Gtak4 user manual

1 Introduction

Gtak4 makes it easy to use Kontakt4 with a Guitar to MIDI converter. It comes preloaded into copies of over 1000 instruments from the Kontakt4 library, so you can load these instruments and play them instantly without having to make any settings.

Gtak4 makes Kontakt4 instruments understand all the pitchbend information that Guitar to MIDI converters send, so there is no need to use one instrument for each string.

Gtak4 also lets you control how each instrument responds to your playing – for instance, which strings and frets play each instrument. Gtak4 provides a comprehensive pedal control section and smart controller routing.

The supplied Kontakt4 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 Kontakt4 library, just tweaked instrument files. You must have the Kontakt4 library installed to use these instrument files.

This manual describes how to install and operate Gtak4, and also how to use the Gtak4 instruments in the Kontakt4 library. You can probably figure out a lot about how to use Gtak4 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 Kontakt4 and its Instrument Library. See the Kontakt4 documentation for details of how to do this. Make sure you have installed any updates to Kontakt4 and the Library available from Native Instruments.

You should also be able to run Kontakt4, get MIDI into it from your Guitar to MIDI converter and get sound out of Kontakt4 to your soundcard.

You do not need to know much else about Kontakt4 to be able to use Gtak4. However, you should understand some basic Kontakt4 terms such as:

- Instrument
- Multi
- Browser
- Database

These are all explained in the first few pages of the Kontakt4 manual.

3 Getting started

To get Gtak4 working on your computer you will need to:

1) Download Gtak4
2) Find your Kontakt4 Library folder
3) Install Gtak4 into your Kontakt4 Library folder
4) Set up your Guitar to MIDI converter

The following sections explain how to do this.

3.1 Download

To download Gtak4:

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 Gtak4.
4) Click the `Download` link for Gtak4. 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 Gtak4, see section 11 for details.

3.2 Locate the Kontakt4 Library

The Gtak4 files must be installed in the Kontakt4 library folder, so that the sample paths in the Gtak4 instruments work.
To find your Kontakt4 library folder:

1) Open Kontakt4, either Standalone or in a sequencer.
2) Click the Gear Icon to open the Options Dialog.
3) Click the `Load / Import Tab`
4) The library path is shown near the bottom.
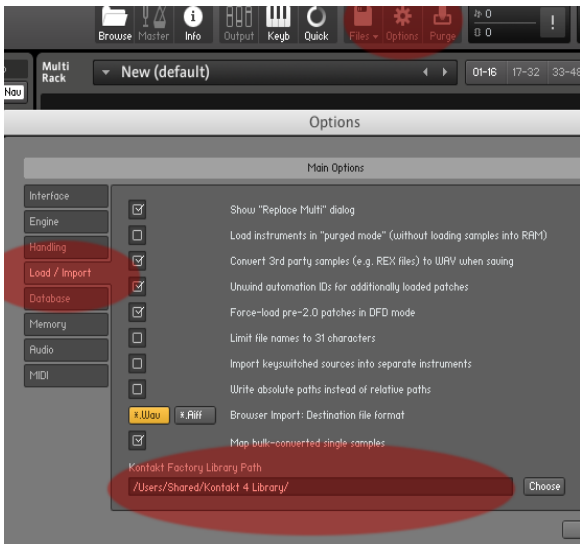
Note: The library path might be incorrect or not set at all. In this case you should manually locate the library and enter the path in the Options Dialog yourself.

3.3 Install

The Gtak4 folder needs to be placed in the Kontakt4 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 Gtak4 folder placed in your downloads folder. Navigate to your downloads folder and then move the Gtak4 folder into your Kontakt4 library folder.

In Windows XP / Vista:

1) Navigate to the folder where you saved the downloaded zip file (which should be called something like g`tak_your_name_4_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 Kontakt4 Library folder and click `OK`. The destination should be something like `F:\Kontakt 4 Library`.

