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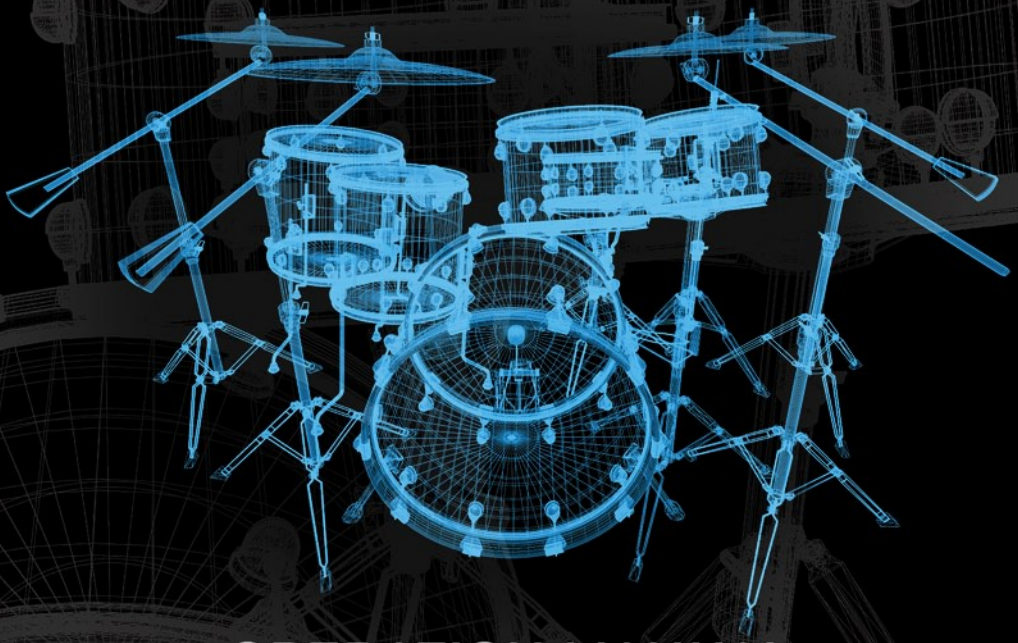
SUPERIOR DRUMMER® 2.0



OPERATION MANUAL

TOONTRACK®

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Additional thanks: All our hard working distributors and supporting families.

TOONTRACK MUSIC

Effects made by Sonalksis
QUALITY DIGITAL AUDIO SOFTWARE

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INTRODUCTION

Everyone from the Toontrack development team are producers and musicians with their formative years back in the good old days of analog recordings, winding back and forth tape recorders, getting session players together and setting up the entire drama in the studio.

Now, like everyone else, we've all gone digital (which is a lot more convenient). But sometimes you don't get that vibe. Many of the vibrations and sounds connected to recording are by-products of the playing but they are completely crucial to making great sounding music.

A drumkit recorded live is one of the best examples of this. The drums full on in all the microphones, hearing the ambience of the whole kit from afar or just the snare hard-hitting through one mike and the hi-hat bleeding into it, the character of each drummer - all of the things that tell you this is a live session.

It has always been our opinion that having a desire to achieve an authentic live performance with programmed sequences, in reality, proves to be no easy task, and it is fair to say that if there is one area where this really shows, it is in the drum department.

As you will come to appreciate working with this product, a well recorded live drumkit, with all of these nuances, contributes enormously to the atmosphere of the finished recording. If the drum track is tight and has the right drive, it will ease the recording process, as the rest of the players will respond to the fluidity of the drum performance. In short, as if you didn't know, a great drum track is the foundation of a great recording.

Superior Drummer® 2.0, therefore, gives you a traditional recording session in a studio, with the opportunity to create those classic drum tracks without actually having to call the drummer.

In 2005 Toontrack Music was contacted by Pat Thrall with an urgent request to record drums for the Superior Drummer® software engine at the Hit Factory, New York.

Hit Factory, the centre of so many legendary recordings was being torn down to later be turned into condominiums. Pat Thrall, an avid dfh Superior user, wanted to sample the Hit Factory recording room so that the mighty sound produced within those walls would live on, available to producers and musicians after the studio itself was no longer in existence. The recordings at Hit Factory were in fact literally conducted while the wrecking crew was tearing the studio down.

At first, the sessions were meant to be released as an expansion pack for the original dfh Superior but after discussions with Pat, Neil (Dorfsman) and Nir Z (the fellow drummer recommended by Pat and Neil) as well as within the Toontrack® production team it was decided that these sounds were too important to be released merely as another collection of sounds. The Hit Factory sessions were a format in it's own right and with that insight, Toontrack® Music took the first steps towards realizing the vision of Superior Drummer® 2.0.

At this point the company had decided to expand its ambitions after gathering experience from the original DFH drum library and the creation and release of dfh Superior and dfh-Superior Custom and Vintage.

This was embodied by the development of EZdrummer®, a low end priced but high end sounding drum sampler accessible and useful to everyone. From beginner to professional.

In addition to the Hit Factory sessions Toontrack decided to record two other New York recording-venues frequented by Pat, Neil and Nir, Avatar Studios and Allaire Studios. A portion of the first Avatar sessions were modified to be part of EZdrummer®, but taken together these recordings made up the heart of what would comprise the release of Superior Drummer® 2.0 "The New York Studio Legacy Series".

We've been waiting to announce and release these recordings knowing that they deserved a software engine that would set a new industry standard of its own in sampled drums. 2008 finally sees the realization of Superior Drummer® 2.0, "The New York Studio Legacy Series".

TOONTRACK MUSIC

1 INSTALLATION

1.1 Superior Drummer 2.0 at a glance

Superior Drummer® 2.0 is a professional multi microphone drum sampler designed for discerning musicians in need of an all encompassing drum simulator.

Superior Drummer® 2.0 delivers total realism in terms of sound quality, detailed control for programming and playing drums live. The samples were recorded by top-notch session drummers and producers in various high-end studios in New York, U.S.A.

1.2 System Requirements

Minimum Requirements:

- 4GB free hard disc space, DVD drive
- Windows XP or Vista, Pentium IV / Athlon 1,8 GHz with 1GB RAM
- Mac OS X 10.4 (Tiger) or higher, Dual G4 1,25 GHz with 1GB RAM

Recommended System:

- 25GB free hard disc space, DVD drive
- Modern G5, Intel or AMD multicore CPU with 2GB RAM or more
- Sequencer application and professional soundcard
- MIDI controller such as keyboard, drumpads or electronic drumkit

1.3 Installing Superior Drummer 2.0

1) Insert DVD number one (1) and navigate to the /Install folder relevant to your platform (Mac or PC).
2) Double-click on the *Superior Drummer Installer* located in this folder and follow the instructions.

If choosing a default install, the software will automatically be installed in the appropriate location for your currently installed virtual instrument host. You should however verify that this is the case and choose to perform a custom install and change the destination target if this is not adequate for your host (see your host manual for further details).

Once the Software Installer has completed successfully, the Installer will automatically launch the installation of the Superior Drummer 2.0 Sound Library.

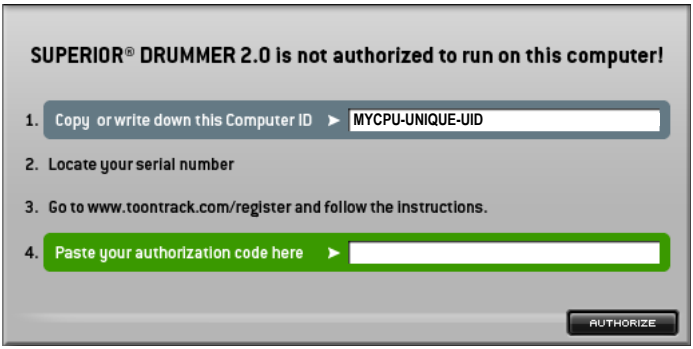
You will be given the opportunity to choose between four (4) different custom installations - from the 4 GB basic install to the full 20 GB Sound Library. Please make your selection, then browse your file manager and select the desired location for the Sound Library to be installed to. The Sound Library can be installed to any internal or external drive.

