



An Impact Soundworks Sample Library
Powered by Native Instruments Kontakt 5 Player

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INTRODUCTION

Welcome to **Archtop: Hollowbody Electric Guitar**! For this library, we deeply sampled the gorgeous, warm sound of a Jim Hall Sadowsky Model archtop guitar as performed by veteran guitarist Josh Workman.

Whereas our **Shreddage** libraries are all about aggressive articulations and drop-tuning, **Archtop** focuses on detail and nuance across the spectrum of playing. We meticulously captured a wide variety of crucial techniques and dynamics, along with two distinct pickups that can be blended to your taste. Though **Archtop** is more than capable of hi-gain styles, it truly excels at cleaner tones and genres like jazz, pop, alt rock, funk, and R&B.

With the help of Constructive Stumblings, we've created a superb graphical interface that allows you to customize **Archtop** in as much depth as you'd like. Reduce memory load by disabling articulations, remap velocity layers or swap in keyswitches, change playing modes, transpose your input, alter the velocity response, and see your playing come to life on the Fretboard page. We wanted it to be as **easy as possible** for you to make this instrument your own.

Of course, as with all of our virtual instruments, **Archtop** is also highly intuitive and playable out of the box. The pristine 24-bit samples recorded through a warm analog DI sound amazing even with no amping whatsoever, and an array of effects are included to easily change the tone without using external plugins. Playing the instrument also requires no fancy keyswitching, MIDI CCs, or other complex controls, and adjusting the playing style is very straightforward.

We think you'll find **Archtop** to be an incredibly powerful and versatile instrument for many styles of music, and realistic enough to sit even completely isolated in a mix. Most of all, we think you'll find it a joy to play and compose with. Happy playing!

Installation & Setup

Archtop is a Kontakt instrument, requiring Kontakt (or Kontakt Player) version 5.5 or higher. Please ensure that Kontakt works properly on your machine before downloading, installing, or activating the library.

If Kontakt does not work on your machine, **Archtop** will not work either!

1. Install the Pulse application if you don't already have it. Pulse is a cross-platform desktop app that lets you download and install your libraries with blazing speed! You'll need to create an account here, but once you do, you can access your purchases from any developers using Pulse, anytime, from any computer.

<https://pulsedownloader.com/>

2. Once Pulse is installed, open it and enter your Archtop product code. Follow the instructions to download and install the library.

3. Open Native Access, click "Add a Serial", and input the same product code to activate the library.

4. Once activated, click "View Products Not Installed". Find Archtop in this list. Click the "Add Library" button to the right, and select the folder where Pulse downloaded the library. This completes the installation process.

OVERVIEW

Almost all of the sounds in **Archtop** are contained within the patch simply labeled "**Archtop.nki**". This patch contains all crucial playing styles, an advanced script engine, and a suite of amp & pedal effects.

The "**Archtop Neck & Pick FX**" patch is a very simple 'menu' of sounds that can be used at the beginning or the end of a phrase, such as neck slides and pick scrapes. Each key from **C2** to **D#4** contains a single sound.

The articulations of **Archtop** include:

Sustain

Sustain Octave

Palm Mute

Staccato

Hammer-On & Pull-Off

Tremolo

Portamento (a.k.a. Glissando or Slides)

Harmonics

Vibrato

Each of these articulations, with the exception of vibrato, can be **switched on or off**, mapped to **any velocity range**, or assigned to a **keyswitch**. Additionally, there are extensive options for customizing the tone of the instrument, as well as many engine and articulation features. More on this in the sections below!

The default **instrument mapping** is as follows.

C1 to **D1**: Full choke strums.

E1 to **C#5**: Standard playing range.

D5 and **D#5**: Strum keys. By default, these will 'strum' all keys you're currently pressing.

E5 to **F#5**: Full choke strums.

The vibrato type can be changed with the following keyswitches:

G-1: Switch vibrato type to "Real".

G#-1: Switch vibrato type to "Smooth".

A selection of keyswitches are available to change the string preference. By using this, you can override the instrument's default fingering & fretting algorithm, forcing it to play notes on the selected string (if possible).

C-1: Force string preference to String 6 (Low E)

C#-1: Force string preference to String 5 (A)

D-1: Force string preference to String 4 (D)

D#-1: Force string preference to String 3 (G)

E-1: Force string preference to String 2 (B)

F-1: Force string preference to String 1 (High E)

F#-1: Reset string preference to all strings.

A#0: Toggle on/off release noises.

B0: Toggle on/off the Extra Pick articulation.

Lastly, the keys **C0** to **B0** are reserved for user-defined keyswitches.

