



Production Grand Version 2

User Manual

May 2017 © Production Voices

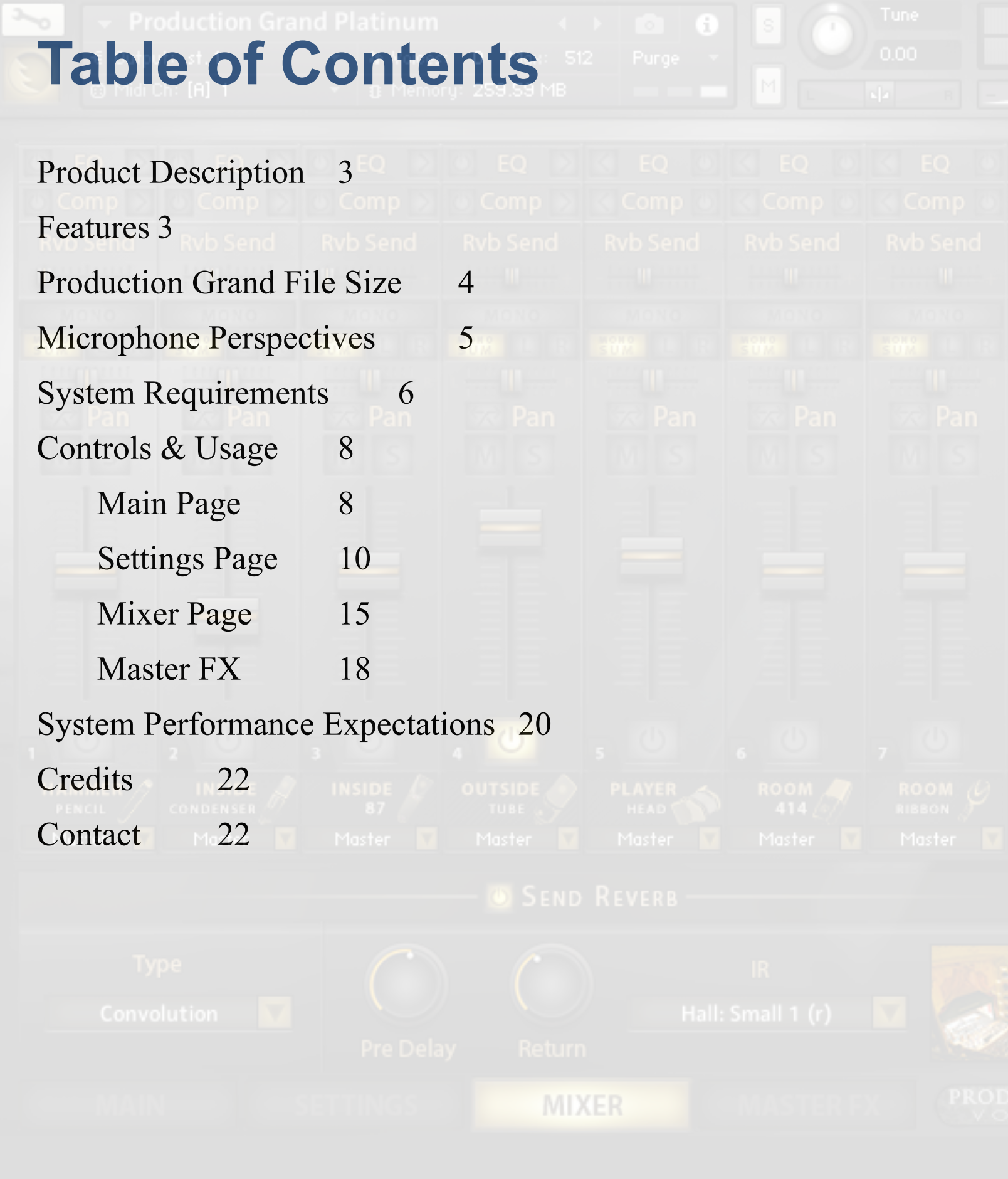


Table of Contents

Product Description	3
Features	3
Production Grand File Size	4
Microphone Perspectives	5
System Requirements	6
Controls & Usage	8
Main Page	8
Settings Page	10
Mixer Page	15
Master FX	18
System Performance Expectations	20
Credits	22
Contact	22

User Manual



Description:

Production Grand 2 is an exceptionally high-quality piano sample library for NI Kontakt 5.5 and above, consisting of eight microphone perspectives and over **120,000 samples** of a Yamaha C7 grand piano recorded in a world-class recording studio. The library is **437.5 GB*** in size before lossless compression!

Production Grand 2 is ideal for Studio Production, Stage Production, Film Score Production, Performance and more!

