



VALVES PRO

2

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1. Disclaimer

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Document authored by Hollin Jones

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2. Welcome to Valves Pro

Valves Pro makes it easy to create evolving brass ensembles consisting of Flugelhorn, French Horn, Trombone, Euphonium, and Tuba, using sounds meticulously recorded with leading session players. It comprises of three different instrument variants for both solo and ensemble performances, delivering lush and evolving tones and textures for cinematic scores and contemporary productions.

Valves Pro includes the following three instrument variants:

- **Valves Pro Player:** Build your own looping phrases by placing articulations, including long, short, dynamic, motives, and noise, on a tempo-synced grid across all five instruments.
- **Valves Pro Solo:** Craft intricate solo melodies with any of the five instruments. Choose between 62 articulations for full flexibility, or activate Virtuoso mode to automatically select articulations depending on velocity and expression.
- **Valves Pro Ensemble:** Build authentic and expressive ensemble performances, with the freedom to select your own articulations across all five instruments. The Auto Divisi feature assigns the most accurate instrument to each note of a chord.

This document shows you how to [install and setup](#) Valves Pro, and describes each instrument's features in detail, starting with the basic [overview](#).

Thanks for choosing Valves Pro, we hope you enjoy it!

Document Conventions

In this document the following formatting is used to highlight useful information:

<i>Italics</i>	Indicates paths to locations on your hard disk or other storage devices
Bold	Highlights important names, concepts, and software interface elements.
[Brackets]	References keys on a computer's keyboard
▶	Single item instructions are represented by a bullet icon.
→	Results in procedures are represented by an arrow icon.

The following three icons represent different types of information:



The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.



The **information** icon highlights important information that is essential for the given context.



The **warning** icon alerts you of serious issues and potential risks that require your full attention.

3. Installation and Setup


Before making music with Valves Pro, you must install and set up the necessary software. Follow these instructions to get started.

Installing via Native Access

Native Access is where you will install the software for Valves Pro. If you are new to Native Instruments, you will first have to create your Native ID. To learn more about Native Access, visit our [support page](#).

1. Download and install Native Access [here](#).
2. Create a Native ID if you do not yet have one.
3. Login to Native Access using your Native ID.
4. Click the **Not installed** tab.
5. Click **INSTALL** for the following products:
 - Valves Pro
 - Kontakt or Kontakt Player

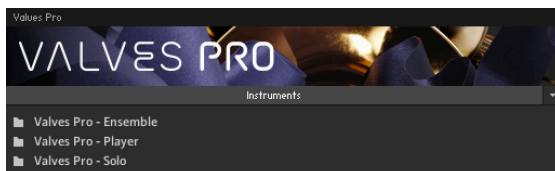
→ The software is installed automatically.


 If the software is already installed, click the **Available updates** tab and check for new updates before proceeding.

Loading Valves Pro in Kontakt

Once installed, you can start using Valves Pro in Kontakt. Valves Pro is not an independent plug-in, so you first need to open an instance of Kontakt or Kontakt Player:

1. Open Kontakt as a plug-in in your host software (DAW) or as a stand-alone application.
2. Locate Valves Pro in the Browser, on the left side of the user interface.
3. Click **Instruments** to open the product's content.
4. Double-click the **Valves Pro - [...].nki** file to load the instrument.



 If you are new to Kontakt and want more information, visit [Kontakt Player](#) and [Kontakt](#).

4. Valves Pro Overview

Valves Pro comprises three instrument variants that offer easy access to key parameters and performance controls on their Main page. Additionally, you can tweak and fine-tune effects on the FX and Mixer pages, and customize playback in Valves Pro Player using the articulation sequencers on the Sequencer page.

The following three variants are included:

- Valves Pro Player
- Valves Pro Solo
- Valves Pro Ensemble

Valves Pro lets you choose between samples recorded with condenser and ribbon microphones to add different characteristics to your productions. The condenser recordings provide a detailed, natural and breathier sound while the ribbon mic has a more warm and mellow tone with a little saturation from mic preamps. For more information about loading presets, refer to [Valves Pro in the Kontakt Browser](#).



You can use MIDI learn to map your MIDI controller to controls in Valves Pro. For more information, refer to [MIDI Learn](#).

Valves Pro Player

Valves Pro Player offers easy access to key parameters and performance controls on its Main page. Additionally, you can tweak and fine-tune effects on the FX page, and customize playback of the five instruments using the articulation sequencers on the Sequencer page.

Valves Pro Player contains the following elements:



1. **Main Preset Browser:** Shows the active preset and opens the Main preset browser when clicked. The arrow icons load the previous and next preset from the Results list in the browser. For more information, refer to [Main Preset Browser in Valves Pro Player](#).
2. **Valves Pro Logo:** You can click the logo to return to the Main page from any of the other pages.
3. **Sequencer Page:** Opens the Sequencer page, which enables you to edit the articulation sequences in use by each of the five instruments. For more information, refer to [Sequencer Page in Valves Pro Player](#)
4. **Mixer Page:** Opens the Mixer page, which enables you to change and balance the levels of each of the instruments, and assign insert, send, and master effects. For more information, refer to [Mixer Page in Valves Pro Player and Ensemble](#)
5. **Settings Page:** Opens the Settings page, which enables you to access global controls related to voice handling, pitch bend and tuning, as well as sample loading. For more information, refer to [Settings Page in Valves Pro Player](#)
6. **Main Control Area:** Displays the content of whichever page is selected.
7. **Global Controls:** Set global playback parameters, choose Moments sequencer patterns and alter the dynamics and character of the sound. For more information, refer to [Global Controls in Valves Pro Player](#).

Valves Pro Solo

Valves Pro Solo offers access to instruments, articulations, and performance controls on its Main page. Additionally, you can tweak and fine-tune effects on the FX page.

Valves Pro Solo contains the following elements:



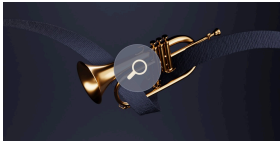
1. **Preset Browser:** Opens the Preset browser. For more information, refer to [Preset Browser in Valves Pro Ensemble and Solo](#).
2. **Valves Pro Logo:** You can click the logo to return to the Main page from any of the other pages.
3. **FX Page:** Opens the FX page, which enables you to assign insert, send, and master effects. For more information, refer to [FX Page in Valves Pro Solo](#).
4. **Settings Page:** Opens the Settings page, which enables you to access global controls related to pitch bend and tuning, as well as articulation switching. For more information, refer to [Settings Page - Valves Pro Solo](#)
5. **Main Control Area:** Displays the content of whichever page is selected.
6. **Articulation Selector:** Selects from the available articulations in Valves Pro Solo. For more information, refer to [Selecting and Loading Articulations](#).
7. **Dynamics:** Changes the tone and forcefulness of the sound. For more information, refer to [Dynamics](#).
8. **Character:** Adjusts a variety of parameters including EQ and tape saturation. At minimum position, the sound is very neutral. As the value increases, more low and high end is introduced, giving the sound more bite. At maximum position, mid-frequency content is more pronounced.
9. **Instrument Selector:** Opens the Instrument selector that you can use to choose from the five available brass instruments. For more information, refer to [Selecting an Instrument](#).

