Thanks to the all-new Kontakt engine, Complete Classical Collection II has amazing new possibilities.

Almost every important function can be accessed through the script engine, and every important control can be activated and remote-controlled.

Kontakt's engine is built like a semi modular synthe-

sizer, and gives you the possibility to manipulate sounds drastically.

All common effects such as Reverb, Chorus, Phaser, Compressor, Filter and EQ are also included.

Especially for Oriental music (but also for othe

musical styles) a microtuning function was implemented.

It allows you to create every tuning you can think of.

The dual-harmonize-function enables you to create the popular octaver effect or any other harmonization effect.

Take for example the AO Violins Dry. 'Dry' versions are the untreated versions of CCC-instruments. All effects are already plugged in, but not activated. You hear the instrument in its basic form, no sample is manipulated whatsoever. Only the response to velocity can be edited via the [Volume <edit>] section. As in a synthesizer, an ADSR envelope is available for that purpose.

Now, if you don't know exactly what that is, don't worry – we will explain it in detail later in the chapter [Volume <edit>].

As soon as you load a preset – an instrument in that case - you will see Kontakt's performance view. Depending on the instrument you load you will see a corresponding instrument category icon.

Every instrument of the CCC employs the same performance view. It is only the instrument category icon (a Violin in our example) that changes.

Many instruments of the CCC are internally divided into separate groups. Each playing style, e.g. staccato (short notes) or sustained, is in its own Kontakt group, and can be activated via a keyswitch.

Hence, Kontakt Player gives you the possibility to play the instrument with your right hand, and switch between playing styles using your left hand. Obviously, the keyswitches can also be triggered via a sequencer.

Group effects can be tweaked and saved for each keyswitch separately. This function will come in very

handy if you, for example, want to use a filter on a specific playing style, but don't want to affect the other groups. Or if you just want to adjust the ADSR envelope only for one single playing style.
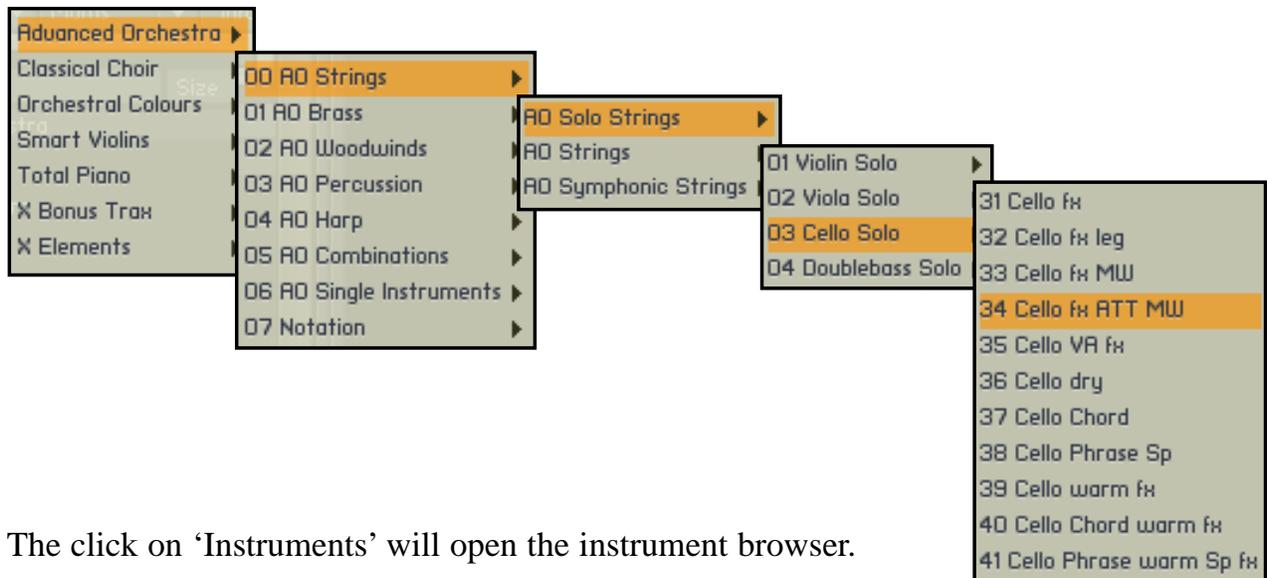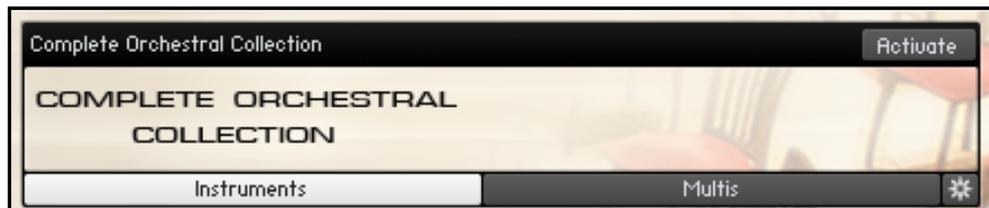
Don't get confused by fancy words such as keyswitch, ADSR or LFO. In this manual we will explain each term in detail.

