Holland, Svein Hyttebakk, Mark King, Kenny Lee, Emmanuel Lorant, Harry Maes, Murray McDowall, Dave Modisette, Wilfredo Nanita, John Rammelt, Marcel Ritsema and Scott Sibley.

Additional Thanks:

All Toontrack customers around the world for their custom and support.

1 - INTRODUCTION

1.1 Foreword

Toontrack has always been associated with flexibility in the studio and great tools for the live musicians.

Unfortunately, the reality of transposing one's drum sound to a mobile setup is often synonymous with being at the mercy of a sequencer not specifically designed for the mission critical environment of the stage/rehearsal room.

Between the sequencer's own claims over the host computer resources, prone to jeopardize the experience, and the bloat of controls irrelevant to the performer getting in the way, it is tempting to just take the kit out of the garage and stick to the old fashioned way. Not that there is anything wrong with the old fashioned way... it helps to have hard-of-hearing neighbours however.

Anyway, when, in the course of 2005, we unleashed our ground breaking non streaming proprietary TPC algorithm, first in *Superior*, and subsequently in *EZdrummer*, it became clear that this technology opened many horizons for the serious musician wanting to take their drum sound on the road with them. But there was the problem of the host application, intrusive and sometimes inefficient.

Of course there are already some streamlined applications out there that do a decent job at saving your computer's resources for what it is really useful: low latency real-time playing. But at Toontrack we don't think that *decent* is good enough for our customers and, more importantly, we know that synergistic development is a better approach than a generic one.

We, therefore, decided to take the matter into our own hands and provide the most essential functionality in a highly optimized package, making the emphasis on real-time performance, knowing EXACTLY what our samplers are capable of and what controls can be beneficial to the performer.

Toontrack solo was therefore born out of this desire to create a cool tool for the performing musician and you now have at your disposal our very own stand alone host.

The Development Team



1.2 What is Toontrack solo?

Toontrack solo is a stand alone application designed to host Toontrack samplers such as *Superior* and *EZdrummer*. It is particularly suited for musicians wanting to jam along a friend (real ones, if you are a drummer, or a virtual one if you are a guitarist), or to perform live (for your own pleasure in isolation from the world or in front of an audience).

It can also be use as the foundation of a modular work environment dedicated to song writing using *EZplayer Pro*, Toontrack's acclaimed groove factory and musical sketch pad.

In its current incarnation a performer can optimize response from his preferred controller with the use of factory presets, and route any of the sampler's output to a hardware mixer for total sonic control.

Toontrack solo boosts full support for ASIO, WDM and MME as well as Core Audio / Core MIDI devices and allows routing to up to 16 physical Audio outputs. This means that it is optimized for real-time operation with minimal latency and provides the full flexibility of sound shaping in your outboard gear.

Multiple sampler instances can of course be controlled from conventional keyboard controllers (with full support for modwheel control of hi-hats action) as well as a range of specialist devices such as the majority of E-drums and Drum pads available on the market. It can even be used with game controllers made for the popular Rock Band® Guitar Hero® video games.

So, what are you waiting for? Get that show on the road!

2 - INSTALLATION

2.1 System Requirements

- Windows Vista or newer, Pentium IV / Athlon 1,8 GHz with 512MB RAM (32 and 64-bit versions of Windows are supported)
- Mac OS X 10.5 or higher, G5 or Intel processor with 512MB RAM (32 and 64-bit hosts are supported on the Mac Intel platform)
- Display capable of 800x600 (1024x768 recommended)
- A virtual drum sampler from Toontrack Music (Superior/EZdrummer/Beatstation)
- a sound card with up-to-date ASIO or Core Audio drivers (recommended)
- one or several MIDI controllers (recommended)

2.2 Installing Toontrack solo for Windows

To install Toontrack solo for Windows simply run the *Toontrack solo Installer* located in the same folder as this document. To uninstall run this program again or use the Add/Remove Program control panel provided by your operating system.

