



# C. BECHSTEIN

*Digital Grand  
powered by Kontakt*

Manual for software version 1.1.0  
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Latest revision on October 16, 2017.

More current information as well as audio and video  
examples are available on our website:

<https://www.bechstein-digital.com/>

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# Welcome

Hello and right at the beginning many thanks for purchasing a *C. Bechstein Digital Grand, powered by KONTAKT*. With this reading matter, we would like to introduce you to the most important and exciting options offered by our product – and invite you step-by-step to become familiar with your new instrument.

Probably, the *Digital Grand* isn't the first piano software instrument you will play. And presumably you will already have occupied yourself with some of the special features which make the Digital Grand unique before purchasing it. We are convinced that you have made an excellent choice. Also that the Digital Grand will do justice to the high expectations which C. Bechstein players now have of our products for more than 160 years in the meantime.

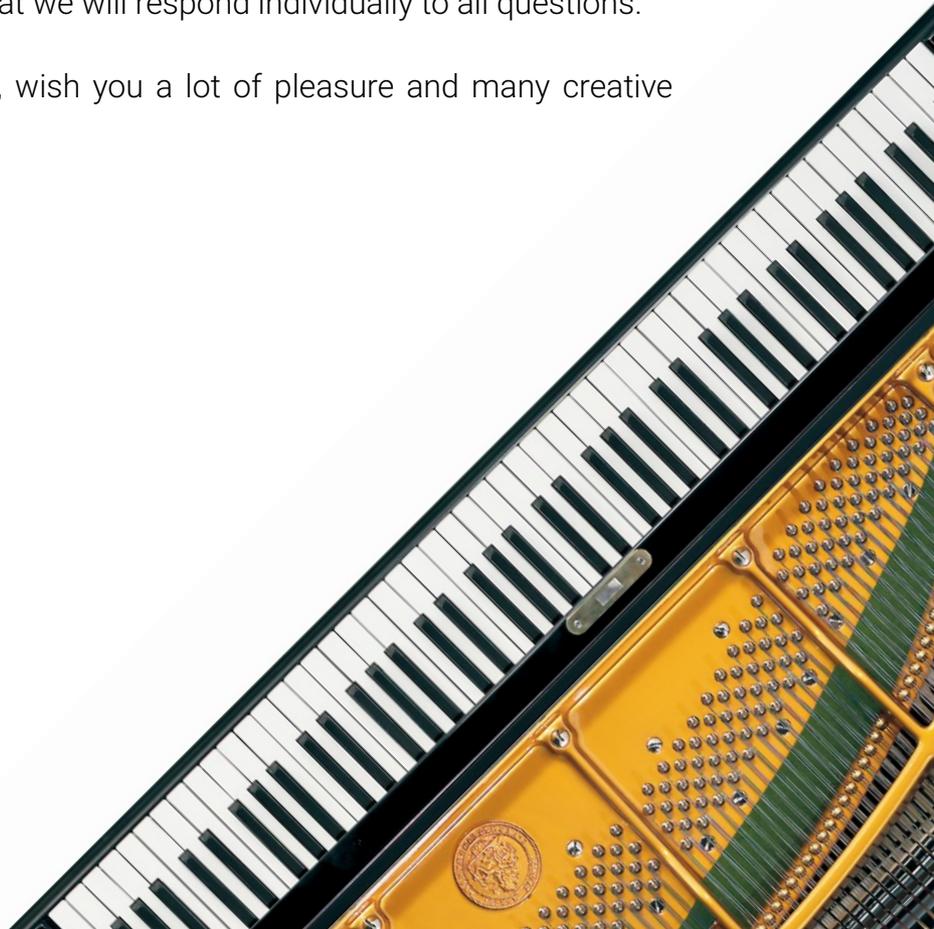
The Digital Grand is an exceptionally versatile instrument. And as you are accustomed from our acoustic instruments, you can also expect a multifaceted musically inspiring sound from the digital generation of our grand piano. Its tonal character here corresponds with the acoustic role model – with very similar properties, above all in its dynamic development. Thus, for example playing with high polyphony throughout all registers, even in pianissimo each note remains clearly defined within the arrangement. Especially the M/S signal shines in detail making the individual notes tangible through the entire dynamic range.

In short, the *C. Bechstein Digital Grand* was developed to fulfil the high requirements of individual software components primarily encountered in “everyday recording” of digital music productions at the highest level. This is true both for sound-related aspects and for operation, which always remains intuitive and provides you transparent results. Each parameter was carefully selected and attuned to plausible control ranges – whereby each individual operating element was scrutinised by our developers dozens of times and thoroughly tested in use in the most varied of genres

Do you have questions or ideas regarding the *Digital Grand*? Feel free to contact us directly: our website provides you with ample contact options – we are happy for every response and promise you here that we will respond individually to all questions.

We, the entire C. Bechstein team, wish you a lot of pleasure and many creative hours with your Digital Grand.

*Berlin, September 2016,  
last updated in 2017*



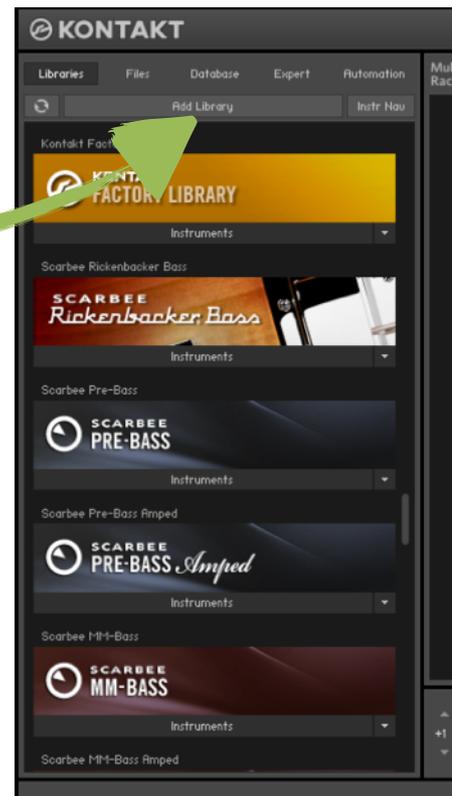
# Quick start guide

## Installation for experienced KONTAKT / KONTAKT PLAYER users

The installation of the C. Bechstein Digital Grand, is installed, in brief, as is familiar to you from numerous other software instruments for the KONTAKT platform:

- ▶ **Download of the archive file**  
(ISO image) or connection of the USB drive
- ▶ **Copying the data to your desired target drive**
- ▶ **Adding the library to KONTAKT**
- ▶ **Activating** the library using Native Instruments' *Native Access* software.  
*You have already received the Serial Number via Email, or you can find it online in your Bechstein Digital account.*
- ▶ **On your marks:** go play, make music and experiment!

If these steps appear familiar to you, move on directly to the chapter "Tips for a successful start" as of page 19.



## For new KONTAKT users

The C. Bechstein Digital Grand powered by KONTAKT is based on a software solution from Native Instruments. The KONTAKT or KONTAKT PLAYER program runs on current Windows PCs and Apple Mac computers.

### There are two operation modes for KONTAKT:

1. As an independent application – here we talk of *standalone use*.
2. KONTAKT runs as a so-called *plugin* with interplay with a series of music programs: Cubase, StudioOne, Logic Pro X or ProTools etc., to name just a few.

On the other hand, the **C. Bechstein piano sound** is loaded as an “instrument” within the KONTAKT software and can also be combined with other instruments from the KONTAKT instrument library in this context.



### ***Difference: KONTAKT player or KONTAKT full version***

KONTAKT from Native Instruments is available in two versions: the pure play version (KONTAKT PLAYER) is provided free of charge with the C. Bechstein Digital Grand. With KONTAKT PLAYER, you can use all the options shown on the graphical user interface of our instrument.

KONTAKT (without the supplement “PLAYER”) is the highly sophisticated software sampler from Native Instruments, with which you can also create your own samples and instruments. Moreover, you can also use it to delve into the technical depths of our Digital Grand – an exciting journey which we would heartily like to recommend you at a later point in time. If you wish to “update” to it, the Native Instruments team is happy to help.

Further information on the topic KONTAKT PLAYER vs. KONTAKT is available on this website:

<https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5-player/faq/>

## KONTAKT PLAYER installation (new KONTAKT users)

If you haven't yet had any experience with the technical platform for the C. Bechstein Digital Grand, KONTAKT from Native Instruments, we would like to briefly explain you the basic steps for the software installation.