As of v1.1 (July 28, 2015) **two new MIDI controls** are available. **CC85** controls the note/playback offset – higher values are 'snappier', with less pick attack. **CC86** controls the same, but for legato sustained notes.

ARTICULATIONS

We worked closely with the performer of **Archtop**, Josh Workman, to capture a range of his most common playing techniques. With these articulations, you can perform or sequence nearly any guitar part you can imagine! Generally speaking, each articulation was recorded with **up and down** strokes, multiple **dynamic levels**, and up to **4x round robin (RR) variations**.

SUSTAIN

This is the most basic and versatile articulation: a single string being picked. With four dynamics recorded for each note on each string, this technique alone can be used for most any riff. Play or write multiple sustained notes to construct chords, which will be fingered properly by the script engine.

SUSTAIN OCTAVES

A staple of jazz playing where an octave is thumbed across two strings. The sound is darker and more mellow than standard picked sustains, and tends to be more bass heavy.

PALM MUTE

A palm mute is played by using the palm of the picking (right) hand to push against one or more strings. The result is a reduction in the brightness and sustain of each note. These can be used to accentuate a rhythmic part, as part of arpeggios, or anytime you want to pull back the brightness and length of a note.

STACCATO

These short notes have the fullness of a normal sustain, but are quickly cut off by muting the string. These are very useful when you want to emphasize a single, short note while retaining its timbre and brightness.

TREMOLO

An articulation where the same note is picked repeatedly at a fast tempo. This articulation's **volume is controlled by the modwheel (CC1)**. Try it on the 6 (Low E) string and a 'surf' style amp! Tremolo Speed can also be adjusted.

HAMMER-ON AND PULL-OFF

When playing a series of notes, guitarists do not often pick each one individually. Instead, when ascending in pitch on the same string, a "hammer-on" is used: once the string is struck, a finger on the left hand is used to hit the next fret, causing a slight attack and change in pitch. The opposite, a "pull-off", involves fingering several notes on the same string. By quickly releasing the finger on the highest fret, the lower pitch comes through. These techniques are used quickly and seamlessly in many riffs and phrases.

To trigger these articulations, they first must be enabled ("Hammer/Pull"). Then, two notes should be overlapped. The second note must be within the velocity range for the articulation. Additionally, it must be within the "Max Range", which is by default 2 semitones. So, for example, you could hammer from **C3 to D3** by default, but not **C3 to E3**. Lastly, a time threshold can be set. For example, with a hammer **min threshold of 50ms**, two notes played less than 50ms apart will be played **simultaneously** instead of legato.

PORTAMENTO SLIDES

A continuous slide (aka glissando, portamento) is performed by striking a note and then literally sliding the left hand along the frets of the string. This technique can be used to dramatically hit a low or high note, or at the end of a phrase (usually downward in pitch). Slides in **Archtop** are triggered the same way as hammers/pulls, by overlapping two notes; by default, the two legato techniques are in separate velocity ranges.

For example, holding E3 then playing and holding B3 will produce an authentic slide from E3 to B3. The destination note, B3, will then be sustained as long as you hold the note. However, a very useful technique is NOT holding the destination note long enough for it to be heard. The result will produce only the sound of the slide, and nothing else - a very handy effect!

HARMONICS

Harmonics are notes that sound an octave above the actual played note. **Archtop** contains two types: Artificial and Natural. Artificial harmonics are performed on a guitar by fretting a note and touching that string an octave above with the picking hand index finger, while the middle finger and thumb hold the pick. Conversely, natural harmonics use the open string. Each type offers a unique tone - experiment with both!

CHOKES

By heavily palm muting multiple strings strings, then quickly strumming those strings, this sound is produced. Its largely non-pitched quality is handy for chunky rhythmic playing or leading in to a note. These are triggered on **C1, C#1, and D1**, with each key playing back a different choke position. The same chokes are mirrored on **E5, F5, and F#5**.

VIBRATO

Two types of vibrato are included within **Archtop**: "Real" vibrato (recorded live), and "Smooth" vibrato (generated in Kontakt). Which type you use may depend on the type of effect you are looking for. Smooth vibrato is more consistent, measured, and snappy - it also can be tweaked to be slower, faster, or less intense. However, it may lack some of the realism of the Real vibrato type.

RELEASE NOISES

Many types of subtle noises are produced when a guitar string is played and released. In **Archtop**, we've captured two categories of noises: pitched and unpitched. Pitched noises are triggered when sustain notes are stopped. These are matched properly to the pitch of the note that was played. Unpitched noises include a large variety of random sounds captured from actual performances. Release noise settings can be tweaked on the Engine page.