Selecting an Instrument

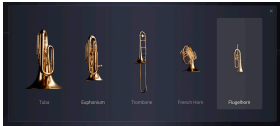
In Valves Pro Solo you can choose from the five available brass instruments. Only one instrument can be selected and played at a time.

To select from Valves Pro Solo's five available instruments:

1. Click on the magnifying glass icon that appears when you move the mouse to the center of the Main page.



2. Click on any of the five instruments to select it.



→ The selected instrument is ready to be played.

Selecting and Loading Articulations

You can select from the available articulations in Valves Pro Solo to create a specific style of playback when you hold a MIDI note.

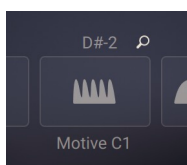
To select an articulation slot:

- ▶ Click on any slot in the articulations area on the Main page. You can select from 32 slots across four banks, which are accessible using the bank selector to the left of the slots.



To load a new articulation into an articulation slot:

1. Click the magnifying glass icon that appears when you place the mouse on a slot to open the Articulation browser.



2. Click any articulation in the Articulation browser at the top to load it into the selected slot.

→ The selected articulation is loaded into the respective articulation slot.

Virtuoso Articulation

The Virtuoso articulation in Valves Pro Solo is a highly playable combination of nine different articulations you can use without having to employ additional key switches. It is a monophonic articulation, allowing just one note at a time.

Instead of keyswitches the note velocity and the current pitch bend value will decide which articulation is chosen for the next played note. For example with pitch bend down you get staccato on lower velocities, Staccatissimo on mid velocities and FortePianoCrescendo at high velocities.

The Virtuoso articulation area contains the following elements:



1. **Pitch Bend:** Sets the articulation type: Short, Sustain-Legato or Grace.
2. **Articulation Matrix:** Shows which articulation was picked for the last played note.
3. **Velocity Display:** Determines whether vibrato is used or not or if the short articulation should be Staccato or Staccatissimo based on the first threshold.
4. **Virtuoso Articulation Select:** Activates Virtuoso articulation playing mode.



If the velocity exceeds the high threshold a FortePiano type articulation is chosen. This also varies depending on the pitch bend value. You can alter the two threshold values to adapt to your keyboard.

Valves Pro Ensemble

Valves Pro Ensemble offers easy access to all five brass instruments on its Main page as well as the ability to select from multiple articulations. Additionally, you can tweak and fine-tune effects on the FX page.

Valves Pro Ensemble contains the following elements:



1. **Preset Browser:** Opens the Preset browser. For more information, refer to [Preset Browser in Valves Pro Ensemble and Solo](#).
2. **Valves Pro Logo:** You can click the logo to return to the Main page from any of the other pages.
3. **Mixer Page:** Opens the Mixer page, which enables you to change and balance the levels of each of the instruments, and assign insert, send, and master effects. For more information, refer to [Mixer Page in Valves Pro Player and Ensemble](#)
4. **Settings Page:** Opens the Settings page, which enables you to access global controls related to pitch bend and tuning, as well as voice allocation and articulation switching. For more information, refer to [Settings Page - Valves Pro Ensemble](#)
5. **Main Control Area:** Displays the content of whichever page is selected.
6. **Articulation Selector:** Opens the Articulation selector for the respective instrument. Additionally, you can hover the mouse over the selector to access On/Off, Mute (**M**), and Solo (**S**) buttons for each instrument. For more information, refer to [Articulation Selector](#).
7. **Dynamics:** Changes the tone and forcefulness of the sound. For more information, refer to [Dynamics](#).
8. **Character:** Adjusts a variety of parameters including EQ and tape saturation. At minimum position, the sound is very neutral. As the value increases, more low and high end is introduced, giving the sound more bite. At maximum position, mid-frequency content is more pronounced.
9. **True Range:** Limits the key range to the real ranges of the active instruments. This is indicated by the blue key overlay on Kontakt's software keyboard. Notes outside of this range will not sound. The total key range available reflects the number of instruments that are activated. For example, turning off the tuba will make the lower end of the key range unavailable. Similarly, turning off the flugelhorn will remove some notes from the top end of the key range.

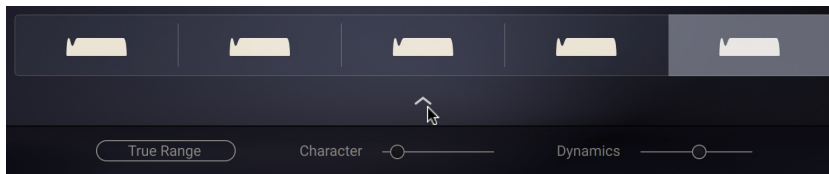
Articulation Selector

The Articulation selector in Valves Pro Ensemble can be used in two different views. Collapsed view provides quick access to articulation assignment, while Expanded view provides comprehensive access to articulation assignment across all available keyswitches.



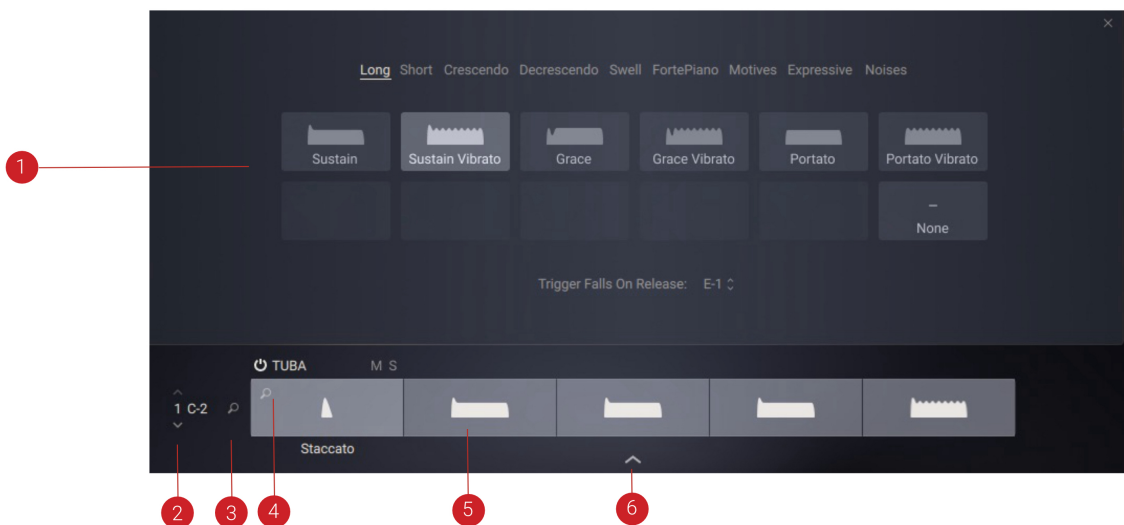
For information about the available categories of articulations, refer to [Articulations](#).