2.3 Installing Toontrack solo for Macintosh

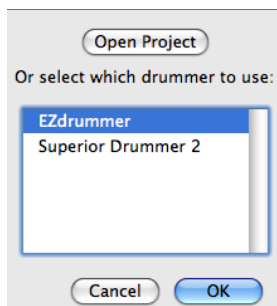
To install Toontrack solo for Macintosh simply run the *Toontrack solo Installer* located in the same folder as this document. To uninstall simply delete the Toontrack solo executable from your Applications folder.

3 - OPERATION

3.1 Starting a new project

Upon starting the *Toontrack solo* application you will be presented with a selection box listing all Toontrack products installed on the host computer:

If no option appear, please ensure that you have installed the desired Toontrack product as per instruction that came with it. Please also refer to chapter 5 for troubleshooting instructions.



Once you have selected your drum sampler (referred to as 'Drummer' in the rest of this manual), its graphical interface should appear on screen, ready to be used, in most cases without further configuration. You may however want to refer to chapter 4, Audio and MIDI setup, at this stage to define your preferred MIDI input and playback devices, as well as perform advanced tweaking.

From here on, if you are already fluent with your Toontrack sampler you should intuitively find your way around the interface and experiment. In the opposite scenario now is the time to reach for the manual that came with your Toontrack sampler. It is also recommended you read this entire documentation to ensure you get the most out of it.

3.2 Adding virtual Drummers

Adding further instances of a Toontrack sampler could not be easier.
Select **File > New Drummer**

or click the *Drummer* icon on the toolbar:



Show
Hide

Delete

We will go through the Mixer features in some details shortly but note that you can show, hide or delete *Drummers* if they are no longer required or are cluttering your screen, as per screenshot to the left. You can also double click the *Drummer's* label to show its interface.

You can thus manage windows on screen as you like, using multiple drum samplers with different banks loaded, and assign each and every one of them to a distinct MIDI port and channel for precise triggering. Do not worry about all of this at this stage however, if this paragraph is not entirely clear, you probably do not have the need for more than one *Drummer*.

3.3 Mixer window basics

Each virtual *Drummer* is represented in the main Mixer by a channel strip with familiar controls such as volume, mute and solo. Note that no panning is available in this Mixer as each *Drummer* can be controlled on a per channel basis from its own mixer for maximum flexibility. See the paragraph relevant to your product below for details.



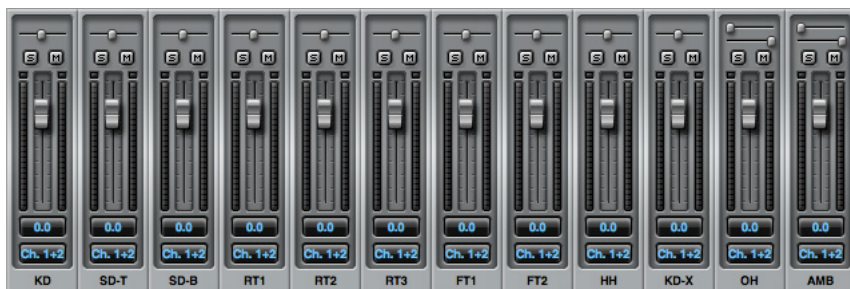
The Mixer can always be called in view using the Mixer icon in the Toolbar:



3.4 Superior sub-mixer (*Superior 1.x* must be installed)

Toontrack solo implements a *Superior* sub-mixer, providing all controls needed, from volume/panning to channel routing if your sound card provides more than 2 physical outputs.

Note that you need to enable your sound card outputs in the Options > Audio > Audio Channels | dialogue before you can route *Superior's* outputs to secondary outputs of your sound card. See paragraph 4.1 for further details.



Again the above is only relevant if you own the original *Superior* program, see the next paragraph for *Superior Drummer 2* instructions.

3.5 Superior Drummer 2 mixer (only available to *Superior 2* users)

Superior Drummer 2 includes a fully featured and flexible built-in mixer. Its operation is detailed in the *Superior Drummer 2* documentation, please refer to this product's Operation Manual for additional information.

