Gtak user manual

version 1.0

1 Introduction

Gtak makes it easy to use Kontakt3 with a Guitar to MIDI converter. It comes preloaded into copies of 1079 instruments from the Kontakt3 library. You can also load it into any other Kontakt3 instruments you create or buy.

Gtak makes Kontakt3 instruments understand all the pitchbend information that Guitar to MIDI converters send, so there is no need to use one instrument for each string.

Gtak also lets you control how each instrument responds to your playing – for instance, which strings and frets play each instrument. Gtak provides a comprehensive pedal control section and smart controller routing.

The supplied Kontakt3 library instruments have also been extensively tweaked to make them work better with Guitar to MIDI converters.

> *Note: we do not supply the samples from the Kontakt3 library, just tweaked instrument files. You must have the Kontakt3 library installed to use these instrument files.*

This manual describes how to install and operate Gtak, and also how to use the Gtak instruments in the Kontakt3 library. You can probably figure out a lot about how to use Gtak just by playing around with it. However, as the library is so big, it is probably a good idea to read through all of the section on the library (Section 6), or you might miss something interesting.

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2 Requirements

Before starting you must have already installed Kontakt3 and its Instrument Library. See the Kontakt3 documentation for details of how to do this. Make sure you have installed any updates to Kontakt3 and the Library available from Native Instruments.

You should also be able to run Kontakt3, get MIDI into it from your Guitar to MIDI converter and get sound out of Kontakt3 to your soundcard.

You do not need to know much else about Kontakt3 to be able to use Gtak. However, you should understand some basic Kontakt terms such as:

- Instrument
- Multi
- Browser
- Database

These are all explained in the first few pages of the Kontakt3 manual.

3 Getting started

The following subsections explain how to get Gtak working on your computer. The steps are:

1) Download Gtak
2) Find your Kontakt3 Library folder
3) Install Gtak into your Kontakt3 Library folder
4) Setup your Guitar to MIDI converter

The following sections explain how to do this.

3.1 Download

To download Gtak:

1) Go to http://evenharmonic.com/download
2) If you are not already logged in, type your user name and password into the boxes and click Log in.
3) You should now see a list of your products, including Gtak.
4) Click the Download link for Gtak. The download is supplied as a zip file.
5) In Windows XP (Internet Explorer): you will then see a box asking what to do with the file, choose Save (do not choose Open). A new box will appear asking where to save the file, choose any convenient folder.

   In OSX (Safari) the file should be automatically downloaded and be unzipped in you downloads folder.

Advanced users can download customised versions of Gtak, see section 10 for details.
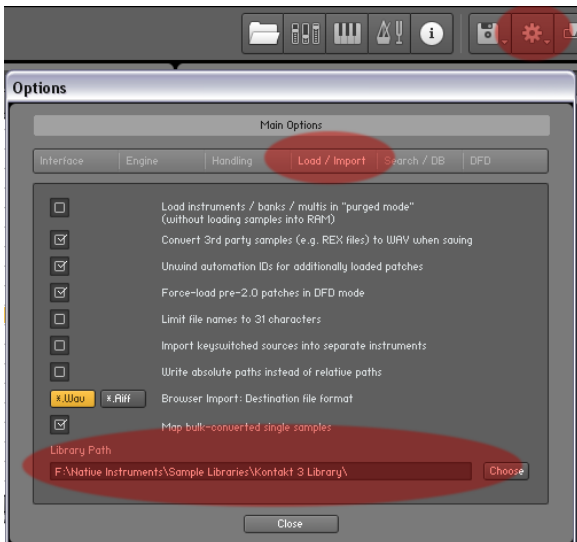
3.2 Locate the Kontakt3 Library

The Gtak files must be installed in the Kontakt 3 library folder, so that the sample paths in the Gtak instruments work.
To find your Kontakt3 library folder:

1) Open Kontakt3, either Standalone or in a sequencer.
2) Click the Gear Icon to open the Options Dialog.
3) Click the Load / Import Tab

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4) The library path is shown near the bottom.

Note: The library path might be incorrect or not set at all. In this case you should manually locate the library and enter the path in the Options Dialog yourself.

3.3 Install

The Gtak folder needs to be placed in the Kontakt3 library folder which you located in the previous step.

In OSX (Safari) the zip file you downloaded should have been automatically unzipped and the resulting Gtak folder placed in your downloads folder. Navigate to your downloads folder and then move the Gtak folder into your Kontakt3 library folder.

In Windows XP:

1) Navigate to the folder where you saved the downloaded zip file (which should be called something like `gtak_1_0.zip`).

2) Right click on the zip file and select `Extract All`.

3) The Extraction Wizard should appear. Click `Next`.

4) It should then ask you to select a destination to extract to. Click `Browse`, navigate to your Kontakt 3 folder and click `OK`. The destination should be something like `F:\Native Instruments\Sample Libraries\Kontakt 3 Library`.

5) Click `Next` then `Finish`

After installing Gtak, your Kontakt3 library folder should look something like this:
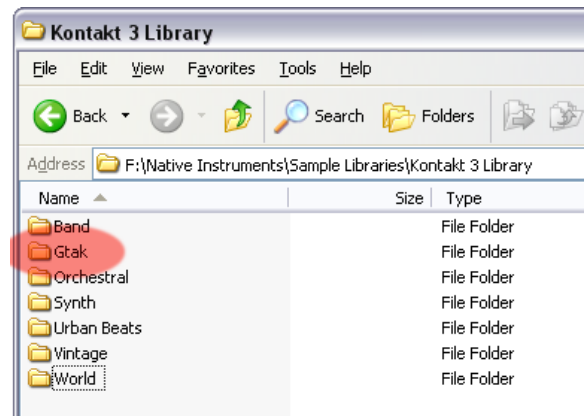
3.4 Guitar to MIDI converter setup

Certain parameters in your Guitar to MIDI converter need to be set to match those in Gtak so that the two can communicate correctly. These values are configurable in Gtak, but in this section we will assume that you use the default values.