- To switch between the Collapsed and Expanded view of the Articulation selector, click on the Expand/Collapse button at the bottom of the selector.



Collapsed View

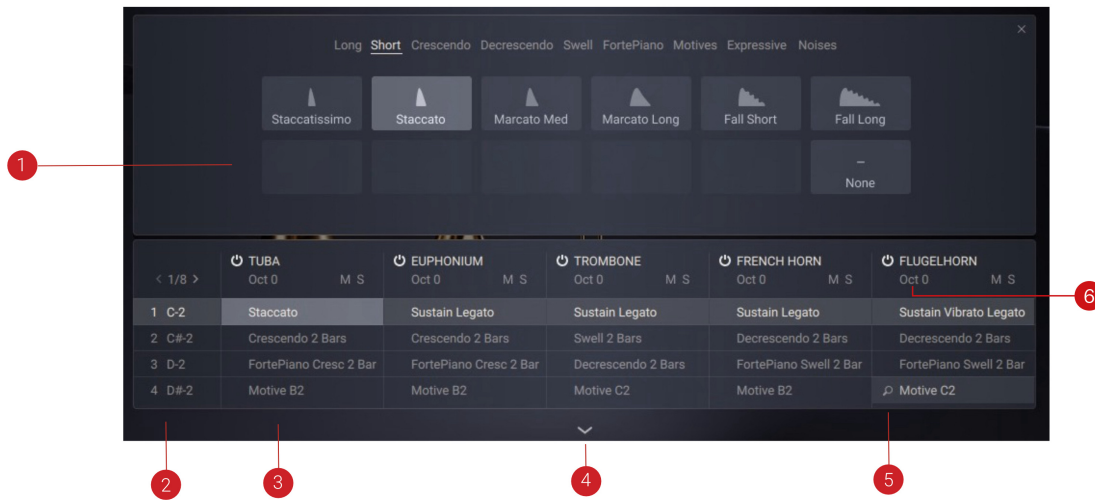
The Articulation selector in Collapsed view has the following elements:



- 1. Articulation Browser:** Assigns an articulation to the selected articulation slot.
- 2. Keyswitch:** Selects a keyswitch for which you can view and edit the articulation slots. When hovering the mouse over the keyswitch name, you can use the up and down arrows to the right of the name to change the keyswitch assigned to the selected slot.
- 3. Global Articulation Browser:** Opens the Articulation browser for loading articulations to the articulation slots for all instruments.
- 4. Instrument Articulation Browser:** Opens the Articulation browser for loading an articulation to the respective articulation slot.
- 5. Articulation Slot:** Shows the currently selected articulation for the respective keyswitch and instrument and enables you to select an articulation for this slot from the Articulation browser.
- 6. Expand/Collapse button:** Toggles between the Collapsed and Expanded views.

Expanded View

The Articulation selector in Expanded view has the following elements:



- 1. Articulation Browser:** Assigns an articulation to the selected articulation slot.
- 2. Keyswitch:** Highlights the articulation slots for the respective keyswitch. When hovering the mouse over the keyswitch name, you can use the up and down arrows to the right of the name to change the keyswitch. Additionally, you can click the magnifying glass icon to open the Articulation browser for loading articulations to all slots of the respective keyswitch.
- 3. Articulation Slot:** Shows the currently selected articulation for the respective keyswitch and instrument and enables you to select an articulation for this slot from the Articulation browser.
- 4. Expand/Collapse button:** Toggles between the Collapsed and Expanded views.
- 5. Instrument Articulation Browser:** Opens the Articulation browser for loading an articulation to the respective articulation slot.
- 6. Oct:** Sets the octave for the respective instrument in the range from -2 to +2 octaves.

5. Playing Valves Pro Player and Ensemble

In Valves Pro Player and Ensemble you can activate up to five instruments. The engine used in Valves Pro Player and Ensemble will dynamically allocate the MIDI notes that you input to each of the five instruments based on their pitch. The lowest note will be allocated to the tuba, the second lowest to the euphonium, then the trombone and french horn and finally the highest to the flugelhorn. This Smart Voice Assignment divides and arranges your played notes amongst the five instruments, taking into account their natural ranges.

The number of notes played and the number of activated instruments affect the distribution of notes to instruments. When you have fewer than five instruments active or play fewer or more than five notes, the engine interprets note input in the following way:

	1 Instrument	2 Instruments	3 Instruments	4 Instruments	5 Instruments
1 Note	1	1.1	1,1,1	1,1,1,1	1,1,1,1,1
2 Notes	Last note	1.2	1,2,2	1,1,2,2	1,1,2,2,2
3 Notes	Last note	Last 2 notes	1,2,3	1,2,3,3	1,1,2,3,3
4 Notes	Last note	Last 2 notes	Last 3 notes	1,2,3,4	1,2,3,4,4
5 Notes	Last note	Last 2 notes	Last 3 notes	Last 4 notes	1,2,3,4,5

The 'last note' in this table represents the last note received by the instrument. Imagine you have two instruments active but play a three note chord. In this case, the last two notes received would be distributed across the two available instruments based on their pitch. Then if you play another note, the oldest note will be discarded and replaced by the new note at the start of the next articulation of the instrument that the note is distributed to.

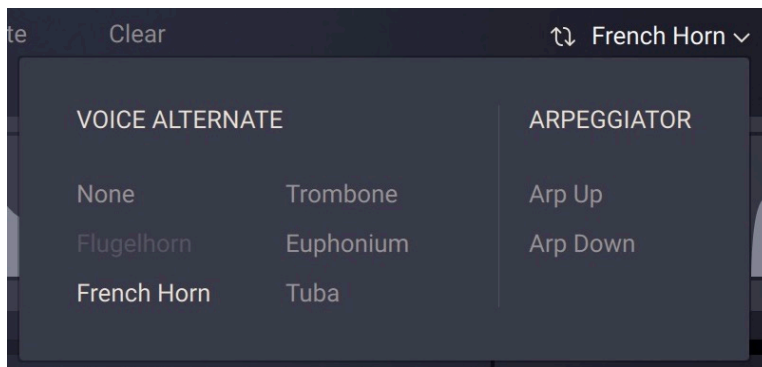
In another example, if you play a C triad chord and the notes are pressed within a 24 ms window, the C will be distributed to the instrument with the lowest register, then the E to the next one up and the G to the instrument with the highest register. The way notes are interpreted is defined by the Voice Detection setting on the Settings page. If notes are played gradually, the engine interprets this as '1 note' or '2 notes' and will reallocate notes as described above. For more information, refer to [Settings Page in Valves Pro Player](#)



When **True Range** is deactivated and the assigned notes are not part of the natural range of the instrument, they get shifted by an octave until they are in range.

