Headway Studios - Nylis

USER MANUAL – VERSION 1.4.2

Articulation-Based Nylon Guitar for Native Instruments Kontakt

1. OVERVIEW

Nylis is a deeply sampled virtual nylon-string guitar instrument for Native Instruments Kontakt. It is designed for expressive solo playing, realistic strumming, modern scoring workflows, and rhythmic percussive performances.

The library was sampled using a **2007 Höfner HGL50SE "Schwarzwald Edition" D. Fischer Natural Solid Masterbuilt Classical Guitar,** chosen for its warm tone, detailed articulation, and natural resonance.

All core articulations in Nylis were recorded using guitar pick (plectrum) performance, ensuring maximum clarity, defined transients, and a focused, articulate nylon guitar character, while preserving the natural warmth and organic response of the nylon strings.

Rather than pursuing a sterile or overly polished sound, Nylis intentionally embraces subtle performance imperfections such as micro-timing variations, string noise, tonal inconsistencies, and natural dynamic fluctuations allowing the instrument to breathe and respond like a real, human-played guitar.

In addition, Nylis features **two dedicated Expressive Sustain articulations performed with finger technique**, designed specifically for lyrical, dynamic solo lines and expressive melodic phrasing.

The library features:

- 7,609 high-resolution stereo samples (11.1 GB of samples / 6.2 GB compressed)
- 96 kHz / 24-bit true stereo recording
- Recorded with a spaced pair (A/B) of Neumann KM184 microphones
- Signal chain: Avalon 2022 AD preamp & Avalon VT-747SP analog compressor / EQ
- Multiple velocity layers
- Up to 8 round robins, depending on the articulation
- True recorded hammer-ons, pull-offs, slides and trills
- Real-time interval selection via CC3
- Optional Auto HO/PO for legato-style transitions (Sustain articulations)
- True recorded open and percussive chord articulations
- Manual articulation switching via UI buttons and keyswitches

2. SYSTEM REQUIREMENTS

- Full version of Native Instruments Kontakt 6.7 or later (Kontakt Player NOT supported)
- Windows 10+ / macOS 10.15+
- Minimum 8 GB RAM recommended

3. INSTALLATION

1. Copy the main folder "**Headway Studios - Nylis** " to your Kontakt Instruments directory.
2. Open **Kontakt (Full Version)**.
3. Load **Nylis.nki** file from the folder.

4. INSTRUMENT INTERFACE (UI)

Articulation UI Buttons:

Expressive Sustain Neutral - Expressive Sustain Directional - Sustain - Portato Long - Portato Short – Palm Mute - Hammer-Ons / Pull-Offs - Trills - Slides - Chords Min - Chords Maj - Chords Ext / Alt - Percussive Chords Min - Percussive Chords Maj – Guitar FX

Articulation Keyswitch Map:

Nylis uses a keyswitch-based articulation system for precise and intentional performance control. All articulations are accessed via keyswitches located between **C0 and D1** and are mirrored by the articulation buttons in the user interface. Keyswitches are color-coded in Kontakt's on-screen keyboard for easy visual identification during performance.

C0	Expressive Sustain – Neutral
C#0	Expressive Sustain – Directional
D0	Sustain
D#0	Portato Long
E0	Portato Short
F0	Palm Mute
F#0	Hammer-Ons / Pull-Offs
G0	Trills
G#0	Slides
A0	Chords Minor
A#0	Chords Major
B0	Chords Extended / Altered
C1	Percussive Chords Minor (Muted / Choked)
C#1	Percussive Chords Major (Muted / Choked)
D1	Guitar FX

Keyboard Color Coding:

- Blue Keys – Expressive Sustain articulations (finger-played)
- Red Keys – Keyswitches (articulation and mode selection)
- Green Key – Auto HO/PO toggle (automatically triggers hammer-ons and pull-offs during legato-style note transitions within the Expressive Sustain and Sustain articulations)
- Yellow Keys – Playable instrument range

5. EXPRESSIVE SUSTAIN

All core articulations in Nylis have been recorded using pick performance. The **Expressive Sustain** is a dedicated **fingerstyle-based sustain articulation**, designed specifically for lyrical, expressive and highly dynamic solo lines.