In general there is no need to have different presets for different sounds because Gtak handles things such as pitchbend quantization and stores the settings with each Kontakt3 instrument.

The settings you should make are:

1) Strings send on separate MIDI channels 1 to 6.

2) Pitchbend range: +/- 12 Semitones.

3) Pitchbend unquantized so it changes smoothly, not in semitone steps (so, on Roland models do not set Chromatic mode).

4) On/Off Pedals send MIDI Continuous Controllers (CC's) and should send `0` when up and `127` when pressed down. Gtak's default pedal is CC 64. More complicated setups with multiple pedals are discussed in section 5.6.

5) If you want to control Volume using an expression pedal or the wheel controller on your Guitar to MIDI pickup, set this to send CC 7.

The following subsections give example settings for a couple of specific converters.

3.4.1 Axon AX100MkII

The settings can either be made using the Computer Editor, or the front panel buttons. Assuming you are using the front panel buttons, in GLOBAL mode, set parameters:

1) BASIC CHANNEL = 1

2) PBEND RANGE = 12

3) (optional) SND PBENDRANGE = OFF

Then select an unused preset (which will be the preset you use all the time with Gtak) and in PRESET mode press EDIT, set parameters:

1) STRING MODE = SEP (Separate)

2) HOLD MODE = CNTRL (Controller)

3) HOLD CONTROLLER = 64

4) (optional) WHEEL CONTROLLER AIX=VOLUME 7

5) QUANTIZE = OFF (Pitchbend quantize off)

6) If you want to use Pick Control:

    a) PICK CONTRL = CONTROL15

    b) PICK VAL1 = 0

    c) PICK VAL2 = 127

> *QUANTIZE and PICK CONTRL are parameters of the split zone, so to reach these you have to select the split (you should only have one split in this preset). See the Axon manual for more details.*

Name the preset something like "Gtak" and save it. Do not set up any string or pick splits, these are handled by Gtak.

3.4.2 Roland GI-20

Made the following settings on the Roland GI-20:

1) Transmission Mode to Mono.

2) BASIC CHANNEL = 1

3) BEND RANGE = 12

4) (optional) Foot switch 1 sends CC64.

5) (optional) GK Volume sends CC7.

*6)* Make sure the Expression pedals are not set to send pitchbend.

See the GI-20 manual for details of how to make these settings.

3.5 Start Kontakt3

Kontakt3 can be run either standalone or as a plugin in a sequencer. Gtak does not need any special settings when Kontakt3 is running standalone. Just set the MIDI and audio settings so that your Guitar to MIDI converter is routed to Kontakt3 and Kontakt3 is routed to your soundcard outputs.

If you are running Kontakt3 in a sequencer, you must make sure that all the MIDI channels are sent to Kontakt3.

For instance, in Cubase4 you must load Kontakt3 in the VST Instrument Rack (not an Instrument Track) and create a MIDI track that is routed to Kontakt3. This MIDI track's MIDI channel must be set to Any as show below.
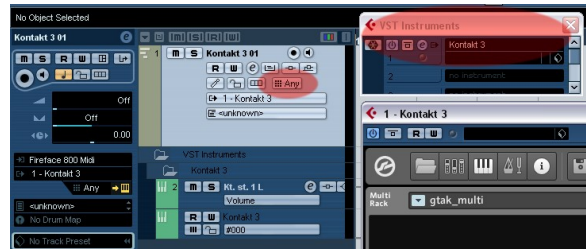
Next, load the Gtak multi:

1) Click the disk icon in Kontakt3 to open the file menu. Click load....
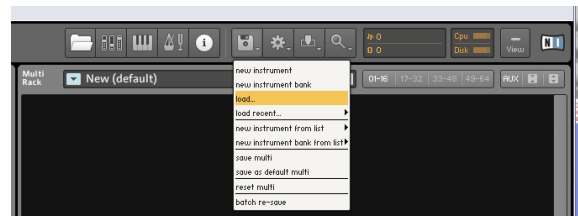
2) Navigate to the Gtak folder (in your Kontakt3 library folder) and select gtak_multi.nkm . Click Open.

For the latest information on setting up Kontakt with different sequencers visit the Gtak forum at evenharmonic.com .

3) Click `Yes` to replace the current multi.

Note: Gtak instruments only work in a Gtak multi. This is for arcane technical reasons - the Gtak multi contains magic pixie dust without which Gtak can't work.

To make the Gtak multi the default see Section 9.1 .

Now load a Gtak instrument:

1) Click the disk icon in Kontakt3 to open the file menu. Click `load`....

2) Navigate to one of the folders under the Gtak folder (eg `Gtak\Band\1 - Horns`)

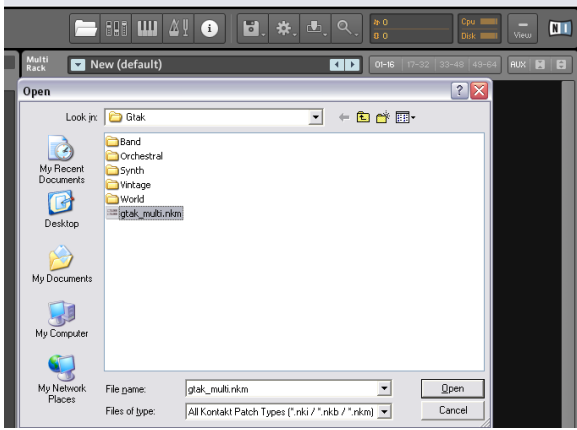*3)* Select an instrument (eg `Sax Section.nki`) and click open.