Instrument Features:

- 12 velocities pedal up samples
- 12 velocities pedal down samples
- 12 velocities release samples
- 8 microphone perspectives
- Authentic Pedalling: adds realistic pedal control.
- Continuous Pedal controls (can half-pedal etc.)
- Catch-pedaling, Soft and Sostenuto pedaling
- Authentic hammer mechanism noises (labeled: Pre-Attack)
- Custom Reverb impulse responses (IRs)
- Sympathetic Resonance with on/off and volume controls
- Extensive Mixer Page with invert pan, mono left right and sum choices, output selection and more
- EQ, compression, reverb send for each microphone perspective
- User controllable recording noise for added studio realism
- Recorded with world-Class microphones: Coles, AKG 414, Classic U87s, B&K, Crown etc.
- Best possible A/D converters used: Burl Mothership
- Best possible microphone preamps used: API and Neve

Production Grand Library Size, Bit and Sample Rates:

Depending on the bundle that you have purchased, the samples are divided into three different bit and sample rates:

1. Production Grand 2 Platinum 24 Bit 96 kHz Approx. 123 GB compressed or 246 GB uncompressed
2. Production Grand 2 Gold 24 Bit 44.1 kHz Approx. 58.5 GB compressed or 114.5 GB uncompressed
3. Production Grand 2 LE 16 Bit 44.1 kHz Approx. 26 GB compressed or 77 GB uncompressed

Production Grand Silver is now Production Grand 2 LE (samples are identical)

Total compressed library size is approximately **207.5 GB** for the full Production Grand 2.

Total uncompressed library size is approximately **437.5 GB** for the full Production Grand 2.

All samples are delivered in compressed format and do not require decompression to install and function. This saves a significant amount of hard drive space!

Sample size is for reference only. These are accurate as of the writing of this manual and are subject to change as improvements are made to the sample library.

Installation size can vary. The full library requires 210 GB of free space. Portions of the library can be installed as per user's needs.

Every copy of Production Grand 2 is digitally watermarked with a serial number and contact information of the purchaser.

8 Microphone Perspectives:

One of the key elements to Production Grand 2's amazing sound is the 8 microphone perspectives! Take the time to get to know where each was placed and how the placement and microphone choice changes the sound. Below is a summary.



Player's Perspective: The Player's Perspective is near binaural. When you put on your headphones with this perspective, it will sound like you are seated playing the piano! The player's perspective was recorded with a Crown SASS-P MKII, but with added processing to linearize the microphone and increase the warmth.



Hammer Microphones: The hammer microphones give plenty of attack for a more aggressive sound. The hammer microphone perspective also captures plenty of hammer mechanism sound as well. These samples are excellent for cutting through a busy mix or a live band. The hammer mic perspective was recorded using B&K 4006 microphones for their fast linear response.

Inside Microphones: This is the sound most people associate with piano recordings. We decided on two sets of inside piano microphones: vintage Neumann U87s (they say West Germany on them) and the modern Rode NT2As. This gives the player the ability to get that classic piano sound or the modern wider-range sound or both!





Outside Microphones: Just outside the piano we used expensive Neumann M149 modern tube microphones. The engineer called these the “Golden Sound” microphones. This microphone pair has a classy sound and a more balanced tone than the inside and hammer microphones.



Room Microphones: In an attempt to give you modern and classic choices, we used Coles ribbon microphones and AKG C414s on the rooms. The ribbons sound like... ribbons... smooth and velvety. Ribbons take EQ well; another reason to

include them. The AKGs sound true to the piano’s tone in the room. The ribbon room microphones are an exceptional pleasure to play, particularly for jazz and solo work.



Under Piano Microphone: Underneath the middle of the piano a PZM (pressure zone) microphone was used to give a clear centre image to the sound. This mono sound works well with the inside and outside microphones to add more center image and stability to the sound when mixed in tastefully.

Microphone Summary:

Hammer Mics: B&K 4000 series

Inside Mics: vintage Neumann U87, modern Rode NT2A

Outside Piano: Neumann M149

Room Microphones: Coles 4038 Ribbon, AKG 414

Piano Bottom: PZM

Player’s Perspective: Crown SASS-P MKII for near binaural experience when played!

***Note: Production Grand was recorded at Phase One in Toronto Ontario Canada, an elite studio with professional high-end studio equipment resulting in an unsurpassed sample quality. Production Grand is capable of rivaling studio recordings. We used the Burl Mothership A/D converters over all the microphone perspectives. Source files were recorded at 24 bit 96 kHz. ***

System Requirements:

Minimum System:

Kontakt 5.5 and above.

8 GB RAM

80 GB of available hard drive space (210 GB for full library).

Computer that meets the minimum requirements of Kontakt 5.5 and above.

Intel i3, i5, i7 or better

Normal Use Recommended System:

(Performer using two or three microphone perspectives at the same time)

8 GB RAM

Fast hard drive: 7200 rpm.

120 GB of available hard drive space (210 GB for full library) on a non-system drive (drive that is not running the computer OS).

Intel i5 processor or better.

Advanced Use Recommended System:

(Film scoring, Album production etc.)

16 GB RAM or more.

Fast hard drive: RAID drive or Solid State Drive. Solid State highly recommended.

210 GB of available hard drive space on a non-system drive (drive that is not running the computer OS).

Fastest possible processor.

See performance later in the manual for system performance tips.