3.6 EZdrummer mixer (only available to *EZdrummer* users)

EZdrummer includes a built-in mixer providing a similar set of feature to the *Superior* sub-mixer described above. Its operation is detailed in the *EZdrummer* documentation, please refer to this product's Operation Manual for additional information.

3.7 EZplayer bridging (*EZplayer Pro* must be installed)

In addition to live performances, *Toontrack solo* allows you to use all of your Toontrack products in a super-charged environment ideal for composing on the go, thanks to *EZplayer Pro*'s ultra intuitive features.

EZplayer Pro is Toontrack's acclaimed solution for the serious song writer (among other things). It must of course be installed for the below instructions to work. More information about *EZplayer Pro* can be found at http://www.toontrack.com/ezplayer_pro.asp

Simply select the *EZplayer* entry in the View menu. This will open *EZplayer Pro* on your screen, ready for you to start composing.

Alternatively click the *EZplayer* icon at the far right of the Toolbar:



Note that you can assign a discrete channel to control *EZplayer* by selecting Options > *EZplayer* channel

For example, you want to use a trigger pad to start and stop sequences without leaving your stool or be required to laboriously mouse around trying to find the Play button in a semi-obscurity.

For this to work correctly you will need to assign different channels to your *Drummers* as well, or use two separate MIDI ports or interfaces.

Please refer to paragraph 4.5, Assigning MIDI Ports and Channels, to learn how to route MIDI information to the intended *Drummer*.

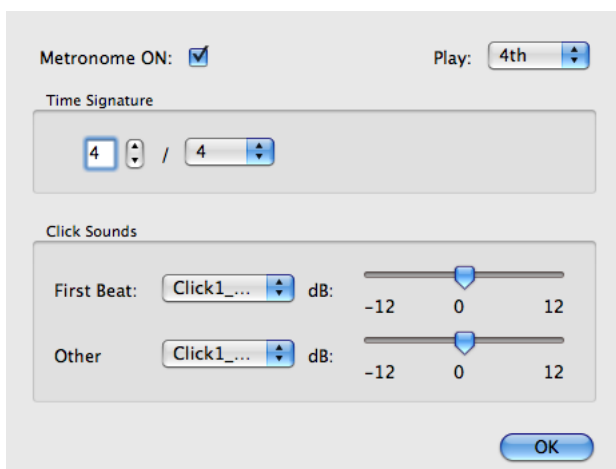
3.8 setting project tempo

Some Toontrack samplers such as *EZdrummer* can be used as a MIDI player for single tempo drum backing tracks for you to jam along to. For this reason it is sometimes useful to key in a custom tempo for the sampler to line up with.

Simply double click the tempo value or use the up and down arrows to set the tempo as desired: 

Alternatively press the  tempo button at regular interval until a suitable tempo is achieved (it can of course be fine tuned with the arrow controls at a later stage).

You may also make use of the internal Metronome by selecting **View > Metronome**:



By using the Metronome settings you may specify the time signature for the 'click' to play against, the bar division and of course volume and sounds to be played as a reference.

Once you have adjusted the Metronome as desired, note that you do not have to call the settings window again and may instead use the Metronome icon in the Toolbar, pictured to the left, or press **Control+T** on your computer keyboard.



3.9 additional controls and features

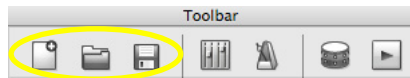
If you are playing along a sampler's internal sequence there might be times when you will want to start or stop playback of one or more virtual *Drummers*. In the current *Toontrack solo* version the following are available for this purpose:

Pressing the <spacebar> on your computer keyboard will start or stop the active *Drummer* (the instance that has the focus, usually at the forefront of the window stack). Pressing <shift> + <spacebar> will on the other hand start or stop all *Drummers* present in the project at once.