Rather than using pick technique, this articulation reflects real-world finger and thumb playing behavior commonly used for expressive nylon guitar performance.

It is optimized for very soft to medium dynamics, focusing on detailed and expressive playing and features 8 round robins per velocity layer for a highly natural, non-repetitive performance.

This articulation is available in two performance modes, selectable via keyswitch:

C0 — EXPRESSIVE SUSTAIN (NEUTRAL)

In this mode, all strings are played with **consistent thumb downstroke**, resulting in a smooth, stable and predictable tone and even attack across the entire string range.

Ideal behavior for:

- lyrical melodies
- ambient textures
- expressive solo lines

C#0 — EXPRESSIVE SUSTAIN (DIRECTIONAL)

This mode introduces **realistic directional finger behavior**, reflecting natural fingerstyle technique on the treble strings.

- E–A–D strings → always downstroke (thumb-style)
- G–B–E strings → upstroke finger movement

This recreates the natural physical motion used when descending across the treble strings and adds subtle realism to melodic runs and arpeggiated phrases.

Note:
Directional mode affects only the G–B–E strings.
Bass strings always remain thumb-driven downstroke.

VELOCITY BEHAVIOR

The Expressive Sustain uses four velocity layers:

- Velocity 1–18 → **ppp** — extremely soft, delicate and intimate
- Velocity 19–34 → **pp** — very soft and controlled
- Velocity 35–70 → **p** — soft, warm and lyrical
- Velocity 71–127 → **mp** — fuller tone with increased presence

This design keeps the articulation naturally lyrical and prevents overly aggressive attacks that would conflict with the pick-based engine.

AUTO HO/PO SWITCH

The Expressive Sustain articulations support the Auto HO/PO (Automatic Hammer-On / Pull-Off) feature.

When enabled, Nylis automatically triggers dedicated finger-performed hammer-ons, pull-offs and slide transitions during legato-style note transitions, maintaining the natural playing behavior of the Expressive Sustain modes.

Shorter intervals (±1–±2 frets) trigger hammer-ons or pull-offs, while three-fret intervals (±3) trigger a slide transition.

Transition recordings match the playing technique of each mode:

- **Expressive Sustain Neutral** — thumb-performed hammer-ons & pull-offs
- **Expressive Sustain Directional** — finger-performed hammer-ons & pull-offs with upstroke finger movement

For a detailed description of the Auto HO/PO system, see the Auto HO/PO section (Chapter 7).

DESIGN PHILOSOPHY

The Expressive Sustain is intentionally implemented as a dedicated lyrical performance mode, rather than a full finger articulation set.

All other articulations (sustain, palm mute, portato long, portato short, slides, trills, chords, FX) remain pick-based by design. This reflects real-world playing practice, where finger technique is commonly used for expressive lead lines, while pick technique is preferred for rhythmic and technical passages.

The Expressive Sustain articulations support the **Slide Chain** feature, enabling smooth multi-step slide transitions during legato-style playing. For a detailed description, see the Slide Chain section (Chapter 8).

DEDICATED EXPRESSIVE SUSTAIN TRANSITIONS

Nylis v1.2 introduced dedicated recorded hammer-on, pull-off, and slide transition samples for the Expressive Sustain articulations.

These transitions are performed using the same fingerstyle techniques as the sustain articulations themselves, allowing the Auto HO/PO system and the Slide Chain engine to deliver more natural, fluid, and responsive legato-style movement during expressive playing.

Unlike the dedicated picked Hammer-Ons / Pull-Offs, Slides, and Trills articulations, these expressive sustain transitions are not designed as separately selectable articulations but instead operate internally as part of the Expressive Sustain performance system.

6. SUSTAIN

The Sustain articulation represents the core playing style of Nylis and forms the foundation of the instrument's sound and performance behavior.

These Sustain samples are performed with guitar pick (plectrum), delivering a clear, focused attack, strong transient definition and a bold nylon-string character that translates well in both solo and mix contexts.

VELOCITY BEHAVIOR

The Sustain articulation features three velocity layers:

- p — gentle pick attack with a smooth, controlled tone

- mp — balanced attack and body, suitable for most melodic playing
- f — strong pick attack with enhanced transient presence and projection

This velocity structure allows precise dynamic control and makes the Sustain articulation suitable for expressive solo lines, rhythmic passages and detailed musical phrasing.