Production Grand Controls:

Main Page:



The Main Page gives quick access to presets and common controls.

1. The **Presets** drop down menu provides a few presets to get you started. The Production Grand default preset only loads two microphone perspectives for quick loading and playing. All other presets load the rest of the Production Grand 2 samples.

2. The **Reverb Presets** drop down menu is identical to the Mixer Page Reverb Presets. The presets are included here for quick access.

3. The **Show Mics** tab reveals the placement of the microphones for the recording session.

4. **Touch Response** (same as on the Settings page)

is the dynamic range determined by velocity.



Touch Response determines how Production Grand 2 adjusts the sample volumes to incoming

velocity. At 100%, Production Grand 2 will respond exactly like it was sampled. Some users may find this too dynamic. 89% is about where most of the presets are set to. Setting Touch Response too low will result in the low velocities sounding noisy and louder than is natural on a “real” piano.



5. Each channel has a **Reverb Send** that influences how much of that microphone volume gets sent to the reverb. The reverb on the Mixer Page has to be turned on to hear the result. **The Reverb Send is pre-fader** meaning that the volume sent to the reverb is independent and not influenced by the channel/microphone volume UNLESS the channel is turned completely down or off. With reverb setup as a pre-fader send, reverb can originate from a microphone perspective that has no DRY signal present in the mix. This gives lots of flexibility in the sound for audio engineers and producers.

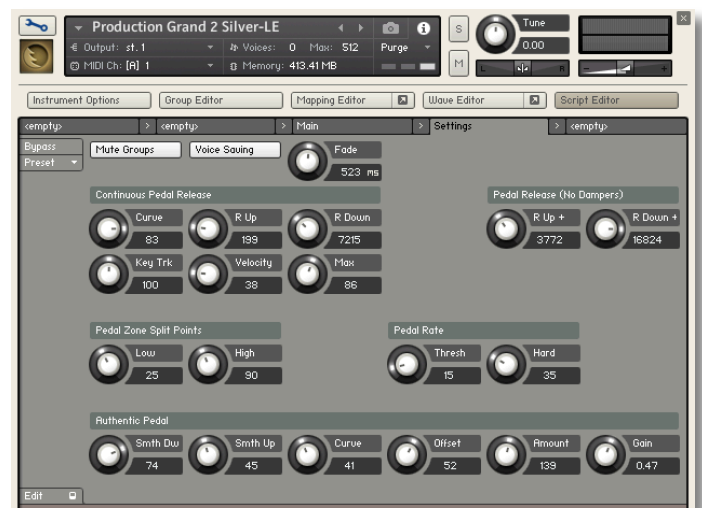
6. Volume Knob and Microphone On/Off: The **Volume Knob** controls are straightforward: turn up to the right for more volume; turn all the way down to the left to mute and save voices (polyphony) on that channel. Command-Click (Control click on a PC) the volume knob to reset the volume to unity gain where the control is neither adding nor subtracting volume from the original sample. Unity gain is the ideal setting when using only one microphone perspective. The volume should be set lower than unity gain when two or more mic perspectives are active to avoid digital clipping.

The **On/Off channel buttons** switches turn on/off the respective microphone perspectives. When turned off, the memory used for that microphone perspective by the samples is purged. This means that the RAM used by the samples is cleared and available for other samples, libraries or other programs on your computer. If you save the instrument with the mixer on/off buttons in the “off” position, the Kontakt instrument will load, but with less memory use. The moment a microphone perspective is turned on, the samples will load into RAM and Kontakt’s memory server. Turning on/off a microphone perspective loads and unloads the samples quickly while still allowing the user to play the instrument.

The volume knobs when moved all the way down can function in one of two ways:

1. Mute the channel saving cpu resources, or,
2. Turn off the volume, but still plays the channel and uses resources.

There is a hidden button in the top left corner labeled “mute_groups” on page 4 of the scripting editor that switches between fader group muting or not. By default, it is set to mute the samples when a fader on the mixer page is turned all the way down. This will work for the majority of users. The default of muting the channel when a knob is turned all the way down will save valuable cpu resources and give greater polyphony to the channels still active. A few users may want to trigger notes and then blend in a microphone perspective from zero volume to full volume. These users will have to turn off the group button in the top right corner of page 4 on script editor.





7. Lid Select: Simulates the position of the piano lid. An EQ curve is applied to the output to mimic the muffling effect of the lid. This was first measured from audio from the sampled piano and recreated with the EQ curve to be accurate to the original.

8. Velocity Curves: Getting the right feel from your controller.

Velocity Curves: Getting the right feel from your MIDI keyboard controller.

The top right portion of the page contains the built-in velocity curves. The velocity curves help match your MIDI keyboard controller and playing style to the volume/velocity response of the piano samples. If you find that you are not getting enough

volume or aggressiveness out of the piano samples, try using a velocity curve that emphasizes the high velocities. Conversely, if you find that the louder velocities or notes are being triggered too easily while playing, adjust the velocity curve to suppress the upper velocities. Experimentation is quick so try several settings. Users can only save presets by saving the Kontakt instrument. Our suggestion is to append the name as to not overwrite the factory settings. i.e. "Production Grand 2 Gold Hi Vel Curve".