Loading an instrument

Loading an instrument in KP is very easy.

In the 'Library Tab' on the left you can see the Complete Orchestral Collection logo.

The click on 'Instruments' will open the instrument browser.

In our example we load a version of the Cello. As you can see there are a lot of menus. Use them to browse through the subfolders and find the instrument you want to load.

Good Button Bad Button

EDIT ALL   **EDIT ALL**

A whole page for one knob? Yes, it's necessary. This button is as powerful as it is dangerous. Not for your life or your studio – but for the settings of your instruments.

If the Edit All button is enabled, all changes you make are applied to all groups, keyswitches or **EDIT ALL** loops that are part of the instrument. That includes filter, envelope and tune settings. No matter what group you have been working on before, the settings are applied to all parts of the instrument.

If the Edit All button is disabled, the changes are only applied to the currently selected group, **EDIT ALL** loop or phrase (you can see which group is active in the keyswitch-window).

Effects from the effects section such as reverb, echo or compressor are always affecting the whole instrument and are not affected by the Edit All button.

And if you really get stuck, you can always reload your instrument. You can also use the RESET – GROUPS and RESET – EFFECTS dropdown menus to recall the initial settings.

Reset Group(s) ▾
Reset Group(s)
––––––––––
RESET NOW!

Reset Group(s) ▾
Reset Group(s)
––––––––––
RESET NOW!

Let's get an overview of the CCC performance view, and define some terms that will re-appear throughout the manual.

In order to keep it simple, we will look at the functions in the order they appear on the screen.

The Keyswitch Window

With keyswitches you can toggle between different playing styles of your instrument via keys from your midi keyboard.
The keyswitch window always displays the currently active playing style.

GROUP EFFECTS

In this section you can adjust volume, tuning, filter and envelopes for each playing style.

You can find everything to manipulate the tone and response of your instrument.

MICROTUNING

This section enables to you to fine tune individual keys of an octave.

You can find tunings from different epochs and can even create your own tunings!

PERFORMANCE

This section contains specific playing options that can alter your performance:

legato mode, humanize and harmonize functions.

EFFECTS

This is the section where you can enable and adjust effects for the whole instrument.

The effects are Reverb, Delay, Phaser, Equalizer, Compressor and Saturation.

AUTOMATION

In this section you can find everything you need for automation via external midi controllers such as modulation wheel, knobs and faders.

Group Effects

This page gives you easy access to the most important parameters of your instrument.

Tune

Adjust the tuning for either the whole instrument, or for separate keyswitches.

Pan

Adjusts the position of your instrument – or single playing styles – in the stereo field.

Volume

Adjusts the volume of your instrument, or of single playing styles.