EXTRA PICK

We've included multiple recordings of exaggerated pick sounds frequently used to emphasize higher notes. These 'digging in' samples can be enabled on the Engine Page, under the Extra Pick section. Note that using an Extra Pick sound will delay the played note by a certain amount, and the velocity range for the Extra Pick sound can be set to your taste.

THE SCRIPT

Archtop is powered by an advanced script created using the KSP (Kontakt Script Processor). This section of the manual will describe how this script functions (descriptions of user-editable controls can be found in the following **Interface & Options** section).

Note: Disabling the script, or attempting to edit any groups/mapping options, **is not recommended!** If you do decide to try and make some edits, we strongly encourage you to save a backup copy of the patch (or save your installation files).

STRING & FRET SELECTION

To truly capture the wide range of tones possible with a guitar, it is necessary to sample each fret on each string of the guitar. An A3 played on String 6 (Low E String) is the same pitch as an A3 played on String 5 (A String), but the resulting tones are distinct. Likewise, when a chord of several notes is played, each note must be placed on a different string realistically.

When using **Archtop**, you need not worry about picking which string or fret to use. The script intelligently determines where to place each incoming note based on what you've already been playing. For example, playing two or more note at once will result in each note being placed on a different string. The rules used to determine fret and string placement involve looking at (a) strings that currently have held notes, (b) the string/fret of the previous note, and (c) the input pitch.

By default, **Archtop** will avoid placing two notes on the same string unless the MIDI sequence forces it. Based on the fret engine settings (which can be configured on the **Fretboard** page of the UI), notes will generally be played on a 'preferred' set of frets. Based on the "Hand Size" setting, if the previous note has a high fret position, the script

will attempt to avoid making large leaps in fret position on the next note. Likewise, adjacent strings are always considered before jumping more than one string, where possible.

STROKE DIRECTION / CHORD THRESHOLD

The default playing style of **Archtop** alternates between down and up strokes. By playing a series of notes within the 'chord threshold' (user-configurable), the script will normalize stroke direction to the direction of the first played note.

Just as a real guitarist strumming a chord will strum all notes either down or up, the chord threshold feature is designed to detect when the user is playing a strummed chord and ensure all notes in the chord use the same stroke direction.

ROUND ROBINS

A 'round robin' refers to a unique recording of a given pitch and articulation. **Archtop** contains up to 8 round robins (RRs) per articulation and pitch. This means that playing the same note and velocity over and over will trigger a different recording each time, virtually eliminating the 'machine gun effect'.

RRs are selected using a pre-determined 'seed' of random numbers. This ensures that rather than hearing the same short sequence (1-2-3-4, 1-2-3-4) over and over, you will hear a dynamic, non-repetitious order.

The **Reset RR** button can be used to reset RR sequence position.

INTERFACE & OPTIONS

Archtop has a beautiful scripted interface allowing you extensive control over the instrument's settings.

Performance Page (Default)



Navigation Bar (Perform, Fretboard, Articulations, Engine): Click any one of these buttons to change UI pages.

Info Bar (i) at the bottom: Displays helpful information depending on what you're clicking or playing.

Volume Knob: Controls the volume of the instrument, much like the volume knob on the physical guitar. To better emulate the real volume knob, lowering this volume also slightly reduces the bass of the sound.

Tone Knob: Controls the tone (brightness) of the instrument. Lowering this knob darkens the sound.

Blend Knob: Blends between NECK (0%) and BRIDGE (100%) pickups. If **Stereo** is enabled, this controls panning.

Pickup Switch: Switches between NECK and BRIDGE pickups. This is just a faster way of snapping between the two settings than the Blend knob, but of course does not allow for blends between the two pickups.

Stereo Switch: Enables or disables stereo mode. In stereo mode, the neck and bridge pickups are placed in the left and right channels.

Articulations Buttons: Clicking any of these yellow buttons will enable or disable an articulation. By default, disabling articulations also unloads them from RAM. Click the **Articulation Name** (eg. "Sus", "Mute", "Hammer") to access quick edit controls, such as velocity mapping, keyswitch, and other related settings.

Effects Buttons: Enables or disables effects / pedals. Much like the articulation controls, clicking the **Effects Name** will pull up relevant settings in the **Quick Edit** box.

String Knob: The **String Selector** allows you to specify any one 'preferred' string for the engine to use. If a string is selected here, the engine will attempt to play on that string if at all possible. This is ideal if you want to riff on a single string. This knob can also be controlled via keyswitch (**C-1** to **F#-1**).