Please allow every DVD to finish and wait for your system to prompt for new media before inserting a new DVD. Installing the Sound Library can be time consuming, so please be patient!

1.4 Registering Superior Drummer 2.0 and Authorizing your Computer

If this is your first Toontrack product, please begin by setting up a user account at http://www.toontrack.com/register/ and register your product by using your unique serial number, found on the back of the DVD sleeve (or alternative placement on the product packaging). If you already have one or several Toontrack products registered to an account, simply log in and register.

On first launching Superior Drummer® 2.0, you will be prompted to authorize the software. The authorization screen will display your unique Computer ID and ask you to key in an authorization code in order to use the software. To obtain the response code, please follow the on-screen instructions:



1. Copy or manually write down your unique **Computer ID** from the Authorization Screen.
2. Go back to your account and click the "Authorize Product" button in the right hand menu.
3. Add a short "Computer Description" for your convenience.
4. Paste or manually enter the Computer ID to generate your **Authorization Code**.
5. Paste or manually enter the Authorization Code back into the Authorization Screen in Superior Drummer® 2.0
6. Press <Authorize> in the product interface.
7. You are greeted with a congratulation if Superior Drummer® 2.0 has been successfully authorized.

Should Authorization fail, please first make sure the computer ID displayed in the Authorization Screen indeed matches the one you used to generate your code. If not, please repeat the above steps and use the proper ID.

Should Authorization still fail, feel free to contact Toontrack Support by filling out the Contact Form located at http://www.toontrack.com/contact_support.asp. Make sure to include your serial number, Computer ID, and a detailed description of the issue.

All going well you will be on your way making music, so turn the page, and enjoy the product!

2 INSTRUMENT OVERVIEW

2.1 The SUPERIOR Instrument

The SUPERIOR libraries come with their own custom sampler, the Superior Drummer® 2.0 instrument, that function from within your host program (as a VST, AU or RTAS plugin extension). The following is a brief overview of the features of the SUPERIOR engine in its current incarnation, version 2.

Automatic Velocity Mapping

In Toontrack libraries, hits are separated into three categories for velocity mapping purposes: soft hits, gradient hits and hard hits (note: not all drums follow this principle and exact mapping may differ).

The intensity levels for all soft and all hard hits are the same in their respective categories. We've sampled up to 25 soft hits and 25 hard hits on selected instruments. Finally we've sampled around 15 groups of gradient hits, increasing gradually from soft to hard, each populated with up to 25 hits.

Through a unique system developed by Toontrack Music the sampler automatically maps these hits to the appropriate velocity range. By default all soft hits are mapped between MIDI velocities 1 and 20 and played in a random manner. Hard hits are triggered by a MIDI velocity of 127, again in a random manner. Finally gradient hits are triggered between velocities 21 and 126. This can, of course, be changed to suit your taste.

Intelligent Playback

The SUPERIOR instrument is full of features that eliminate the dreaded "machine-gun effect". For example, while playing or programming, the same sample will never be played twice in a row, unless you want them to. All hits can be randomized which makes it impossible to hear a certain hit sequence or pattern... just like a real drummer never hits the drum exactly the same way twice.

Bleeding/Leakage

The much desired ambience resulting from a drum bleeding all microphones is an essential part of the studio experience. This should not have to sacrificed while programming drum tracks because some software head has decided that it isn't needed. The good news is you no longer have to! The SUPERIOR instrument not only gives you full on leakage, but will also let you specify which drum leaks into which microphone, a feature useful to keep memory usage low while programming or previewing sounds. This however does not affect the end result through a clever system of offline bouncing.

Microphone Leakage Control

In addition, the SUPERIOR instrument goes one step further with its unique "Mic leakage control", allowing you to set the exact level (volume) you would like to hear for each drum in any one microphone. Thanks to this feature you no longer have to worry whether the aftermath of compressing the Snare track is an overpowering hi-hat that needs taming another way. You don't have to worry because this is no longer a problem.

With the SUPERIOR instrument you can just select the microphone that you wish to edit and lower the level of the drum that is causing you trouble. And since this operation can be performed with any microphone in relation to any instrument in the drumkit, the net result is unprecedented flexibility over your virtual session.

Flexible Built-in Mixer

The SUPERIOR instrument includes a built-in Mixer, complete with extensive routing to busses and outputs. With up to 16 busses for your subgroups and 16 fully configurable outputs addressable individually from your host programs, there simply is no limit to the level of processing that can be performed.

Integrated Processing Effects suite

In addition to the above, the SUPERIOR instrument ships with an award winning suite of processing effects powered by Sonalksis. This means that you have at your disposal an arsenal of sound shaping tools that is second to none for drum processing. Best of all, since these FX are integrated in the engine, you can confidently exchange your drum tracks with other SUPERIOR users knowing that the sound you have intended will be there on playback.

Mixing and Matching of instruments

The SUPERIOR instrument supports all current Toontrack sound sets as well as legacy SUPERIOR libraries. You can access ANY instrument from ANY libraries via a sophisticated system of X-Drums, mixing and matching instruments with no limitation. You can even specify which microphones to use for the new instrument!

Memory Management

Forget about Hard Disk buffering technology, which never quite works on a Tuesday unless your studio is on the sea side, facing south. With the SUPERIOR instrument, on-the-fly compression/decompression will ensure a hassle free experience, at no cost to playback quality, and unprecedented results.

As if that wasn't enough, the SUPERIOR instrument can also be set to load only those samples necessary for playback, or operate in 16 bit mode, at the touch of a button. Add to that extensive control over the pool of samples and you will always be in control of what is filling up your RAM, tailoring the sounds to your computer equipment, not the other way around.

Efficient Sample Storage

Thanks to Toontrack proprietary technology, TPC, Toontrack Percussive Compression, samples are stored compacted on your hard drive for a saving of up to 70% both on disk but also in memory, making it possible to load large kits on a laptop, where disk space and memory is usually restricted.

Transmuting (advanced polyphonic mute groups)

The SUPERIOR instrument is designed to be in command not only of what sample mutes others, but also how smoothly the transition occurs. Through a technique called transmuting, a technique far more advanced than traditional mute groups, realistic hats work can finally be achieved in software.

Continuous Controller Support

Last, but not least, the SUPERIOR instrument supports Continuous Controller messages sent from capable external MIDI controllers such as hi-hat pedals and keyboard mod wheels. This, in combination with transmuting, affords a level of realism comparable to the complex foot work of a professional drummer at a price you can afford. They can even be drawn in your sequencer for ultimate control of the performance!

2.2 Construction Window

The Construction window is where you will be building your drumkit. The main area in the middle represents the kit you have assembled, complete with any addition, the so-called X-Drums. It is sometimes referred to as the Studio window.

Click on the drums to hear a preview. To select a different selection of instruments click the down arrow on the position you would like to change and make a selection in the list.

Many instruments were recorded with a variety of utensils to hit the drums. Use the 'Tools Settings' in the top right corner of this section to change hand tool, bass drum beater or even or even turn off the snare drum.