On/Off - The switch in the title bar turns the velocity curves on and off.

Strength works both positive and negative with no change to velocity when set in the middle (12 o'clock).

There are two curves to choose from: **Sine (S-Curve)** and **Exponential**. These are alternated by pressing the S-Curve button.

A Sine (**S-Curve**) allows the user to either suppress the low velocity while increasing the high velocities or vice versa while keeping the middle velocities relatively untouched.



An **Exponential** velocity curve allows the user to either suppress the low velocity while increasing the high velocities or visa verse.

Users wishing for visual feedback of the curves can check in Kontakt's Mapping editor while playing (pressing the wrench in the top lefthand corner of the instrument) or record MIDI into a DAW such as Logic, Cubase or Pro Tools.

9. Pedal Options:

Sympathetic Resonance adds harmonics to the sound the same way a piano does when a note is held and another note is struck. This naturally occurs on notes that are struck an exact fourth, fifth, octave etc. above a held note and a couple of notes below a struck note. **Sympathetic Resonance can add warmth and realism to Production Grand, but at the expense of both increased cpu and voice count!** For solo piano work it is suggested to turn it on, but perhaps advisable to turn it off in busy arrangements where the resonance is likely to be masked or not heard.



Turning **Authentic Pedal** on makes Production Grand respond to the sustain (damper) pedal the same way a grand piano would beyond basic sample switching. Without Authentic Pedal, a sustain sample or a non-sustain piano sample is played depending on the position of the sustain pedal.

There are two components to how Authentic Pedal works:

1. Notes triggered without sustain and sustain added in.
2. Notes triggered with sustain and held with the sustain pedal released.

With Authentic Pedal on, anytime a note is played, held and then the sustain pedal is pressed, there is a gradually increase to the sympathetic resonance caused by the blending of samples just like on a grand piano. When the note continues to sustain, but the pedal is released, the sample plays the correct no-pedal sample. The switching is dynamic and can occur multiple times with multiple pedal up and downs on a held note.

Notes triggered with the sustain pedal down and held when the sustain pedal is released will behave similarly, except the algorithm for determining the speeds of crossfades and relative volumes have been changed to act more like a grand piano would when starting from a sustained note.

The Authentic Pedal was perhaps the most labour intensive part of the scripting for the Production Grand. This is an advanced form of the Authentic Pedal first developed for Production Voices' Estate Grand.

Hidden Controls: All the relative speeds and volumes of the Authentic Pedal are accessible (but hidden on the main instrument panel) by editing the fourth scripting page. This is really only for the advanced user!

NOTE: Authentic Pedal doubles the voice count! Having Authentic Pedal engaged will use twice the disk and CPU resources. For the purist, this doubling of resources may be worth it. For basic playing, practice etc., it is best to leave Authentic Pedal turned off.

Continuous Pedal determines if Production Grand 2 responds to continuous sustain pedal messages. Most sustain pedals are simply a switch that turns the sustain on or off, but some piano midi controllers have sustain pedals that can send continuous midi messages through the entire range of the sustain pedal like a real piano. Production Grand 2 has the ability to respond to continuous pedal messages to allow for half pedaling and other piano effects from the use of partial pedaling. An example is if you play a note with the continuous sustain pedal held half way down, the sustain will be less length than if the sustain was fully depressed. Some users may wish to turn this feature off to only have traditional on/off sustain. Continuous Pedal will only work with sustain pedals that are capable of sending continuous midi messages. As such, there is no benefit to continuous being turned on if you do not have a continuous pedal, unless you plan on manually adding the message to a sequenced part.

10. Recording Noise: Authentic signal path noise from the recording session.

Why would you want to add noise back in? If you want the most authentic sounding studio grand piano sample as if you recorded a piano in a studio, you need the signal path noise. This is a combination of the room noise, microphone self noise, console and microphone preamp noise. Noise isn't always a bad thing. It is bad in the actual piano samples (that's why we used the best algorithm available to remove the noise without affecting the sound). But to get that classic ribbon microphone sound on a piano, it needs to have the recording noise.

Every microphone perspective has its own noise print. We keep them rather long at about one minute and 53 seconds of noise and then it loops.



The recording noise gets turned off the moment Kontakt loads or unloads samples. This is unavoidable based on Kontakt's design. Just turn it back on from the on/off button. An alternative is to trigger the sample from a sequencer by playing C8.

11. Touch Response: (same as on the Main page) is the dynamic range determined by velocity. Touch Response determines how Production Grand 2 adjusts the sample volumes to incoming velocity. At 100%, Production Grand 2 will respond exactly like it was sampled. Some users may find this too dynamic. 89% is about where most of the presets are set to. Setting Touch Response too low will result in the low velocities



sounding noisy and louder than is natural on a “real” piano.

12. Pedal Noise: Authentic damper pedal samples.

The pedal noise controls the volume of the sound of the foot depressing and releasing the sustain pedal. Here the dampers activate the strings in the piano and then stop the strings with a subtle thump sound when released.