ROUND ROBIN BEHAVIOR

As with the Expressive Sustain articulations, the Sustain articulation includes 8 round robins per velocity layer to ensure natural variation and avoid repetitive playback.

This provides subtle differences in attack, tone and timing, resulting in a realistic and organic playing experience, even during repeated notes or fast passages.

The Sustain articulation is designed to serve as the default performance mode for melodic lead playing, rhythmic single-note passages, arpeggiated lines, and general-purpose nylon guitar performance.

It offers maximum clarity and definition, making it especially effective in dense arrangements and complex mixes.

AUTO HO/PO SWITCH

The Sustain articulation also supports the optional **Auto HO/PO (Automatic Hammer-On / Pull-Off)** feature, allowing automatic hammer-on and pull-off and slide transitions during legato-style playing.

When enabled, Nylis automatically triggers pick-performed hammer-ons and pull-offs between overlapping notes played on the same string for shorter intervals (±1–±2 frets), while three-fret intervals (±3) trigger a slide transition. This preserves the natural response and attack of the Sustain articulation while allowing fluid melodic movement.

For a detailed description of the Auto HO/PO system, see the Auto HO/PO section (Chapter 7).

The Sustain articulation also supports the **Slide Chain** feature, enabling chained slide transitions for larger intervals during legato-style playing. For a detailed description, see the Slide Chain section (Chapter 8).

DEDICATED SUSTAIN SLIDES

As introduced in **Nylis v1.2**, the Sustain articulation includes **dedicated recorded sustain slide samples**, designed to provide more natural, musical pitch movement within sustained notes.

Unlike the shorter, performance-oriented slides available in the Slides articulation, these sustain slides feature a more extended note body, allowing the pitch transition to retain musical continuity and expressive phrasing rather than functioning as a purely transitional effect.

These samples are triggered within the Sustain (pick-based) articulation and are integrated into its natural performance behavior, enhancing realism during melodic movement and legato-style phrasing without requiring manual articulation switching.

7. AUTO HO/PO (AUTOMATIC HAMMER-ONS / PULL-OFFS)

The **Auto HO/PO** system allows automatic hammer-on, pull-off and slide transitions during legato-style playing, without manually switching to the dedicated interval articulations.

When the feature is enabled, Nylis automatically detects overlapping notes played on the same string and triggers the appropriate transition sample.

Transition dynamics respond to MIDI velocity, allowing softer or more aggressive articulations depending on playing intensity.

AUTO HO/PO BEHAVIOR

- **Ascending intervals (±1 or ±2 frets)** automatically trigger **hammer-ons**
- **Descending intervals (±1 or ±2 frets)** automatically trigger **pull-offs**
- **Three-fret intervals (±3)** automatically trigger a **slide transition**

This approach reflects natural guitar technique, where shorter intervals are typically performed with hammer-ons or pull-offs, while wider intervals are often executed using a slide.

This allows fluid melodic movement while preserving the natural timing and articulation of the performance.

ARTICULATION-SPECIFIC TRANSITIONS

Auto HO/PO uses dedicated transition recordings that match the playing technique of each sustain articulation:

- **Expressive Sustain Neutral** — thumb-performed hammer-ons and pull-offs
- **Expressive Sustain Directional** — finger-performed hammer-ons and pull-offs with upstroke finger movement
- **Sustain** — pick-performed hammer-ons and pull-offs

This ensures that legato transitions remain consistent with the physical playing style of the selected articulation.

ACTIVATION

The Auto HO/PO function can be enabled or disabled using:

- the **Auto HO/PO switch** in the user interface
- the **green key toggle (D#1)** on the keyboard

For precise interval control or scripted melodic passages, the dedicated **Hammer-Ons / Pull-Offs articulation** remains available.

Note:
Auto HO/PO feature operates only within the Expressive Sustain and Sustain articulations and does not affect other articulations. For full manual control over slide direction and interval selection, the dedicated ***Slides articulation*** *remains available.*

8. SLIDE CHAIN

The **Slide Chain** function enables chained slide transitions for larger intervals, creating smooth and realistic movement between notes.