LP - ON/OFF and HP - ON/OFF

Enables the Low and the High-Pass filter.

Cutoff

Adjusts the cutoff frequency. Starting from this frequency the filter will cut off the high frequencies.

Resonance

Boosts the frequencies around the cutoff frequency.

Reset Group(s)

Initializes the settings of all groups (playing styles).

Please note: Usually it's a better idea to reload the original instrument.

Attack Effect

– Attack Effect   **Attack ON/OFF**

Routes the Attack playing style to any keyswitch.

Volume

Adjusts the volume of the attack sample.

VeloVol

VeloVol: 100

'Velocity Volume' Defines how much impact velocity has on volume.

VeloAtt

VeloAtt: 0

'Velocity Attack' Together with the Attack knob, this setting adjusts the transient response of the instrument.

Tune Attack

TuneAtt: 0.00

Adjusts the tuning of the Attack playing style.

Additional Attack - Attack

Determines how fast the Attack effect reaches its maximum volume after you hit the key.

Additional Attack - Decay

Determines how fast the Attack effect's volume drops to sustain level.

Additional Attack - Sustain

Adjusts the volume level the sample should reach after the decay phase.

Additional Attack - Release

Sets the time the Attack-sample continues to sound after you release the key.

Equalizer

You can also find an equalizer on the attack page. You can use it manipulate the sound of the attack sample.

Equalizer Frequenz
Sets the cutoff frequency of the EQ.

Equalizer Bandwidth
Adjusts the bandwidth of the EQ.

Equalizer - Gain
Use this to boost or cut frequencies around the set EQ frequency.

Volume <edit>

In the Volume <edit> section you will find everything you need for adjusting the volume, and setting the response behavior of your instrument.

Volume

Controls the volume of the whole instrument or the currently activated keyswitch.

Velocity

Adjusts the amount that the velocity changes the volume.

VelocityAttack

Together with the Attack knob, this setting adjusts the transient response of the instrument.

ADSR - Attack

Determines how fast the Attack effect reaches its maximum volume after you hit the key.

ADSR - Decay

Determines how fast the Attack effect's volume drops to sustain level.

ADSR - Sustain

Adjusts the volume level the sample should reach after the decay phase.

ADSR - Release

Sets the time the Attack-sample continues to sound after you release the key.

LFO - Low Frequenz Oscillator

Enables the Low Frequency Oscillator.

On the Volume <edit> page, it is used to create a tremolo effect.

LFO - Intensität

Sets the volume range of the LFO.

LFO - Frequenz

Controls the LFO frequency, and therefore the speed of the tremolo effect.

Tune & Effects

Tune – here you can adjust the instrument's pitch. Instruments that contain loops or orchestra phrases employ additional Speed and Sample Start fields.

Speed

Controls the speed of the currently selected orchestral phrase. Depending on the source material, this can sound very good, but sometimes not so good.

If you are not satisfied with the results, we recommend trying other time stretch algorithms such as the one in Cubase or Melodyne.

Panorama

Adjusts the position of the currently selected loop in the stereo field.

Sample Start Offset

By using this control you can determine the starting point of the phrase. Any point within the phrase can be chosen.

MaxSt - Maximaler Start Offset

In order to save CPU power, you can limit the maximum sample start offset.

Tune

Tune or detune individual phrases or keyswitches.

Pitchbend - Range

Adjusts the range of the PitchBend controller.

LFO - Low Frequenz Oscillator

Enables the Low Frequency Oscillator.

On the tune page, the LFO is used to create a vibrato effect.

LFO - Intensität

Sets the volume range of the LFO.

LFO - Frequenz

Controls the LFO frequency, and the speed of the vibrato effect accordingly.

LowPass <edit> / HighPass <edit>

By using the Low Pass / High Pass filter you can manipulate your instrument's sound drastically.

Low Pass cuts all the high frequencies, whereas High Pass cuts the low frequencies.