There is an on/off switch for the pedal noise that also unloads the samples when off. The pedal noise samples are very small compared to the rest of library, so they will load quickly.

Most workstation keyboards do not have this sound! But it is the easiest way to add realism to your sampled piano.

Every microphone perspective has its own pedal noise samples. There are nine pedal down and nine pedal up noise samples that are played in round robin.

The Mod-Wheel controls the pedal noises as follows:

When the mod wheel (MIDI CC#1) is less than 63, the pedal noises cycle through six variations of both pedal up and pedal down noises. These are the modest casual samples from “regular” pedal usage.

When the mod wheel has a value of 64 or greater, the louder more aggressive pedal noises are triggered. There are three variations for the pedal up and down noises (for a total of 6 samples).

If you want to trigger specific pedal noises manually, such as in a sequencer, they are mapped starting from C-2 (lowest MIDI note) and go up 18 notes.

Turning off the Pedal Noises with the switch purges the samples from memory.

The volume control for pedal noises controls the volume of all eight microphone perspectives equally. The pedal noise samples are linked to the mixer. So, only the pedal noises for the microphone perspectives that are active will sound.

Advanced control: If you want to control the volume of the pedal noises separately, the volumes of the groups can be changed in the group editor within Kontakt within the instrument editor. Another less complicated option is to use another instance of Production Grand 2 for a single mic perspective and adjust the pedal noise for that mic individually.

Pedal Noise Tips:

Busy mixes, such as songs with many instruments, may mask the pedal noise. In this case, Pedal Noise can be turned off to save voice count.

On solo or sparse arrangements, consider increasing the pedal noise to give an intimate sound.

Control clicking on the pedal noise volume will allow you to assign any MIDI continuous controller number to it. We suggest assigning it to a control pedal so that the volume of the pedal noise can change throughout a performance!



13. Key Up: Key Up controls the volume of the keyboard action sound as a key is released (the hammer returning). It is only triggered when the pedal is down and a key is released. This is a subtle sound that is barely heard even at the maximum volume, but it adds that extra touch of realism. You might be asking: “Why only when the pedal is down and when a key is released? Why not when the pedal is off as well?” These are good questions! The Key Up sample is a natural part of the Key Release samples.

In a busy production or song, the Key Ups may not be heard. There is a button to turn the Key Ups off and to unload them from RAM. When turned back on, the samples will automatically be loaded again. Key Up does tend to use plenty of CPU and polyphony!



14. Key Release: Key Release is the volume control for samples triggered when a key is released or when the pedal is let up when a note was sustaining from the pedal, but no key is held. This is the sound of the dampers stopping the piano string from ringing.

The key releases give a realistic sound to the stopping of a note that just isn't achievable with ADSR release envelopes. Users vary in how loud they like the key release samples. The key releases, like the rest of the instrument, have been professionally scripted (programmed in Kontakt) to sound as realistic as possible. The longer you sustain a note in isolation, the more likely it is that you will hear the key release when a key is released.



All of the mechanical noises can add up to create an authentic piano sound that may not be available in some keyboard workstations, digital pianos or other piano sample libraries.

*****NOTE***** Production Grand 2 was professional scripted to have a smart release for the pedal samples. Release samples are only played on the notes that are not sustained. When a note is struck, the pedal is depressed and the note is released, it will still sustain. But... when the pedal is released, a proper release sample is played.

15. Pre-Attack: Pre-Attack is the mechanical key THUMP mechanism noise from striking the key (playing the key) from the moment the finger touches the piano to the moment the piano string begins to sound. This can add an ultra-real and intimate sound to the instrument. The drawback is... LATENCY. Latency is the time difference between when a note is triggered and when a note sounds.

Imagine for the moment the softest note possible on the piano (which is included in the Production Grand by the way). The speed at which you strike the key would have to be so precise and slow. While editing the piano samples, we noticed that the lowest velocities were around 120 ms or longer of mechanical noise and the fastest loud velocities were from 6 – 18 ms long. This means that turning on the Pre-Attack using Version 1.0 will cause a latency of at the very least 6 ms to the piano. This makes perfect sense, as a lower velocity would have the hammer mechanism travel slower. The problem with modern keyboard controllers is that samples are triggered at the bottom of the key bed, not the



moment a player touches a key like on a piano. So, the latency is unavoidable until a better MIDI keyboard controller is invented.

Production Grand 2 Pre-Attack defaults with Live off have a consistent 180ms latency/delay to compensate for fast and slow velocity timing differences. This 180ms delay with Pre-Attack on makes it unplayable live and it has to be compensated for in a sequencer! Users wishing to play live with Pre-Attack on can press the LIVE button.

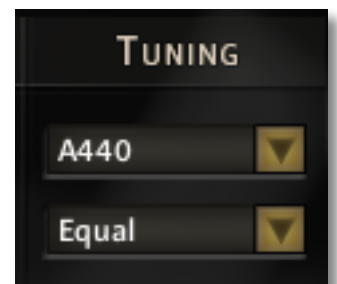
The **LIVE button** plays the pre-attack sound at the same time as the sample strike to avoid latency. This is a balance between authenticity and playability.