When enabled, Nylis automatically breaks larger intervals into a sequence of smaller slide and legato transitions, instead of jumping directly to the target note.

This results in a more natural, guitar-like movement across the fretboard.

BEHAVIOR

During legato-style playing (overlapping notes), larger intervals are decomposed into a series of intermediate steps using available transitions.

For example, a wide interval may be performed as a sequence such as:

±3 → ±2 → ±1

Each step is triggered sequentially, creating a fluid transition rather than a single abrupt jump.

TRANSITION SYSTEM

Slide Chain works in combination with the existing transition system:

- **Slides (±3)** are used for wider movements
- **Hammer-ons / pull-offs (±1–2)** are used for shorter steps

This allows the engine to construct continuous motion across multiple frets while maintaining realistic articulation behavior.

INTERACTION WITH AUTO HO/PO

Slide Chain operates in conjunction with the **Auto HO/PO system**.

When both features are enabled:

- Short intervals are handled by hammer-ons and pull-offs
- Three-fret intervals use slide transitions
- Larger intervals are automatically decomposed into multiple chained steps

This results in smooth, expressive transitions even across wide melodic intervals.

ACTIVATION

The Slide Chain function can be enabled or disabled using the **Slide Chain switch** in the user interface.

Note:
*Slide Chain is triggered only during **legato-style playing** (overlapping notes) and operates within the available transition range of the instrument.*

*For direct, single-step interval control, dedicated articulations such as **Trills**, **Slides**, and **Hammer-Ons / Pull-Offs** remain available.*

9. PORTATO (LONG & SHORT)

The Portato articulations provide a **controlled, semi-detached pick-based playing style**, positioned between full sustain and short percussive articulations.

They are designed to deliver clear note separation while retaining natural note body and pitch stability.

Both Portato articulations are performed using guitar pick (plectrum) technique, preserving consistent attack, clear transients, and focused articulation response, and feature **three velocity layers with up to 8 round robin variations per layer** for natural dynamic behavior and reduced repetition.

PORTATO LONG

The Portato Long articulation provides a **fixed note length of approximately 2 seconds**, offering a smoother and more expressive feel while maintaining controlled separation between notes.

The note duration is consistent across the entire range and does not vary with velocity or pitch.

Characteristics:

- 3 velocity layers
- Up to 8 round robins
- Fixed ~2 second note length
- Moderate sustain with gentle decay
- Smooth and controlled articulation response

Portato Long bridges the gap between rhythmic precision and expressive melodic flow.

PORTATO SHORT

The Portato Short articulation features a **fixed note length of approximately 1 second**, delivering tight, clearly separated notes with controlled decay.

Like Portato Long, note duration remains consistent and independent of velocity and pitch.

Characteristics:

- 3 velocity layers
- Up to 8 round robins
- Fixed ~1 second note length
- Immediate pick attack with controlled decay
- Tight timing and fast response

Portato Short is ideal when rhythmic precision and clarity are required without the extended resonance of full sustain notes.

RELATIONSHIP TO SUSTAIN & PALM MUTE

- **Sustain** provides full note length and maximum resonance
- **Portato Long / Short** offer fixed-length notes with controlled decay
- **Palm Mute** delivers tight, percussive articulation with reduced resonance

Together, these articulations reflect real-world nylon guitar technique, where players consciously choose note length and articulation depending on tempo, phrasing, and musical context.

10. PALM MUTE

The **Palm Mute** articulation captures the muted nylon-string guitar technique produced by resting the picking hand lightly on the strings near the bridge, resulting in a tight, controlled, and percussive tone.

All Palm Mute samples are performed using guitar pick (plectrum), preserving consistent attack, clear transient definition, and natural string damping.

- 6 velocity layers
- 4 round robins
- Tight, controlled articulation for fast passages and rhythmic detail

The Palm Mute articulation is ideal for:

- rhythmic patterns
- pulse-driven parts
- repeated-note figures
- passages requiring precise articulation with reduced sustain

It provides a focused, percussive nylon guitar sound that sits tightly in rhythmic arrangements without excessive resonance.

11. CC3 INTERVAL-BASED ARTICULATIONS

All interval-based articulations in Nylis are captured as true, naturally performed guitar transitions.