3.10 saving and recalling projects

Once you have constructed your multiple *Drummers* setup, or more simply a session you would like to recall quickly in the future, you can save your *Toontrack solo* project for using the File > Save (Save As...). This will save a *Toontrack solo* specific file, with file extension .tts, not to be confused with sampler specific saved files. .tts files cannot be loaded directly in *Superior Drummer* or *EZdrummer*!

Note the file management controls available from the Toolbar, from left to right, New Project, Open Project and Save Project:



4. Audio and MIDI Setup

Toontrack solo allows you to specify both MIDI input ports and Audio playback devices, commonly referred to as MIDI interfaces and Sound cards respectively. You can also adjust many advanced settings via the application's `Options` menus.

4.1 Audio devices and channels

Selecting `Audio > Audio Device...` will present you with all the Audio playback devices available to the host computer. Note that only ASIO or Core Audio interface protocols will guarantee optimum performances, with low latency real-time triggering. WDM and MME drivers should only be used for 'offline' composing using *Toontrack EZplayer Pro*.

Select your preferred sound card by highlighting it in the list and confirm the selection. Again, prefer ASIO or CoreAudio Devices if performing 'live' is your goal. A filtering drop-down menu is provided to help you discriminate between suitable interfaces for real-time and offline performance.

If your device supports more than two physical OUTs you will also most likely want to make use of additional / all channels available to route specific instruments to the Front of House or hardware mixer for further processing.

Select `Audio > Audio Channels...` to choose the physical OUTs among those published by the ASIO/Core Audio driver for your sound card and allow them to be used for internal routing. Channels selected here should immediately be available and appear in the *Drummers'* mixers, without an application restart.

4.2 Audio buffer

Triggering sound sources from a computer system unavoidably create a certain amount of playback latency, however minimal, which is inherent to the processing of data to be sent to the sound system via the Audio interface.

Any computer built in the last 3 years with a dedicated Audio sound card (as opposed to the 'stock' or built-in sound hardware) should be able to provide a satisfactory experience at minimal latency but to do so it needs properly written drivers, optimized to ensure information destined to the sound card is processed efficiently.

For this reason we strongly recommend using non generic ASIO / Core Audio drivers for the sound card you intend to use. The best advice we can give you is to purchase a professionally graded sound card and obtain the most up-to-date drivers from the manufacturer. Consumer cards, even if recognized, or outdated drivers for that matter, will unavoidably compromise your experience and enjoyment.

Latency is usually observed as a delay in playback, directly related to the transport of data between your sound card and *Toontrack solo*, via your computer's data bus. Although it can be expressed in milliseconds it is conventional to specify the latency as a buffer value which represent the amount of data processed per processor cycle.

It is usually accepted that a latency under 3 ms cannot be perceptible by the human brain, at least if the flow of information is steady (data 'jittering', quite common with USB devices, can have a large impact on perceived latency). At 44.1KHz, the fixed rate operated by *Toontrack solo's* audio engine, this corresponds to a buffer value of 128 (samples).

To be complete, this is not the entire latency that needs to be taken into account as the MIDI interface can add to the delay in playback with a more or less dramatic effect. Nonetheless a value of 128 set in the `Audio > Latency setting | dialogue` should yield an adequate response in most cases.

The drawback of setting a low buffer value however is that this increases the demand on CPU availability and exclusiveness, something that the audio driver is in charge of managing, hence the importance of a non generic and up-to-date driver. CPU resources of the host machine will also limit the minimum value one can expect from a given system and, of course, the more powerful the computer the better.

It should be noted that low latency playback is really only relevant to 'live' triggering of instruments. For composing/arranging with the help of *EZplayer Pro* for example, high buffer values will have little impact and will, in fact, maximize the number of concurrent *Drummers* a given system is able to play back at the same time.

In summary, and as indicative values, the following should be adequate for the different scenarios outlined above:

Real-Time Triggering: set the Audio buffer between 64 and 256 (samples)

Offline Composing: set Audio buffer between 512 and 2048 (samples)

4.3 MIDI devices

(OPTIONS) MIDI > MIDI device | allows you to specify the MIDI input devices to be used. Simply select the appropriate MIDI interfaces and ports in the list (please refer to your owner's manual for port description) and confirm the selection.