The bottom section of the Construction window features essential functionality, easy to access regardless of what window you are in. From left to right:

- *Memory & Status*, giving you at a glance an overview of RAM usage and important messages related to sample loading or mismatch of incoming MIDI that you may want to correct.
- The *EZ Mixer*, a simplified mixer giving you instant access to a single microphone for quick volume level dialing, panning or overall bleed adjustment.
- The *Master Volume* section, controlling the sampler volume output.
- *Voices and Layers*, a section dedicated to optimize the sampler's demand on the computer resources as well as the instrument response to the incoming MIDI information.
- the *Instrument* section, where instruments' relative volumes can be performed, including balancing the articulations available across the set. This is also where the MIDI mapping can be user specified.

Advanced users may prefer the Classic view. It features 'Superpads', a representation of the kit pieces familiar to those who have owned previous versions of the Superior Instrument. The Classic view offers the extra flexibility of velocity sensitive preview and individual solo and mute controls.

The section to the right can be accessed from either the Standard or Classic view and is used for advanced Instrument control. The available controls, from top to bottom, are:

- The *X-Drums* section, where additional instruments can be brought into the kit and their microphone configuration defined.
- The *Envelope* designer, a classical ADSHR envelope shaping editor.
- The *Pitch* section, where you may alter the instrument original pitch in real time and apply changes.
- The *Humanizer*, an ensemble of controls that specifies the triggering rules among the sample pool for a given instrument or even a single articulation.

The function of each of these controls are individually detailed in later chapters of this manual but, before we delve deeper, we would to introduce the heart of the engine, the built-in Mixer.

2.3 Mixer Window

As stated at the beginning of this chapter, the SUPERIOR instrument includes a fully featured Mixer allowing you to route instruments microphones to busses and outputs, applying effect processing internally if desired.

Each microphone in the room during the session has a dedicated channel strip and can be routed directly to one of the 16 outputs, or sent to one of 16 busses. You can even define exactly which amount of the direct signal or bleed should be sent to any of the available busses.

The anatomy of the channel strips will be the subject of a later chapter. In a nutshell, regardless of channel type, the INSERTS section sits at the top, followed by the BUSS SEND section, BLEED CONTROL (with collapsible pane), VOLUME FADER, and finally the OUTPUT section.

You can group the channels to be affected by your actions, be it muting, soloing or any other fine adjustments. For example, drag across the channels name in the lowest part of the channel strips to adjust the volume of all the rack toms at the same time. You can also SHIFT click for consecutive channels selection and Control [PC] click / Command [MAC] click on any channel to select or deselect it.

To avoid unnecessary scrolling in the Mixer, you can conveniently hide a particular channel type, by clicking their respective icon in the bottom left corner of the Mixer section.

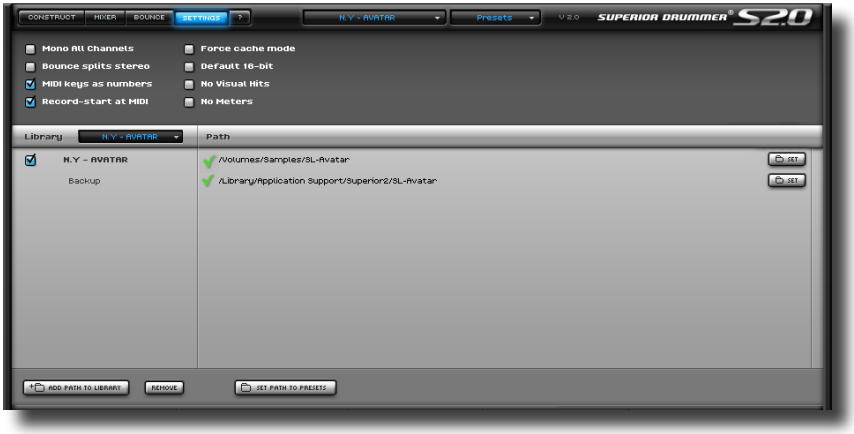
To finish this quick overview of the Mixer, the global control to the left of the channel strips toggle between the audience and drummer's perspective.

2.4 Bounce Window

This is a secondary window used to render audio files from the engine.
We will detail its operation in a dedicated chapter so do not worry about it at this stage.

2.5 Settings Window

The settings window is where the SUPERIOR preferences can be set, including the paths pointing to your sound libraries. Again do not worry about it at this stage as this is non essential to getting you started. Should no kit load at start up however, we suggest you check the troubleshooting guide at the back of this manual.



2.6 Help Menu

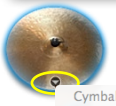
Essential resources can be found here, from online support information to MIDI mapping for all installed products. Getting familiar with all the resources presented here will avoid many frustrations so we strongly encourage you to consult it whenever you have a question about Superior Drummer® 2.0 or a Sound Library.

3 DETAILED OPERATION

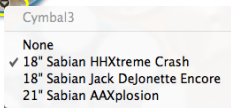
3.1 Instrument Selection

When the plugin is first started, the default drum kit should load automatically. The RAM counter in the bottom left corner of the interface will inform you of how much memory the kit uses, as well as how far in the loading process you currently are. Once the two figures match the loading is completed.

[Tips] Note the prominent LCD right at the bottom of the window, it's Superior's way to inform you of what's going on so always keep an eye on it!



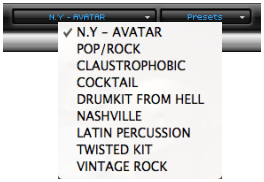
If you would like to select a different drum at a certain position simply click the down-arrow lip on each part of the kit and select your preferred instrument from the menu.



Again remember that you can quickly audition the drum by clicking in the interface. For a refined preview you can also click the audition pad in the bottom right hand corner.

If you own any other SUPERIOR compatible set, including legacy Superior libraries and EZdrummer expansion packs, EZX-s, you can, quite naturally, decide to use them as the foundation of your drumkit. Remember that you can always add X-Drums at a later stage so choose the kit that best suits your project at this stage.

To do so, simply call the expansion selection box at the top part of the interface:



You can then customize this kit as stated above, selecting the kit pieces as desired. Select 'None' if you want to depopulate a particular position (either because you would like to save RAM or because you want to use an alternative drum in place, via the X-Drums feature (see next paragraph).

3.2 Custom Kits using X-Drums

As stated above, SUPERIOR allows you to access any of your Toontrack Sounds library but it also give you the possibility to extend these kits with alternative kit pieces, or even to layer drums to respond as a group to the incoming MIDI from the sequencer, all from a single instance.

Thanks to a feature called X-Drums, eXtra instruments (x-pads in SUPERIOR lingo) can be brought into the Construction window to be used in support of the base kit. There are technically no limitations to the scheme and, for example, percussion instruments can be added to a drum kit (or vice versa).

To add a X-Drum to the project, simply click the 'x-drums' label in the top right hand corner of the Construction window:

As you can see in the screenshot on the right, the SUPERIOR X-Drums section allows you to pick any Sound Library installed, including the library currently used for the base kit in the Construction window.

Should there be a choice of tools available in the library, you will also be able to choose between them (if no tools selection is available the menu will remain closed), before or after specifying the kit pieces to be added.

We will come back to the Microphone Assignment and MIDI section. For now let's concentrate on the Instrument properties, regardless of them being X-Drums or elements of the kit you started from.

[Tips] Once you have added a x-pad to the Construction window, Right PC click / Control MAC click it to move to a convenient place in the window. Note that this has no effect on the panning and is for convenience only.

You can toggle the x-pads view from the default representation to a space saving alternative, where the x-pads are represented by a generic icon. This can be on a x-pad basis using the 'use generic picture' in the bottom corner or toggled globally from the x-drum menu at the top. Generic x-pads have fixed placement.

3.3 Instruments Properties

Before we describe the Instrument properties in detail, let's take a look at the various ways you can select your desired Instrument(s).

Selection of a single Instrument is performed by Right PC clicking / Control MAC clicking it in the Construction window, or by selecting it in the Instrument section found in the bottom right of the interface.