Pre-Attack Volume will naturally seem louder than the piano sample on the lower velocities.

Pre-Attack Production Tip: Pre-Attack works best on sequenced piano parts, but tracks need to be pushed forward by 180ms.

Pre-Attack is a natural part of the piano sound. Most sample libraries remove it or use an alternate start time to allow the mechanism noise to be bypassed by the user. We took a different approach with Production Grand. Pre-Attack plays a pair of samples one after another at sample accuracy from the original recording session. The sample pair is the seamless pre-attack and the piano sample. Every sample had a different Pre-Attack time. This method of recreating the mechanism noise was the best approach to allow us to maintain different Pre-Attacks for different notes and velocities. When Pre-Attack is turned off, only the piano samples are triggered.

16. Tuning: Production Grand 2 has added tuning options with perhaps the stretch tuning being the most useful. There are a few temperaments to choose from as well. Most users will leave the tuning at A440 and Equal.



Mixer Page:

One of the biggest improvements from Production Grand Version 1 to Version 2 is the Mixer Page.

17. EQ, Compression and Reverb Send on every channel.

The **EQ** is Kontakt's modelled SSL G EQ. There is an ON/OFF button for every channel's EQ and an arrow to open the EQ. To keep the interface small and clean, the values for the EQ will not show up until you click on a knob and change a value.

Channel 5 has a default value for the EQ to linearize the Crown SASS microphone. This EQ will add some warmth and reduce the shrill sound.

18. MONO Section. When designing the MONO section for Production Grand 2, we wanted controls that should be in every DAW, not just a sample library!

The **MONO button** when pressed will convert the stereo pair to a single mono audio channel according to the selection below the MONO button:

MONO SUM will combine both the left and right channel into a single audio channel.

L will mono just the Left channel from the stereo microphone pair, essentially muting the Right channel.

R will mono just the Right channel from the stereo microphone pair, essentially muting the Left channel.

NOTE: A mono channel can still be panned left or right.

Why MONO? Some producers prefer to narrow the stereo width of a channel so that the piano does not fully come out of both left and right channels of a mix. Also, sometimes a MONO piano sound is preferred in the mix.

New stereo pairs can also be made by MONOing the left side of one mic and combining it with the right side of another mic perspective. This flexibility can create some very interesting sound combinations! An example is combining the left channel of the Inside 87 with the right side of the Inside Condenser creating a new Inside the piano microphone perspective that combines the warmth of the 87 with the full range of the other mic perspective.

All channels except Channel 8 are stereo pairs of microphones. So, Channel 8 is mono no matter what settings are selected for it.

19. Channel Strip lower section controls.

Pan - Standard Left to Right panning. The panning style in Kontakt is to lower the volume of the left channel as panning goes to the right and vice versa.

Invert Pan - Invert Pan switches the left and right channels. This is useful for changing from the standard player's perspective of high-end on the right and low-end of the piano originating in the left to audience perspective of high-end in the left and low-end in the right as if someone was listening to the piano from the audience instead of playing at the piano.



M - Mute. When the channel/track is muted, not only is the channel not heard, but cpu resources are saved as well (reduces voice count). Mute is usually used as a temporary selection to compare when a channel is active or not or to work on the settings of another channel without hearing a certain channel or channels.

S - Solo. If a channel/track is soloed only that channel can be heard. Several tracks can be soloed at once. Standard practice is to use solos temporarily to compare sounds in isolation. To remove other channels, turn down their volume or turn off the channel with the ON/OFF button instead of permanently using solo.

Volume. The **Volume fader** controls are straightforward: push up for more volume; pull all the way down to mute and save voices (polyphony) on that channel. Command-Click (Control click on a PC) the volume knob to reset the volume to unity gain where the control is neither adding nor subtracting volume from the original sample. Unity gain is the ideal setting when using only one microphone perspective. The volume should be set lower than unity gain when two or more mic perspectives are active to avoid digital clipping.

The Volume Faders and Volume Knobs on the Main Page are linked and act as the same controls.

The Volume Faders when moved all the way down can function in one of two ways:

1. Mute the channel saving cpu resources, or,
2. Turn off the volume, but still plays the channel and uses resources.

There is a hidden button in the top right corner labeled “mute_groups” on page 4 of the scripting editor that switches between fader group muting or not. By default, it is set to mute the samples when a fader on the mixer page is turned all the way down. This will work for the majority of users. The default of muting the channel when a knob is turned all the way down will save valuable cpu resources and give greater polyphony to the channels still active. A few users may want to trigger notes and then blend in a microphone perspective from zero volume to full volume. These users will have to turn off the group button in the top right corner of page 4 on script editor.