Voice Alternate

The engine in Valves Pro Player and Ensemble is five-note polyphonic with the five notes being assigned to each of the five instruments. In the Voice Alternate section on the right side of an instrument's track in the Sequencer page you will find a Voice Alternate menu.



The Voice Alternate section

Here you can assign an instrument with which the currently selected instrument will alternate the pitch it plays. This helps you to achieve a more natural musical style akin to a real brass ensemble. Instead of each instrument playing the same notes it can switch alternate notes with another instrument that you choose.

In the following example, imagine you play five notes like C, E, G, B, D, with B and D being the top two notes and have the french horn and flugelhorn set to alternate with each other. This would be the result.



An example of voice alternation

If an instrument has its Voice Alternate set to Arp Up or Arp Down, the engine takes the chord you play and plays an arpeggio either up or down based on the notes in the chord.

6. Controlling Dynamics in Valves Pro Solo and Ensemble

Valves Pro Solo and Ensemble use a combination of MIDI note velocity and the **Dynamics** parameter to control the dynamics of the sound. You can adjust **Dynamics** directly in the Valves Pro user interface, or use the modulation wheel (MIDI CC#1). This enables you to play a musical phrase with velocity while adding inner note dynamics with the mod wheel or automation. Furthermore, you can change the balance of the notes in a chord by slightly changing the velocities of the instruments.

The following rules apply to controlling the dynamics of the sound:

- When **Dynamics** (or the modulation wheel) is set to center position, the velocity can be used in its full range from 1-127.
- Notes with a maximum velocity of 127 can only be lowered in volume using **Dynamics**, while notes with minimum velocity of 1 can only be raised in volume.
- If you want to maximize the control range of **Dynamics**, play the instrument with a fixed velocity of around 64, for example using a MIDI effect in your DAW.

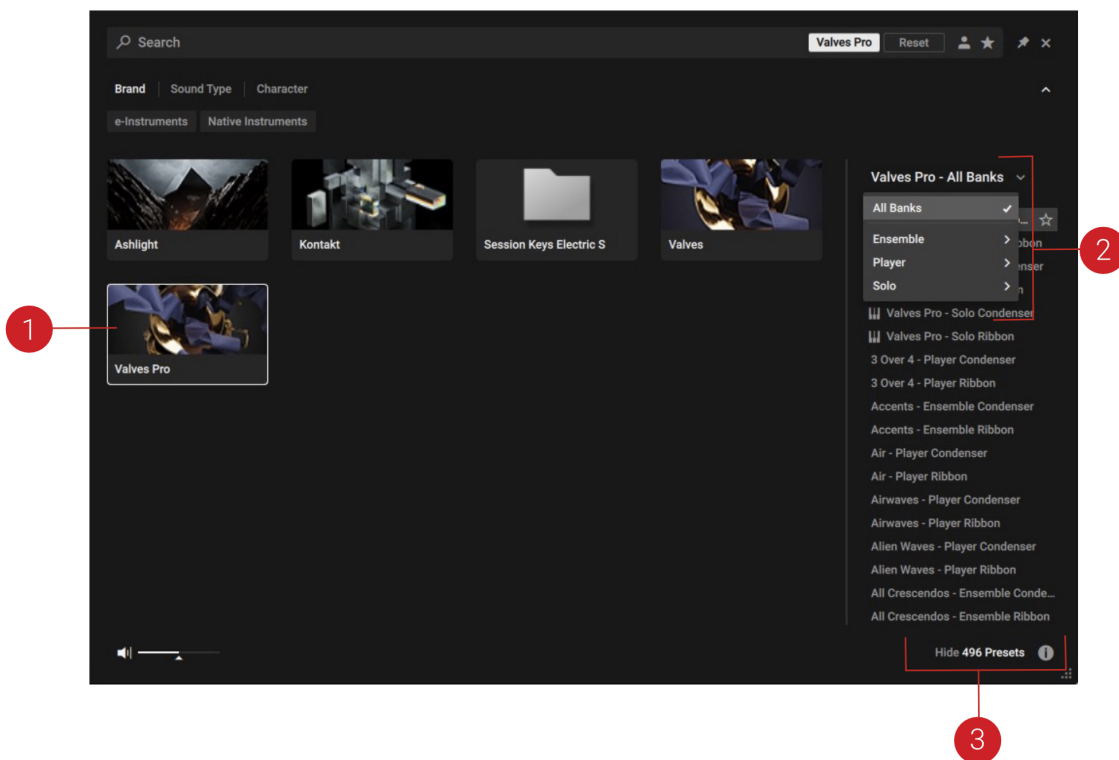
7. Browser

Valves Pro uses both the Kontakt browser and its own dedicated browsers to find and load global presets, as well as Articulation and effects presets.

Valves Pro in the Kontakt Browser

You can access all of the Instrument variants in Valves Pro using the Kontakt browser. The browser's options include the possibility to filter by library and bank, allowing you to only show presets included in Valves Pro. Each instrument variant has **Condenser** and **Ribbon** microphone options that provide a different sound character.

The following overview shows you the relevant elements in the Browser:

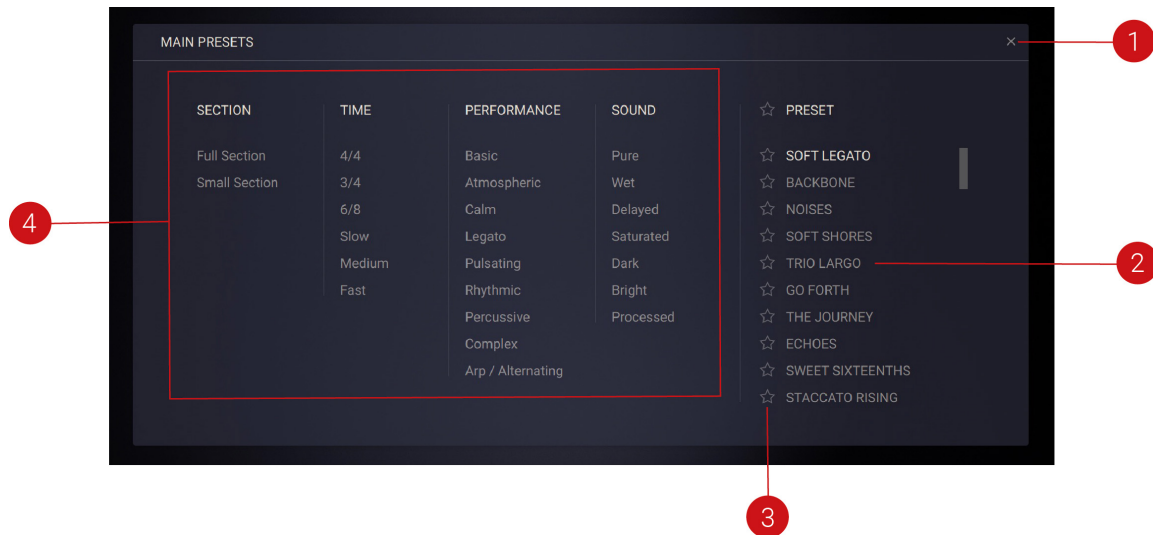


- 1. Valves Pro Library:** Clicking the Valves Pro library tile will filter the browser's Results list to only include presets from the Valves Pro.
- 2. Bank Menu:** When the Valves Pro Tile is selected, clicking on the Bank menu will open a drop-down list that allows you to select from the three instruments. Each instrument also has Condenser and Ribbon microphone options. The Results list will only show presets from the selected collection.
- 3. Results List:** Shows all presets according to the filters you have set in the browser, including the Library tile and the selection made using the Bank menu.

i Detailed information about using the Kontakt browser including all of its advanced filtering options can be found in the Kontakt manual.

Main Preset Browser in Valves Pro Player

The Main Preset browser contains the following elements:



- 1. Close:** Closes the browser.
- 2. Presets Results List:** Displays all of Valves Pro' presets. This list reacts to filter tags that you may have selected. With one or more tags selected the list will show only presets matching those tags.
- 3. Favorites:** Indicates Favorites in the Results list, and marks a preset as a Favorite. For more information, refer to [Using Favorites in the Browser](#).
- 4. Sound Categories:** Displays the available filter tags for refining your search.

Filter Tags

When clicking on any of the tag categories, the results list on the right hand side will update to show only the presets matching those tags. Select multiple tags to refine your search further to match only presets tagged with those characteristics. For example, select a Time Signature of **4/4** and Performance tags **Calm** and **Legato** to display only the presets matching those tags. The available types of tags are described in detail below.



The Favorites feature is a special type of filter allowing you to curate a list of your favorite presets. For more information, refer to [Using Favorites in the Browser](#).

MAIN PRESETS				
SECTION	TIME	PERFORMANCE	SOUND	☆ PRESET
Full Section	4/4	Basic	Pure	☆ SOFT LEGATO
Small Section	3/4	Atmospheric	Wet	☆ CASCADE
	6/8	Calm	Delayed	☆ EBB AND FLOW
	Slow	Legato	Saturated	
	Medium	Pulsating	Dark	
	Fast	Rhythmic	Bright	
		Percussive	Processed	
		Complex		
	Arp / Alternating			

Filter tags in the Browser

Section

Selects the kind of ensemble you want to load. **Full Section** shows presets containing all five instruments. **Small Section** shows presets containing less than five instruments.

Time

Chooses presets based on time signatures like **4/4** and **3/4**, as well as different tempos that the phrases were originally created in, including **Slow**, **Medium**, and **Fast**.



Choose more than one tag to find for example all presets in 3/4 time that are suitable for a faster tempo.

Performance

Selects from the various performance styles that presets employ. Each of the five instruments in a preset can use its own independent sequencer so you can achieve different playback styles. The performance styles cover a range of moods and percussive characteristics.

Sound

Filters presets using the character of their sound. These different characters are a result both of playing styles, the types of instruments layered together and the effects used to process the output. Select more than one tag to show more results.

Preset Browser in Valves Pro Ensemble and Solo

The Preset browser contains the following elements:



1. **Preset Browser:** Opens or closes the Preset browser.
2. **Close:** Closes the Preset browser.
3. **MIXER:** Mixer presets contain different sound settings and are independent from the articulations you choose.
4. **Favorites:** Indicates Favorites in the Results list, and marks a preset as a Favorite. For more information, refer to [Using Favorites in the Browser](#)
5. **ARTICULATIONS:** Articulation presets contain different sets of articulations and are independent from the sound settings. The first 20 Articulation Presets are combinations of different articulations that work well together. The following presets, for example named **All Longs** or **All Shorts**, will map only articulations from the respective category to the keyswitches.

Using Favorites in the Browser

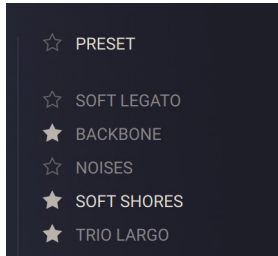
The Favorites feature is another way you can tailor your browsing experience in Valves Pro. They can help to organize your presets, and are useful for collecting all the inspiring sounds and settings that you may encounter as you explore Valves Pro' extensive library.

To mark a preset as a Favorite:

1. Open the browser.

2. Click the star icon next to the preset in the Results List.

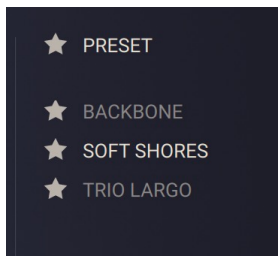
→ The preset is now marked as a Favorite, indicated by the highlighted star icon.



To filter by Favorites:

► Click the star icon next to the **PRESET** label of the Results list.

→ The Results list now displays all presets marked as Favorites.



Snapshots

Snapshots are Kontakt's underlying file format for instruments presets. They offer a quick and convenient way of browsing for new sounds and saving custom presets. When a User Snapshot is saved, all parameter adjustments and instrument settings are stored within the preset. Using Snapshots, you can create your own preset sounds, save them in the .nksn file format and use them in other projects, across computers or even share them with other users.

Snapshots Overview

Snapshots contain the parameters and controls:



1. **Load Snapshot:** Opens the Snapshot menu where you can load a Snapshot from the **Factory** or **User** library. For more information, refer to [Loading a Snapshot](#).
2. **Snapshot Name:** Displays the name of the currently selected Snapshot.