Multiple selections can be achieved by clicking pads while holding down the SHIFT key. The Instruments selected will take on a blue tint around the edge to confirm selection. In addition, all Instruments present in the Construction window can be selected in one step with Control PC clicking / Command MAC clicking any Instrument.

Multiple selections can be useful for editing several instruments at once. For now however, please select any one Instrument, such as the x-pad you may have created while reading through the previous paragraph.

The 'Instrument' selection box will update with the currently selected Instrument. You can then quickly cycle through the instrument's articulations using your mouse scroll wheel if available or manually select an entry under the 'Articulation' header.

Think of articulations as particular techniques that the drummer might have used or as variations that would be difficult to reproduce through MIDI only.

[Tips] Depending on the instrument selected in the Construction window, some of these articulations may not be available. They may, for example, not have been sampled with this particular set of tools and can therefore not be used with this specific drum selection. An asterisk * is used to represent the unavailability.

The preview pad already mentioned differs from the audition feature accessed by clicking on the drum itself in that it is velocity sensitive and allows you to sweep the entire spectrum of dynamics on the drums. Click on the preview pad, first towards the top to preview the hardest hits, then progressively towards the bottom for soft taps.

In addition to auditioning the drums at all velocities, this section allows you to quickly mute or solo a particular Instrument in all of the microphones. You can also adjust the volume level of this drum, again in all the microphones at once from here.

Additionally, engaging the 'edit articulation only' button allows you to balance out the relative levels of the different techniques sampled for a single instrument by selecting the relevant articulation and touching up the fader position. You can also double click the value field for a precise input.

[Tips] The same technique can be used for any Instrument Edit, engaging the 

button is essential for envelope shaping and pitching drums without affecting secondary articulations (for example, a sidestick would retain its pitch if you tuned the drums in the real world). We will remind you when the time comes!

Leaving the key assignment aside for the moment, let's turn our attention to the more advanced instrument properties, pitch shifting, humanizing features and finally envelope shaping.

While the drums and cymbals recorded for the SUPERIOR libraries were carefully tuned before being sampled, there will be cases where pitching is required or desirable (musically or otherwise). Pitching manually is performed by using the knob in the pitch box of the Edit section. Simply click hold of the knob and move the mouse.

The value is in the format octave:semitones.10th so for example -1:5.5 will pitch the samples 1 octave 5 ½ semi tones lower than the originals.

Please rotate the button now and note the LED above the knob. It indicates user action is required. This is because while pitch adjustments can always be previewed in real time, this is merely a low resolution interpolation in order to give you a chance to audition the result before committing the value. When you are satisfied with the result you should commit the change by clicking the FIX button.

[Tips] Moving your mouse cursor away from the knob will allow finer control. If you require even more accuracy you can type directly a value by clicking in the input field and, should you just want to return to the default pitch of the instrument, a reset button is provided. Remember, the state of the 

button affects what you pitch!

Next for review is the Envelope section. There are numerous practical applications for this functionality: it is a powerful creative tool as well as a flexible way to simulate real world interaction between a drummer and his drums such as cymbal chokes. It can be used to great effect to gently fade, gate or otherwise shave the tails of the samples, or their attack.

To start using this feature please engage the ON/OFF button in the right hand side to enable the envelope shaping function applied underneath: 

You can manipulate the samples' overall envelope and therefore their presence over time, as they are fed to the sampler's output. You can affect the following part of their envelope: Attack, Decay, Sustain, Hold and Release.

The Attack affects the samples very start and is typically used to soften the sound, for example to simulate more realistic cymbal swells.

The Decay is the typical drop from the initial attack point, to a Sustain volume, which defines the level the envelope should, as much as possible, maintain until it fades away.

The Release parameter controls how quickly the sound will then fade from the sustain volume to digital silence. The Hold parameter specifies how long the sustain volume should, as much as possible, be maintained.

In addition, an Offset value is available to shift the overall envelope in time.

To manipulate these values, simply click and drag one of the four anchor point in the curve area. You can also Control [PC] / Command [MAC] click an anchor point to give it focus and double click the value field to type it in manually.

The values set can be specified as a relative measure of the length of the samples or an absolute measure of time with the Ratio/Time control. Furthermore, the result can be user controlled by selecting the Note OFF option. Using this method, you should be able to control the effect in real time by holding down the key on your keyboard to create cymbal chokes and snare rolls of varying length without the need for specialist equipment.

SUPERIOR will also respond to aftertouch MIDI messages sent by capable edrum modules if needed (see edrum section later on in this manual).

[Tips] Once again, remember that you can edit a single articulation independently from any others. Simply toggle between the Instrument and Articulation modes as discussed previously: 

Calibration is an important part of the success performing with the SUPERIOR sampler. As you probably know the force used to hit your electronic drumkit or keyboard is translated into MIDI in the form of velocity values ranging from 0 to 127.

By moving the velocity controls found in the Voices and Layers section the software lets you specify the threshold separating soft from gradient hits and gradient hits from the hard hits respectively, for the selected drum(s). Gradient hits will automatically be remapped between thresholds.

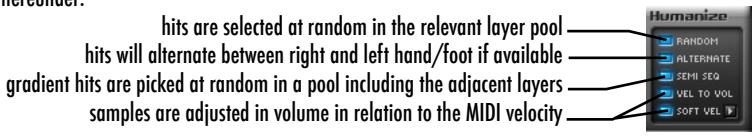
This section can also be used to work around equipment limitations. For example, a particular MIDI controller may not be able to reach the highest or lowest velocity values in the MIDI range. Select all Instruments and set the (up) Limit to the maximum value registered by your sequencer to optimize for a particular hardware.

[Tips] Again, switch to Articulation edit mode for greater control: 

The last aspect in respect to Instrument properties are the Humanizing features.

As already stated, every instrument for the SUPERIOR libraries was sampled at many different intensities and utilizing many different techniques. All the resulting sounds however are only useful if the sampler can make use of them in a meaningful way, free of obvious repetitions and patterns that the listener can easily pick up.

Randomization and other pattern breaking functions are regrouped in the 'Humanize' section, as shown hereunder:



<Random> applies to all layers populated by at least 2 samples (see the chapter on resource management for details). When this option is OFF hits are played back on fixed velocity which may in some cases be of use if you wish to trigger a particular sample .

<Alternate> works by redirecting every second request assigned to the Right subpad to the Left one, and vice versa. A sequence such as RRRRRR will be triggered as if RLRLRL had been received in other words. This feature will be of particular interest to edrummers, where a single note is sent regardless of the limb used to strike the pad.

<Semi Seq> adds extra randomness for gradient hits. When this option is ON samples are picked from the layer associated with the incoming MIDI as well as the one just above and the one just below. This allows for low layers population but still retaining adequate variation.

Finally <Vel To Vol> ensures the adjusting of the sample volume within the range assigned to a layer. It's a simple relationship between hit intensity and incoming MIDI velocity in other words. This way no two MIDI values will have exactly the same output (two adjacent MIDI velocity values may trigger the same sample but not at the exact same volume). <Soft Vel> has the same effect but affects soft hits only.

[Tips] There should be no reason to disable the Humanize functions as they are included to ensure reproducible output from projects created using the original dfh SUPERIOR. Our advice is to keep them ON at all times.

3.4 Key Assignments

MIDI mapping is perhaps the most misconstrued subject in the world of drum samplers. While the MIDI Manufacturers Association (MMA) has established 2 revisions of the General MIDI Standard in the last few decades which are relatively common and in use, it is fair to say that they are clearly inadequate for today's drum samplers.

This is a widespread issue for software developers, and unfortunately many have chosen to disregard any compatibility with the existing formats, including the General MIDI standard itself. On the other hand, Toontrack have made every efforts to facilitate their users' workflow through the use of a GM derived format called GM Extended.