Channel ON/OFF

The **On/Off channel buttons**/switches turn on/off the respective microphone perspectives. When turned off, the memory used for that microphone perspective by the samples is purged. This means that the RAM used by the samples is cleared and available for other samples, libraries or other programs on your computer. If you save the instrument with the mixer on/off buttons in the “off” position, the Kontakt instrument will load, but with less memory use. The moment a microphone perspective is turned on, the samples will load into RAM and Kontakt’s memory server. Turning on/off a microphone perspective loads and unloads the samples quickly while still allowing the user to play the instrument.

20. Mic Labels: The names of the channels indicate the placement of the microphone compared to the piano and indicate the type of microphone that was used.

The microphone pictures on the right side, besides given a relative shape to the actual microphones used to record the samples, are purely aesthetic.

Channel Output Assignment - Each Channel can have an Output Assignment depending on the outputs created within Kontakt. This allows any microphone perspective to have its own mixer channel within your DAW such as Pro Tools or Logic. Having separate outputs for each microphone perspective is highly desirable when mixing as it

allows processing such as EQ or compression to be applied to each microphone independently. This is the best approach when using Production Grand in recording or album production.

21. Send Reverb: New to Production Grand 2 is a reverb section. Most users of Production Grand version 1 used their own dedicated reverb when needed. The added reverb section in Production Grand 2 gives flexibility while providing high quality reverb options. Users now have the choice between the included reverbs or external reverbs.

Type - Convolution or Algorithmic. **Convolution** reverb uses Impulse Responses known as IRs as samples of actual spaces or recordings of classic reverb units. **Algorithmic** uses math formulas (hence algorithms) to simulate reverb. Both types have their advantages. Convolution tends to sound the most realistic as the sampled reverb is coming from an actual acoustic space. Convolution reverb tends also to be more preset based where the actual reverb size is static. Algorithmic, by comparison, is more malleable and can change the reverb length and settings.

Most users will choose Convolution.

All the preset reverbs for Production Grand 2 use Convolution.

Convolution Reverb Settings:

Pre-Delay - The delay between when a piano note is played and when that note is heard in the reverb. Longer pre-delays work for longer reverb times. Shorter pre-delays work for short reverbs. All the presets for Production Grand 2 have the pre-delay perfectly set for the reverb.

Return - Return is essentially the reverb volume. How “wet” the signal is.

IR section

Algorithmic Reverb Settings:

Pre Delay - Delay between piano sound and the reverb start.

Size - Room Size

Colour - The amount of modulation added to the reverb tail similar to classic Lexicon reverbs

Damping - The amount of high frequency reduction. Damping can create a “warmer” reverb sound.

Stereo - The amount of stereo spread.

Page 4: Master FX

The **Master FX Page** is a new edition to Production Grand 2.

The values for most of the controls on the Master FX Page are only viewable once a control is clicked and/or an adjustment is made.

Each section of the Master FX has its own **On/Off button** to the left of the section's title.

22. Tape Saturation: The Tape Simulation can add warmth and a bit of compression to the piano sound. Too much can add distortion either in a good way or a bad way!

23. Master EQ: The Master EQ adjusts the equalization of all the microphone perspectives. If, for example, the overall sound is too bright, just use the HF EQ to remove some of the high frequencies. The Master EQ is based off the same Solid G EQ as the Mixer Page channel EQ

24. Transient Designer: The Transient Designer adjusts the attack and sustain of samples by using volume control similar to a compressor. Anything from naturally stronger attacks to aggressive fake attacks that may work in electronic styles of music can be achieved. Most classical purists will avoid the Transient Designer.

25. Master Compressor: The Master Compressor can be used across all the microphone perspectives at once. It can be used to smooth out the dynamic range or used for aggressively compressed piano sounds. It is the same type of compressor as on the individual microphone channels. A few of the presets use the Master Compressor for the pop sounds and such.

26. Master Limiter: The Master Limiter is similar to the Master Compressor except that it has a fix high ratio for limiting. A limiter has many functions, but one such function is to control the loud peaks or transients of the piano samples while raising the sustain or lower volume notes. When set appropriately, limiters can retain much of the dynamic range while also increasing the overall volume.

27. Master Reverb Send: The Master Reverb Send routes a portion of the main output to the reverb section as set on the Main Page or in the Reverb section on the Mixer Page. Having a Master Reverb Send is in some cases faster and easier to handle than 8 separate sends, but lacks some of the control of individual sends.

Performance note: Since the microphone perspectives are all time aligned to be phase accurate to the original recording, there is a very small delay between the sound of say the hammer microphones and the room microphones. Users just playing the room microphone perspective instruments will experience a slight latency that most will have no issues adjusting to. Users looking for the shortest latency when playing Production Grand should use Pencil, the hammer microphone perspective.



MISC Noise Samples: As a bonus, we have include the following miscellaneous Foley samples to help create an authentic recording:

Studio Door 1	G-1 (that is a G negative 1, not G1)
Studio Door 2	G#-1
Walk out of studio floor	F#-1
Control Room Talkback On	C#7
Control Room Talkback Off	D7
Piano Lid Open Soft	D#7
Piano Lid Open 1	E7
Piano Lid Open 2	F7
Piano Lid Open 3	F#7
Piano Lid Close Soft	G7
Piano Lid Close 1	G#7
Piano Lid Close 2	A7
Piano Lid Close 3	A#7

All the misc noise samples were taken from the recording session and are represented in all eight microphone perspectives.