Each transition was recorded as a real performance, preserving authentic finger attack, string response, natural timing variations, finger noise, and string friction.

No pitch-shifting or artificial legato processing is used, ensuring realistic physical behavior and predictable performance control.

HAMMER-ONS & PULL-OFFS

Available hammer and pull directions:

- HT-Up – Half-Tone Hammer-On upward
- HT-Down – Half-Tone Pull-Off downward
- WT-Up – Whole-Tone Hammer-On upward
- WT-Down – Whole-Tone Pull-Off downward

CC3 (Controller 03) is used to control the interval width in real time:

- Low CC3 values → Half-Tone Hammers & Pulls (HT)
- High CC3 values → Whole-Tone Hammers & Pulls (WT)

This allows the performer to dynamically control the musical intensity of hammer-ons and pull-offs while playing, from subtle legato movement to more expressive, wider interval phrasing.

TRILLS

Available trill directions and intervals:

- HT-Up – Half-Tone Trill upward
- HT-Down – Half-Tone Trill downward
- WT-Up – Whole-Tone Trill upward
- WT-Down – Whole-Tone Trill downward

CC3 (Controller 03) is used to control the trill interval behavior in real time:

- Low CC3 values → Half-Tone Trills (HT)
- High CC3 values → Whole-Tone Trills (WT)

This allows the performer to shift between subtle classical trills and wider, more pronounced ornamental trills during performance.

SLIDES

Available slide directions and intervals:

- +1 – Slide Up by 1 semitone
- -1 – Slide Down by 1 semitone
- +2 – Slide Up by 1 whole tone
- -2 – Slide Down by 1 whole tone
- +3 – Slide Up by a minor third
- -3 – Slide Down by a minor third

CC3 (Controller 03) is used to control the slide interval behavior in real time:

- Low CC3 values → Semitone Slides (±1)
- Medium CC3 values → Whole-Tone Slides (±2)
- High CC3 values → Minor Third Slides (±3)

This allows the performer to dynamically select slide width while playing, enabling both subtle expressive movement and more pronounced performance transitions.

Explicit hammer-on, pull-off, trill, and slide articulations are designed for **intentional phrasing rather than automatic legato guessing**, ensuring predictable behavior and precise performance control.

12. CHORDS & PERCUSSIVE CHORDS

Nylis includes a dedicated set of chord-based articulations designed for realistic strumming, rhythmic definition, and percussive nylon guitar performance.

All chord articulations are **performed with guitar pick (plectrum)** to ensure clarity and strong transient response.

OPEN CHORDS

The **Open Chords** articulation provides naturally voiced nylon guitar chords, recorded with authentic strumming technique and detailed dynamic response.

Available Chord Types:

- Minor
- Major
- Extended / Altered

Strumming Variations:

- Downstroke
- Upstroke
- Alternate Downstroke

These variations allow realistic rhythmic patterns, dynamic accents and natural strumming flow in both slow and fast passages.

Chord Performance Key Layout (Yellow Rows):

1st Yellow Row – Downstrokes

2nd Yellow Row – Upstrokes

3rd Yellow Row – Alternate Downstroke Variations (additional real recordings for realism)

MUSICAL USE

Open Chords are ideal for:

- rhythmic accompaniment
- cinematic beds
- harmonic support
- realistic nylon guitar strumming patterns

The articulation is designed to sit naturally in a mix while retaining the organic resonance and warmth of a real nylon guitar.

PERCUSSIVE CHORDS

The **Percussive Chords** articulation focuses on rhythmic impact, attack clarity and tight timing, making it suitable for modern, hybrid and percussive playing styles.

Available Chord Types

- Minor
- Major

Strumming Variations

- Downstroke
- Upstroke
- Alternate Downstroke

VELOCITY BEHAVIOR

Percussive Chords feature **two velocity layers**, representing different degrees of percussive tightness:

- **Tight** — very short, controlled and muted strum
- **Loose** — slightly more open decay with increased resonance

Velocity is used to shape the rhythmic feel rather than overall loudness, allowing expressive groove control through performance.

ROUND ROBIN BEHAVIOR

To avoid repetition and enhance realism, Percussive Chords include **up to 8 round robins**, providing natural variation in attack and timing during repeated strumming patterns.