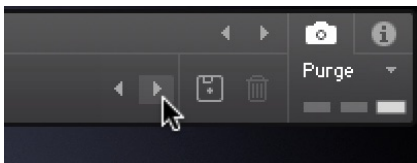
3. **Snapshot Previous/Next** (<> icons): Allows you to quickly browse and load Snapshots. Pressing an arrow icon will load the previous or next Snapshot in the selected category. If no Snapshot is active, the first Snapshot on the list will be loaded. For more information, refer to [Loading a Snapshot](#).
4. **Save Snapshot** (floppy disk icon): Allows you to save changes made to a sound. When a User Snapshot is saved, the macros settings, parameter controls, and sequence are stored within it and can be accessed at any time via the **User** library. For more information, refer to [Saving a User Snapshot](#).
5. **Delete Snapshot** (bin icon): Deletes the currently selected Snapshot from the **User** library. You can only delete **User** Snapshots and not **Factory** Snapshots. For more information, refer to [Deleting a User Snapshot](#).
6. **Snapshot View** (camera icon): Provides access to the Snapshot features described above; saving, loading, browsing, and deleting. When **Snapshot View** is selected, configuration settings and features relating to the **Info View** are replaced in the display.

Loading a Snapshot

Snapshots are loaded from the drop-down menu in the top header of the instrument. You can also use the arrows to the left of the floppy disk icon to load the previous or next preset.

To load and browse Snapshots using the arrow icons:

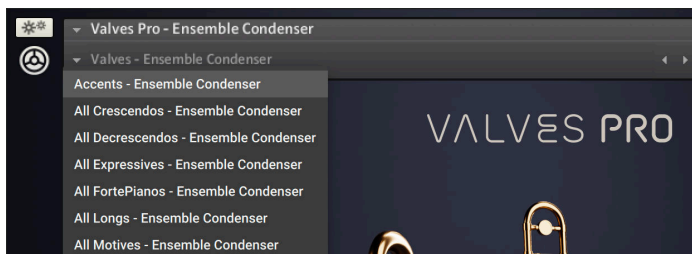
1. Click the Snapshot View (camera icon) to open Snapshot view.
2. Click the arrow icons (<>) in the Snapshot header to browse through the Snapshots list.



→ The previous or next Snapshot will load immediately each time an arrow icon is clicked.

To load a Snapshot from the library:

1. Click the Snapshot View (camera icon) to open Snapshot view.
2. Click the arrow icon next to the Snapshot name field to open the Snapshot menu.
3. Select the **Factory** category to load a Factory preset, or select the **User** category to load one of your own Snapshots.
4. Select an instrument category, if available.
5. Select a Snapshot to load it.



→ The loaded Snapshot is displayed in the instrument header.

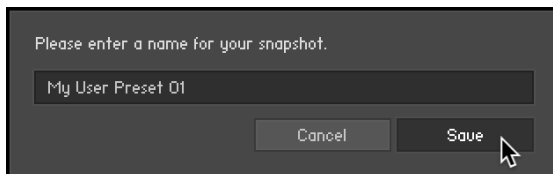
i The **User** category will not appear until you have first saved a Snapshot.

Saving a User Snapshot

Snapshots can be saved at any time while you are working on them. When a Snapshot is saved, all parameters and controls are also saved.

To save a Snapshot:

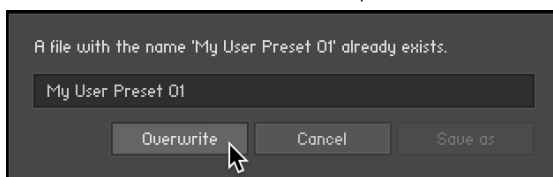
1. Click the Snapshot View button (camera icon) to open Snapshot view.
2. Click the **Save** button (floppy disk icon).
3. Enter a name for your new Snapshot in the **Save** dialog box.
4. Click **Save** to finish the process and close the dialog box.



→ Your Snapshot .nksn file is saved to the User Snapshot Library. It appears in the **User** Snapshot list.

To overwrite a Snapshot:

1. Click the Snapshot View button (camera icon) to open Snapshot view.
2. Click the **Save** button (floppy disk icon).
3. Click **Overwrite** to confirm the process.

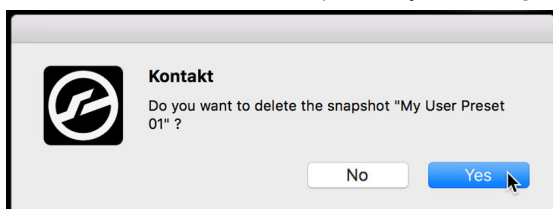


→ Your Snapshot .nksn file is saved to the User Snapshot Library, in replace of the old file.

Deleting a User Snapshot

Snapshots can be deleted using the bin icon in the instrument header. To delete a User Snapshot:

1. Click the Snapshot view (camera icon) to open Snapshot view.
2. Load the User Snapshot you wish to delete.
3. Click the **Delete** button (bin icon).
4. Confirm deletion of the Snapshot by selecting **Yes** in the dialog box.



→ The User Snapshot .nksn file is deleted from the User Snapshot Library.

8. Global Controls in Valves Pro Player

The Main page in Valves Pro Player features a number of global controls that allow you to quickly adjust the sound and playback.



1. **Random:** Creates new settings for each of the five instruments. For more information, refer to [Random](#).
2. **Retrigger:** When Retrigger is active, each key press restarts the sequence of the instrument to which that note is assigned. For more information, refer to [Retrigger](#).
3. **Moments:** Click the A, B or C text or use the slider to switch between each of the three variations available for each of the five instruments. For more information, refer to [Moments](#).
4. **Tracks:** Displays the five instruments and a quick view of their sequencer playback. Each instrument can be soloed, muted, locked or deactivated from here. For more information, refer to [Tracks](#).
5. **Character:** Adjusts a variety of parameters including EQ and tape saturation. At minimum position, the sound is very neutral. As the value increases, more low and high end is introduced, giving the sound more bite. At maximum position, mid-frequency content is more pronounced.
6. **Dynamics:** Changes the tone and forcefulness of the sound. For more information, refer to [Dynamics](#).

Random

Clicking the **Random** button will create new settings for each of the instruments and the sequencers. This is a useful way to quickly come up with new sounds and patterns without having to make all the settings yourself. New settings will be created for each of the five instruments unless any instrument has been locked in which case it will not be changed.

Moments

Moments represent different sequencer patterns for each of the five instruments. The **Moments** slider can be moved left or right to place patterns A,B or C into the sequencer for each instrument. With the slider fully to the left, each sequencer will use pattern A. As you begin to move it to the right, pattern B will be introduced gradually in ascending order into instruments one to five. With the slider fully at position B, all five instruments will use pattern B. The same applies as you continue to move the slider to the right so that with the slider fully in the C position, all five sequencers will be using pattern C.