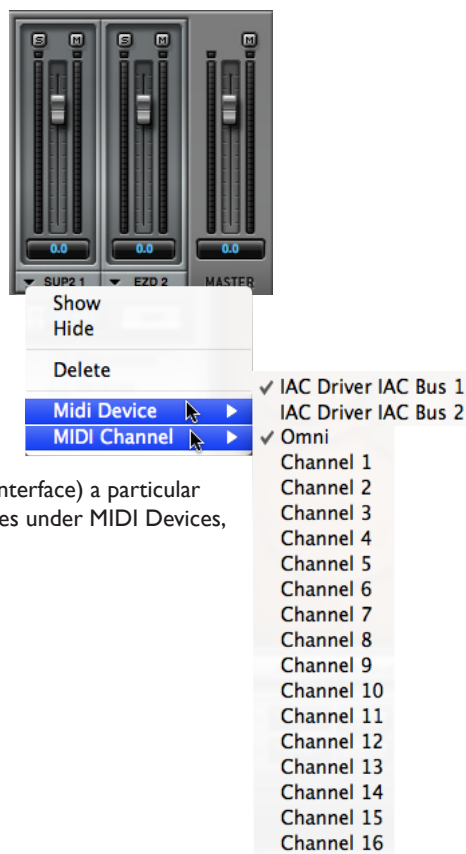
As seen in the previous paragraph, MIDI interfaces can induce latency in playback as well as MIDI jitter, a fluctuation in the data flow that can be particularly detrimental to your playing experience. For this reason, again, a professionally graded MIDI interface is a must.

On a related note, while the great majority of Audio interfaces combine Audio and MIDI capabilities nowadays, it is worth noting that MIDI jittering is more prone to be occur when the Audio and MIDI data share the same bus and therefore it is strongly recommended you use a dedicated MIDI interface, separate from the Playback device, for best results.

4.4 Assigning MIDI ports and channels

Each virtual *Drummer* can be assigned a discrete channel to be triggered by, so that a complex set up using multiple MIDI controllers (using one or several MIDI interfaces) can be performed. It is also an essential part of *EZplayer pro's* typical workflow.

To specify a discrete MIDI channel for a particular *Drummer* to respond to, click to reveal the contextual menu in the main application Mixer and select the desired channel:



4.5 Specialist MIDI controllers

Toontrack samplers, when used from within *Toontrack solo*, were designed with specialist MIDI controllers known as 'E-Drums' in mind. By default they will expect to receive basic MIDI note information from the controller, but are also capable of handling Continuous Controller data, also known as CC data, to provide advanced triggering control.

Specifically, foot controller data (CC04) and modwheel MIDI information (CC01) are supported to allow real time variation of hi-hats openness, from close to fully open (with additional 'tight' articulation for some of the sound banks).

There are additional features supported behind the scene however, and it is therefore worth specifying the type of controller used to optimize the response from the virtual *Drummers*. The following paragraph describes the currently supported specialist controllers and how to use them efficiently:

< E-drums >

Toontrack solo features a universal E-drums preset suitable for most electronic drum modules on the market. While specific presets may be added in the future to further expand compatibility, all modules from leading manufacturers should yield excellent results with minimal tweaking, if any, as explained below.

Note that *Superior Drummer* users are advised to use the features built-in to their sampler instead of those described here, for optimum configuration as well as avoiding double manipulation of the MIDI data received from the controller. In other words, leave the controller type as 'Default' and ensure no other options under the Controller menu are selected, and perform all changes from within *Superior Drummer*.

Otherwise, select the E-drums preset from the `Options > Controller |` list. In most cases, that is all you will need to perform in order to optimize the sampler's response for your particular E-Drum controller. *Toontrack solo* will automatically process incoming MIDI data on-the-fly for access to variable hi-hats control.