The advantage of GM Extended is that users familiar with GM already know how to access the essential parts of their kits. Best of all your GM compliant drum tracks should play back properly right away! The only restriction is that Drums and Percussion are separated in distinct frameworks to allow the entire range of MIDI notes to be used for the extra articulations required to provide all the subtlety expected from a modern drum sampler.

You will find the MIDI mapping for your product within the Help menu accessible from the SUPERIOR interface. Should you need to remap any instrument, however, this is, of course, possible!

In the Instrument section, select the instrument and articulation desired. The current mapping will be visible in the key field. If several note assignments exist for this particular articulation, you can review the list by Right PC clicking / Control MAC clicking the field.

You may add notes that you wish to use to trigger this instrument's technique by typing them in. Double click the field and type the desired value.

You can also Learn the note directly by sending it from a hardware controller. To assign a new note in this manner:

1) press 'Learn' in the bottom right hand corner. Note the green tint adopted by the button, meaning that the sampler is now waiting for incoming MIDI.
2) press the desired key on your keyboard or strike the pad on your specialist controller. The 'Learn' button will return to its initial state.
3) verify that the desired key is triggering the instrument you intended.
4) repeat the process for any other note or articulation you would like to remap.

Note that you can use the 'Remove' button to clear the currently selected note if you want to make sure that the old assignment has no effect on this particular instrument.

Note that technically a key is always assigned to an articulation, not an instrument. It is therefore necessary to select the correct articulation before proceeding with assignments.

[Tips] Note assignment can be typed in manually as a note number or in musical notation. For correspondence purposes with the arbitration octave designation, Toontrack uses note 60, middle C, as C3. GM kick = 36 = C1.

Although there is nothing to stop you from manually mapping x-pads, these are somewhat different in that they typically are used to replace part of the core library or expansion, or on the other hand are expected to trigger as per the library they are normally featured in.

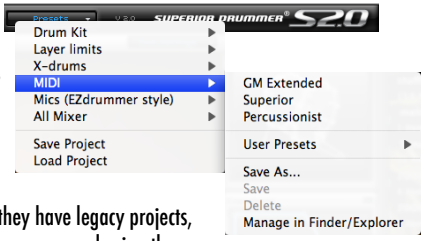
To speed up the process of MIDI assignment of X-Drums, SUPERIOR features two very useful functions:

- Steal Current: the mapping of articulations as currently associated for all name matched kit pieces will be used. Use this option if you want to replace an instrument in the base kit.

- Steal Default: the mapping of articulations as set in the sound library the new instrument belongs to will be used at the expense of the kit piece currently assigned to them, if any. Use this option if you want to integrate a new instrument but be aware that other x-pads may end up unassigned.

Now that you have learned how to create a key map that suits your needs, it is time to show you how to save it and recall it in the next session.

In the top navigation bar click 'Presets', then navigate to MIDI:



From here you can save your MIDI configuration as well as manage them using your operating system file manager, for example to share with other SUPERIOR users. User presets will appear in the submenu of the same name.

Superior 1 users can also access the original mapping should they have legacy projects, or simply want to continue using this mapping. We do however recommend using the GM Extended mapping as this will ensure the best overall compatibility with other products in our drum sampler line as well as basic interchange possibility with GM users you may collaborate with in your musical adventure.

It is important to note that only part of this map is GM compliant. Specifically, only notes 35 to 59 should be used if you plan on exporting the song for sharing with others. Alternatively you can use Toontrack's own EZplayer pro to convert your tracks before sending. Or recommend it to the people you work with.

[Tips] Again, you will find MIDI configuration charts detailing the key assignments for all SUPERIOR compatible libraries in the Help menu. Use them to find your way around or change the key mapping to your heart's content.

4 MIXING THE KIT

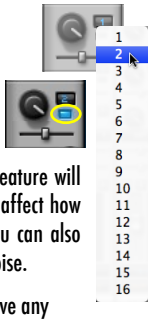
4.1 Mixer Channels

SUPERIOR Drummer is a microphone centric instrument. This means that what you control in the mixer is not simply a single instrument but sounds recorded by the microphone pointed at it. Therefore, adjusting a channel strip in the Mixer will not only affect the direct signal from the drum but also any other instruments that may bleed into it.

A new feature for Superior 2.0 is the INSERTS section. This is where the integrated FX are located. The FX chain runs in sequence from top to bottom. The following expertly designed FX from Sonalksis are available; 5-band equalizer, Hi/Lo pass filter, a Gate, A Compressor and Transient modeller.

Clicking an insert will open its window on your screen so you may tweak the available parameters to suit your production, and save and recall your favourite presets. You can also use the channel presets menu located underneath the inserts stack to call global processing FX chains. Click 'Bypass' to temporarily disable an FX. See the separate PDF documentation for description of additional controls available.

The following section is the bus send section.
Here you can separate the instrument signal from the bleed and assign each to an available bus. To do this, choose the bus you would like to receive the signal and click the number under "bus send Direct" or "bus send Bleed.":



Once the desired bus has been selected, enable the send by clicking on the small LED to the right of the knob and adjust the latter as desired to send more or less signal to the bus. You can also affect the panning for the represented signal if you so desire.

Next for your consideration is the Bleed Control section. This feature will require some explanation but for now just know that you can affect how instruments bleed into the microphones using this section. You can also 'gate' the signal fed to the channel strip, to cut out excessive noise.

The following sections should be fairly familiar to you if you have any previous experience with hardware mixers or some exposure to the world of Digital Audio Workstations. Pan controls, channel faders, mute and solo switches are ubiquitous in about every musicians surroundings and need no further instructions.

For advanced users, note the phase reversal button that will allow you to correct any phase cancellation you may suspect as a result of rerouting signal to busses.

[TIPS] Click the dB field to type a value by hand. Remember that you may select several channels to be affected by your actions. Change perspective by affecting all microphones with the button already introduced.

There is one extra control at channel strip level and that is the routing to outputs.

By default SUPERIOR outputs into your host as any stereo instrument you may be familiar with. It can however be addressed as a multichannel instrument in most compatible hosts so that further processing can be applied, allowing you to use the entire arsenal of effects from within your sequencer.

Clicking the 'Output' field at the bottom of the channel (in orange letters over black), will reveal the possible outputs for this particular channels. Microphone channels can be routed to any bus (1-16) or output (1-16). You can also disable the post fader signal and rely solely on the bus send sections if you wish.

Busses on the other hand can only be routed to other busses or output so that no audio feedback can be created. SUPERIOR will always prevent you from routing in such a fashion as to feed a signal back to its parent channel at any point and will tell you to change your routing accordingly. The same goes for the channels send section found on busses so there always is a helping hand.

It is worth noting that the description of the channel strips detailed on the previous page applies to all channel types with the exception of those noted in the previous paragraph. In addition, only microphone channels have bleed controls. Unsurprisingly, outputs have fixed routing since they sit at the end of the audio chain, allowing them to directly interface with your host program.

[Tips] Choose the Multichannel preset outlined in yellow in the screenshot on the right to quickly separate microphones into your hosts, sending all post fader signals to the 16 stereo outputs in the order their channel strips appear in the Mixer. You can, of course, manually overwrite any individual channel routing after that.

The Mixer is indisputably the primary window you should reach for hands-on mixing, but day-to-day operation sometimes involves more casual adjustments or the need for a quick listen of a channel in isolation, to name but one example. In these instances, switching to the Mixer window may seriously impair your workflow by removing access to the Studio window and Advanced Instrument properties such as the Envelope Designer.

For all these reasons, SUPERIOR will always allow you access to a single mixer channel through the EZ Mixer at the bottom of the interface.