*Tip: on our website, [www.bechstein-digital.com](http://www.bechstein-digital.com), in the area SERVICE, you can find a short video example (tutorial), which explains you the installation of the KONTAKT player under Windows and macOS.*

Here, we assume that your PC used as a Digital Audio Workstation (DAW) already has a functioning audio interface and that a MIDI keyboard is connected (tips on these topics are available online under <https://www.bechstein-digital.com/service/> for you).

Also, we recommend you to use an SSD hard drive for the Digital Grand.  
Read more about this in the section "Tips for a successful start" on page 20.

Get cracking:

1. Please obtain the current KONTAKT PLAYER version directly from the Native Instruments-Website: <https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5-player/free-download/>



## KONTAKT 5 PLAYER FREE DOWNLOAD



Free Sample Player for use with KONTAKT-based sample libraries.

- Version 5.6 (09/2016)
- Mac OS: 540 MB
- Windows: 499 MB
- [System requirements](#)

Please also download the **free KONTAKT FACTORY SELECTION library** (see below)!

The download links for Mac and PC versions will be sent to your email address.

Email

Country

GET DOWNLOAD LINK

An individual download link is then sent to you via E-mail.

2. Carry out the **installation** – as accustomed from numerous other software products – on your system. We recommend using the suggested directories if possible.

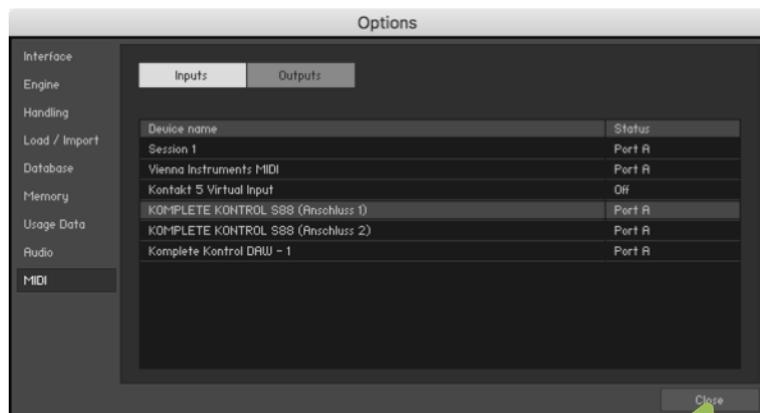
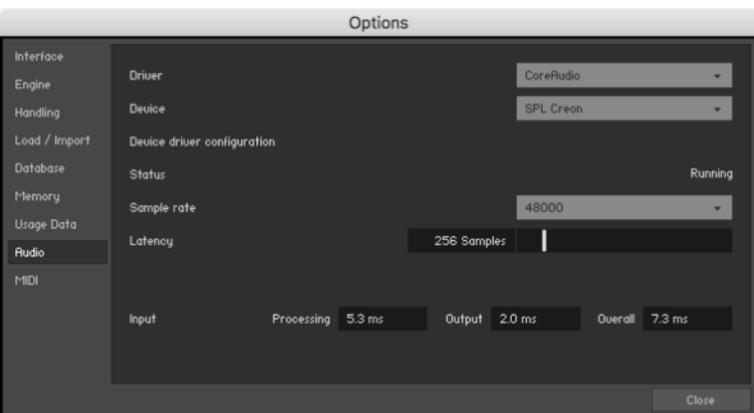


3. **When first starting** the KONTAKT PLAYER, basic audio and MIDI settings are queried.

Select your audio interface (device) in the **audio** area and set the desired sample rate as well as a sensible latency for your overall system. If you are uncertain here, also read the section “First Aid when it sizzles and fizzles” on [page 24](#).

Use the **MIDI** area to select your keyboard or a MIDI interface.

Close the dialogue with the **Close** button.



## Adding the C. Bechstein Digital Grand to NATIVE ACCESS

4. If you have purchased the USB version, **connect the USB drive** to a free USB port.

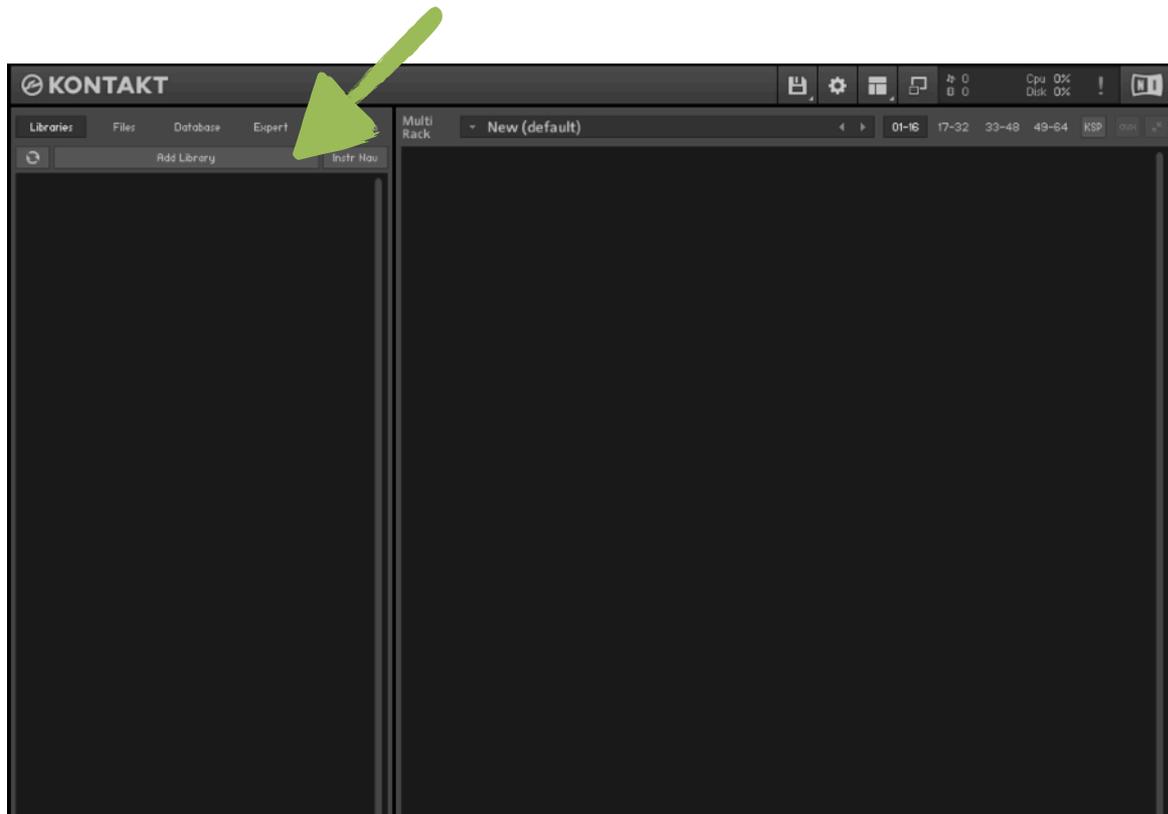
If you have purchased the product as a **download**, you should trigger it now at the latest. You can find your download link in your personal user area under <https://www.bechstein-digital.com/my-account/> .

The file size is certainly challenging, but the download is normally completed on the same day if you have a fast connection.

5. (*Only for downloads*): A file in ISO format lands on your PC or Mac. This is a so-called disk image). **Double-click to open it** – the “file” is similar to a connected USB stick and its contents can be found as an independent drive in the Windows Explorer or macOS finder under the name BECHSTEIN.
6. Now, **move the entire “Digital Grand 1.x.x” folder** to an SSD “hard disk” (see [page 19](#)) or to a different fast drive where you wish to save your KONTAKT sounds.