Some modules however, particularly those with sophisticated controllers with movable parts (sometimes referred to as Virtual Hats), may require some adjustments to the set up before Closed Hats and Tight Hats, can be accessed however.

To help with this matter we have provided a special setting within *Toontrack solo*, labelled "CC Offset", which will in most cases allow instant optimization with a single click. Simply select `Options > Controller > CC Offset |` after having ensured that the E-Drums preset was the active from the same menu.

Note that it is recommended that you start your module in the 'Local OFF' mode to avoid latency due to the on-board processing (please see your hardware manual for details).

< Game Controllers >

As stated in the introduction to the preset operation manual, *Toontrack solo* supports game controllers made for the popular Rock Band® Guitar Hero® video games.

Any controller that can be connected via USB to your computer, either with a cable or with the help of an appropriate wireless receiver, should work for this purpose. You do not even have to select any particular Controller type as *Toontrack solo* will sense and identify the controller appropriately.

Currently, however it is worth noting that only PlayStation® 2 and 3 controllers can be guaranteed to work out of the box but additional software and hardware combination will work without specific 3rd party drivers. Full compatibility charts are available at http://www.toontrack.com/toontrack_solo.asp (further controllers will be supported in the near future).

< Modwheel >

Toontrack samplers also allow variable hi-hats to be controlled in real-time with MIDI modulation messages, in much the same way a foot controller would, for example using a standard MIDI keyboard controller.

Select the Modwheel preset from the MIDI > Controller | list to optimize the sampler's response. This will allow you to control hi-hats openness from your keyboard using a single key and the modulation wheel of the controller (or assignable controller of a desktop drum pad).

There are 2 groups of notes that can be used, interchangeably so within each group:

24 (C0), 25 (C#0) or 26 (D0), where 60 corresponds to the middle C on the keyboard grant access to the 'edge' samples if available in the bank loaded in the virtual *Drummer*.

61 (C#3), 62 (D3) or 63 (D#3), where 60 corresponds to the middle C on the keyboard grant access to the 'tip' samples if available in the bank loaded in the virtual *Drummer*.

5. Help and Resources

5.1 Setting the VST path

Toontrack solo should automatically detect the Toontrack samplers installed on the host computer. It also allows you to specify custom paths should you find this useful.

Select **Options > Set Paths |** to add or amend locations to be scanned by *Toontrack solo* at startup. In the sampler selection dialogue click **Add Path** and navigate to the desired directory. The selection dialogue will immediately update showing all valid samplers found under the paths set. You may of course also remove unused paths at any point.

Typical locations, and default install paths for the Toontrack samplers are as follows:

Apple Mac: /Library/Audio/Plug-ins/VST/

Windows: \Program Files\VSTPlugIns\ or \Program Files\Steinberg\VSTPlugIns\

5.2 RAM and CPU considerations

Toontrack solo takes up few resources by itself, leaving plenty of RAM and CPU for the samplers to run on. You are advised to turn off all unnecessary processes however, not only to avoid rogue demands on CPU but also to minimize the RAM footprint of the entire system.

As a rule of thumb your combined sound banks should take no more than your physical RAM minus 200Mb, which is roughly what your operating system and *Toontrack solo* need to operate comfortably. That said, be aware that your operating system may limit the amount of memory that *Toontrack solo* is capable of addressing so we recommend that you do not attempt to load banks larger than 1.8GB.

To check the RAM consumption in a project containing only *Superior* instances or only *EZdrummer* instances you can simply monitor the Total figure in any of the virtual *Drummer*. In projects containing a combination of sampler engines you should, on the other hand, add the figure found in *Superior* to the one found in *EZdrummer*.

Should you experience any problem playing in real time, for example glitches and drop outs, your first troubleshooting step should be to increase the buffer size as you may be demanding too much from your host computer.

If problems persist, load a single kit and make sure no other application is running in the background. For further assistance visit the Toontrack forums at <http://www.toontrack.com/forum/>



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