Cutoff

This knob sets the cutoff frequency. It determines the point from which either the high frequencies or the low frequencies get cut.

Resonance

Boosts the frequencies around the cutoff frequency.

LP/HP - ADSR - Intensität

Determines how much the ADSR curve affects the Low/High Pass Filter.

LP/HP - ADSR - Attack

Determines how long it will take the filter to reach the cutoff frequency after you hit the key.

LP/HP - ADSR - Decay

Sets the time the filter will take to drop to sustain level.

LP/HP - ADSR - Sustain

Sets the level the filter reaches after the decay phase.

LP/HP - ADSR - Release

Adjusts the time the filter takes to stop affecting the sound after you have released the key.

LFO - Low Frequenz Oscillator

Enables the LFO.

In this section it is used to modulate the cutoff frequency.

LFO - Intensität

Controls the intensity of the filter modulation.

LFO - Frequenz

Sets the frequency of the LFO, and therefore the speed of the filter modulation.

Micrutuning

Here you can access all the tuning functions that are available in Kontakt.

Fine-tune single notes within an octave or detune the whole instrument – everything is possible.

Select Key Menu

Here you can select a key for your instrument.
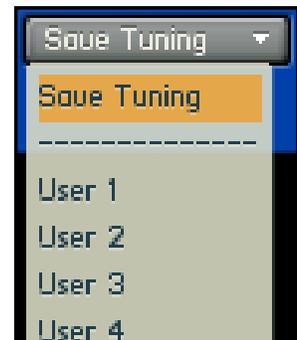
Select Tuning Menu

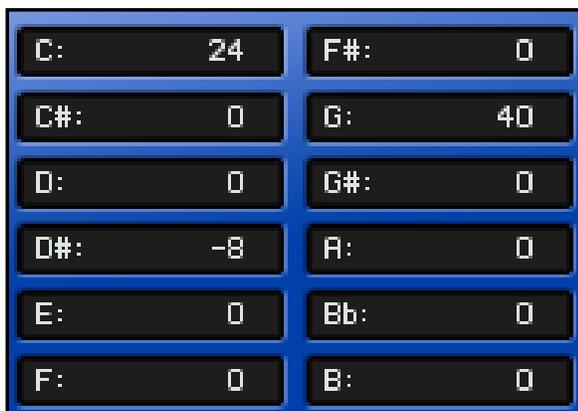In this menu you can choose between different tunings.

You can also load your own tunings. They are called User 1 to User 5.
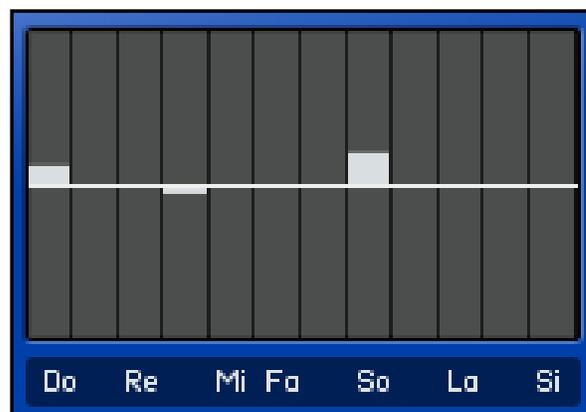
Save Tuning

In this menu you can save your own tunings.

Here you have the possibility to fine-tune the tempered tuning in cents. +/- 200

Here you can draw the fine-tuning with your mouse.

Performance

The performance page offers various options concerning the triggering and playback of the samples. You can decide if you want to trigger the samples via your keyboard or a MIDI controller. Furthermore, this page offers performance enhancing effects such as Legato and Glide, Humanize and the Harmonize function.

Start Note

The Start Note function gives you flexibility concerning the way your samples get triggered. In 98% of the cases you'll probably want to trigger them by using your hand and a keyboard. However, CCC is very flexible, and gives you the possibility to use any controller you want for triggering samples. A common trigger other than a keyboard would be a breath controller.