There are many other ways of loading instruments. The fastest is the Quick-load menu. To make Gtak instruments appear in this menu see Section 9.3 .

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4) Click the down arrow by `Midi ch:` and select `omni`.

To make Omni mode the default for loaded instruments see Section 9.2 .

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5) Play!

If the instrument does not play properly see Section 11.

One final optional step: Gtak has built in help. When you hover over a control with your mouse help appears in the info pane. To show the info pane click the "i" icon as shown below:

Note: there seems to be a bug in Kontakt3 where the Info pane help sometimes stops working when more than one instrument is loaded.

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4 Gtak Basics

We have set sensible defaults for all the instruments in the Kontakt3 Library, so often you will not need to make any changes. However, if you want to have things like different instruments playing on different strings or use pedal control you have to make settings on the Gtak Panel.

If you want to do more advanced things such as configure a guitar in a non-standard tuning, transpose strings, or change various other settings you will use the Config Panel which is described in Section 6.9.

4.1 The Gtak panel

Gtak is a KSP script with a `Performance View`, this means that its controls appear in the instrument header (unless the instrument is minimized). Each Kontakt3 instrument can contain up to 5 KSP scripts. If more than one script has a `Performance View` then tabs will appear at the bottom of the instrument to allow you to select which script's panel to show. In this case, to switch from another panel to Gtak's panel click on the `Gtak` tab as

shown below.

We have modified many of the other KSP scripts in the Kontakt3 Library to make everything work properly. These scripts have been renamed `Original_name (Gtak)`.

4.2 String enable

You can select which strings the instrument responds to using the string enable buttons at the top of the panel.

In the example shown above, the instrument will play when you play on strings 1, 2, 3 and 4 (the high E, B, G and D strings), but will ignore any notes on strings 5 and 6 (the A and low E strings).

As each instrument has its own set of string enable buttons you can assign instruments to strings in any way you like.

4.3 Fret filter

The Fret filter lets you set a fret range that the instrument responds to. When the fret filter is off, the instrument will respond to notes played anywhere on the neck. Turn on the fret filter by clicking on the `Fret filter` button. Set the range of frets you want the instrument to respond to using the `Low Fret` and `Hi Fret` knobs.

For example:

■ If `Low Fret` = 0 and `Hi Fret` = 7 the instrument will play when you play notes anywhere from open strings up to the 7th fret.

■ If `Low Fret` = 1 and `Hi Fret` = 1 the instrument will only play when you play on the first fret, so you will only be able to play F,C,G#,D# and A#!

If your guitar is in a non-standard tuning (or you are using a bass) and you want to use the fret filter, you must set the open string notes in the Config panel. See Section 7.3.

4.4 Pick filter

The Pick filter is an Axon-only feature that lets you set a range of picking positions that the instrument responds to. For this to work you have the set the Axon to send the picking position as a CC and configure Gtak to respond to this CC. If the pick filter is currently hidden see Section 7.7 for details of how to enable it.

Turn on the Pick filter by clicking the `Pick Filter` button. Then use the `LowPick` and `HiPick` knobs to set the range the instrument should respond to. The bridge possition is 0 and the start of the neck is 127.

So, for example, if `LowPick=0` and `HiPick=64` the instrument will play when you pick anywhere between the bridge and a point about half way towards the neck. Then you can set up another instrument to play in the other positions by setting `LowPick=65` and `HiPick=127`.

4.5 Pitchbend quantization

Guitar to MIDI converters send pitchbend when you play bends, slides, hammer ons and pull offs. Different instruments require different handling of pitchbend. For instance,

a piano does not sound natural if you can bend the strings!

Pitchbend quantization is the process of turning the gradual pitch changes from the Guitar to MIDI converters into semitone steps. Some Guitar to MIDI converters refer to this as Chromatic Mode. Although most Guitar to MIDI converters can do pitchbend quantization, it is better to do it in Gtak because then each instruments can have its own setting and the setting is stored with the instrument.

Gtak has three `PBQuant` modes:

1) `Off`: No pitchbend quantization

2) `On`: Pitchbend is quantizated to semitone steps

3) `Auto`: Pitchbend quantization is off when single notes are played (so you can use vibrato and bends), but is turned on when more than one note is played (so chords sound perfectly in tune)
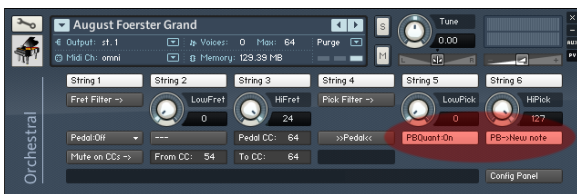
Next to the `PBQuant` is the `PB->New note` button. When this is on a new note is triggered when the pitchbend is sufficient. So, hammer ons, pulloffs and slides will trigger new notes (bends too, but this feels pretty strange!). This mode is the default for pianos as it sounds most natural.

You can turn on `PB->New note` in any of the `PBQuant` modes.

The relative velocity of the new note is set in the Config panel, see section 7.8.

4.6 CC blocking

By default Gtak is set to `CCblock:Smart` mode. This means that it will block CCs when a different instrument is playing. So, for instance, CC7 (volume) will only control the volume of the instrument that is currently playing. See Section 7.1 for more details of this and the other CC blocking modes.