Strumming Mode: When activated, all notes will become silent. You can hold any notes and hit **D5** to 'strum' the currently held notes down, or **D#5** to 'strum' up. Note that these "strum keys" (D5/D#5) still work even if Strumming Mode is not activated; this is simply a useful option to keep the playing clean.

Memory Mode: When activated, the strum keys (**D5/D#5**) will 'memorize' recently played notes. In other words, you do not need to **HOLD** any notes to strum them. You could for example strike C3-G3-C4 and release them, and pressing the strum keys would strum those three notes. If you wait for about one second and play new notes, the previous memory buffer will be deleted.

Mono Mode: When enabled, only one note may be played at a time. If multiple notes are played, older notes are rapidly faded out.

Round Robin Reset: This resets the round robin sequence for all articulations.

Load FX Only: When enabled, loaded presets will **only** load the Effects settings, and will not load any other controls or parameters. This is ideal if you simply want to change the tone of your guitar sound without tweaking articulation mapping, engine settings, etc.

Save / Load Buttons: Allows you to save or load presets in NKA format. Note that presets can be stored **anywhere on your computer**, but for organizational purposes, are best kept in the Data folder for Archtop.

Fretboard Page



Fretboard Display: This shows the fingering & fret position of any currently played notes.

Current Articulation: Shows the articulation currently being played, along with stroke direction.

Hand Size: Sets the size of the virtual 'hand'. In general, changing this setting will affect how frets are selected. A larger hand size generally means the script will reach to further frets, while a smaller one means it will prefer to try different strings instead, where possible.

Min / Max Fret Preference: Sets the preferred playing range of the script. For example, a minimum fret preference of 3 means that the script will generally avoid open strings, as well as the first and second frets. In general, for a more traditional jazz sound, try turning the max fret preference knob **down** (which **increases** the max fret preference). The script will tend to voice notes on higher frets as opposed to higher strings, giving a darker sound.

Chord Time: Sets the threshold where chords are detected, in milliseconds. If a chord is detected, the fingering and stroke direction are impacted. For example, playing a chord starting with a downstroke will make all subsequent notes in the chord downstrokes, but only if those notes are played within the Chord Time value. For example, a value of **250** ms means that a chord will only be recognized if each note is played within 250ms of each other.

Fret Reset: Sets the time it takes for the script to reset all fret / fingering positions once notes are released.

Articulations Page



Vibrato Mode: "Real" vibrato uses actual fingered vibrato, whereas "Smooth" vibrato is generated via Kontakt.

Smooth Vib Speed: Changes the speed (frequency in hz) of the Smooth vibrato mode.

Smooth Vib Depth: Changes the depth, or intensity, of the Smooth vibrato mode.

Auto RAM Unload: When enabled, any articulations that are **disabled** will be unloaded from memory. Very useful for conserving RAM!

Articulation Buttons: These are identical to the buttons on the front page, enabling/disabling articulations.

KS Latch: When enabled, keyswitches will 'latch' when pressed and remain on until another keyswitch is pressed. When disabled, you must **hold** the keyswitch key for it to take effect.

Articulation Min Vel / Max Vel: Sets the velocity range where any given articulation is triggered. For best results, do not overlap velocity ranges of your articulations; if you do, the results may be a little unpredictable. The exceptions are the legato articulations, Hammer/Pull and Portamento, which can overlap with other non-legato articulations.

Articulation Keyswitch: If a keyswitch is set for an articulation, you **MUST** use that keyswitch to trigger it (in addition to playing within the correct velocity range). To disable the current keyswitch, simply hit any empty key in the keyswitch octave (active keyswitches are shown in red on the Kontakt keyboard).

Sustain Release Time: Controls the time it takes for sustained notes to release when the note is released.

Mute Tightness: Controls how short and snappy palm mutes sound.

Tremolo Speed: Controls the speed of the tremolo articulation, from 50% to 200% of normal.

Harmonic Type: Switches between Natural and Artificial (described earlier).

Hammer/Pull Max Range: Specifies the # of semitones (or less) where hammer-ons or pull-offs will be triggered. For example, with a max range of 2, you must play overlapping notes within 2 semitones to trigger the legato transition. Playing and holding C3, then striking D3, would trigger a hammer-on. However, holding C3 and playing F3 would not, as C3 -> F3 is 5 semitones. You could of course change the Max Range to 5 semitones!

Hammer/Pull Min/Max Threshold: Specifies the time in milliseconds where the hammer-on/pull-off transition will trigger. This is useful if you want to be able to play tight chords AND hammer-on/pull-offs. For example, with a min threshold of 0ms, you will always hear this legato articulation when two notes are played within the Max Range. However, with a min threshold of 50ms, two notes played less than 50ms from each other will **not** trigger the legato transition, and instead play simultaneously.