Controller Nummer

If you choose 'Controller' in the Start Note options, you can use this field to enter the 'Start-Controller'.

Start Offset

As the controller doesn't only make the sample louder or quieter, but actually starts the sample, it needs some time until it reaches the desired volume. Here you can adjust that offset in milliseconds.

Legato

Enables the Legato function. If Legato is on, the Harmonize function can't be used.

Fade

The fade time sets the time between the start note and the next tied note.

Glide

The glide effect can be enabled via the sustain-pedal (MIDI CC 64).

Humanize

Tuning randomly detunes notes in the set range.

Humanize Settings

Here you can find the different settings for the Humanize function.

EQ-Humanize

Adjusts the intensity of the humanize effect.

Harmonize

The harmonize function gives you the possibility to add up to two intervals in almost any pitch range. Harmonize doesn't work when Legato is enabled.

Effects Section

EFFECTS

In this section you find a total of seven effect units. They affect the whole instrument.

Compressor / Saturation

The compressor reduces the dynamic range of your instrument. Reducing volume-peaks gives you the possibility to raise the overall volume of the instrument. This can help you to bring out an instrument in the mix.

Saturation makes the sound 'thicker'.

Equalizer

The EQ enables you to change the sound of your instrument subtly or drastically.

Delay - Echo

In conjunction with reverb, the delay can produce very realistic sounding room effects.

Phaser / Chorus

Here you can add a Phaser or Chorus to your instrument.

Reverb - Hall

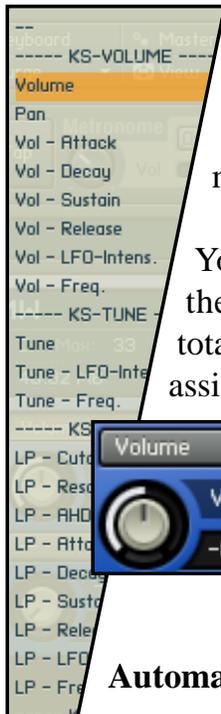Enables you to place your instrument in almost every desired room.

Automation

On the Automation page you can assign almost every MIDI controller to every parameter in the CCC Player. In order to avoid complications, please do not use MIDI controllers CC100 to CC119. The player already uses them internally.
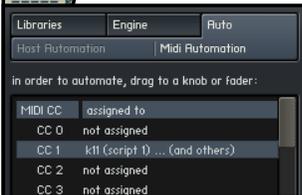
Dropdown Menu

Above each of the eight possible controls, there is a dropdown menu containing almost every important parameter of the player.
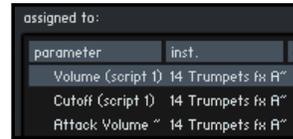
You don't have to stick to these presets, though. It is totally up to you if you want to assign or erase controls.
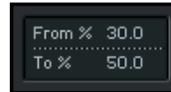
Automation Section

If you want to assign a control yourself, press 'Automation' in the Browser tab. Use left click to drag and drop any controller to any knob on the performance view.

Controller Info

In the 'assigned to…' window you can see the controls' pre-assignments.

Controller Range

With From/To you can limit the controller's range. If you set the From-value higher than the To-value, the controller's behavior will be inverted.

Delete Controllers

To delete a controller assignment, select it and press the 'remove' button. If you activate 'Soft Takeover' the selected parameter will not change until the external controller matches the parameter's existing value.

Routing Controllers
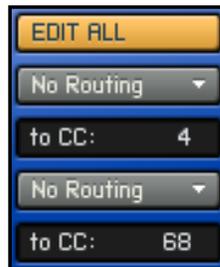
In this section you can assign parameters to be controlled by your keyboard. You can choose between velocity, key position and random.

Routing Menu

For assigning any of these functions to a parameter, you have to assign it a controller number (CC) and then drag and drop the controller with that number onto this knob.