5 Gtak Pedal control

Pedal control is one of the most useful features of Gtak. The Kontakt3 rack can hold up to 64 instruments, and using pedal control you can switch between them on the fly.

If you have one MIDI pedal you can switch between two instruments, or have one instrument hold while you solo over the top. Two pedals opens up more possibilities. With a 10 pedal MIDI pedal board things really start to get interesting!

The pedal settings are below the fret filter:

From left to right the controls are:

- Pedal mode: `Off`, `Hold`, `Sustain`, `Hold/Sus` or `Mute`.

- `when up` / `when down`: sets which way round the pedal works. In the example above the instrument will mute when the pedal is up.

- `Pedal CC`: the CC number that this instrument will respond to.

- `>>Pedal<<` : this shows the current state of this instrument's pedal. You can also click it to simulate pressing the pedal for testing.

When choosing a `Pedal CC` you should avoid 103 (which Gtak uses) and 65, 66, 126 and 127 (which Kontakt3 instruments use).

The second row of controls lets you mute whenever any of a range of pedals is down and is described in Section 5.5.
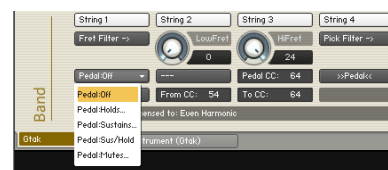
The pedal can perform different functions, choose one by clicking the `Pedal:` button:

When set to `Off` the pedal does nothing in Gtak. The following sections describe the other modes.

When `Off`, Gtak passes the pedal CC to the Kontakt Instrument, for instance in pianos `CC64` controls the damper pedal.

5.1 Pedal Mutes

`Pedal Mutes` is the simplest pedal mode. When `Pedal Mutes... when up` is set and the pedal is up, the instrument will not play new notes. Existing notes are not cut off when you lift the pedal, but continue until the string that played them stops sounding.

You can use `Pedal mutes` to switch between two instruments by setting one to mute when up and the other to mute when down as shown below:

5.2 Pedal Holds

`Pedal Holds` mode is used when you want an instrument to keep playing while you play another instrument.

If you select `Pedal Holds... when up` then the instrument will not play until you press the pedal down. Once the pedal is down the instrument will play as normal. When you release the pedal any playing notes will be held, in other words they will continue to sound. However, no new notes will sound.

In `Pedal Holds... when up` mode any held notes that are playing at the time the pedal is pressed down are stopped instantly. So, quickly pressing and releasing the pedal without playing any new notes will stop the instrument sounding.

If you use `Pedal Holds... when up` for a backing instrument (a pad for example) then normally you would set `Pedal Mutes... when down` for the lead instrument, so that it does not play while you are playing the backing instrument.

If you have more than one backing instrument, you should use `Mute on CCs` for the lead instrument(s) see Section 5.5.

Use `Pedal Holds... when down` if you want things to work the other way round. In this mode you can play the backing instrument normally, and then step on the pedal to hold the backing instrument while you play another instrument.

5.3 Pedal Sustains

`Pedal Sustains... when down` works in a similar way to a piano's sustain pedal. When the pedal is up the instrument plays normally. When the pedal is down, notes sustain. In other words, the instrument notes keep playing even once the guitar's string has stopped sounding. Releasing the pedal stops any notes that are sustaining.

You can choose between sustaining just one note per string (the default) or all played notes in the Config panel. See Section 7.9 for more details.

`Pedal Sustains... when up` is useful when you want an instrument to sustain most, or all, of the time. We have set all Kontakt3 library instruments with drum machines to this mode, so you can play a note and the drum pattern keeps playing even after the note has stopped.

5.4 Pedal Sus/Hold

`Pedal:Sus/Hold` is a combination of the sustain and hold modes. When this mode is selected the when up/down button toggles between `Up:Sus/Down:Hold` and the opposite: `Up:Hold/Down:Sus`.

With `Up:Hold/Down:Sus` notes are held when the pedal is up and sustained when the pedal is down. This is useful when you want to use an instrument that has a drum machine as a backing instrument because you can play different patterns with the pedal down, then release the pedal and the last pattern keeps playing while you play other instruments.

To stop notes playing press and release the pedal quickly without playing any new notes.

5.5 Mute on CCs

`Mute on CCs` mutes the instrument whenever any pedal in the range of CCs specified is down.

To turn it on and off click the `Mute on CCs` button. Set the range of CCs using the `From CC` and `To CC` controls. The field to the right of `To CC` displays information about what is muting the instrument so you can keep track of what is happening. When `Mute on CCs` is on, the instrument will mute when any pedal in the range is down – except the instrument's own `Pedal CC`. So, in the example above any CC from 55 to 64 (inclusive) would mute the instrument.

`Mute on CCs` is very useful in lead instruments when you have several backing instruments held by different pedals (using `Pedal holds... when up`). By setting the range to cover all the backing instruments' pedals you can ensure that the lead instrument does not play while you are playing any of backing instruments.

5.6 Pedalboard example

For the purposes of this example let's assume we have a 10 pedal pedalboard that sends on CC's 51 to 60.

Assume we have 5 lead instruments and 5 backing instruments (a pad, two arpeggiators and two drum machines).

The first step is to set up the pedal board. For the lead instruments we set the pedals to be latching (press to turn off and press again to turn off). This will let us play any or all of them at once.

For the backing instruments we set the the pedals to be momentary (only on while pressed down). This will let us press the pedal down, play something to be held and then release the pedal.