7. Then add the library to KONTAKT / KONTAKT PLAYER:

**Click on Add Library ...**

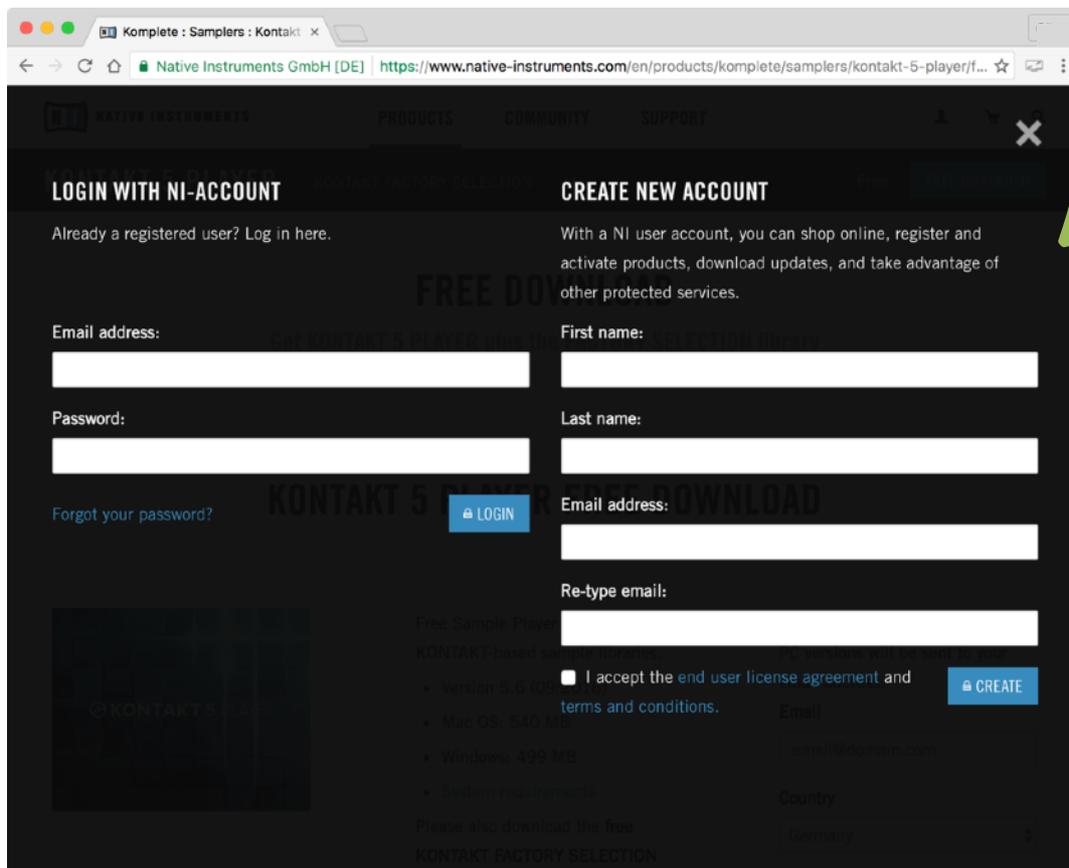


Wait for the Native Access program to start automatically. Native Access is a component of current KONTAKT / KONTAKT-Player installation since version 5.6.8.

8. **Register with your NI user account.** If you do not yet have an NI user account, you must first create it on the Native Instruments website.

*“Why have an NI user account at all? – Isn’t the user area on [bechstein-digital.com](https://www.ni.com) sufficient?”*

*With an NI user account, you cannot only activate your Digital Grand, but also download updates of the Native Instruments KONTAKT software and install them really comfortably. Both accounts are technically independent of each other.*



The screenshot shows a web browser window with the URL <https://www.native-instruments.com/en/products/komplete/samplers/kontakt-5-player/f...>. The page features a dark theme with a navigation bar at the top. Below the navigation bar, there are two main sections: "LOGIN WITH NI-ACCOUNT" and "CREATE NEW ACCOUNT".

The "LOGIN WITH NI-ACCOUNT" section includes the text "Already a registered user? Log in here." and a "LOGIN" button. It has input fields for "Email address:" and "Password:". A link for "Forgot your password?" is also present.

The "CREATE NEW ACCOUNT" section includes the text "With a NI user account, you can shop online, register and activate products, download updates, and take advantage of other protected services." It has input fields for "First name:", "Last name:", "Email address:", and "Re-type email:". There is a checkbox for "I accept the end user license agreement and terms and conditions." and a "CREATE" button.

A green arrow points to the "CREATE NEW ACCOUNT" section.

9. **Activate** the Digital Grand in the first displayed area, by entering the 25-digit series number you can find in your personal user area on

<https://www.bechstein-digital.com/my-account/> .

To complete, click the blue (+) **ADD SERIAL** button.



### ADD A SERIAL

If your purchase came with a serial number, enter it here to receive the associated products and product updates.

12345 - 67890 - 12345 - 67890 - 12345

[Where can I find my serial number?](#)

By registering new products, you agree with the [EULA](#).

Cancel

⊕ ADD SERIAL



10. In the following dialog, please refer to the storage location that you selected in step 6 for the "Digital Grand 1.x.x" folder. **Click on BROWSE ...**



## THANK YOU FOR REGISTERING DIGITAL GRAND

To continue installing please browse to the folder where you have unzipped Digital Grand

Digital Grand  
/Volumes/Libraries/Digital Grand

 BROWSE

1

... and then **click the INSTALL** button.

Close

 INSTALL

2

11. **Done.** The *Digital Grand* is now available in KONTAKT and KONTAKT PLAYER without any restrictions – enjoy it!



## *Tips for a successful start*

We would like to use this section to provide you with some tips with which you can use your Digital Grand perfectly.

Select an SSD drive

The right keyboard

Try the NKS light guide

The perfect dynamic curve for your individual playing style

The right foot pedals

First Aid when it sizzles and fizzles

Three microphones – three KONTAKT instruments

**You can also find further tips online** and video examples on various topics, including the connection of MIDI keyboards for beginners, professional tips for well-versed DAW users and answers to FAQs.

<https://www.bechstein-digital.com/service/>

## Select an SSD drive

If you have loaded the Digital Grand as a download on your DAW, observe that the samples should be saved on an SSD, that is to say specially fast flash storage. We recommend a solid state drive with a read transfer rate of at least 350 MB/s – connected via USB 3, USB-C or faster. “SSD hard disks” installed in your Mac, in a PC or Notebook normally meet this requirement – traditional (magnetic) hard disks or also most USB sticks on the other hand do not (also not if they are connected via USB 3 or faster).

If, for the start, no such drive or insufficient memory is available within the scope of the installation, read some tips on our website in the Service area as to how you can work with the Digital Grand also in less performant DAW environments.

The *SanDisk Extreme* model has been tested with the Digital Grand.



## The right keyboard

As accustomed, the Digital Grand can be played with any MIDI keyboard you like. However, you should select a keyboard with hammer mechanics – or a simulation of suchlike – in order to attain an authentic touch or nuanced and above-all controllable sound experience.

By the way, for Bechstein instruments, the VARIO system also enables later equipping of a MIDI for your piano. More about this under [www.bechstein-digital.com/vario](http://www.bechstein-digital.com/vario) .

## Try the NKS light guide

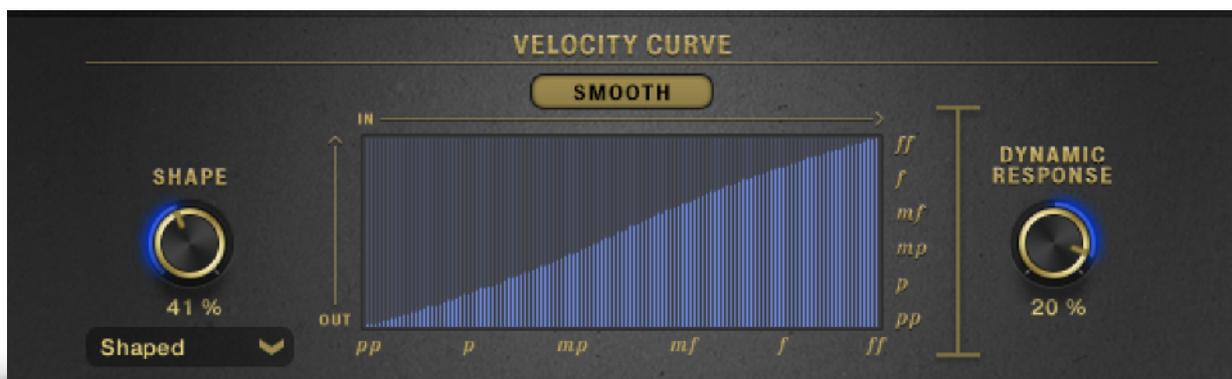
If you use one of the KOMPLETTE KONTROL S-Series keyboards from Native Instruments, you will certainly enjoy the light guide technology support. For the Digital Grand, coloured LEDs from these keyboards are used above the keyboard in order to make the operation of the STRING EQ settings (see [page 33](#)) easier for you.