5) Click `Next` then `Finish`

After installing Gtak4, your Kontakt4 library folder should look something like this:
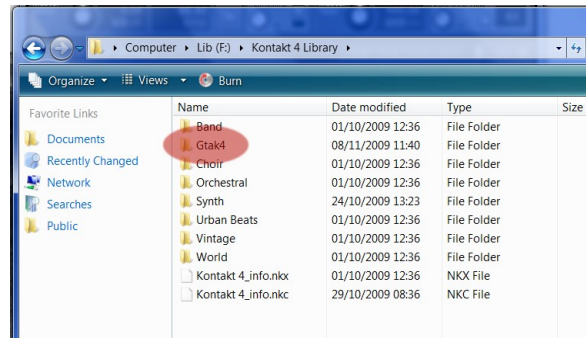
Note that it does not matter exactly how you unzip the files as long as you get the Gtak4 directory contained in the zip file into your Kontakt4 directory as shown above.

3.4 Guitar to MIDI converter setup

Certain parameters in your Guitar to MIDI converter need to be set to match those in Gtak4 so that the two can communicate correctly. These values are configurable in Gtak4, but in this section we will assume that you use the default values.

Gtak4 handles things such as pitchbend quantization and stores the settings with each Kontakt4 instrument, so once you have set up your Guitar to MIDI converter you should not have to change the settings again.

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. Gtak4'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 Gtak4) 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 "Gtak4" and save it. Do not set up any string or pick splits, these are handled by Gtak4.

3.4.2 Roland GI-20

Make 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 Kontakt4

Kontakt4 can be run either standalone or as a plugin in a sequencer. Gtak4 does not need any special settings when Kontakt4 is running standalone. Just set the MIDI and audio settings so that your Guitar to MIDI converter is routed to Kontakt4 and Kontakt4 is routed to your soundcard outputs.

If you are running Kontakt4 in a sequencer, you must make sure that all the MIDI channels are sent to Kontakt4.

For instance, in Cubase4 you must load Kontakt4 in the VST Instrument Rack (not an Instrument Track) and create a MIDI track that is routed to Kontakt4. This MIDI track's MIDI channel must be set to Any as shown below.
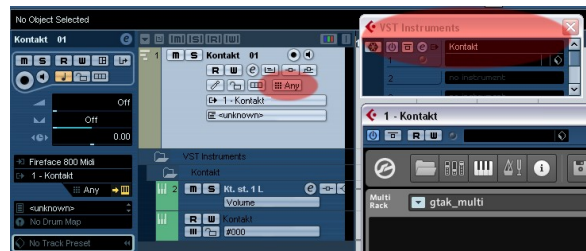
> *For the latest information on setting up Kontakt in different sequencers visit the Gtak forum at evenharmonic.com .*

Next, load the Gtak4 multi:

1) Click the disk icon in Kontakt4 to open the file menu. Click load....
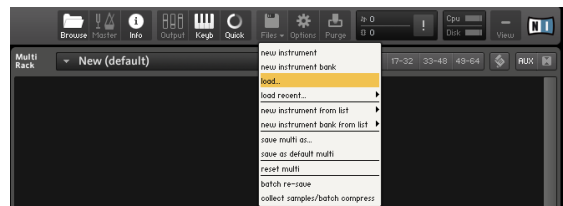
2) Navigate to the Gtak4 folder (in your Kontakt4 library folder) and select gtak4_multi.nkm . Click Open.

3) Click Yes to replace the current multi.
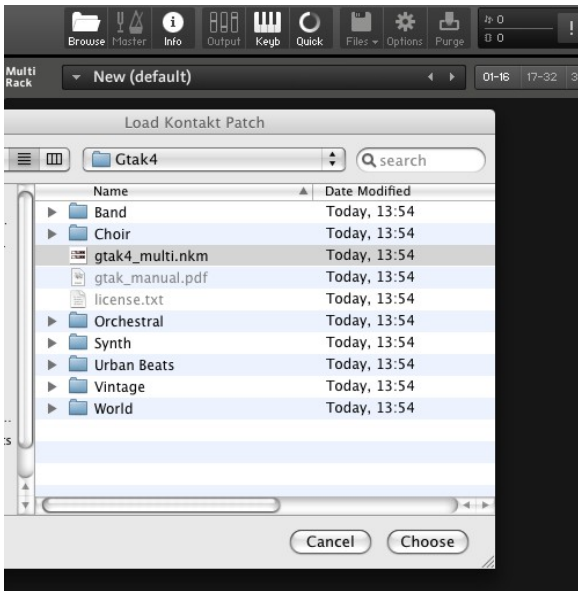
Now load a Gtak4 instrument:

1) Click the disk icon in Kontakt4 to open the file menu. Click `load`....