Then we could make following settings in Gtak for each instrument:

	Pedal Mode	Pedal CC	MuteOn CC
Pad	Hold when up	51	-
Arp 1	Hold when up	52	-
Arp 2	Hold when up	53	-
Drum 1	Up:Hold/Down:Sus	54	-
Drum 2	Up:Hold/Down:Sus	55	-
Lead 1	Mute when up	56	51-55
Lead 2	Mute when up	57	51-55
Lead 3	Mute when up	58	51-55
Lead 4	Mute when up	59	51-55
Lead 5	Mute when up	60	51-55

Then save the multi so we don't loose all that work!

6 Gtak in the Kontakt3 Library

We have tweaked the Kontakt3 Library in many ways to make it easy to use with Guitar to MIDI converters. Most obviously, we have added the Gtak script to each instrument so you do not have to load it yourself.

We have also made more subtle changes:

- The transpose setting in Gtak has been set so that the guitar can play the most notes possible. For instance it is set to -24 (a shift down of two octaves) for the Tuba. This means a guitar can play the Tuba's lowest notes.

- Pitchbend quantization has been set to a sensible value for each instrument. For instance, for pianos and organs pitchbend is set to quantized and new notes are triggered, whereas for most stringed instruments pitchbend quantization is set to auto.

- We have extended the range of all instruments to match the guitar. For instance, the violins originally only played down to G, by changing the range the lowest sample we have made them play down to E. This is slightly less realistic, but much more playable.

We have also had to alter many of the scripts in the Kontakt3 library to work with Gtak (mostly because of strange behaviour in the KSP scripting system). This should not effect you unless you want to load Gtak into your own instruments derived from the library

instruments, see Section 8 for more details.

6.1 Drum kits

The Kontakt3 library's drum kits and Urban Beats instruments contain a pattern based sequencer called either `Drum Computer` or `Groovebox` (they are both the same thing).

To see the control panel for them click the `Drum Computer` or `Groovebox` tab. It seems that Native Instruments have not documented how to use these, but it is not too hard to figure out. There are 6 tracks and 12 patterns. You can choose the note each track plays and program your own patterns.

We have configured Gtak in these instruments so that the 12 patterns of the sequencer map to notes on the low E string (using the transpose settings in the Gtak Config Panel). Playing the open string stops playback. Playing a note on frets 1 to 12 starts patterns 1 to 12 playing (playing the same note again is another way to stop playback). Playing anywhere else plays single drum hits.

We have also set these instruments to `Pedal Sustain... when up` (and the pedal CC to 63) so that the patterns keep playing until you stop them by playing the open string.

If you want to use a pedal to hold the pattern while you play something else on the low E string, you should use `Up:Hold/Down:Sus` pedal mode (see Section 5.4).

> *When running Kontakt3 standalone you can set the tempo of the played patterns by clicking on the Metronome/Tuning fork icon. When running as a plugin the tempo is set by the sequencer.*

You will find instruments with `Drum Computer` or `Groovebox` in the following sections:

- `Urban Beats/`

- `Vintage/Drum Machines/`

- `Band/7 – Drum Kits/`

- `Synth/7 – Synth Drums/`

> *There are many instruments in `Urban Beats/`, but only the ones in `Urban Beats/1 – Performances/` have patterns already programmed.*

6.2 Master FX

Instruments in the `Urban Beats` collection also have a Master FX section which lets you set 12 presets for the Instrument's master effects. This gives you instant access to a range of effects such as delays, filter and saturation.

We have configured Gtak in these instruments so that the 12 presets map to notes on the A string (using the transpose settings in the Gtak Config Panel). Playing the open string sets the default preset. Playing a note on frets 1 to 12 selects preset 1 to 12.

6.3 VSL legato instruments

The VSL legato instruments have 24 extra samples for each normal sample. The extra samples are played legato starting from a different note (from 12 semitones below to 12 semitones above). This greatly increases the realism of legato playing.

The standard VSL legato script was written for keyboard players, who can only play legato by playing single notes and overlapping the starts and ends. This limits legato playing to playing one note at a time.

Guitarists play legato using hammers, slides and bends - sometimes on more than one string. Gtak harnesses this power by detecting legato playing, triggering a new note, and telling the custom `Gtak Legato script` to trigger one of the special legato samples. This means you can play legato chords.

The Kontakt3 library has 5 of these special legato instruments:

- `Violin ensemble (legato)`
- `Cello ensemble (legato)`
- `Viola ensemble (legato)`
- `Flute (legato)`
- `French Horn ensemble (legato)`

They are in the `Orchestral/` section under the appropriate instrument. For instance the violin is in `Orchestral/1 – VSL Strings/01 Violin Ensemble/04 Legato Instruments/`.

To quickly hear the legato effect in action, load up the `French Horn ensemble (legato)`. Then try playing an open string and hammering on the 7th fret.

6.4 Key switched instruments

The `Orchestra` section contains instruments from the VSL library. Some of these instruments can change articulations (such as staccato or pizzicato) using key switching. This means that when you play a particular note the instrument switches to a different articulation and all the following notes are played with that articulation.

We have modified the library so that all the key switching notes are in the same place, and have set Gtak so that notes on the low E string are transposed to these notes.

The instruments that use key switching have

names that end in `(all)` or `(all X)` (the `X` versions also use CC1 to fade between different velocity samples). The following table shows which notes to play to switch to which articulation. Note that the strings (violin, cello etc) have more articulations available than the brass (trumpet etc.) and woodwind (oboe, clarinet etc.) instruments.