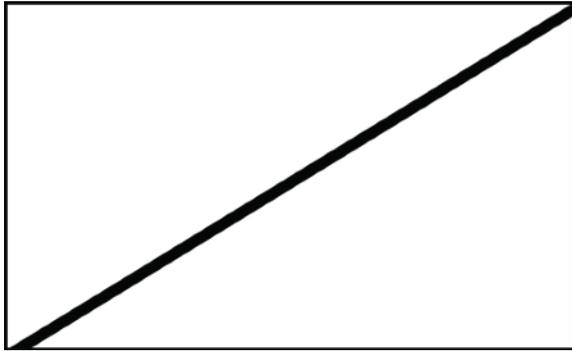
## The perfect dynamic curve for your individual playing style

The adaption of the Digital Grand to a) the keyboard used by you and b) the playing style you prefer can be made at numerous places within your setup.

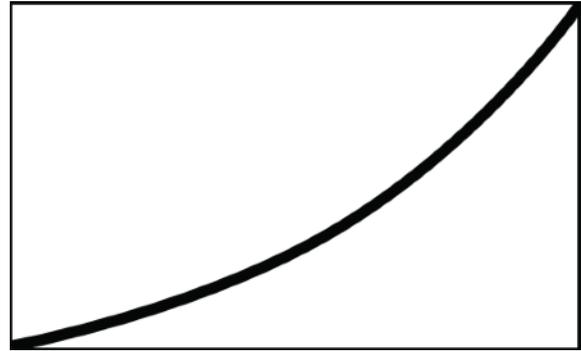
Fast, individual adjustment is easiest on the DETAILS page in the Digital Grand's VELOCITY CURVE.



However, there are also numerous adaption options for many of the keyboards – they can mostly be found in the settings menus under terms such as *Velocity Curve* or *Sensitivity* or for current devices in the frequently found control apps. For the start, we recommend a linear rise or a slightly concave ascending curve.



Linear rise



Slightly domed rise

Last not least, DAW programs also offer the option to store settings which are then valid for all software instruments within your DAW.

**We strongly recommend you to deal with the settings and different concepts at the earliest opportunity.** For our acoustic instruments, dozens of hours of work are invested in the best possible control of the keyboard and all of the mechanics behind it, to the grand piano’s “oscillators” (the strings). So if you haven’t done so already, take a little time to explore the different dynamic scope of each MIDI keyboard and attune it to your Digital Grand (and naturally other sound generators) – it’s really worthwhile!



The Velocity Processor in Logic Pro X

## The proper foot pedals

Some MIDI foot pedals also offer nuanced control for the hold function (sustain or mute pedal), which go beyond “127 for held” and “0 for not held”. The Digital Grand supports this technology, known as a continuous controller, thus enabling the half-pedalling which many pianists like to play and is also included in several compositions.



The pedal visualisation in the Digital Grand – here with half-held sustain pedal. With version 1.1.0 the threshold value for sustain pedals which can provide continuous data on CC#64 can now be adapted.



## First Aid when it sizzles and fizzles

The sound of the Digital Grand is also a really demanding challenge for modern computers. Coupled with your, depending on the user highly different Mac or PC combination with parameters such as the processor, system load, memory extension, audio interface, graphics processors and several more things, even in perfectly configured systems tone dropouts may occur occasionally.

And when in such moments the master piano builder smugly smiles and regards his acoustic masterpiece, the digital nomad places his hand on the mouse – and certainly also finds an adequate solution for this problem.

Because KONTAKT luckily offers numerous adjusting screws with which the most common causes for “sizzling and fizzling” can be combated highly reliably. The two most important for the Digital Grand are:

- ▶ Adaptation of the maximum number of voices to your system
- ▶ Adaptation of the overall audio latency

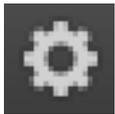


The voice restriction for the loaded KONTAKT instrument – click the i-icon (next to the camera/snapshot icon) beforehand to enter this view.

With the adjustment of the max. number of voices, you primarily create relief between the SSD (“hard disk”) and the working memory.

We have taken 120 to 150 voices (PLAYER M/S) as a guidance value for our tests or set some 200 voices with the SIDE and TOP instruments. Set a lower value if disturbing noises occur when playing several notes.

### *Latency setting in the KONTAKT options*



The time which KONTAKT also has available for calculating voices (also known as “notes”) until it takes the route from your system’s main processor to the audio output can be influenced by you with the *Latency* value.

The screenshot shows the 'Options' dialog box with the 'Audio' section selected in the left sidebar. The main area displays the following settings:

- Driver: CoreAudio
- Device: SPL Creon
- Device driver configuration: (empty)
- Status: Running
- Sample rate: 48000
- Latency: 256 Samples (with a slider bar)

At the bottom, a performance summary is shown:

Input	Processing	5.3 ms	Output	2.0 ms	Overall	7.3 ms
-------	------------	--------	--------	--------	---------	--------

When selecting the ideal latency, numerous parameters play a role – only one of the important ones is the audio interface and equally also the driving dynamics of the KONTAKT instrument. If necessary, **increase this value** in your configuration.

### *Also different: Latency as a DAW setting*

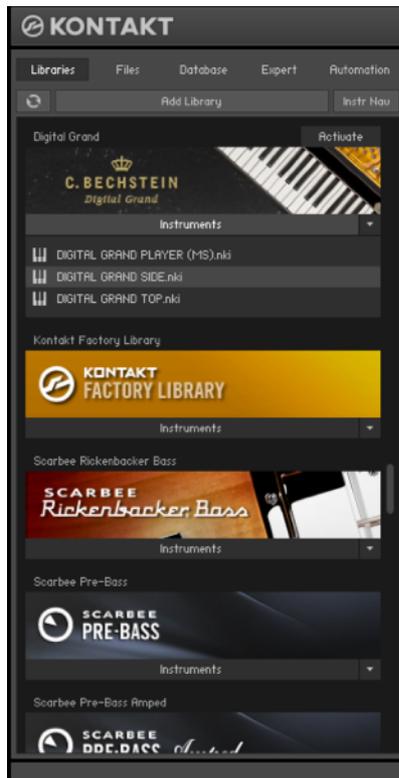
If you use KONTAKT **as a plug-in in a DAW**, the latency results, on the other hand, from your software settings (nothing can be set for latency in plug-in mode for KONTAKT).

DAW programs often also use the term “buffer size” here. You can find detailed information regarding the appropriate setting in the documentation of your favoured audio software.

## Three microphones – three KONTAKT instruments (NKI)

As you have doubtless already experienced elsewhere, the acoustic ideal of the Digital Grand was recorded using several microphones (sampled).

Thus, a total of 3 NKI instruments exist, with which the sound differences of the microphones and their position on the acoustic instrument is ideally used.



### DIGITAL GRAND **PLAYER**.nki

– recorded from the player’s perspective  
in M/S stereophony

### DIGITAL GRAND **SIDE**.nki

– recorded using classical stereo miking from  
the “audience side” of the grand piano

### DIGITAL GRAND **TOP**.nki

– recorded using classical stereo miking from the top,  
very close to the strings

In version 1.1.0, a MULTI-instrument was added which  
combines the sound of all three NKIs above. You can mix  
their levels as you like, varying the volume of the NKIs.

# *The Digital Grand's user interface*

If you have already gained some experience with software-based instruments, you will quickly come to terms with the Digital Grand interface.

For beginners, we recommend our quick start video “Digital Grand overview”, which you can access from our website:

<https://www.bechstein-digital.com/service/tutorials>

You can best gain the first sound-related impressions if you select the instrument DIGITAL GRAND PLAYER.nki from the instrument library in your KONTAKT installation. You can find a selection of ready presets – referred to here as snapshots – if you access the snapshot icon in KONTAKT or the snapshot browser from KOMPLETE Control.



It's best if you begin with the "Start Here" patch ... and then listen to the further variations in order to gain an impression of what sound you can expect from your new Digital Grand.

**Let's stay in the upper KONTAKT area for a moment.** There are some buttons which you may find nifty. They enable you to hide and show certain views or to streamline them. Moreover, you can limit the number of possible voices and keep an eye on the system load.

In brief: simply try it out once and you will soon establish what makes sense (and what doesn't) for your use. Nothing can be "damaged".



## Feedback for when you play live: the footer elements

When the first notes are touched, you will notice the **velocity histogram** – a presentation of the last played touch strength over the course of time. This provides you with a rough impression as to what dynamics from your individual playing style “arrive” in the Digital Grand (and also a little bit of the feeling you can understand when looking at the hammer movements of a genuine concert grand piano).

In the DETAILS chapter ([page 50](#), Velocity Curve), you experience which adaptations you can make for and beyond this.

The **three pedals** flash when the corresponding MIDI controllers are received by the Digital Grand. If you have a holding pedal (sustain pedal) with the corresponding function, (MIDI CC#064), you will certainly enjoy its support in the Digital Grand. The bar on the right directly shows you the adjustment range registered to the software by your pedal.