The talkback on and off samples may not seem useful at first, but some users may find creative use for them. The misc noise samples will have to be triggered from a sequencer as most 88 note controllers do not go into these extreme ranges. The samples are also not one hit (drum) triggers meaning that in order to hear the complete sample, a note must be sustained for the duration of the sample.

Performance Expectations on Different Systems

When Production Grand Version 1 was produced, it was one of the largest single instrument sample libraries ever produced. Even today, Production Grand 2 can really test the limits of a computer system if many microphone perspectives are active.

Test Systems Production Grand Version 1:

We purposely tested on relatively modest systems to give real world performance results.

Test System 1:

Early 2010 MacBook Pro i7 2.66 GHz

Mac OSX 10.10.5

8 GB RAM

Samples played off of 2 TB non-system drive.

Performance results:

One microphone perspective with all options on: Excellent performance with all three digital versions (24 Bit 96k, 24 Bit 44.1k, 16 Bit 44.1k)

Two microphone perspectives with all options on: Very useable, occasional dropouts.

Three microphone perspectives with all options on: Not reliable. Not recommended.

Three microphone perspectives with options turned off (pedal noise, releases etc.): Useable with 16 Bit version.

Test System 2:

2011 Mac Mini i5 2.5 GHz

Mac OSX 10.10.5

16 GB RAM

Samples tested playing off of RAID 0 and RAID 5 (Lacie 4Big 12TB) eSATA external drives.

Samples tested playing off SSD drive: OCZ Agility 4 256GB connected by eSATA.

Performance results:

Overall performance results: Excellent. Performs better than MacBook Pro in Test System 1.

RAID drive performance is exceptional and equals SSD performance when both are connected by eSATA.

One microphone perspective with all options on: Excellent performance with all three digital versions (24 Bit 96k, 24 Bit 44.1k, 16 Bit 44.1k)

Two microphone perspectives with all options on: Excellent.

Three microphone perspectives with all options on: Very useable, occasional dropouts.

Four microphone perspectives with options turned off (pedal noise, releases etc.): Useable with 16 Bit version.

Test Systems Production Grand Version 2:**Test System 3:**

Early 2015 MacBook Pro 13" 2.7 GHz

Mac OSX 10.12

8 GB RAM

Samples played off USB 3 SSD external (ADAT 480 GB SSD with average read and write at over 400 MB/s)

Performance results:

Production Grand Gold and Production Grand LE run smoothly with four or more microphone perspectives on. All presets perform near flawlessly unless the damper is held excessively.

Production Grand Platinum 96k samples, no issues with two microphone perspectives.

Test System 4:

Late 2013 Mac Pro 6-Core 3.7 GHz

Mac OSX 10.10.5

32 GB RAM

Samples played off USB 3 SSD external.

Performance results:

Near flawless with all presets, unless excessive damper use without release.

Entirely depends on speed of SSD. Anything over a read of 500 MB/s should be able to play all mics with options on.

We anticipate that recent top-of-the-line computers with SSD drives with 16 GB or more of RAM will easily be able to play four or more microphone perspectives with all options on.

All computers with 8 GB or more of RAM should be able to offline render files with no major concerns.

SSD vs Raid: Our tests showed that both RAID and SSD performed about the same on an eSATA connection. An internal SSD at 6GB/s will likely have twice the performance of a Raid system. We recommend SSD drives for serious users as the cost to performance is usually greater than Raid systems.

Performance Tip: Sequencing parts with the 16 Bit version of Production Grand and rendering with the 24 Bit 96k samples is an excellent way to maintain a workflow while getting exceptional quality for your bounce or exports.

Known Issues:

Pedal Down low velocities from F5 and above have an increase in mechanical noise that is most prominent on the Pencil Hammer microphone perspective. Using another perspective further away from the piano hammers can reduce this issue.

* 437.5 GB represents the complete library in three versions (24 bit 96 kHz, 24 bit 44.1 kHz and 16 bit 44.1 kHz) before using Kontakt's lossless compression. The library is reduced from 437.5 GB to 210 GB using Kontakt's lossless compression format. Specifications subject to change.

Credits:

This massive project could not have been completed without the support and dedication of many talented people! I am very fortunate to have worked with such an excellent team. Thanks again!

Concept, Editing, Programming: Jason Chapman
Graphic User Interface Version 2: Scott Kane
Version 1 Logo and Version 1 GUI: Shannon Penner
Kontakt Scripting and Programming: Adam Hanley
Recording Engineer: Dajaun Martineau
Assistant, Audio Editing: Eric Ferns
Addition Editing: Paul Mack

www.productionvoices.com

www.plunkandboom.ca

www.icebreaker-audio.com

Thanks to the many beta testers!

Contact:

Email: support@productionvoices.com

Website: <http://www.productionvoices.com> or <http://www.productiongrand.com>