Articulation	Strings	Brass / Woodwind
staccato 1	Fret 1	Fret 1
staccato 2	Fret 2	Fret 2
sustain	Fret 3	Fret 3
tremolo	Fret 4	-
sforzando	Fret 5	Fret 4
fortepiano	Fret 6	Fret 5
pizzicato	Fret 7	-

There are also instruments whose names end in `(stac 1+2)` and `(stac 1+2 X)` which only have the two staccato articulations.

6.5 Monophonic instruments

Many instruments are monophonic – they can only play one note at a time. Where this is important to the sound produced, the Kontakt3 library instruments implement a monophonic mode (mono mode) using a KSP script called `Unisono/Portamento`.

We have made this script work with Gtak, but as monophonic playing is not natural to guitars and Native Instruments have not really documented this very well, we will take a quick look at it here.

One group of instruments where mono mode is important is lead synths, because many of their sounds were born in a time when it was too expensive to implement more than one note! In these instruments you will find the `Unisono/Portamento` script has a `Performance view` like the one shown below.

This panel lets you turn on and off mono mode. It also lets you set which note has priority when more than one note is played, and what happens when the note that had priority stops sounding (Key-up action). If legato is on then mono mode is implemented by bending the note that is playing. If legato mode is off then new notes are triggered (which sounds quite different). These settings make a big difference to how it feels to play the instrument, so experiment to see what suits you.

Mono mode opens up a lot of new playing techniques. For instance, if you load the lead synth shown above (`Android Cabinet Lead` or any other instrument with similar settings), strumming a chord will sound like a fast arpeggio. Then damping the strings in reverse order of the strum will sound an arpeggio played the other way. Or try letting a low note ring and then playing a melody, in between the melody notes the low note will be retriggered.

There is also a section for Portamento which glides from one note to another. This is very important to certain lead synth sounds. If you want predictable results it is important to play cleanly when using portamento. For instance, normally you might not notice a brief accidentally triggered harmonic, but with portamento on you will hear the effect on the next note you play!

Finally the Unisono section lets you thicken up the sound by playing multiple unison notes (with detuning and spreading options) for each one you play. These extra notes will follow the pitchbend of the original note.

6.6 Harmonized Instruments

Many instruments have a Harmonization function that plays extra harmony notes at intervals you can set. Sometimes this appears as a separate Harmonize panel and sometimes it is integrated into the Instrument panel.

We have made this work with Gtak so that when you slide and bend, generated harmony notes are shifted by the same amount as the note that generated them.

6.7 Arpeggiator Instruments

We have not modified the Arpeggiator script because it got too confusing! However we have set all the instruments that use the script to have pitchbend quantized, and triggering new notes. This means that bends will not be smooth, but slides and hammer ons/pull offs will work as expected.

Instruments that feature the arpeggiator are in the `Synth/6 - Arpeggiator` section.

There are also instruments that have a polyphonic sequencer which we have set up in the same way. These are in the `Synth/6 - Sequencer` section.

6.8 Micro Tuned Instruments

All the instruments in the `World` collection (except percussion) have a `Tuning` panel where you can set up a tuning offset for each note in the scale. This gives added realism for instruments that are not tuned to an equal temperament scale (the standard in modern western music).

So, for instance, if you play a Db you will hear the Db with micro tuning applied. In the default settings of many of these instruments the Db will be lower than an equal tempered Db.

However, there is a problem. If you play a C and then hammer on to a Db you will hear the micro tuned C raised by an equal tempered

semitone – which is not the same thing!

You can get around this by setting pitchbend to trigger a new note, but then bends will not sound smooth.

We could not think of a way to get bends and hammer ons to work correctly at the same time, so we chose to make bends correct. If you would prefer hammer ons to give correct micro tuned notes then set pitchbend to trigger new notes in the Gtak panel.

6.9   Getting the most out of Kontakt

If you can not get quite the sound you want, first try clicking on the `Instrument` panel. This contains the most important instrument parameters.

For more extensive editing, click the wrench icon to reveal the instrument editor. You can change almost anything there, from source samples and filters and modulators through to insert and master effects.

7 The Config panel

You can make various configuration settings in the Config panel. Click the `Config Panel` button in the lower right hand corner to switch between the main panel and the config panel.

The following sections describe the various settings.

7.1   CC blocking

MIDI Continuous Controllers (CCs) are very useful for controlling Kontatk3 instruments. However, when a Guitar to MIDI converter is controlling multiple instruments often you do not want a CC to control all the instruments at the same time. In this case, you can use Gtak's CC blocking function.

For instance, by default Kontakt3 library instruments have CC7 set to control volume (and CC11 pan position). If you have several instruments you probably don't want to change the volume of them all together.

There are four modes for CC blocking:

1) `Muted`: CCs are blocked whenever the instrument is muted, either by its pedal or by another pedal in the mute range.

2) `Always`: CCs are always blocked

3) `Never`: CCs are never blocked

4) `Smart`: CCs are blocked when the instrument is muted, and also when a note arrives and is not played for a reason like the string not being enabled (the example below should make this clearer!). This mode is useful when using string enables or fret or pick filters.

For example, if you have set the wheel controller on your MIDI pickup (or an expression pedal) to send CC7 (volume) and you are using another pedal to switch between two instruments using `Pedal Mutes...` you should select `CCBlock:Muted` in both

instruments. The controller will then change the volume of whichever instrument is not currently muted.

> *Note: You must move the controller to the current value of the volume before the volume will start changing.*

Alternatively, if you are using two instruments with one assigned to strings 1 to 4 and the other instrument to strings 5 and 6, then you should set `CCBlock:Smart` in both instruments. Playing a note on strings 1 – 4 will then make the controller control the first instrument's volume. Playing a note on strings 5 or 6 will make it control the second instrument.