Moments controls in Valves Pro Player

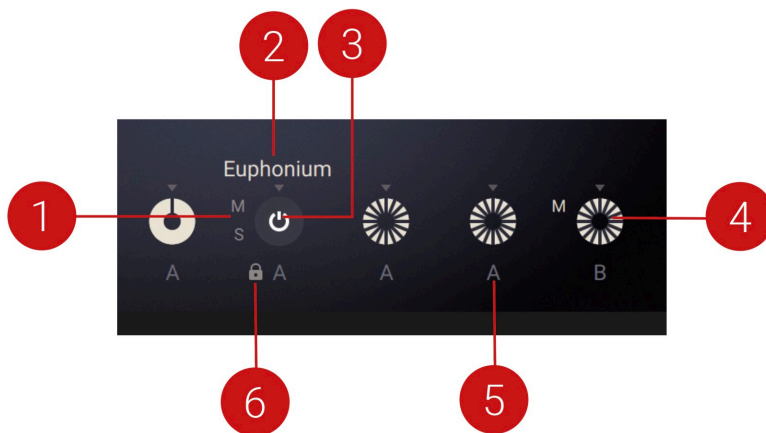
The five circle displays show which of the patterns A, B or C are in use by each instrument. The segmented displays also indicate how complex each pattern is. A more solid circle represents a long, held note while a more segmented circle means that more repeated notes are contained in the pattern. The pattern in use for each instrument can be seen in greater detail and edited in the Sequencer page. Although the Moments are pre-set you can manually edit any sequence as part of a Moment and it will be saved as part of your snapshot or Kontakt preset.



The Moments slider can be automated in a DAW to change sequencer patterns over time.

Tracks

The five tracks represent the five instruments used in Valves Pro Player. There are several controls available for each one which appear when you move the mouse over any of the circles.




1. **Mute and Solo:** Click M to mute the instrument and S to solo it.
2. **Instrument Name:** The currently selected instrument.

3. **Power Button:** Click to turn an instrument on or off. This is different from muting it because where muting only stops an instrument's sound, turning it off entirely will stop it from having notes distributed to it and thus affect the way that notes are distributed to those instruments which remain active. Deactivating an instrument will also unload the samples from RAM.
4. **Sequencer Overview:** A quick visual representation of the sequencer assigned to the instrument.
5. **Moment Indicator:** The letter A, B or C that appears beneath a circle denotes the Moments pattern that its sequencer is currently using.
6. **Lock:** Prevents the settings of the corresponding instrument from being altered by the Randomize button and the Moments slider. You can use this to preserve the sequencer settings of specific instruments while randomizing others.

Retrigger

When **Retrigger** is deactivated you can play a note to start playback of the instruments' sequencers and when you add more notes, the sequences will continue to play in a loop without restarting. The sequencers are not interrupted by the pressing of new notes.

When **Retrigger** is active however, pressing new notes will restart the sequencers of the instruments to which those notes are assigned based on their pitch. So for example when **Retrigger** is active, you could hold a low note which would be played by the tuba and then introduce a series of higher notes which would be played by the french horn or flugelhorn. As you kept playing new notes in the higher range, the sequences for the french horn and flugelhorn would be restarted with each new key press. The result is a more dynamic performance as the higher instruments play with more variation than simply looping their entire sequence on repeat.

 The **Retrigger** switch is global and affects all five instruments but it is also based on the note allocation rules in Valves Pro Player. When active it will retrigger the sequencers only of those instruments to which the newly played notes get assigned.

Dynamics

The **Dynamics** control adjusts the overall dynamics of the instrument's articulations, while preserving their relative differences. Each articulation gets stronger or softer proportionate to its starting value. This means that the whole articulation sequence is changed in a way that sounds natural rather than softer and louder articulations all being equalized to the same level. It's a useful control for changing the playing style to be more forceful or to be softer but without having to change an instrument's volume in the mix.

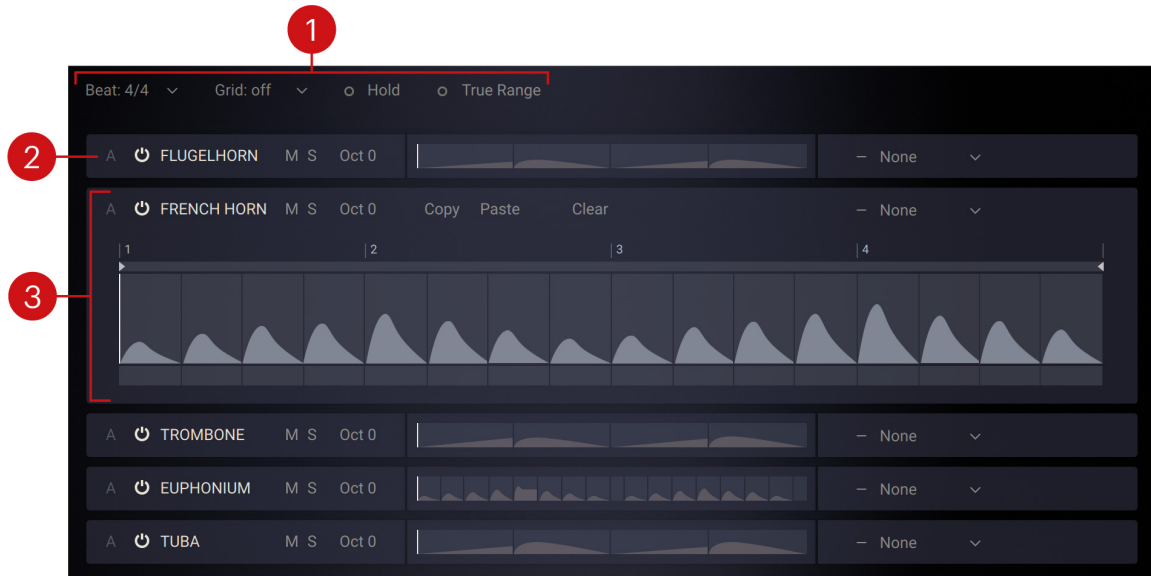
Valves Pro uses samples that have been recorded at many different dynamic levels. When altering the dynamics of an instrument, the engine uses dedicated samples rather than simply changing volume levels. It employs smooth crossfading to move between velocity layers in real time to make the transitions seamless and achieve maximum creative expression.



The **Dynamics** control can be automated in your DAW to change over time, providing an extra level of control.

9. Sequencer Page in Valves Pro Player

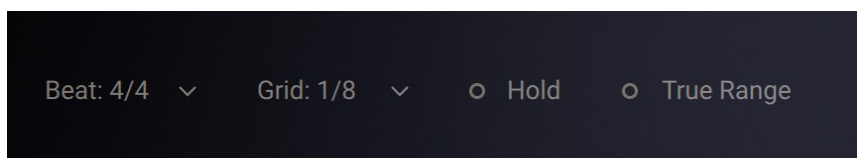
The Sequencer page is where you edit the articulation sequences in use by each of the five instruments. It has the following elements:



- 1. Global Controls:** Contains controls for setting the time base (**Beat**), the sequencer grid (**Grid**), and switching **Hold** and **True Range** on or off. For more information, refer to [Global Controls](#).
- 2. Instrument Track:** Represents one of the five instruments in the sequencer and displays a preview of the instrument's articulations. **Oct** sets the octave for the respective instrument in the range from -2 to +2 octaves. **M** mutes the respective instrument, while **S** solos it. You can expand a track and access the editing options by clicking on it.
- 3. Sequencer Track:** Displays the instrument's articulations, and provides you with comprehensive editing options. For more information, refer to [Track Overview](#).