Also, try out the **Volume** knob on the right-hand side next to the holding pedal. Use it to control the volume of the held, resonating strings which result in a wider, fuller sound.

We will view **Una Corda** and its use and functionality in a later section.



## Quick & easy sound change via five macro potentiometers

Five controllers wait for your adjustments in the upper range of the Digital Grand. Just try them out and let the sound changes inspire you.



Each of these controllers can be found again on one of the further pages (tabs) of the Digital Grand and is used there in context with further functions.

If you would like to discover more directly:

- WIDTH ([page 40ff](#), Chapter AUDIO-DESIGN, M/S sound control & stereo width)
- DYNAMIC RESPONSE ([page 52](#), Chapter DETAILS, Dynamic Response)
- LID ([page 46](#), Chapter AUDIO-DESIGN, Position of the rear lid)
- STAGE ([page 47](#), Chapter AUDIO-DESIGN, Spatial and echo effects)
- STRING-EQ-MIX ([page 33ff](#), Chapter STRING-EQ)

## The further pages

The PLAY page offers you, as previously described, fast access to a few parameters. The pages STRING-EQ, AUDIO DESIGN and DETAILS provide numerous functions as described further below in this reading matter.



**STRING-EQ**, offers basic tonal sound settings.

Here you can transform the sound of each individual (!) string in a direction which is particularly conducive to the genre you play or produce. **More about this in the next section.**



**AUDIO-DESIGN**, offers sound design options which are more “thought out” from the sound engineer’s view. Here, you find e.g. a compressor as well as EQ effects which are used for the Digital Grands as a whole.

**More about that from [page 38](#) onwards.**



**DETAILS**, further sound nuances such as the volume of often desired background noise are housed here. But also string resonances and the velocity interpretation are set here.

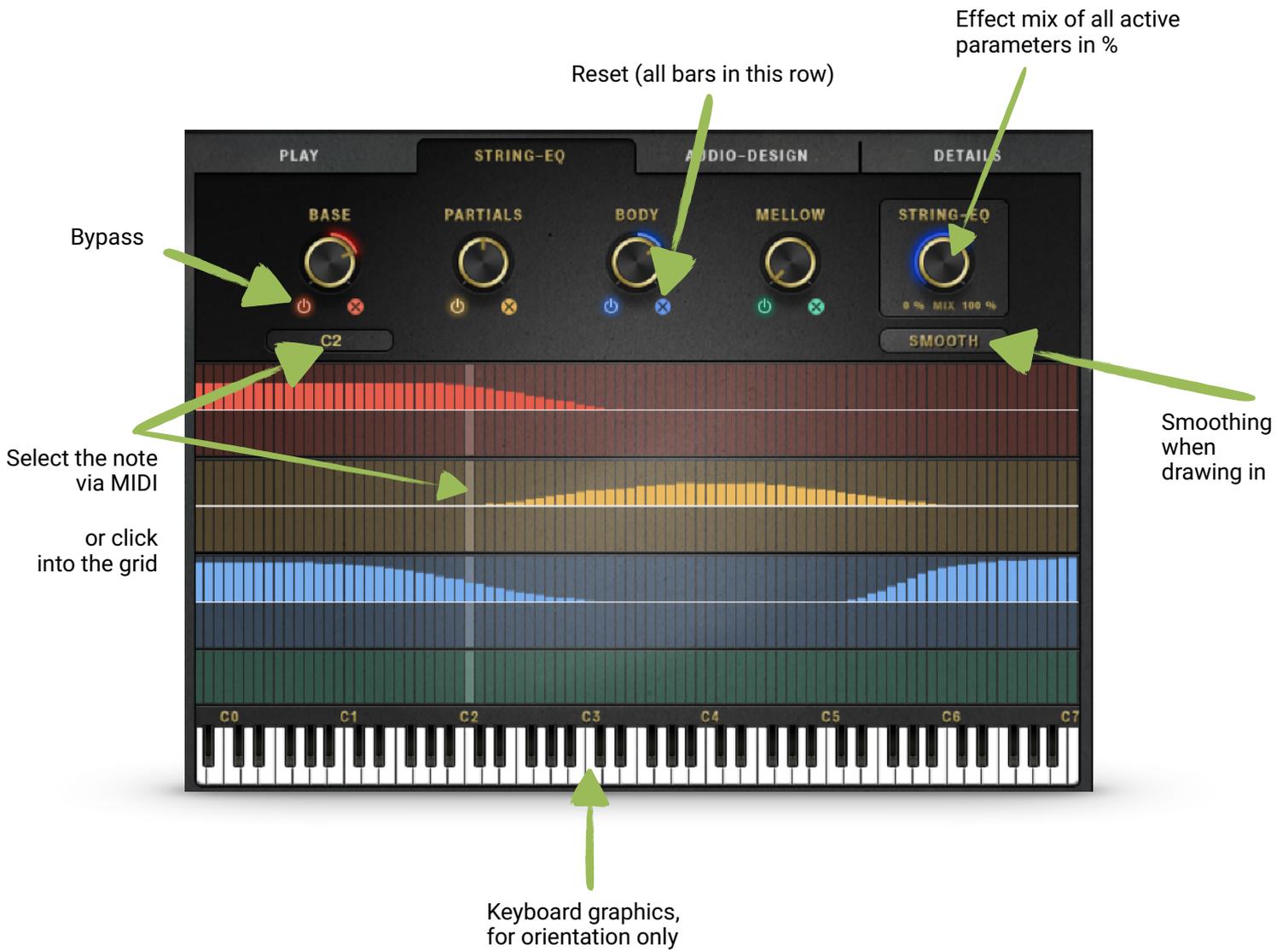
**More about this from [page 49](#) onwards.**

## *STRING-EQ*

The sound of a piano string is influenced by numerous parameters. For an acoustic instrument, the tuner ensures that certain ranges of the grand piano sound warmer, more percussive, livelier or more reserved. But the tuning of the instrument can also “align” individual notes so that they oscillate longer or, above all, oscillate more intensely from the beginning.

In the C. Bechstein Digital Grand, an innovative control system uses 4 basic parameters for comprehensive adjustment of the sound of each single(!) note.

The CPU’s processing for this type of sound formation is huge: more than 1,200 parameters are simultaneously influenced via the graphic user interface in a playful manner. At the same time, everything remains intuitive and manageable at all times – both for beginners and experienced sound designers this tool provides an El Dorado of options!



- BASE** Emphasizes or reduces the fundamental of the note selected.
- PARTIALS** Adds individually selected overtones or reduces them.
- BODY** This shaper accentuates the sustain or give it a shorter shape.
- MELLOW** Only works in the transient area and ensures an increasingly smoother touch there.
- MIX** Whilst the 4 potentiometers listed above work per note, the MIX controller ensures the partial effect of *all* settings on the sound.

You can select individual notes with the mouse and make the desired settings precisely.  
(Insider tip 1: Keep the shift key pressed to avoid catching neighbouring values ...  
Insider tip 2: Keep the STRG/CTRL key pressed when marking ...)



By the way:  
with the KOMPLETE KONTROL S-Series keyboards (or MACHINE hardware) from Native Instruments, it is also possible to control the parameters via the NATIVE MAP® Control controller.

### ***Background: why less in the Digital Grand is often more ...***

As with fast all controllers in the Digital Grand, the settings in the STRING-EQ only have a very subtle effect on the sound. And, if possible, they deliberately have *no influence whatsoever* on the sound *character*. But why is that?

The background of this implementation was to give you a flexible instrument for your DAW. However, what we have avoided – and what we are totally happy with as it is – is to have distorted the typical sound of the C. Bechstein grand piano to an extreme.

Nonetheless, the regulation ranges offered genuinely enable very far-reaching adaptations to a sound picture. Two matters were important to us here:

1. Sound changes are ideal at a degree, when you only realize them once they are gone. Therefore for many controllers, you will find bypass switches for a direct A/B comparison.
2. Interaction creates an even wider effect. In the Digital Grand some settings work best by playing notes simultaneously or with chords. Our tip: listen to sound changes in the context while playing before turning the controller too far and thus increasing the effect too much.

For better control, feel free to make active use of the mix controller: it lessens the effects of all 4 STRING EQ potentiometers percentagewise (or strengthens them if, for example, you initially assume a mix position of 50%).

Moreover, the use of the STRING-EQ is not (even if possible) conceived simultaneously for all the instrument's notes. Rather the opposite: our concern was the option to carefully *adapt* individual pitches (or even only individual notes) to a specific arrangement.