2) Navigate to one of the folders under the Gtak4 folder (e.g. `Gtak4\Band\1 - Horns`)

3) Select an instrument (e.g. `Sax Section.nki`) and click open.

There are many other ways of loading instruments. The fastest is the Quick-load menu. To make Gtak4 instruments appear in this menu see Section 10.3 .

4) Click the down arrow by `Midi ch:` and select `omni`.
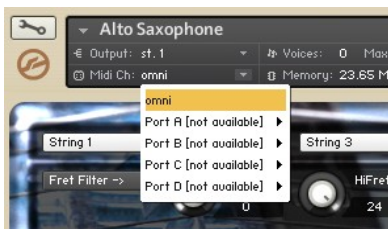
To make Omni mode the default for loaded instruments see Section 10.2 .

5) Play!

If the instrument does not play properly see Section 12.

One final optional step: Gtak4 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:

4 Gtak4 Basics

We have set sensible defaults for all the instruments in the Kontakt4 Library, so often you will not need to make any changes. If, for example, you want to play different instruments on different strings or use pedal control you have to make settings on the Gtak4 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 6.10.

4.1 The Gtak4 panel

Gtak4 is a KSP script with a `Performance View`, this means that its controls appear in the instrument header (unless the instrument is minimized). Each Kontakt4 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 Gtak4's panel click on the `Gtak4` tab as shown below.

We have modified many of the other KSP scripts in the Kontakt4 Library to make everything work properly. These scripts have been renamed `Original_name (Gtak4)`.

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 `LowFret` and `HiFret` knobs.
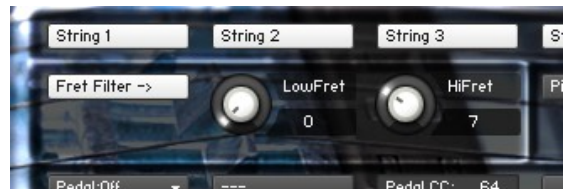
For example:

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

■ If `LowFret` = 1 and `HiFret` = 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 to set the Axon to send the picking position as a CC and configure Gtak4 to respond to this CC. If the pick filter is currently hidden see Section 7.7 for details of how to enable it.
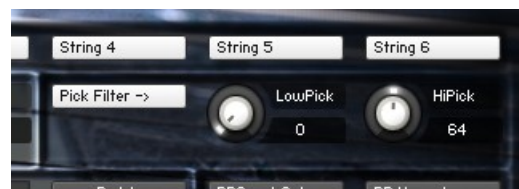
Turn on the Pick filter by clicking the `Pick Filter` button. Then use the `LowPick` and `HiPick` knobs to set the range the instrument should respond to. The bridge position is 0 and the start of the neck is 127.

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 Gtak4 because then each instrument can have its own setting and the setting is stored with the instrument.

Gtak4 has three `PBQuant` modes:

1) `Off`: No pitchbend quantization

2) `On`: Pitchbend is quantized 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 Pitchbend `trigger` menu, When this is set to `PB->New` 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 final Pitchbend trigger value is `PB->Str6 New` which only triggers new notes on String 6. This is used to improve the reliability of instruments that use String 6 for keyswitching.

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

4.6 CC blocking

By default Gtak4 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 Gtak4 Pedal control

Pedal control is one of the most useful features of Gtak4. The Kontakt4 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!

You can also control all these pedal functions by playing notes on a particular string using the `Gtak notes to CC` multiscript (see Section 8).