Naming of the Instruments:

...FX   "Effects"

```
▼ 11 VIOLINS FX                        ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

If the instrument name contains "FX", that means that at least one FX unit is activated (usually it's the reverb). The modulation wheel controls the LFO -> tune modulation and creates a vibrato effect.

...FX leg   "Legato"

```
▼ 12 VIOLINS FX LEG                    ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

Same as "FX", plus the legato effect is enabled.

...FX leg MW   "Modulationwheel"

```
▼ 13 VIOLINS FX MW                     ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

"MW" means that the modulation wheel is controlling filter and volume.

...FX ATT MW   Attack"

```
▼ 14 VIOLINS FX ATT MW                 ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

"ATT" means that the instrument contains at least one keyswitch that is linked to an Attack group.

...VA FX   "Velocity-Attack"

```
▼ 15 VIOLINS VA FX                     ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

"VA" means that velocity is modulating the attack time of the instrument. Lower velocity will cause longer attack times and therefore softer sample starts.

...DRY   "dry - no effects "

```
▼ 16 VIOLINS DRY                       ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

"DRY" instruments make no use of effects. You hear the instrument's original sound.

...warm FX   "warm "

```
▼ 17 VIOLINS WARM FX                   ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 33   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 55.23 MB
```

Warm means that the instrument uses the filter from PRO-53. It cuts the high end and boosts the lower mids in a unique way. Most people perceive the resulting sound as 'warm'.

...X FX   "crossfade"

```
▼ 18 VIOLINS X FX                      ◄ ►
€ Output: st.1      ▼  ♪ Voices:  0  Max: 32   Purge ▼
⊕ Midi Ch: omni     ▼  ⓘ Memory: 20.62 MB
```

The 'X' means that a velocity cross-fade can be controlled via the modulation wheel. By using the MW, you can go from quiet to loud very smoothly.

Basically, you can change each parameter, controller assignment and the naming of a CCC instrument. There is no problem with changing and renaming instruments. That way you can customize the instruments for your personal needs. You have to keep in mind though, not to change the folder structure or to move instruments. If you do, the player will not find the samples anymore.

We recommend saving changed instruments under a different name. An easy way to do so is adding your initials either in front or after the instrument's original name: 'CH – 17 Violins warm' or '14 Violins FX ATT MW – CH'.
The library instruments' names usually start with 11, 21 or 31. Accordingly you could start the names of your own creations with 00 or 01. That way you can make perfectly clear which patches are yours, and which are from the original library.

Peter Siedlaczek's Advanced Orchestra Set

The Extended Edition of the legendary Advanced Orchestra by Peter Siedlaczek has been improved in this essential package! Combining the original Advanced Orchestra library together with the Upgrade '97, the Advanced Orchestra Extended Edition is enjoyable and still very easy-to-use.

String Ensembles:

14 Violinen, 10 Violas, 8 Celli, 6 Bässe.
Phrasings&Articulationen: Sustained Notes f & p, Con Sordino, Short Detaché 2x, Slow/Fast Gliss., Grace Notes, Short Chords, Runs.

Solo Strings:

Violinen, Violas, Celli.
Phrasings/Articulations: Sustained Notes f & p, Con Sordino, Short detaché 2x, Pizzicato 2x, Col Legno 2x, Tremolo f, Tremolo pp, Crescendo, Cresc. Tremolo, Trill, Glissando, Grace Notes, Short chords, Arpeggios.

Woodwinds:

3 Flöten, Solo Flöte, Alto Flöte, Piccolo Flöte, Oboe, English Horn, 3 Clarinetten, Bass Clarinette, Fagott.
Phrasings & Articulations: Sustained Notes f & p, Staccato 2x, Grace Notes.

Brass & Effects:

Trompete, Solo Trompete, Piccolo Trompete, 3 Posaune, Solo Posaune, 4 French Horns, Solo French Horn, Tuba. Phrasings & Articulations: Sustained Notes f & p, Staccato 2x, Half & Whole Tone Trill, Crescendo, Runs.