***Further performance information:***

As described above, in-part up to over 1,200 parameters come together fast for the innovative STRING EQ. Coupled with high polyphony here, also highly performant systems today, status 2017 – may reach their limits.

Nonetheless, we do not wish to restrict you unnecessarily – therefore a practical tip: should your system bow to pressure, drive the Mix controller temporarily back to 0%. This helps you to retain all the settings – but no computing power is required. If you bounce your project (also known as create a Downmix, Rendering or Freezing individual tracks), you can drive in the Mix controller again. Thus, all sound settings are reused when processing offline.

# AUDIO-DESIGN

The AUDIO-DESIGN page would like to invite you to accept the sound processing of the overall signal. Here we consciously equipped the user interface with as few elements as possible but also only as many parameters as necessary.

We always had the very practical tasks in mind which the sound engineer uses particularly often during his work on the “mix”: placing the sound “into the background” ... to design the stereo picture more „ear-catching“ ... or, if desired, to dipping everything into a cloud of reverb ...

Experience exactly how the controllers work on the following pages.

## Two views

Dependent on the NKI selected (one of the three instruments in the library view of KONTAKT, refer also to [page 27](#)), the AUDIO-DESIGN page looks a bit different:

In the NKI DIGITAL GRAND **PLAYER** you find the AUDIO DESIGN page like this:



On the other hand, in the NKI instruments DIGITAL GRAND **SIDE** and DIGITAL GRAND **TOP** like this:





## Stereo width for TOP and SIDE instrument

In the NKI instruments TOP and SIDE, the WIDTH controller works similarly to M/S. However, here only the mix of both sides (from the left and right stereo-channel) is used.



Therefore, the nature of the stereo effect is not as intense as for M/S stereophony – but nonetheless very good for use in the musical context.

## A magic eye for Charakter

The round element in the middle of the AUDIO-DESIGN page has a separate function: regulating the sound character. Just try it:



Regulate the “eye” upwards into the plus area to move the tonal character of the Digital Grand in the direction bright, clear and brilliant.

The opposite direction focuses on notes which you expect more from light playing to pianissimo: warm and gently, down to a moderately dimmed sound.

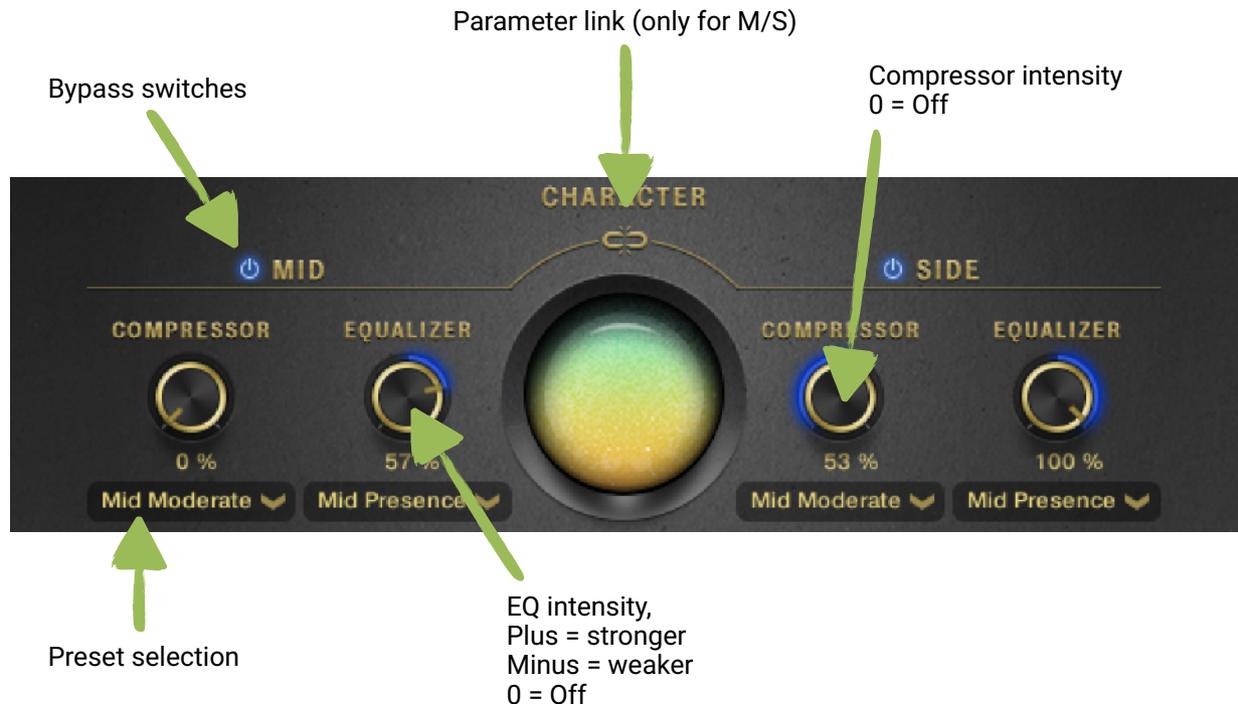
Here, the dynamic development – tonality, but also the volume – is compressed a little or reduced in both directions. This can provide interesting results, also in connection with the *Velocity Curve* (see [page 50](#)) and the parameter *Dynamic Response* (see [page 52](#)). And primarily in connection with MIDI files (pre-recorded arrangements) a combination of these parameters can be very helpful.

## Compressor & Equalizer

The compressor and equalizer are two tools which are readily used because they are extremely useful tools within a typical production chain.

*Shortest possible digression for beginners: the compressor can reduce level peaks and smooth out the signal volume. As a result, the sound in an arrangement can be sensed as calmer, but effective “pumping” can also be sensed if extreme settings are used.*

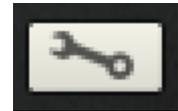
*The equalizer processes individual frequency ranges on the overall sound and can use it to design a signal more brilliantly, more dull or slimmer.*



## *Background: presets and effect intensity instead of 42 further parameters*

We deliberately decided the use these two tools with a minimalist approach. For the following reasons:

1. As a professional, an El Dorado of plugins is available to you – each with its individual sound advantages. Use them!
2. As a beginner, you would miss the wood for the parameters if we had only placed the *typical* regulation options on the Digital Grand user interface. 42 in order to be precise ...
3. If it nonetheless appeals to you: the Digital Grand is open for your changes beneath the lid. Click on the wrench icon and run riot.



**Attention: save the changes using the snapshot function** in KONTAKT or as your **own NKIs**. As soon as you touch the controller on the Digital Grand user interface, the settings jump back to the currently active preset.



## AURA – “A Teldex kind of magic“

The AURA potentiometer is a real gem amongst the controllers in the AUDIO DESIGN area. Turned right, you add spatial depth and warmth to the sound, as we could perceive them for recordings in the direct vicinity of the grand piano.

In its own right, we could speak of a sound impression similar to “ambience” -- however when combined with the respective microphone signals in the NKI, AURA reveals its true splendour.

It's best to compare with a left turn: in this position you set an ambience effect as a convolution reverb in motion. It can help to make the signal sound a little more differentiated than AURA, which is finally a question of personal taste.



**Some technical details:** more than 2,200 additional samples are loaded to the memory with or provided via disk streaming in the “natural” position.

**You can release storage again by clicking on the red X icon.**

## Lid – the position of the rear lid

A grand piano's lid naturally clearly contributes to the propagation of the sound. It is clear that the acoustic strength provided by a grand piano to the surrounding area merely due to its sheer size is not reached. Nonetheless, we have made efforts to research which frequency ranges are influenced how strongly by the lid position.



In the Digital Grand, you now have the option to reproduce the sound results of this analysis to a large extent – at least as far as it makes sense for a sound-based “conservation” with microphones (and reproduction via loudspeakers or headsets in later DAW use).



## Stage, spatial and echo effects

Following the lid, the room comes next as described above – at least if we pick up a classical “sound engineer-like” signal path. The controllers combined as stage fulfil their purpose here in 3 scenarios:

1. In the standalone version for users without the (spontaneous) option of downstream effects.
2. In the DAW environment as a “pre-processor” for further “thickening” of the signal (which works particularly well with the *Room* and *Club* settings as well as with *Dreamy* with a downstream compressor and/or including delay effects (for example in the DAW as an insert).
3. In an amount position of > 50% as an effective simulation of a genuine “stage”.  
Try it out: up to 50% “echo” is added. **Moreover**, frequencies and the stereo picture are modulated so that the impression of distance to the instrument is given. We hope that you like this idea and are able to use it creatively.