Essential controls can be found here, from volume control and panning to global bleed level and more specialist controls already described in this chapter. It also features an indicative status of inserts as a convenience.

In addition to these useful shortcuts there is an extra parameter that will allow you to control the phase alignment of the Ambience microphones: Amb Corr or Ambience Correction. Using this setting you can shift the ambience microphones signal up to 10 milliseconds. This is equivalent to moving the microphones 3.5m closer to the drum kit at the maximum value.

4.2 Refined Microphone Controls

In many respects, SUPERIOR aims to preserve the studio experience. Pushing the boundaries of realistic drum tracks with the context of a virtual instrument offers possibilities that can greatly simplify and improve your productions.

The SUPERIOR instrument brings you control way beyond what is possible in the real world with the inclusion of its leakage volume control feature. Using extremely refined microphone controls, you can do away with the time consuming EQ/gating work required to isolate your drums, if you so decide.

You may remember in an earlier paragraph that we introduced, albeit briefly, the BLEED CONTROL section, so let's go back to the Mixer, using a real case scenario concerning the overhead microphone. Scroll to the relevant channel strip and click the 'Edit' button in the BLEED CONTROL section. The following pane should be revealed:

This is where the exact amount of bleed for each instrument can be specified and toggled ON or OFF. The Instruments in the kit should be listed on top of one another, including X-Drums, if bleed in the microphone exist for them.

The advantage of this level of detail is that you can easily correct the output of any microphone channel, for example cutting the kick out of the Overhead, as shown on the left. This not only solves a potentially problematic sonic issue but also unloads the samples concerned, saving you RAM.

But you can also adjust the bleed level to any degree, say to lower the snare drum if you deem it to be overpowering in this particular microphone. Simply drag the relevant slider towards the left.

Note that some instruments have a little 'c' (for 'close') in front of their name. This signifies that they are the primary source intended to be picked up through the microphone during the recordings. They cannot be cut out of the microphone but can nonetheless be lowered in volume in respect to the bleed.

You can also phase reverse any instrument independently of the others.

Needless to say this is a very powerful feature as this can be applied to any instrument in any microphone, giving you total control over your sound. In fact you can change multiple bleed in one go by using the selection shortcuts previously discussed in relation to channel strips: drag across the instruments label to select; SHIFT click for consecutive selection; Control [PC] click / Command [MAC] click on to add or substract to the selection.

This can even be performed on multiple channels at the same time by combining the selection methods above and those described in the Mixer overview earlier in this manual. Select channels to be affected then pick the instruments you'd like to adjust, using any one of the Bleed Control sections of the selected channels, and drag left.

[TIPS] Gate snare out of tom microphones effortlessly: drag across the toms labels at the bottom of the channel strips to select them, open Tom1 Bleed Control section and drag the snare slider to taste or disable. Et Voilà!

It is worth clarifying, at this point, the 'Master Bleed' control. Found in the EZ Mixer as well as in the microphone channels BLEED CONTROL section, it acts as a simple global bleed volume control. Turn left to reduce the overall bleed presence to expose the direct signal more prominently.

The other useful corrective adjustment worth looking at again is the Fade Control, which we described as useful to cut out excessive noise. This might be desirable, for example, when EQ:ing or compressing a snare drum track heavily. Such sound shaping often exposes the high end noise at the end of the samples summed in the microphone. The stacking of many voices in a single instrument can also lead to a noisy output.

Using the control going left, you can apply a linear fade that will affect all instruments played through that microphone, effectively 'shaving' the tail of the samples. The net effect will be a reduction in the residual noise that was introduced by allowing every instrument to ring in that microphone.

The Fade slider can also be moved to the right, where it will instead add a number of milliseconds to the length of the sound. This has an effect only on sounds that have been faded using the Envelope designer. The typical application is to make a hard fade sound more natural by allowing, for example, the Ambience microphones to ring a little longer, mimicking a real room response more closely.

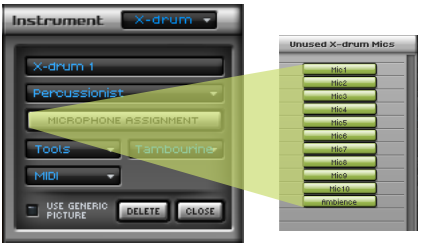
[Tips] It is important to note that other microphones remain unaffected. If you wish to affect the Release/Decay of a single instrument in all the microphones refer to the operation of the Envelope designer.

4.3 Microphone Management

There is inherently an issue with mixing and matching instruments from different sound libraries thanks to the X-Drum feature: microphone configurations. Recording sessions may differ in how the engineer decided to set up the microphones around the room, what is closed miced, what is picked up by overhead only, how many Ambience microphones there were and their nature, etc.

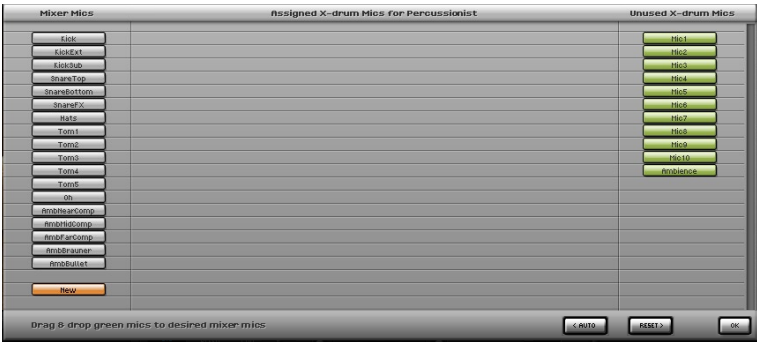
SUPERIOR has been programmed to understand high level of variability but sometimes the instrument brought into the Studio window is just too different from the main drumkit for automatic microphone detection to work well.

This is most notably the case when percussion instruments are added to a drumkit or when specialist kits are added to more standard instruments and may cause the X-Drum to sound in only a few microphones or none at all. In such instances, we recommend checking the Microphone Assignment section:



The screenshot to the left shows a typical scenario when importing percussion into a standard drumkit. Few of the Instruments will match and therefore the sound will be shallow or missing entirely.

Click the X-Drum's 'Microphone Assignment' button:



The column on the left lists all the microphones already present in the project. To the right, you will find the microphones that are currently unmatched, their output muted as a result. It is therefore important, in most cases, to assign all microphones to existing microphones or create additional ones if desired.

Simply drag microphones from the pool on the right to the desired match to the left: Note that microphones that are not a valid selection are greyed out, the defining criteria being that the microphones you match must be of the same type, mono or stereo.

You may also choose to create an entirely new microphone to be added to the project, complete with its own channel strip in the program Mixer. To do so, simply drag one of the microphones from the current X-Drum (already assigned or still among the left overs on the right hand side) on top of the work 'New':

A new entry will appear on the left hand side. Note that maximum of 32 channels can exist as part of a project, including the base kit. A stereo Microphone will count as two microphone channels.

If you change your mind and decide to reassign a newly created microphone elsewhere, you may delete the obsolete channel by clicking it and selecting 'Delete':

Clicking Auto is usually without effect since this procedure is attempted in the background on first integrating the X-Drum into the project. However, if at any point during the process you choose to start again by resetting the configuration to the sound library default, the automatic assignment may prove useful.

[Tips] Using this feature, you can add convenience channels such as an extra channel to control the Ride in the kit. To achieve this, unload the Ride from the main kit in the Studio window and add it back in as a X-Drums. In the 'Microphone Assignment' window, drag the OH microphone on top of the 'New' button.

5 OFFLINE BOUNCING

Because of the high number of samples involved, playing back all the sonic subtleties SUPERIOR has to offer can be quite demanding on resources. A number of features are also exclusively accessible through the offline bounce and makes the process all the more useful.