> *MIDI CCs can also be set to control almost anything in a Kontakt3 instrument by setting `MIDI CC` as an external source for modulation (see the Kontakt3 documentation for more information). Gtak's CC blocking is useful for these too.*

7.2 Transposition

The transposition section in the Config Panel lets you transpose each string individually and also all strings at once.

For instance, if you set `Transp.6: -2` the 6th string will be transposed down 2 semitones and a guitar in standard tuning will play as if it were in drop D tuning.

If you set `Transp.All: -12` the guitar will play as if all the strings were tuned down an octave.

If you set `Transp.All: -12` and `Transp.6: -2` the guitar will play as if you had tuned it down an octave and dropped the E another tone to D.

7.2.1 Transpose presets

There is also a preset system for transpose settings of the 6 strings.

There are various preset tunings you can choose (they all assume your guitar is in

standard tuning). There are also four slots for storing your own user tunings.

> *Note that the user tunings are saved with the instrument (or script if you save it), and are not shared between instruments. This the best we could do within the constraints of the KSP script system.*
>
> *If you want to use the settings from one instrument in a second instrument you can save Gtak and then load it in the second instrument using the procedure described in Section 8.*

7.3 Open string settings

If your guitar is tuned to a non-standard tuning and you want to use the fret filter, you need to set the open string notes in the Config panel. This is so that Gtak knows which note corresponds to which fret.

> *If you are using a bass you can download a custom version of Gtak with the open strings set already, see Section 18.*
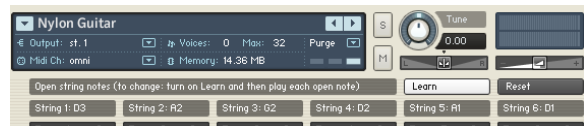
To set the open string notes:

1) click `Learn` to turn on learning

2) play the open strings on your guitar until all the open string notes have been recognised

3) click `Learn` again to turn off learning

Click `Reset` to set the notes back to standard guitar tuning.

7.4 Base channel

`Base Ch` sets the lowest MIDI channel the guitar to MIDI converter sends on. It should be set the same as in your guitar midi converter.

7.5 Strings

`Strings` sets the number of strings that your instrument has. It affects the number of string enable buttons shown and the number of MIDI channels used to receive on.

7.6 Pitchbend range

`PB Range` tells Gtak what the maximum value of pitchbend means in terms of semitones. It must be set to the same value as your guitar to MIDI converter.

7.7 Pick Control settings

Pick Control only works with Axon Guitar to MIDI converters. There are three modes for `PickCtrl`:

- Off: turns pick control off and hides all the controls related to it. Set this if you don't have an Axon or don't want to use pick control.

- On: allows the use of the pick filter.

- ToMod: maps pick control to the Modwheel (CC1). This is useful beacuase the modwheel is already set to control important parameters in many instruments.

You also need to set your Axon to send pick control as a CC (see section 3.4.1). The `Pick CC` control must be set to the same CC number as you set in the Axon.

7.8 New note velocity

`NewNoteV` sets the scaling of the velocity of new notes when pitchbend is set to trigger new notes. For instance, when it is set to 100% the new notes are played at the same velocity as the original note.

7.9 Sustain 1 note/string

`Sust 1 note/string` controls how notes are sustained when the pedal is set to sustain notes.

When `Sust 1 note/string` is on, only one note per string is sustained, so playing a new note on a string stops any previous note played on that string.

When it `Sust 1 note/string` off, all notes played are sustained until the pedal is released.

7.10 Allow other MIDI channels

When `AllowOtherMIDICh` is set Gtak plays notes on MIDI channels that do not correspond to strings. This is useful, for instance, if you want a keyboard to also control the instrument. In this case you would set the keyboard to send on a channel that is not used by your Guitar to MIDI conveter.

For example if `Base Ch`=1 and `Strings`=6 and `AllowOtherMIDICh` is off, then notes on channels 7->16 will not be played.

8 Using Gtak with other instruments

You can load Gtak into other Kontakt3 instruments you buy or create. Before you can do this you have to save Gtak as a preset. To do this:

1) Load any instrument containing Gtak

2) Make any settings you want in Gtak (the settings will be saved with the preset)

3) Click the Wrench icon to open the instrument editor

4) Click the `Script Editor` button to open the script editor (unless it is already open)

5) Click the `Gtak` tab

6) Click `Preset` and select `save preset...`

7) Then choose a name and save (use the default folder)

You can then load this preset into another instrument. First load up the new instrument, then:

1) Click the Wrench icon to open the instrument editor

2) Click the `Script Editor` button to open the script editor (unless it is already open)

3) Click the first script slot tab

4) Click `Preset`, then `user` and select the Gtak preset you saved before

If you have settings you use often, you can save copies of Gtak with those settings preset for loading later.

We have had to alter many of the scripts in the Kontakt3 library to get them to work with Gtak. So, if you already have modified versions of library instruments that you would like to use with Gtak, you will also need to replace any altered scripts to get it to work. Altered scripts have been renamed by adding `(Gtak)` after their names. Save these altered scripts in the same way we saved Gtak above.

Note: because of the strange behaviour of the KSP scripting system, it is possible that Gtak will not work with scripts in third party instruments. If you have problems contact us and we will see what we can do.
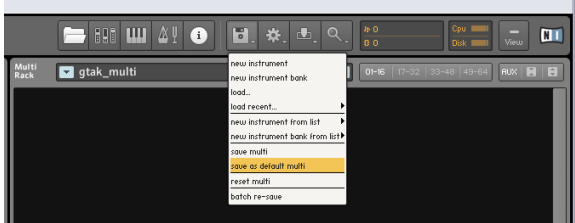
9 Setting up Kontakt

The following settings can make working with Gtak easier.