Percussion & Harp:

Cymbals, Timpani, Gran Cassa, Snare, Tamtam, Gongs, Triangles, Vibraphone, Marimba, Xylophone, Orchestra + Tubular Bells, Harp. Perc.: Single Strokes, Tremolo, long/medium/short Cresc., Glissando; Harp: Glissandi - long, medium, short / major, minor.

Very easy-to-use but with expanded capabilities thanks to the advantages of the newest software developments. Extensive use of key switching and direct-from-disc technology, new programs with multiple crescendo layers and instantaneous access to dozens of instruments and playing techniques.

This complex yet compact and user-friendly sound library consists of all instrument groups of a large symphony orchestra. The strength of this sound material lies not only in its use in classical "real sounding" or "natural" structures and arrangements.

Especially the complex phrasings and articulations, such as runs, trills or glissandi, are eminently suitable for all types of distortion and unorthodox treatment. Your imagination is free for experimentation.

The included Upgrade '97 adds functionality and features new instruments that could not be included in the original library including Bass Flute, Harp Single Notes, Percussion (crotale, 2 wind chimes, 3 shell chimes, bamboo chimes, tambourines, claves, cowbells, castanets, temple blocks, japanese bowls) and Hollywood Strings.

All volumes contain new velocity switch programs for better dynamic control over f and p playing techniques.

Peter Siedlaczek's Extended Classical Choir

Peter Siedlaczek`s "extended classical choir". voices sampled., long and short loops. men, women and mixed choir. clusters, glissandi, aahs, oohs, mmhs, hoos, homs, zzz.

From the heart of Czechoslovakia comes one of the most haunting and inspiring sets of vocal sounds ever captured by a sampler. Wait till you hear the awesome vocal power, the range of rich timbres, and the sheer human emotion of this beautifully sampled 70-strong ensemble - working with a library like this is a moving experience.
Peter Siedlaczek's Classical Choir is an absolute masterpiece which crosses all musical dimensions. Featuring a philharmonic choir with worldwide credits. Up to 70 singers. Brilliantly recorded samples in an outstanding concert hall. Male, female and mixed choirs. Bass, tenor, alto and soprano voices.

## Peter Siedlaczek's Orchestral Colours

Orchestral Colours created a new trend – the use of prepared, skilfull arranged orchestral building blocks. The result is a colourful mixture of hits, finales, passages, layers, atmospheres – a collection of ´mini-works´which are playable on any key.

The incredible tonal richness of a symphony orchestra, its expressiveness, dynamic, or tis 'power', makes it the most mighty and versatile body of sound. it is no wonder that orchestral sounds have become an obligatory part of every modern musician´s collection of samples. From renowned producer Peter Siedlaczek, Orchestral Colours created a new trend - the use of prepared, skilfuly arranged orchestral building blocks.

Peter Siedlaczek's Smart Violins

A comprehensive collection of runs, disco licks and other patterns, as well as long notes and legato steps played at different intervals, performed by a large violin ensemble.
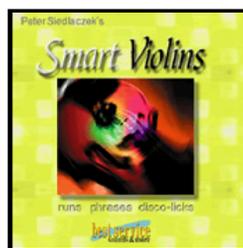
Recorded in all keys and in different tempi (100, 120, 140 bpm) Outstanding construction tools for creating perfectly realistic leading violin lines playable in all keys.

The idea is to provide a library of useful phrases for pop and dance production. There are three main phrase categories: Fast runs with four versions – straight ascending,
straight descending, ´sawtooth´and ´wavy´. Second category - Slow phrases Third category – Disco Licks. Disco Licks are a collection of (36 in each key) micromelodies lasting between two and seven beats – not only for ´Disco´.

Peter Siedlaczek's Total Piano

Classical Boesendorfer Grand Piano in outstanding Peter Siedlaczek quality. Brilliant and clear.