MUSICAL USE

Percussive Chords are well suited for:

- rhythmic ostinatos
- pulse-driven cues
- hybrid rhythmic textures

- percussive nylon guitar layers

They are designed to deliver tight, focused rhythm without excessive resonance, maintaining clarity even in dense arrangements.

DESIGN PHILOSOPHY

The chord articulations in Nylis are intentionally separated into **Open** and **Percussive** categories to provide clear musical intent:

- **Open Chords** → harmonic richness and natural resonance
- **Percussive Chords** → rhythmic precision and controlled decay

This separation reflects real-world playing practice and allows fast, intuitive selection of the appropriate chord style for any musical context.

13. GUITAR FX

Nylis includes a dedicated **Guitar FX** articulation set, featuring percussive and mechanical guitar sounds designed to enhance realism, rhythmic detail and expressive performance.

These sounds are **not musical notes**, but performance noises naturally produced during real guitar playing, such as body hits, string impacts and muted string gestures.

INCLUDED FX TYPES

Body Hits

Percussive hits on the guitar body, suitable for:

- rhythmic accents
- pulse-driven patterns
- cinematic and hybrid textures

These sounds add physical presence and a tactile feel to performances.

String Hits

Direct impacts on the strings, producing short, metallic and percussive tones. Ideal for:

- rhythmic embellishments
- transitional effects
- aggressive or modern nylon guitar textures

Dead Notes

Muted string articulations where the strings are dampened, producing a dry, pitchless attack.

Dead notes are useful for:

- rhythmic ghost notes
- groove enhancement
- percussive patterns without harmonic content

MUSICAL USE

Guitar FX are designed to:

- complement chord and percussive chord articulations
- add realism between phrases
- enhance rhythmic drive without adding pitch

They work particularly well in:

- cinematic scoring
- modern hybrid productions
- rhythmic nylon guitar arrangements

PERFORMANCE NOTES

The Guitar FX articulation is attack-based and does not use release noises, ensuring tight timing and immediate response.

It is designed for consistent playback behavior and precise rhythmic placement without affecting pitch or tuning.

DESIGN PHILOSOPHY

The **Guitar FX** in Nylis is intentionally separated from musical articulations to allow precise control over when mechanical and percussive sounds are introduced. This approach ensures that realism can be added where needed, without interfering with melodic or harmonic performance.

14. ARTICULATIONS – DETAILED BREAKDOWN

Expressive Sustain Neutral (Finger-Plucked):

- 4 velocity layers (ppp / pp / p / mp)
- 8 round robins per velocity layer
- Dedicated lyrical and expressive sustain articulation
- Downstroke (thumb-style) finger movement across all strings
- Designed for balanced expressive solo playing, melodic phrasing and ambient textures

Expressive Sustain Directional (Finger-Plucked):

- 4 velocity layers (ppp / pp / p / mp)
- 8 round robins per velocity layer
- Dedicated lyrical and expressive sustain articulation
- E–A–D Downstroke (thumb-style) and G–B–E Upstroke finger movement
- Designed for directional phrasing, natural string interaction and expressive melodic movement

Sustain:

- 3 velocity layers (p / mp / f)
- 8 round robins
- Designed for lyrical solo playing and melodic phrasing

Portato Long:

- 3 velocity layers (p / mp / f)
- Up to 8 round robins
- Approximate length: 2 seconds
- Smooth, expressive articulation for lyrical and sustained phrasing

Portato Short:

- 3 velocity layers (p / mp / f)
- Up to 8 round robins
- Approximate length: 1 second
- Medium-short articulation for fast melodic movement

Palm Mute:

- 6 velocity layers
- 4 round robins
- Tight articulation for fast passages and rhythmic detail

Hammer-Ons & Pull-Offs (True Sampled – HT & WT):

- HT-Up – Half-tone Hammer-On
- HT-Down – Half-tone Pull-Off
- WT-Up – Whole-tone Hammer-On
- WT-Down – Whole-tone Pull-Off
- CC3 controls Half-Tone / Whole-Tone behavior

Trills (True Sampled - HT & WT):

- HT-Up – Half-tone Trill upward
- HT-Down – Half-tone Trill downward
- WT-Up – Whole-tone Trill upward
- WT-Down – Whole-tone Trill downward
- CC3 controls Half-Tone / Whole-Tone behavior for trills