9.1 Setting the default multi

To set the Gtak multi to be the default multi:

1) Load the Gtak multi as described earlier.

2) In the File menu, select `save as default multi`.
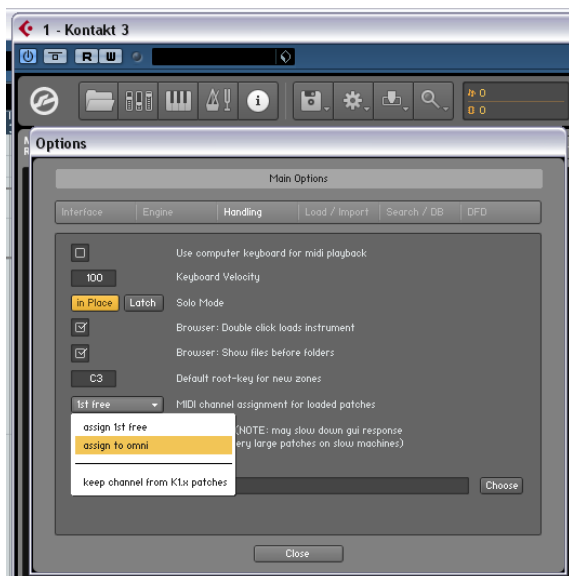

From now on the gtak multi will load when you load Kontakt3.

9.2 Setting MIDI Omni

To set MIDI omni as the default for newly loaded instruments:

1) Click on the cog icon to open the `Main options`.

2) Click on the `Handling` tab

3) For `MIDI channel assignment for loaded patches`, select `assign to omni`.

9.3 Configuring Quick-load menus

It is much easier to load Gtak instruments if they are in the Quick-load menu. To get the Gtak instruments into the Quick-load menu:

1) If the `File Browser` is hidden, click the folder icon to open it.

2) Select the `Database` tab and click `Rebuild DB`.

3) Make sure `Multis` and `Instruments` are selected in the formats. Also make sure that the Locations being scanned include your Kontakt3 library. If it does not, then click `Edit Locations...` (see Kontakt manual for more details)
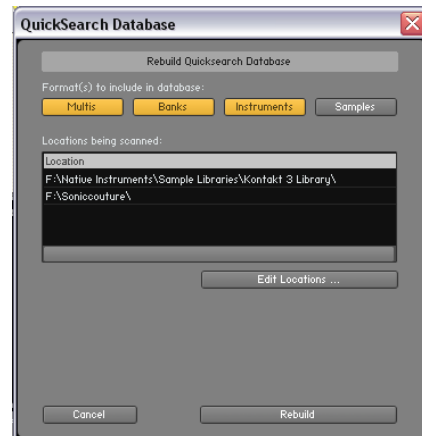
4) Click `Rebuild`

5) When the rebuild has finished, click the `Quick Load` tab and then below it click the `Instr` tab.

6) Click the Kontakt3 Library's + to expand it. You should see the Gtak folder as shown below.
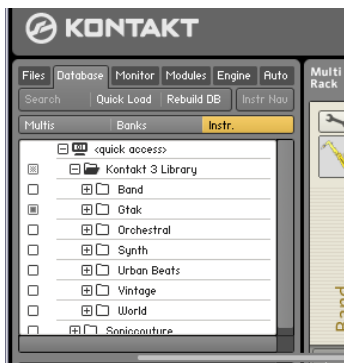
7) If you want only the Gtak instruments to appear in the Quick-load menu, just check the checkbox by Gtak.

If you want the standard instrument and the Gtak instruments, check the checkbox next to Kontakt3 Library (Gtak will also be included because it is under the Kontakt3 Library).

Now the Gtak instruments should appear when you open the File menu and select `new instrument from list`, and also when you click the icon to the left of an instrument's name in the rack as shown below.

10 Custom Gtak downloads

Unfortunately, there is no central location where you can make changes to settings in the KSP scripting system. This means that if you want to use a pitchbend range of 24 you would have to go through each of the 1000 instruments in the library, change the pitchbend range and save the instrument. Or you could change the range each time you loaded an instrument, but that would be very annoying.

To save you having to do this we have made available custom Gtak downloads with various different settings for things like pitchbend range. Just go to the download page, login, and click to go to the custom downloads page. The form will look something like this:

Make your selections then click download. Finally, install the files as described in section 3.3.

If the custom option you need is not there, contact us and we will see what we can do.

11 Troubleshooting

Here are some ideas if things aren't working:

Visit the Gtak forum at evenharmonic.com to see if anyone else has had similar problems.

Check that MIDI data is reaching Kontakt3 by observing the MIDI connector icon next to the MIDI Ch: field in the Instrument header - it flickers when MIDI data is received.

If there are problems try strumming some chords for a while, sometimes Gtak can diagnose the problem. If it can it will print a message in the status field (to the left of the Config panel button).

If MIDI seems OK but the instrument's level meters are not moving, then check that the instrument's volume is not turned down. Sometimes things can send CC7=0 when you are not expecting it.

If the instrument's meters are moving, but you can't hear anything, there is probably some problem between Kontakt3 and your soundcard.

If slides, bends and hammer ons don't seem to be reaching the right notes, then check the pitchbend range is set correctly.

If normally played notes sometimes sound out of tune, again check the pitchbend range.

If you get messages about missing samples when loading Gtak instruments, make sure Gtak is installed in the correct directory and the Kontakt3 library is also installed correctly.