The pedal settings are below the fret filter:

From left to right the controls are:

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

- `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 Gtak4 uses) and 65, 66, 126 and 127 (which Kontakt4 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.
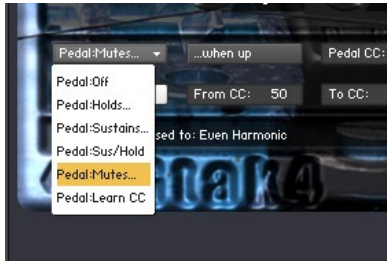
The pedal can perform different functions, choose one by clicking the `Pedal:` button.

When set to `Off` the pedal does nothing in Gtak4. When set to `Learn CC` Gtak will set its `PedalCC` to the number of the next CC that it sees and then revert to the previous pedal mode.

The following sections describe the rest of the pedal modes.

> *When the Pedal Mode is "`Off`", Gtak4 passes the pedal CC to the Kontakt4 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.

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, for instance, when you want to use an instrument that has an arpeggiator as a backing instrument. When the pedal is down the arpeggio keeps playing even if the note stops sounding, then when you release the pedal the last arpeggio 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.
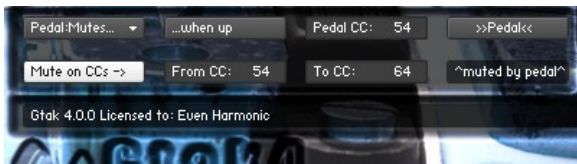
To turn it on and off click the `Mute on CCs` button. Set the range of CCs using the `From CC` and `To CC` controls. The field to the right of `To CC` displays information about what is muting the instrument so you can keep track of what is happening. When `Mute on CCs` is on, the instrument will mute 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 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 the following settings in Gtak4 for each instrument:

	Pedal Mode	Pedal CC	MuteOn CC
Pad	Hold when up	51	-
Arp 1	Up:Hold/Down:Sus	52	-
Arp 2	Up:Hold/Down:Sus	53	-
Drum 1	Mute when up	54	-
Drum 2	Mute when up	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 Gtak4 in the Kontakt4 Library

We have tweaked the Kontakt4 Library in many ways to make it easy to use with Guitar to MIDI converters. Most obviously, we have added the Gtak4 script to each instrument so you do not have to load it yourself.

We have also made more subtle changes:

- The transpose setting in Gtak4 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 most 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 not extended instruments in the Choir collection because they sound very unnatural when extended. So, the "Bass", "Tenor", "Alto" or "Soprano" instruments will only play over a limited range. The combined instruments (with "Choir" in their names) contain all the other samples and so play over a much wider range.*

We have also had to alter many of the scripts in the Kontakt4 library to work with Gtak4 (mostly because of strange behaviour in the KSP scripting system). This should not effect you unless you want to load Gtak4 into your own instruments derived from the library instruments, see Section 9 for more details.

6.1 Drum kits

The Kontakt4 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.

See Native Instruments' Library Script Manual for more details on using the `Drum Computer`. Basically there are 12 tracks and 12 patterns. You can choose the note each track plays and program your own patterns.

We have configured Gtak4 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 Gtak4 Config Panel). We have also modified the script so that 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.

Note that the patterns continue to play after the note has finished because we have set the "Latch" button on the `Groovebox` tab. If you want the pattern to stop as soon as the note finishes you can turn the "Latch" button off.

> *When running Kontakt4 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/6 – Synth Drums/`

> *The Urban Beats instruments also have a tab that plays loop presets. We have not mapped these presets to any particular position but you can play them using the notes from C3 upwards.*
>
> *Our version of the Loops script has only 11 presets because we use the 12th note to stop the Groovebox playing.*

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 Gtak4 in these instruments so that the 12 presets map to notes on the A string (using the transpose settings in the Gtak4 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 Key switched instruments

Some of the instruments in the `Orchestra` section 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. See the Overview section of the Kontakt4 Library Manual for more information on Keyswitching.

In the Gtak4 versions of these instruments the keyswitches all start at the same note (D-2) as shown below (the keyswitch notes are marked in red on the keyboard).