# DETAILS

The DETAILS page houses further sound-related nuances such as, for example the volumes of desired background noises. But string resonances and the velocity interpretation are also set here.

The image shows a screenshot of the 'DETAILS' page in a software interface, with various controls and annotations. The interface is divided into several sections:

- PLAY**: A tab at the top left.
- STRING-EQ**: A tab at the top center.
- AUDIO-DESIGN**: A tab at the top right.
- DETAILS**: The active tab, containing the following controls:
  - KEYS**: A knob set to 50%.
  - DAMPERS**: A knob set to 50%.
  - PEDALS**: A knob set to 50%.
  - STRING RELEASES**: A knob set to 50%.
  - MECHANICAL NOISES**: A knob set to 50% (indicated by a green arrow).
  - VELOCITY CURVE**: A graph showing the relationship between velocity and dynamic response. It includes a 'SMOOTH' button (indicated by a green arrow) and a 'SHAPE' knob set to 35% (indicated by a green arrow). The graph shows a curve that rises from left to right, with a 'DYNAMIC RESPONSE' knob set to 20% (indicated by a green arrow) on the right side. The graph is labeled 'SHAPED' and has a dropdown menu.
  - KONTROL SERIES**: A section with a 'PAGE-SWITCHING ON AUTOMATION' toggle (indicated by a green arrow) and a 'MAP TOUCH-STRIP 2 TO' dropdown menu set to 'MIDI CC only' (indicated by a green arrow).
  - RESONANCE**: A knob set to 18% (indicated by a green arrow).
  - DEPTH**: A knob set to 53% (indicated by a green arrow).
  - SYMPATHETIC**: A knob set to 50% (indicated by a green arrow).

Annotations with green arrows point to various controls and features:

- Mechanical noises**: Points to the KEYS knob.
- Select and tweet a shape**: Points to the SHAPE knob and the 'Shaped' dropdown menu.
- Smoothing when drawing in**: Points to the 'SMOOTH' button.
- Influence of the velocity on the dynamic range**: Points to the 'DYNAMIC RESPONSE' knob.
- Should the matching page be shown on automation?**: Points to the 'PAGE-SWITCHING ON AUTOMATION' toggle.
- Assignment of the 2nd touch strip**: Points to the 'MAP TOUCH-STRIP 2 TO' dropdown menu.
- Colouration and amplification of the sound impression with held sustain pedal**: Points to the 'RESONANCE' knob.
- Volume of the sympathetic resonances**: Points to the 'SYMPATHETIC' knob.

## Mechanical noises

Whether creaking, fizzling or throbbing ... mechanical noises are part and parcel of an acoustic instrument. But what delights us when playing live drives the sound engineer crazy. Therefore, the digital world of wonders allows the addition of each of the nuances listed below as desired or fully switched off (0% position).

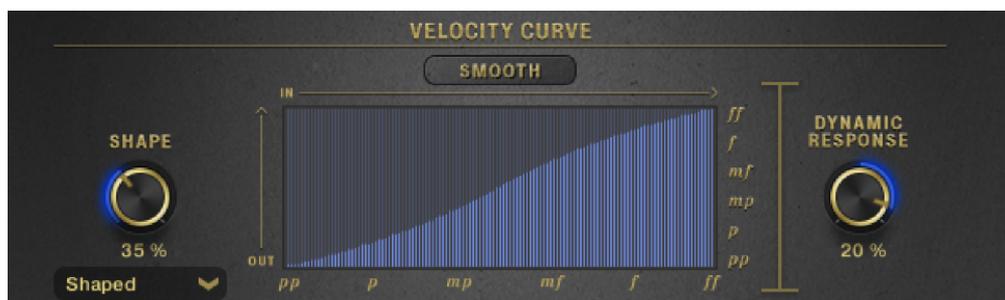


- KEYS**            The noises of the individual keys – 88 of them, handcrafted from carefully selected pinewood. BTW, lovingly recorded in the correct stereo panorama.
- DAMPERS**        The “fizzling” when the dampers are lifted (when you use the sustain pedal)
- PEDALS**            The noises of the three pedals. Attention: can confuse a compressor plugin used in the mix due to its strong low-end frequencies.
- STRING RELEASES**    Strictly viewed, no mechanical but a really musical “noise” which arises when muting the sounding note (in other words when releasing a key or the sustain pedal). **This sound reacts fully dynamically to what you play** and changes vividly at each touch.

## Velocity Curve

The velocity implementation or touch strength of a keyboard on the sound generation is a passionately discussed – and doubtless very important – topic. Please read our basic tips and comments on this topic on [page 20](#).

The functions of the velocity module in the Digital Grand DETAILS tab should be explained here.



The **blue curve** shows horizontally (from left to right) one of 127 possible values of the **input velocity**.

The vertical height shows the value to which to **output** is “deflected”

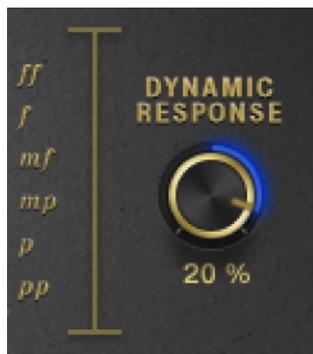
With the drop-down menu from the SHAPE controller, you can select the basic shape of a curve which you can later further form using the SHAPE controller.

You can also draw a freehand curve with the mouse and even reduce or raise individual values in a targeted manner to a greater extent. (*Insider tip 1: keep the shift button pressed in order not to catch neighbouring values*)

The SMOOTH switch smooths your drawing.

*And, as insider tip 2, look and see what happens if you draw in the curve whilst holding the STRG / CTRL key ...*

## Dynamic Response



Dynamic response controls the influence of the velocity on the Digital Grand's volume development.

The 12 o'clock position (0%) there is equivalent to a "healthy" dynamic development which can be well controlled by most grand piano players. **Negative values** restrict this implementation – almost so far that you can play with "fixed velocity".

**Turn the controller to the right** to effect another **widening** of the dynamic range and with it the samples used. Here, the following is valid:

- Very low velocities (< 20 if these values can then be controllably transferred from your keyboard) enable an even more "tender" reproduction of the tones. When recording, we have accelerated (played) the keys starting only from their let-off resistance (in the lower part of the key dip).
- Very high values (> 120) also retrieve violently played notes from the Digital Grand – the master piano builder colleagues felt clearly uncomfortable while recording these notes in the studio. :-)

In short: the effect is similar to a compressor / expander, however with the difference that here no levels, but velocity peaks are "retained".

## NKS – Light Guide

The native control standard (NKS) enables intuitive and seamless interaction between your Digital Grand and KOMPLETE KONTROL- or MACHINE hardware. Here, the Digital Grand supports the innovative functions of the keyboards: NATIVE MAP® controllers, both touch strips, as well as the programmable light strip Light guide.



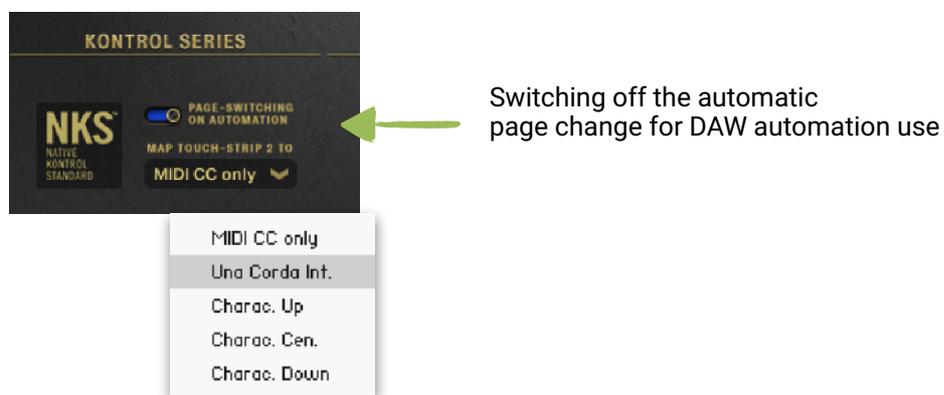
If you start the Digital Grand within the KOMPLETE KONTROL software, light guide and the NATIVE MAP® Controls are automatically activated.



The C. Bechstein Digital Grand in the instrument browser

When the NATIVE MAP® Control controller is touched, the Digital Grand changes to the corresponding page – thus you always also have the user interface of our software in view.

However, this behaviour can disturb when automation is used within your DAW. Therefore, it is also possible to deactivate page changing with this switch:



You can also select which function you would like for the “modulation wheel” on the KONTROL keyboards in the dropdown menu.