In essence, the SUPERIOR instrument offline bounce feature creates audio files from a MIDI sequence, utilizing all available leakage samples in the library. This means that no matter what the sampler is set to output in real time, the result will be equivalent to having all instruments bleeding into all microphones, as well as an extended pool of samples represented.

A useful parallel can be made with 3D programs, rendering: paraphrasing, programming is performed in 'mesh' view, before complex textures are added and finally lighting and subtle effects are calculated offline.

Before bouncing, the SUPERIOR instrument will need to buffer the MIDI requests present in your song.

Click the record button and play through the song once. Your host program may require that you set the left and right locators at each extremity of the sequence before you can succeed. Make sure you let all instruments ring to complete silence before stopping your sequencer.

If the record button disengage itself straight away or before the end of the MIDI, you should try to switch the 'record-start at MIDI' option in SUPERIOR settings page. See the chapter dedicated to settings for details.

There are a number of options you can choose from. These affect not only the quality but also the number of files resulting from the process. It is important that you read this section to make the best of the feature.

First, you should decide whether you would like the files resulting from the bounce to be saved at 16 or 24 bit depth. The SUPERIOR sounds were recorded at 24 bit depth therefore this is the default. The 16 bit option requires less hard disk space but the sound will have less dynamics.

Next enable the 'Split Direct/Bleeding' option if you wish to create two files per microphone, one containing the instrument in isolation (file with the suffix _close) and one containing all other instruments bleeding in that microphone.

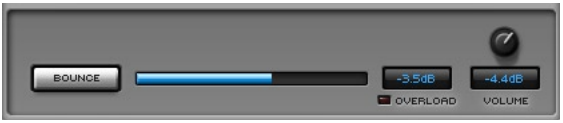
This feature allows for you more flexibility at the mixing stage but also requires more hard disk space and a large number of files to manage. This option is useful if, for example, you wish to vary the ambience during certain parts of the song using your sequencer automation capabilities.

At this stage you will have the possibility to separate the overhead microphones into as many files as there are 'cymbals' in the drumkit. All the other instruments (kick, snare, toms, hats, etc) will be consolidated into a separate file.

Some sound libraries in the Toontrack line offer additional microphones available as offline fixtures and over which similar controls may be allowed. Click hold the selection box underneath the 'Split mic' header to find out what options are available to you for a particular product.

[Tips] Remember: all these options will result in extended flexibility but at the expense of additional files that will have to be taken care of in your mixing session. The best advise we can give you is to experiment with different combinations and decide what is the right balance in your situation.

Once you have picked your options, press the bounce button, choose name and locations for the files and the rendition to disk will begin. All samples present in Ram will be cleared to ensure a smooth and efficient bounce procedure can be performed. A status bar will keep you informed of progress.



Should clipping occur in one or more files SUPERIOR will automatically lower the master volume for you to an adequate value and restart the bounce process automatically. No action is required on your side.

At the end of the bounce any samples cleared from Ram will start reloading.
Import the files back into your sequencer and start mixing.

[Tips] For added convenience importing into some host programs, you may choose to bounce stereo files as split stereo (as opposed to interleaved) using the 'bounce splits stereo' option found on the settings window. This option produces distinct files for the left and right channel, thus for every stereo file that would otherwise be produced.

6 RESOURCES MANAGEMENT

The next few pages give essential tips and recommendations for smooth operation of the SUPERIOR Drummer.

[TIPS] Please read this chapter in full: operation of a sampler requires understanding of the demand on resources and platform specific environment. Your time reading this chapter may avoid many frustrations!

As you may know, a sampler is essentially a DJ in the computer world: upon receiving MIDI information, it will play back the sounds in the order the requests have been received in, just like a good DJ is supposed to! The main difference is the speed at which the requests are required to be honored. This is obviously an overly simplified picture although other comparisons could be drawn to great effect.

The fastest way to feed the sound to the audio engine of your host program is to store the samples in physical memory, otherwise known as RAM, for instant availability. This can be very demanding on resources however. In an ideal world computers would have an unlimited amount of memory available and you would be able to store multi gigabytes libraries entirely in RAM. This is of course not the case.

Thankfully Toontrack Music's revolutionary *Toontrack Percussive Compression* aka TPC, an on-the-fly compression/decompression technology is built into the sampler to ensure the memory footprint remains as low as possible, without compromising playback quality. In addition memory requirements can be strictly controlled as will be described in the following pages.

The aim of this chapter is to show you how tailor the library to your music production system and not, as is often the case, the other way around. We strongly believe that flexibility is the key and we are sure you will appreciate the variety of memory saving features on offer.

6.1 RAM Considerations

By default the sampler will play back samples at full quality with the help of the TPC technology mentioned here above. The TPC algorithm is capable, on average, of a savings of up to 70% when compared to the same uncompressed 24 bit data.

The cost in term of CPU consumption for the compression/decompression is negligible, voice count being equal, so the net result of having TPC enabled is that you will be allowed more samples to be loaded in RAM, and ultimately get a lot more out of your host computer.

You can also force the sampler to operate in 16 bit mode for extra savings. Remember that, unlike TPC, 16 bit playback has an effect on quality. It is however important to stress that, whatever mode you choose to use in real-time, the rendering quality of the offline bounce, as mentioned in the previous chapter, will not be affected.

As you probably have realized by now the numbers in the bottom right of the interface indicate how much memory is required by the combination of all the instruments present in the project. The TOTAL is the amount of memory required for your selection to sit in RAM.

It is important to understand that this figure does not include your sequencer's own memory requirements however, nor does it reflect usage of other virtual instruments used in your song.

It is usual to consider that approximately 300Mb is necessary for a modern operating system and a typical virtual instrument host to operate comfortably underneath SUPERIOR. This is called the system headroom.

[Tips] The more you eat in that vital allocation, the more likely you are to starve your system and possibly hard crash your computer, placing a strain on all electronic components. Please preserve a system headroom at all times as not doing so may cause irremediable loss of data and possibly physical damage to your computer.

As implied above, there is an obvious relationship between kit composition and memory requirement: the bigger the kit, the more samples will be necessary for playback.

The best advise we can give you to reduce memory requirements is therefore to assign strictly as many instruments as is necessary. X-Drums are obvious candidates for this type of optimization.

Reduce the number of instruments of a specific type if you find yourself scarcely using some of them. Ask yourself if you really need those 6 crash cymbals all at once: maybe you find yourself only using 3 of them after all and perhaps you only hit the third a single time in the course of a song.

If you are still unable to load the kit you desire in RAM there are multiple ways to work around the problem.

A very effective way to keep the sampler memory footprint to the minimum for any given pre-programmed sequence, is the memory caching feature. In a nutshell, when engaged, only samples requested by the MIDI sequence will be read from disk and loaded in memory. Click the 'Cached' to start loading samples on demand.

There is a side effect that should be noted however: caching introduces a delay in playback the very first time a sound is requested. This will manifest itself by a temporary stuttering lasting from a few bars, the faster the drive the less intrusive the effect. This inconvenience is a small price to pay however when RAM is at a premium.

[Tips] While in 'Cached' mode you can force load the kit into RAM by pressing 'Load'. Press 'Clear' before caching again to free up all memory of samples that were previously loaded.

Another way to reduce a kit requirement is to restrict the sample pool using the Voices and Layers':

- select any number of instruments (see chapter 3 for details)
- decrease the number of samples for Soft, Gradient and Hard hits by clicking in the field and typing manually.

[Tips] Unloading articulations that do not apply to a particular situation can be performed using our old friend, the EDIT ARTICULATION ONLY switch, mentioned numerous times already. Simply select the articulations you would like to remove from RAM, for example Snare Rolls, and type 0-0-0 in the Layer Limits fields.