The articulation can also be chosen from the selection in the Instrument tab, in the example above `Staccato` has been chosen. The

Instrument tab also lets you unload any articulations you are not using to save memory (in the example above `Tremolo` and `Pizzicato` have been unloaded).

We have also provided copies of all of these instruments with Gtak4 so that notes on the low E string are transposed to these notes. These instruments can be found in:

- `Orchestral/1 - VSL Strings EkeySwitch`
- `Orchestral/2 - VSL Woodwinds EkeySwitch`
- `Orchestral/3 - VSL Brass EKeySwitch`

The instruments in `Choir/Vowel Keyswitches` have also been set up the same way.

This is done using the Transpose function in the Gtak4 Config panel as shown below.

The following table shows which notes to play to switch to which articulation. .

Low E String	Strings	Brass / Woodwind	Choir
Fret 1	Sustain	Sustain	a
Fret 2	Fortepiano	Fortepiano	e
Fret 3	Sforzando	Sforzando	i
Fret 4	Staccato	Staccato	o
Fret 5	Tremolo	Sustain 2	u
Fret 6	Pizzicato	Sustain 3	m

The VSL Legacy folder contains instruments from Kontakt3. Except for the Legato instruments, there is no real reason to use these any more. However, if you do want to use them you will find that the keyswitching works as it did in the Kontatk3 version of Gtak (see the Gtak manual for more details).

6.4 Dynamic Keyswitching

With Dynamic Keyswitching you can switch notes while they are playing (see the Overview section of the Kontakt4 Library Manual for more details). The note is switched only for the time the Dynamic keyswitch note is playing, after that it reverts to the previous articulation.

> *Dynamic Keyswitching is interesting in the Choir instruments, for instance you can switch between sounds to make it sing 'm-a-m-a' !*

We have set all the Gtak4 instruments to use the same keys for dynamic keyswitching, starting 7 semitones above the first normal keyswitch notes. For the `EkeySwitch` instruments these correspond to:

Low E String	Strings	Brass / Woodwind	Choir
Fret 8	Sustain	Sustain	a
Fret 9	Fortepiano	Fortepiano	e
Fret 10	Sforzando	Sforzando	i
Fret 11	Staccato	Staccato	o
Fret 12	Tremolo	Sustain 2	u
Fret 13	Pizzicato	Sustain 3	m

6.5 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. Gtak4 harnesses this power by detecting legato playing, triggering a new note, and telling the custom `Gtak4 Legato script` to trigger one of the special legato samples. This means you can play legato chords.

The Kontakt4 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/Legacy VSL Instruments/` section under the appropriate instrument. For instance the violin is in `Orchestral/Legacy VSL Instruments/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.

6.6 Monophonic instruments

Many instruments are monophonic – they can only play one note at a time. Where this is important to the sound produced, the Kontakt4 library instruments implement a monophonic mode (mono mode) using a KSP script called `Unisono`.

We have made this script work with Gtak4, 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 can adjust the most important settings of the `Unisono` script from the Voicing section of the `Instrument` tab as shown below.

The controls are:

- Solo: turns mono mode on and off

- Legato: when on, mono mode is implemented by bending the note that is playing. When legato mode is off, new notes are triggered (which sounds quite different).

- Glide: when on the sound glides from one note to another. This is very important to certain lead synth sounds (often called portamento). The knob underneath controls how fast the pitch changes to get to the next note.

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.

> *Note: many instruments in the World collection (e.g. flutes) and some in the Bank collection are set to play monophonically using the* `Unisono` *script. However in these instruments the only control is the on/off Solo switch on the Instrument Panel.*

To get 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!

The `Unisono` script also has many more advanced settings, such as note priority and retriggering modes which can be accessed by opening the instrument editor, then selecting the script editor, and finally selecting the `Unisono` script's tab.

6.7 Harmonized Instruments

Many instruments have a Harmonization function that plays extra harmony notes at intervals you can set. This is usually controlled by a knob labelled "Chord" in the Instrument panel.