## Resonance Color & Depth

If you use the sustain pedal and activate your own recordings of the string resonances, you could acquire a taste that you wish to experience “more” of this wonderful sound spectrum. ... More, than actually exists in the acoustic role model – even if this has repeatedly surprised us when comparing sounds.

On the other hand, it is possible that you miss the listening experience which was primarily coined by earlier generation digital pianos, with the more reserved Digital Grand with regard to string resonance.



We created the controllers COLOR and DEPTH for such cases – and because it really “simply sounds nice”.

Try it out (don't forget the sustain pedal!):

- **COLOR** ensures light colouration and perceived breadth via phase modulation. This effect appears extremely subtle and is reinforced by the number of notes played (individual notes will likely not impress you here).
- **DEPTH** reinforces this impression and additionally lifts the signal further which fades with time. Exceptionally, too much of a good thing is possible here.

Information: a lot happens “behind the scenes” of KONTAKT again here with both controllers. Sound dropouts can occur during setting – these parameters are therefore not appropriate for automation in your DAW.

## Sympathetic resonances

A popular “feature” of modern software pianos is the simulation of overtone behaviour when prompting specific overtones on a held (open) string with other tones.



Try it out:

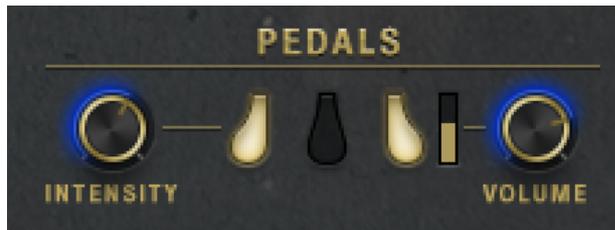
- 1.Strike a key with the lowest velocity and keep it pressed.
- 2.Strike further notes with a stronger touch very briefly and listen to what happens with certain notes.

These “warm” overtones arise in similar forms in pianos and grand pianos and can extend the sound picture in a subtle manner.

Use the VOLUME controller to specifically raise the volume of these tones.

## *The world of pedals*

The pedals of a grand piano or piano provide options to design the overall sound very actively. We explain here which pedal in the Digital Grand can achieve what effect.



**The right-hand side pedal:  
sustain or hold pedal (MIDI  
CC#64)**

When using the right-hand side pedal, also referred to as the “forte” pedal, all the dampers are simultaneously lifted from the strings. Sounds which are struck are still heard after the key is released. Moreover, the unmuted strings for different tones oscillate too, in particular numerous overtone oscillations from the undampened strings oscillate too. The result is a fuller tone when the right-hand side pedal is used.

If you have a sustain pedal with a **half pedal function** (MIDI CC#064), you can definitely look forward to its interpretation in the Digital Grand. The right-hand side bar shows you directly the control range which your pedal registers to the software.

The controller **Volume** generally increases the volume of the specially recorded samples and can also be turned up well above its naturally sounding measure, for example enabling you to achieve a swelling effect.

## The central pedal: Sostenuto or sustain “light” (MIDI CC#66)

The central grand piano pedal is also a pedal for maintaining the tone, the so-called “sostenuto pedal”. It only allows the previously played tone to continue sounding. All other sounds are damped normally.

This pedal is indispensable for some demanding piano literature.

## The left-hand side pedal: magic Una Corda (MIDI CC#67)

On a grand piano, the left-hand side pedal causes the movement of the musical mechanism to the right. The hammer then hits a different point than usual and only touches two strings or one string in the bass range. This results in a sound colour change and a somewhat quieter tone.

This sound colour change can be adapted for the Digital Grand with an intensity controller.



## *Use of the C. Bechstein Digital Grand*

The tone signal of the C. Bechstein Digital Grand may naturally be used for all types of artistic performance, for music production or in sound design both for private and commercial purposes, worldwide and without any restrictions whatsoever.

The resampling of individual notes or sound components (i.e. without musical context) or other use of the samples provided in devices or software for the generation of sound or analytic purposes as well as the making of copies of all data for the Digital Grand is not allowed unless the process serves your own personal use or in case of copies the preparation of so-called backups as well as for more comfortable use if the user uses several own PCs.

Use and sales in other sample libraries or collections as well as the use in digital pianos or similar technical devices or musical instruments is only allowed with written approval from C. Bechstein Digital GmbH.

Moreover, the Regulations for User Licence Agreements for the Native Instruments GmbH software, which you can read under

<https://www.native-instruments.com/en/company/legal-information/>

are valid.

## *Wishes, praise or support? We hope to hear from you!*

We are happy if you enjoy this C. Bechstein product and it enriches your creativity.

If you wish us to share your works, we are happy to invite you to report us your use of the Digital Grand.

But also, should any problems arise with the Digital Grand, we are happy to hear from you, above all if you provide us the opportunity to help you in such a case or to improve our product further for you.

You can find several possibilities on our website under <https://www.bechstein-digital.com/contact/> to contact us.

# Thanks

During the more than one-and-a-half years' planning, development and subsequent testing of the C. Bechstein Digital Grand, many people have done their best.

Concept and management	Oliver Hutz (C. Bechstein Digital)
Production assistance and postproduction management	Harald Karla (also known as Jonson)
KONTAKT script programming	Klaus Baetz (CSM)
User interface design	Ingo Hermes (72punkte) and Oliver Hutz
Sound engineer and miking	Tobias Lehmann (Teldex)
Robotics construction (CARL 1.0)	Sandro Herzog (C. Bechstein Pianofortefabrik)
Studio pianist	Benjamin Moser
Master Piano Maker, technical support of the instrument	Werner Albrecht (C. Bechstein Pianofortefabrik)
Sound design	Oliver Hutz und Harald Karla
M/S audio design presets	Ruben Tilgner (Elysia)
Documentation	Oliver Hutz
Translation	Stephen Sadie

Here also our warm thanks to all – hopefully all – supporters here:

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Special thanks to the C. Bechstein Pianofortefabrik colleagues, who have accompanied this product with their knowledge and numerous ideas – in particular Werner Albrecht, Lukas Bischofberger, Matthias Diecke, Berenice Küpper, Antje Langjahr, Jens-Uwe Lemcke, Heiko Schreiter and Gregor Wilmes, as well as Roland Arndt, Torben Garmin and Satoshi Yasuda at the C. Bechstein Centrum Berlin.

Special thanks also to the entire Board of the C. Bechstein Pianofortefabrik AG for their trust in this project.

In conclusion, what is most valuable:

thank you C ♥ L A .

# *Version history*

**Version 1.0.0** released October 2016

Initial release

**Version 1.1.0** released October 2017

## **Fixed:**

- The automation in ABLETON LIVE no longer regulates all parameters simultaneously (referred to host automation ID #511).
- The parameter CHARACTER is now displayed consistently with the graphical user interface in the displays for the Native Instruments KOMplete keyboards.
- An error which hindered that the pedal functions “Sustain volume” and “Una corda intensity” could not be automated with individual controller numbers was rectified.
- When playing with sympathetic overtones turned ON, some voices were not like the acoustic role model – this was rectified and the behaviour optimised (see below).

## News and optimisation:

- Several features were optimised, considerably reducing the number of voices actually required (polyphony). This means that the DIGITAL GRAND now runs on several computers without disturbing dropouts and with a lower CPU load.
- A new snapshot, *START HERE*, which includes several resource saving basic settings, was added.
- The pre-set maximum number of voices available was reduced, taking several PC systems into account. You can easily adjust this setting to the actual performance capability of your PC yourself (see [page 24](#)).
- The volume of the key noises, dampers and pedals was slightly reduced in all snapshots.
- The keyboard range which generates sympathetic overtones when playing was extended.
- The threshold value for sustain pedals which can provide continuous data (“half pedal”) on CC#64 can now be adapted using a slider.
- The threshold value described above is now set more tolerant, enabling the foot to rest lightly on the pedal whilst playing without increasing the voice burden.

- A multi (*Power Piano.nkm*) was added, which demonstrates the options of the combination of all three microphone signals – Player, Side and Top. Moreover, snapshots with sensible presets for such tonal layers were stored in the Snapshots' "Utilities" folder.
- This manual was updated and also incorporates an installation description of the new Native Instruments "Native Access" tool.
- This manual is now incorporated into the (.ISO) download and no longer needs to be loaded separately.
- Our new KONTAKT library "Digital Grand Essentials" is available to all purchasers of the Digital Grand free of charge – we would like to wish you a lot of pleasure with the product!