Also prepared piano: unconventional playing techniques, thump tack piano, honky tonk piano, effects.

On the one hand sturdy piano and grand piano sounds, on the other hand piano sounds you´ve never heard before. New and truly intersting sound structures, tailored for ease of use. Playable and inspiring.

X Bonus Trax

Orchestral Colours created a new trend – the use of prepared, skilfull arranged orchestral building blocks. The result is a colourful mixture of hits, finales, passages, layers, atmospheres – a collection of ´miniworks´which are playable on any key.

X Elements

Much more room for experimentals! With these instruments you get a lot of single samples taken from the different classical instruments, spread out across the whole keyboard and manipulated by the synthesis section of the CCC Kontakt Player. Create your own atmospheric sound-textures and pads.

Not always classical sounds are needed - Now you are the sound-designer!
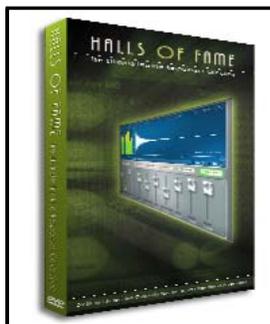
At this point we want to thank Wolfgang Lenden, producer of 'HALLS OF FAME', who allows us to provide you with 10 of his convolution-impulse-responses free of charge.

In order to see Kontakt Player's output/aux configuration, press the 'Output' button.

Here you have the possibility to add effects directly to outputs, or plug them into aux channels, so you can add them proportionate to the mix.

Kontakt Multis

All instruments, all settings that you adjust, and especially all work with the convolution reverb gets stored and loaded with multis. As the Kontakt Player handles convolution samples not quite as flexible as its big-

ger brother Kontakt, we created a few empty multis that already have different convolution reverbs plugged in.
You can find them in Multis -> Empty Convolution Multis. In order to load a multi, open the multi menu and choose the desired instrument combination.

In a multi, you can save several instruments and all their settings. Load the instruments and playing styles that you need and assign midi channels, outputs, volumes, pan, and effects. Save that configuration as a multi and create your own customized standard sets of instruments.

What is convolution reverb?

There have been thick books written about convolution reverb. I'll try to make it short and non-scientific. One goes into a concert hall, a church, a bathroom or into the woods and 'fires off' an audio impulse. That can be a short impulse such as a gunshot, or a long tone that sweeps through the frequency spectrum. The 'response' of the room gets recorded and the resulting audio file is a 'fingerprint' of the recorded environment. That 'fingerprint' can now be used to re-create the acoustics of that place in your studio, just as if you had been there to make your recordings in that place.

Output / Effekt-Rack

If you want to add convolution reverb to an instrument, you have to load one of the empty multis from the 'empty convolution multis' first. Then load an instrument of your choice.

On every instrument you find these three buttons:

'X' is for deleting an instrument.

'-' is for minimizing the instrument view.

'AUX' expands the four aux faders for your instrument.Each of the four Aux racks can have four different effects plugged in. By

using the faders you adjust how much of the dry signalis sent to the effects.

Loading and assigning an effect

For each of the 10 pre-configured multis, Aux 1 has the convolution reverb plugged in. The multi's name tells you details about the currently used convolution reverb and its length. Of course you can change and adjust the output / effect configuration.

But don't forget to use the aux faders on the instrument – otherwise you can adjust whatever you want, but you won't hear any effect.

Editing effects

In order to see the convolution reverb editor, press the buttons 'show insert' and 'edit effects'. If the editor doesn't appear, click on the "CU" field in the effect rack again.

Here you can adjust reverb length, start point and effect mix. We recommend saving new settings as a new multi.

Use the buttons 'Early' and 'Late' for deciding what part of the sample gets manipulated by the three knobs below. 'Early' adjusts the early reflections, whereas 'Late' alters the release phase of the convolution sample. Much room for experimentation!

More detailed informations about Kontakt Player functions you will find in the Kontakt Player manual.