And it is now time to mention perhaps the feature with the most dramatic effects on RAM, the bleeding of instruments in the microphones.

You may have noticed that enabling or disabling bleed in the BLEED CONTROL section of a microphone channel (see Refined Microphone Controls earlier in this manual) had an effect on the TOTAL RAM figure noted in the bottom left corner of the interface. This is because bleed correspond to actual samples required for playback.

As you can imagine loading instruments bleed in all the microphones would demand a gigantic amount of RAM, quite possibly a lot more than you have available. It is therefore important to note that the opposite is true, a completely 'dry' kit will have a significantly lower footprint.

[Tips] Remember that the Offline Bounce process reviewed in the previous chapter make use of all available samples, instrument bleeds as well as the complete pool of samples attached to the different layers available for the instruments. It should therefore be noted that regardless of the optimization you may have to perform to keep your kit's RAM requirement in check, you can always access the full sonic quality of the product by rendering to audio.

6.2 CPU Considerations

As discussed above, the microphone BLEED SECTION can have a non negligible impact on RAM consumption but every time an instrument is heard through a microphone some distance away it is, of course, more samples that are being played back, simultaneously. Each separate 'voice' is a process that your computer has to handle and therefore has a CPU cost associated. More bleed therefore means more demands on the CPU (as well as RAM).

To help relief your system, especially if you intend to use numerous FX in the Mixer, SUPERIOR allow you to optimize the voice count for each and every instrument present in the Studio window. Again the 'Voices and Layers' section is where the optimization takes place. Simply select any instrument combination using the usual shortcuts and type the desired value in the 'Voice Limit' field: 

The number of voices for an instrument dictates how many concurrent samples of the same articulation are allowed to ring until automatic muting of the lowest in volume occurs. High values require more CPU.

[Tips] Note that the Voice Limit can be specified at articulation level using the 

switch.

7 SETTINGS AND PREFERENCES

7.1 Instrument Settings 

The Settings window contains the sampler preferences.

• *Mono All Channels* - outputs to mono channels only. Overhead and Ambience microphones will be routed to independent mixer objects. Useful for some hosts. Do not switch on unless instructed to do so.

• *Bounce Splits Stereo* - bounces overheads and ambience files as split stereo as opposed to interleaved. Useful to avoid conversion on import with some hosts.

• *MIDI keys as numbers* - displays MIDI notes as numbers in the key input field of the Edit window. Useful if you are used to GM conventions or otherwise require a host independent notation.

• *Record-start at MIDI* - bounces from the first MIDI event in the song instead of bar 1 beat 1. Useful for some hosts that transmit MIDI song event inaccurately. Bounced files need to be imported at the first MIDI events.

• *Force Cached Mode* - instructs the sampler to start in Cache mode regardless of the saved state. Useful if you wish to check that your system is meeting the memory requirement of the kit recalled before loading a bank.

• *Default 16 bit* - makes 16 bit playback the default for all new projects. Useful if you wish that all your songs operate in this mode. Previously saved files are unaffected and will load with their own defaults.

• *No Visual Hits* - disables the drum animations. This can be turned off for convenience if you prefer a static interface. Visual hits also impacts slightly performances so you should turn this OFF if you experience issues.

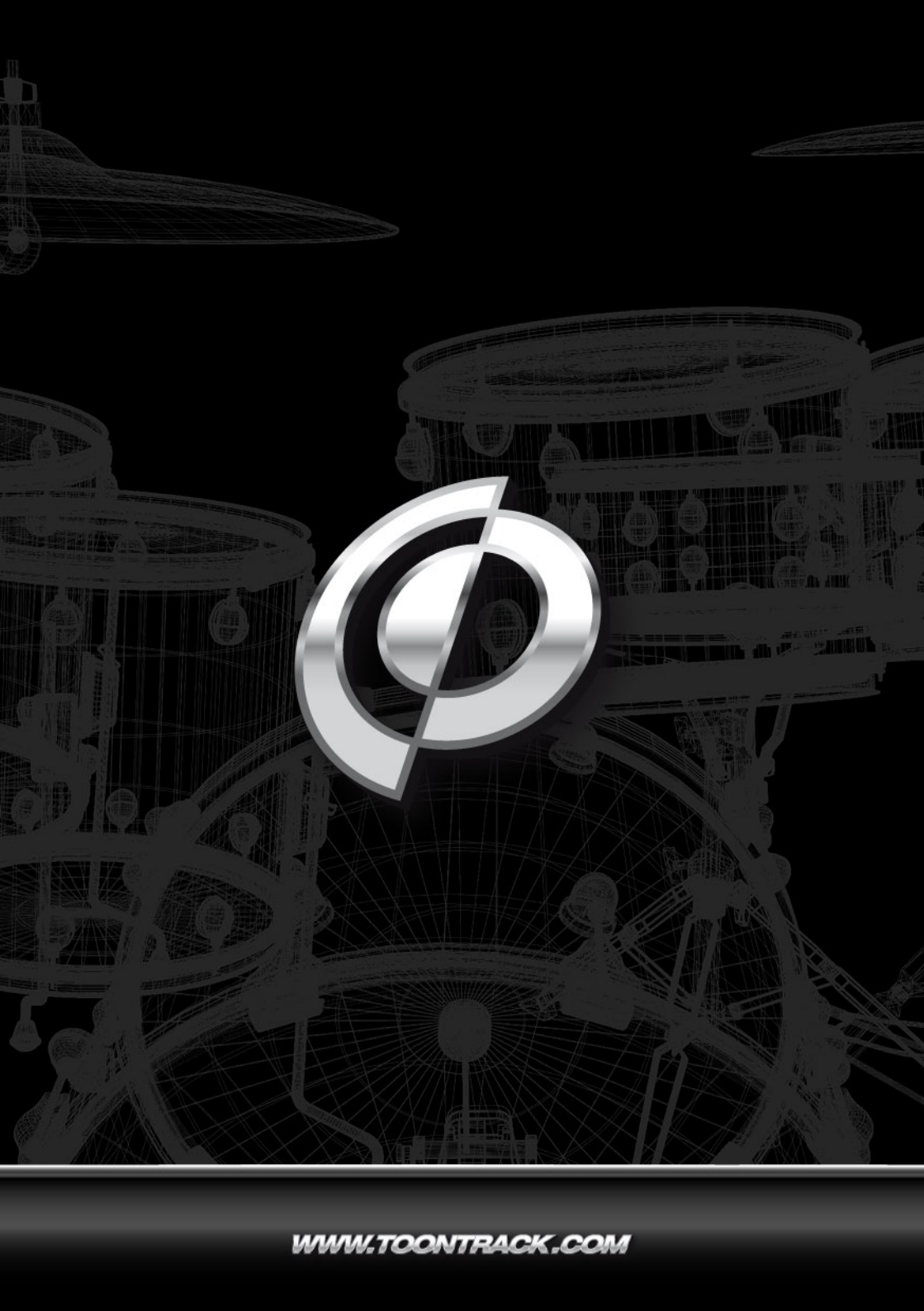
• *No Meter* - disables the Mixer VU Meters. This can be turned off for convenience if you prefer a static interface. Meters updates also impacts performances so you should turn this OFF if you experience issues.

7.2 Status Box

SUPERIOR's status box is a useful tool to troubleshoot various issues that usually affects the triggering of samples and may have undesirable side effects.

• *Not Loaded* - will light if a MIDI request is understood but cannot be honored. This usually means that the MIDI note received is part of the keymap but that no instrument is loaded in the appropriate Superpad.

• *Unmatched Key* - will light up if a MIDI event has no equivalent in the current key configuration. You should assign the incoming MIDI note to the subpad of your choice or modify the MIDI sequence.



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