Slides (True Sampled – 6 Directions):

- +1 One Fret Slide Up (Semitone)
- -1 One Fret Slide Down (Semitone)
- +2 Two Fret Slide Up (Whole Tone)
- -2 Two Fret Slide Down (Whole Tone)
- +3 Three Fret Slide Up (Minor Third)
- -3 Three Fret Slide Down (Minor Third)

Open Chords:

- Minor
- Major

- Extended / Altered
- Downstroke, Upstroke and Alternate Downstroke variations

Percussive Chords:

- 2 velocity layers (Short Attack / Extended Decay)
- Up to 8 round robins
- Minor
- Major
- Downstroke, Upstroke and Alternate Downstroke variations

Guitar FX:

Body taps, string noises, percussive gestures

Release Noises:

Automatically triggered on note-off for realism

15. KEYSWITCH SYSTEM

Nylis uses a keyswitch-based system for explicit control over articulations, performance modes and chord/FX selection.

Keyswitches are located in the red and blue key ranges at the bottom of the keyboard and do not produce sound. A green key is also provided to toggle the Auto HO/PO function.

The keyboard is visually divided into color-coded key ranges for clarity:

- The blue key range is dedicated to the **Expressive Sustain articulations**, which are performed with **finger technique**.
- The red key range corresponds to **all remaining articulations**, which are performed with **guitar pick (plectrum)**.

- The green key toggles the **Auto HO/PO** function, enabling or disabling automatic hammer-ons and pull-offs during legato-style note transitions within the Expressive Sustain and Sustain articulations.

USAGE NOTES

- Keyswitches are **momentary triggers** and do not need to be held
- The selected articulation or mode remains active until another keyswitch is pressed

Keyswitches are designed for both real-time performance and precise MIDI programming in the piano roll.

This system ensures predictable, repeatable playback while giving the user full control over articulation selection.

PRACTICAL WORKFLOW

- Use keyswitches to select **what** you want to play
- Use velocity and MIDI CCs to shape **how** it is played

This clear separation allows fast navigation without automatic articulation switching or performance guessing.

16. SPATIAL AND NOISE CONTROL

REVERB

The **Reverb** knob controls the amount of **hall reverb** applied to the instrument, adding subtle spatial depth while preserving the natural tone and transient clarity of the nylon guitar.

- Turning the knob clockwise increases the amount of hall reverb
- Turning it counter-clockwise reduces or completely removes the reverb

This reverb is designed to function as a **depth and distance tool**, rather than a prominent effect, allowing the instrument to remain clean and mix-ready when needed.

MIDI CONTROL

The Reverb amount can also be controlled via **MIDI CC91**, allowing real-time automation and expressive depth control during performance or sequencing.

- **CC91 = 0** → Reverb disabled
- **CC91 = 127** → Maximum reverb amount

The on-screen knob and CC91 are fully linked and reflect the same parameter.

MUSICAL USE

Higher reverb levels are recommended for:

- expressive solo performances
- ambient or textural passages
- sparse arrangements requiring depth

Lower reverb levels are ideal for:

- rhythmic or percussive parts
- dense mixes
- fast or highly articulated passages

CHORUS

The **Chorus** knob controls the amount of subtle stereo widening applied to the instrument, based on Kontakt's Choral processor, adding width and air to expressive sustain articulations without introducing audible pitch modulation or effect coloration.

- Turning the knob clockwise increases the amount of chorus effect
- Turning it counter-clockwise reduces or completely removes the effect

This control is designed for **very light enhancement**, focusing on spatial width rather than a traditional chorus effect.

MIDI CONTROL

The Chorus amount can also be controlled via **MIDI CC93**, enabling real-time stereo width modulation and automation.

- **CC93 = 0** → Chorus disabled
- **CC93 = 127** → Maximum chorus amount

The on-screen knob and CC93 are fully linked and reflect the same parameter.

MUSICAL USE

Higher chorus levels are recommended for:

- expressive sustain passages
- finger-played melodic lines
- sparse or ambient textures

Lower chorus levels are ideal for:

- rhythmic strumming
- percussive chords
- fast passages requiring maximum articulation clarity

RELEASE NOISE

The **Release Noise** knob controls the playback level of natural string and finger release noises, adding realism and performance detail to the instrument.