We have made this work with Gtak4 so that when you slide and bend, generated harmony notes are shifted by the same amount as the note that generated them.

6.8 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.

> *If you change the pitchbend settings on instruments that use the arpeggiator script strange things will happen!*

Instruments that feature the arpeggiator are in the `Synth/7 – 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/8 – Sequencer` section.

The Gtak4 versions of these instruments have a Performance View for the Arpeggiator or Sequencer to make controlling them easier:

6.9 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.

> *It is very important to set the* `Key` *in the* `Tuning` *panel to match your song, otherwise the instrument will just sound badly tuned!*

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 Gtak4 panel.

6.10 Getting the most from Kontakt

If you cannot 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 Gtak4's CC blocking function.

For instance, by default Kontakt4 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 Kontakt4 instrument by setting `MIDI CC` as an external source for modulation (see the Kontakt4 documentation for more information). Gtak4'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
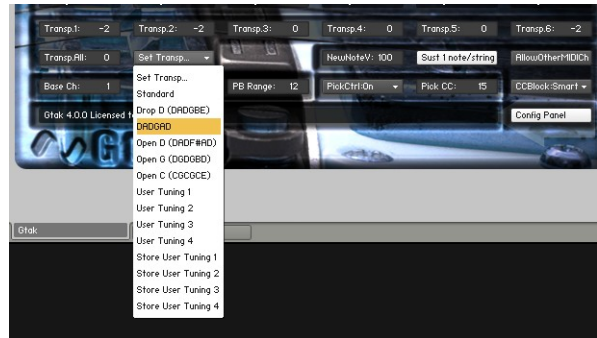
standard tuning). There are also four slots for storing your own user tunings.

> *Note that the user tunings are saved with the instrument (or script if you save it), and are not shared between instruments. This is 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 Gtak4 and then load it in the second instrument using the procedure described in Section 9.*

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 Gtak4 knows which note corresponds to which fret.

> *If you are using a bass you can download a custom version of Gtak4 with the open strings already set, see Section 20.*
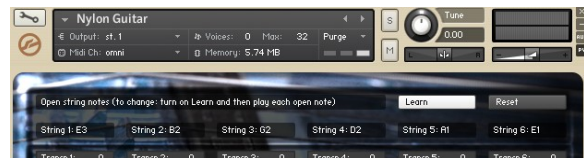
To set the open string notes:

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 Gtak4 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 because 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 `Sust 1 note/string` is off, all notes played are sustained until the pedal is released.

7.10 Allow other MIDI channels

When `AllowOtherMIDICh` is set Gtak4 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 converter.

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

8 Pedal Control using notes

You can control Gtak4's pedal functions by playing notes using the `Gtak note to CC` multiscript which gives you six 'virtual pedals' mapped to six notes on your fretboard. To use it:

1) Load the Gtak4 multi (`gtak4_multi.nkm`)

2) Access the multiscript editor by clicking the multiscript button as shown below (to the left of `AUX`).

3) Click the first tab to get to the `Gtak note to CC` script (due to a bug in Kontakt4 the tab may start out saying `<empty>`)

4) By default this multiscript is disabled, to enable it click the Bypass button (the button is grey when the multiscript is enabled)
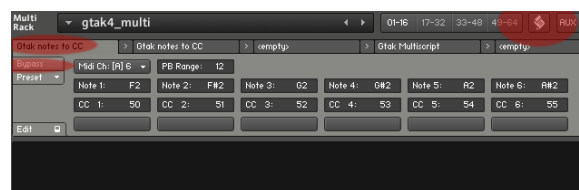
Once you have enabled the multiscript:

1) Set the Midi Channel to match the channel of the string you want to use for the notes to CC function. By default this is set to 6, which corresponds to the Low E string if you have your Base Channel set to 1. If you are using multiple MIDI ports in Kontakt4 you will have to choose the right one here (A,B,C or D), otherwise just use A.

2) Set the Pitchbend range to match the setting on your Guitar to MIDI converter.