Portamento Trans Vol: Sets the volume of the portamento **slide** (transition) samples.

Portamento Sus Vol: Sets the volume of the sustained (destination) note which plays after the glide completes. For example, if you were to play C3 to G3 portamento, the Sus Vol setting would control the volume of the G3 note.

Portamento Speed: Controls the speed of the glide transition.

Engine Page

Archtop
Output: st. 1
Voices: 0 Max: 32
Midi Ch: [R] 1
Memory: 0.77 GB
Tune: 0.00

PERFORM FRETBOARD ARTICULATIONS **ENGINE**

TRANSPOSE: 0
VELOCITY TO VOLUME: 77.8
VEL CURVE: 0%
PITCH BEND RANGE: 2.0
STRUM SPEED: 225%

SUS PEDAL TO PORTAMENTO: OFF
SPLIT MIDI CHANNELS: OFF
RANDOM RESONANCE: ON
RESONANCE VOLUME: -9

RELEASE NOISE: ON
PITCHED: -24.9
UNPITCHED: -25.1
MIN THRESH: 43
MAX THRESH: 550

EXTRA PICK: ON
TIME: 40
VARIATION: 6
VOLUME: 2.7
MIN VEL: 120
MAX VEL: 127

Tweak these controls to further customize the Archtop script and playback engine.

Transpose: Transposes all MIDI input up (or down) with a range of 12 semitones.

Velocity to Volume: Controls the volume scaling of the instrument. High values will make your playing particularly dynamic; high velocities will result in louder notes, and low velocities in softer notes. Lowering this knob will reduce the effect of velocity on volume. If this knob is set to 0, all notes will be played at a consistent volume regardless of velocity.

Vel Curve: Controls the instrument's sensitivity to your MIDI input. Lower values make the script less sensitive; all of your playing will be scaled down in velocity. Higher values make the script more sensitive, scaling UP your input.

Pitch Bend Range: Sets the range of the pitch bend wheel (or control) in semitones. A range of 2.0 means that if the pitch wheel controller is pushed to its maximum or minimum, it will bend up (or down) 2 semitones.

Strum Speed: Controls the speed of the strums played by the strum keys (**D5/D#5**).

Sus Pedal to Portamento: When enabled, the Sustain Pedal (MIDI CC64) must be PRESSED for any legato transition to happen. This can be useful if you want to use legato articulations in some, but not all, of your performance.

Split MIDI Channels: When enabled, **if Archtop is in OMNI MIDI mode within Kontakt**, incoming MIDI notes will be sent to separate strings depending on the MIDI channel. Channel 1 will be sent to String 1, Channel 2 will be sent to String 2, etc.

Random Resonance: When enabled, the script will sometimes resonate an open string adjacent to the current played string. This simulates the effect of a guitarist accidentally striking or resonating strings. Quite useful for realism!

Resonance Volume: Sets the volume of the random resonance effect, if enabled.

Release Noise On/Off: Enables or disables ALL release noises.

Pitched Knob: Sets the volume of pitched release noises (manual palm stops).

Unpitched Knob: Sets the volume of unpitched release noises (finger, pick, fret noise).

Release Min/Max Thresh: Sets the threshold (in milliseconds) where release noises will play. This is useful as you may not want release noises to trigger on very short or very long notes.

Extra Pick On/Off: Enables or disables the Extra Pick articulation.

Extra Pick Time: Sets the delay allocated for the extra pick articulation, in milliseconds.

Extra Pick Variation: Sets the extra pick sample to be used.

Extra Pick Volume: Sets the volume of the extra pick sample.

Extra Pick Min/Max Vel: As with other articulations, you can specify the range where the extra pick articulation is triggered.

TECHNICAL DETAILS

The guitar used for **Archtop** was a Jim Hall Model by Sadowsky, a six-string hollowbody archtop guitar with custom electronics. Neck and bridge pickups were recorded simultaneously at 24/44.1 using "The Brick" DI box for extra warmth.

CREDITS

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TROUBLESHOOTING & FEEDBACK

Have you used **Archtop** in a project recently? Got an awesome track you'd like to share? Drop us a line (admin@impactsoundworks.com) and we might post it on our website! Or, tell the world at our Facebook page here: <http://www.facebook.com/ImpactSoundworks>

We encourage all our users to share and promote their work. Word of mouth is the #1 way people find our samples, so it also helps us to produce more great libraries for you!

For any technical support issues regarding the library, don't hesitate to email support@impactsoundworks.com.

You can also visit our friendly user community and support forum on KVR Audio:

<http://www.kvraudio.com/forum/viewforum.php?f=176>

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