- Turning the knob clockwise increases the level of release noises
- Turning it counter-clockwise reduces or completely removes them

This allows you to tailor the amount of mechanical detail depending on the musical context - from highly realistic solo performances to cleaner, more controlled mixes.

Release noises are present only in articulations where the string is naturally released, including **sustains, portatos, hammer-ons & pull-offs, trills and slides**, ensuring realism without compromising clarity in short or percussive articulations.

MIDI CONTROL

The Release Noise level can also be controlled via **MIDI CC21**, allowing real-time automation and expressive control during performance or sequencing.

- **CC21 = 0** → Release noises muted
- **CC21 = 127** → Full release noise level

The on-screen knob and CC21 are fully linked and reflect the same parameter.

MUSICAL USE

Higher release noise levels are recommended for:

- solo passages
- exposed melodic lines
- intimate or acoustic arrangements

Lower release noise levels are ideal for:

- dense mixes
- fast passages
- layered arrangements

17. PERFORMANCE VIBRATO

Nylis includes a performance vibrato system designed to enhance expressive melodic playing.

The vibrato is generated using Kontakt's internal LFO modulation and is controlled in real time via the **Modulation Wheel (MIDI CC1)**.

When the Mod Wheel is raised, vibrato depth increases gradually, allowing performers to shape expressive phrases naturally during performance.

BEHAVIOR

The vibrato system follows realistic guitar performance practice:

- **Mod Wheel down (CC1 = 0)** → No vibrato
- **Mod Wheel up (CC1 = 127)** → Maximum vibrato depth

NATURAL VIBRATO RESPONSE

To emulate the natural behavior of real guitar vibrato, the LFO includes a **short fade-in time.**

This means the vibrato does not begin immediately when a note is triggered. Instead, it gradually develops after the note onset, similar to how guitarists introduce vibrato after establishing the pitch of a note.

Typical behavior:

- Note attack → clean pitch
- ~100 ms later → vibrato gradually appears

This approach produces a more natural and musical vibrato response during sustained notes.

ARTICULATION SCOPE

The vibrato system is designed primarily for sustained melodic articulations.

It is therefore intended for use with:

- Expressive Sustain – Neutral
- Expressive Sustain – Directional
- Sustain

Short or percussive articulations such as palm mutes, portato notes, chords and guitar FX are not intended to use vibrato in typical performance practice.

18. RECORDING & SIGNAL CHAIN

All samples were recorded and are played back in **96 kHz / 24-bit stereo resolution**, preserving the full harmonic detail, transient accuracy and dynamic range of each performance.

This high-resolution sampling approach captures subtle nuances of string vibration, pick and finger interaction, and micro-dynamics that are often lost at lower sample rates, resulting in a more natural and responsive playing experience.

The instrument was captured using a **spaced pair (A/B) stereo recording setup** with two Neumann KM184 microphones, providing natural spatial depth, realistic left-right imaging, and authentic room interaction.

This results in a wide, detailed, and immersive stereo image that translates naturally from intimate solo performances to large-scale scoring arrangements and layered productions.

Multi-velocity sampling ensures smooth and organic dynamic transitions across the entire playing range, while **up to 8 round robin variations, depending on the articulation,** eliminate the “machine-gun” effect and maintain realistic performance behavior even during fast repeated passages.

Nylis is designed from the ground up for **professional music production and modern scoring workflows**, where clarity, realism and dynamic precision are essential.

Signal chain used during recording:

- Neumann KM184 (A/B Spaced Pair)
- Avalon 2022 AD Preamp
- Avalon VT-747SP Analog Compressor / EQ

19. TIPS FOR REALISTIC PERFORMANCE

Use velocity variation to achieve natural dynamics and alternate between downstrokes and upstrokes for realistic strumming patterns.

Combine slides, hammer-ons, and trills to shape expressive phrasing, and introduce percussive chords and guitar FX to add rhythmic texture when needed.

Avoid excessive quantization, allowing subtle timing and dynamic variations to remain for a more natural and musical performance.

20. CREDITS & LEGAL

Special thanks to

Evita Kiayia