By default the script is set to respond to six notes on the Low E string starting from fret 13 and going up to fret 18. These were chosen because they give you the option of playing them by tapping with your non-fretting hand.

Below each note is a display showing what CC number is sent (set to 127) when the note is played. You can change the values of the notes and the CC's they send individually.

The six virtual pedals work like buttons on an old car radio: when you press one down all the others pop up. This makes it easy to keep track of what the pedals are doing even if you can't see the screen.

Once you have set up the multiscript you can use Gtak4 just like you would with a pedalboard, for instance to switch between two sounds:

If you need more virtual pedals, we have also set up a copy of the multiscript in the second slot (mapped to the 5ᵗʰ string).

9 Using Gtak4 with other instruments

You can load Gtak4 into other Kontakt4 instruments you buy or create. Before you can do this you have to save Gtak4 as a preset. To do this:

1) Load any instrument containing Gtak4

2) Make any settings you want in Gtak4 (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 `Gtak4` 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 Gtak4 preset you saved before

If you have settings you use often, you can save copies of Gtak4 with those settings preset for loading later.

We have had to alter many of the scripts in the Kontakt4 library to get them to work with Gtak4. So, if you already have modified versions of library instruments that you would like to use with Gtak4, you will also need to replace any altered scripts to get it to work. Altered scripts have been renamed by adding `(Gtak4)` after their names. Save these altered scripts in the same way we saved Gtak4 above.

> *Note: because of the strange behaviour of the KSP scripting system, it is possible that Gtak4 will not work with scripts in third party instruments. If you have problems contact us and we will see what we can do.*
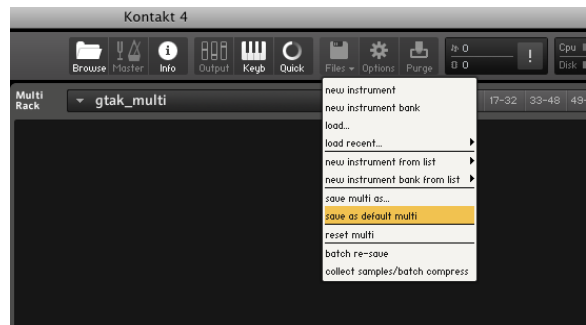
The following settings can make working with Gtak4 easier.

10.1 Setting the default multi

To set the Gtak4 multi to be the default multi:

1) Load the Gtak4 multi as described earlier.

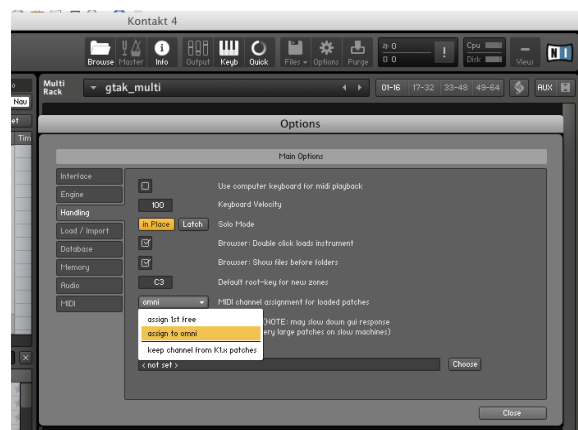*2)* In the File menu, select `save as default multi`.

From now on the Gtak4 multi will load when you load Kontakt4.

10.2 Setting MIDI Omni

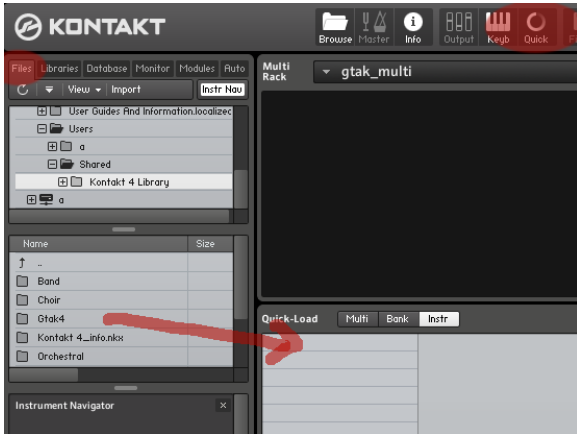To set MIDI omni as the default for newly loaded instruments:

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

2) Click on the `Handling` tab

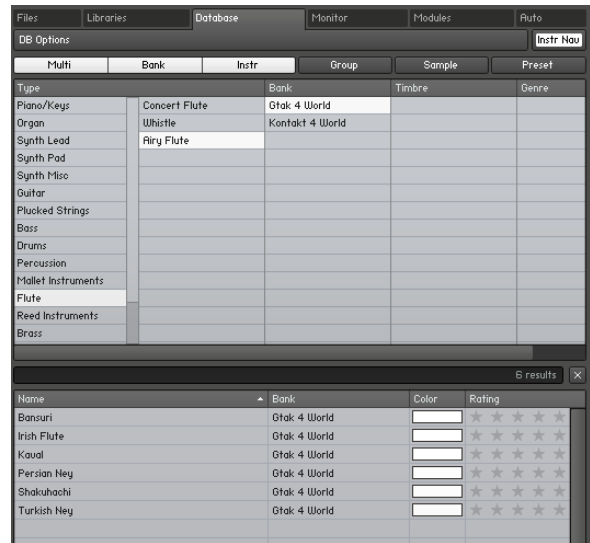*3)* For `MIDI channel assignment for loaded patches`, select `assign to omni`.

10.3 Configuring Quick-load menus

It is much easier to load Gtak4 instruments if

they are in the Quick-load menu. To get the Gtak4 instruments into the Quick-load menu, click the "Quick" toolbar button to display the Quick-load catalogue. Then navigate to the Kontakt4 library in the file browser and drag the Gtak4 directory into the Quick-load catalogue's first column.
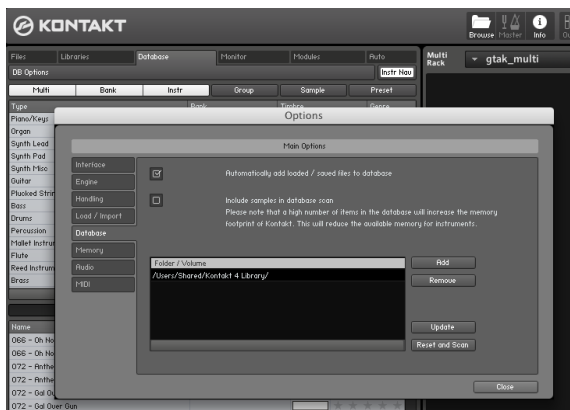

The new Quick-load catalogue has many features, see Section 13 of the Kontakt4 Reference Manual for more details.

10.4 Setting up the database

Gtak4 instruments have all been tagged so they can be loaded easily using the database browser. First you will have to update your database:

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

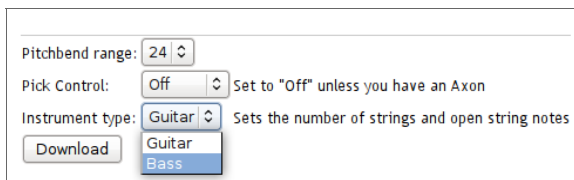2) Select the `Database` tab and click `DB Options`.

3) Make sure that the Locations being scanned include your Kontakt4 library. If it does not, then click `Add` (see the Kontakt4 manual for more details)

4) Click `Update`.

5) When the update has finished, you should be able to easily find the Gtak4 instruments as they have been tagged with Bank names that start with "Gtak 4"

11 Custom Gtak4 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 Gtak4 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.

12 Troubleshooting

Here are some ideas if things aren't working:

Visit the Gtak4 forum at evenharmonic.com to see if anyone else has had similar problems.

Check that MIDI data is reaching Kontakt4 by checking 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 Gtak4 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 Kontakt4 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 Gtak4 instruments, make sure Gtak4 is installed in the correct directory and the Kontakt4 library is also installed correctly.