Global Controls

The Sequencer section has a number of controls that affect all five of the instruments' sequencers and the behavior of each of the instruments.

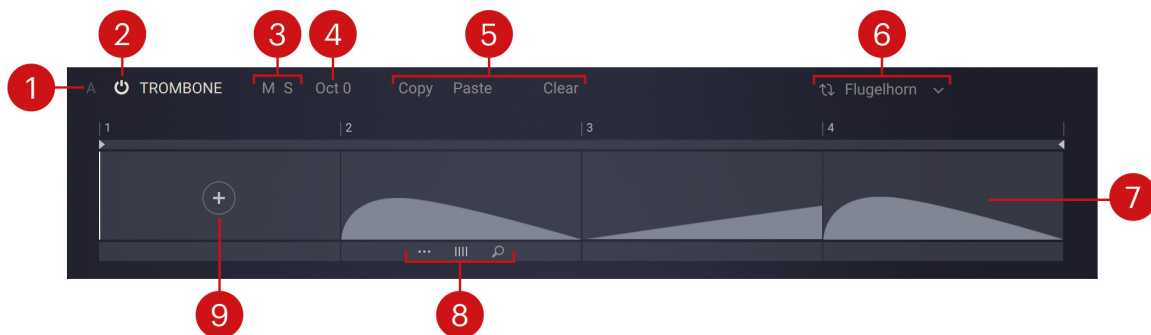


- **Beat:** Sets the time signature for the sequencers. This can be set to 4/4, 3/4 or 6/8 time.
- **Grid:** Sets the snap behavior of the sequencers' grids. This can be set to 1/4, 1/4 triplet, 1/8, 1/8 triplet or 1/16th of a bar. It determines the snap behavior of the left and right loop markers in a sequencer and also how blocks of articulation data in the sequencer snap to divisions of bar markers.
- **Hold:** Acts like a sustain pedal, continuing any active sequence and playing it in a loop until **Hold** is deactivated. If you play a different note while **Hold** is activated, the sequencer will wait until it encounters the next active block of articulation data before sounding the new note. By default the Hold control is assigned to the sustain pedal.

- **True Range:** Limits the key range to the real ranges of the active instruments. This is indicated by the blue key overlay on Kontakt's software keyboard. Notes outside of this range will not sound. The total key range available reflects the number of instruments that are activated. For example, turning off the tuba will make the lower end of the key range unavailable. Similarly, turning off the flugelhorn will remove some notes from the top end of the key range.

Track Overview

Each instrument's sequencer track can be expanded by clicking on it. Only one track can be shown in expanded view at any one time. Each track has an identical set of controls.

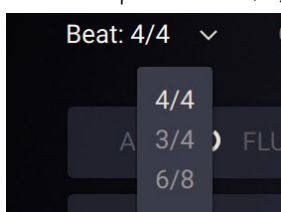


1. **Moment:** Shows which of the Moments the track is using. For more information about Moments, refer to [Moments](#).
2. **On/Off:** Switches the respective instrument on or off.
3. **Mute and Solo:** Mutes (**M**) or solos (**S**) the respective instrument.
4. **Oct:** Sets the octave for the respective instrument in the range from -2 to +2 octaves.
5. **Copy, Paste and Clear:** Copies, pastes, or clears a track's articulations. By holding [option] (macOS) or [Alt] (Windows) and clicking the **Paste** and **Clear** buttons, you can apply the respective action to all tracks.
6. **Voice Alternate:** Selects an instrument for alternating playback of pitches.
7. **Articulation Sequence:** Displays the articulations and their playback order in the respective track.
8. **Edit Buttons:** Options for editing the Articulation sequence. For more information, refer to [Editing Tracks](#).
9. **Add New Articulation:** Opens the Articulation browser and enables you to select an articulation. For more information, refer to [Articulations](#).

Editing Tracks

Each of the five instruments in Valves Pro Player has its own sequencer track that contains articulations. The sequencer track for each instrument can be edited to change the way it plays back its articulations.

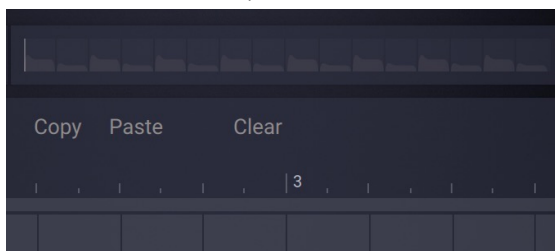
- To choose a resolution for the sequencers, use the **Beat** menu at the top left of the Sequencer to set the pattern to 4/4, 3/4 or 6/8 resolution.



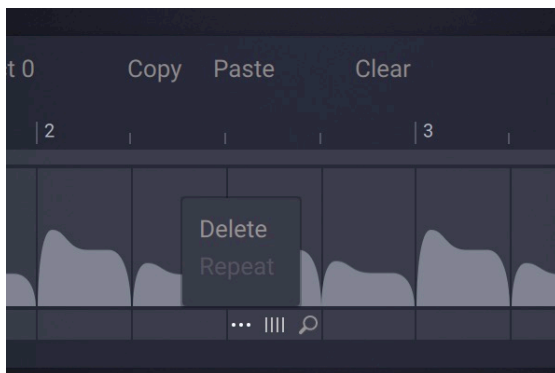
- ▶ To set the snap value for the sequencers' grid, use the **Grid** menu.



- ▶ To clear an entire sequencer lane, click the **Clear** button at the top of the sequencer.

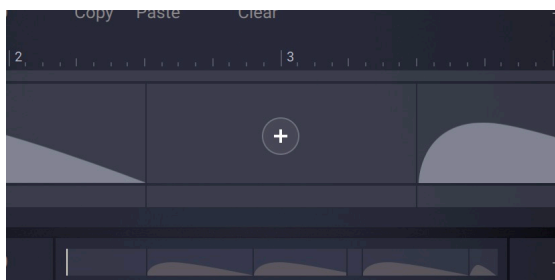


- ▶ To clear an individual articulation, click the **Delete** command accessible through the Edit menu at the bottom.



[option]+click (macOS) or [Alt]+click (Win) on the **Paste** or **Clear** buttons pastes the clipboard contents to all tracks or clears all tracks as appropriate.

- ▶ To add an articulation to an empty section, click on the **+** icon to open the Articulation browser. For more information, refer to [Articulations](#).



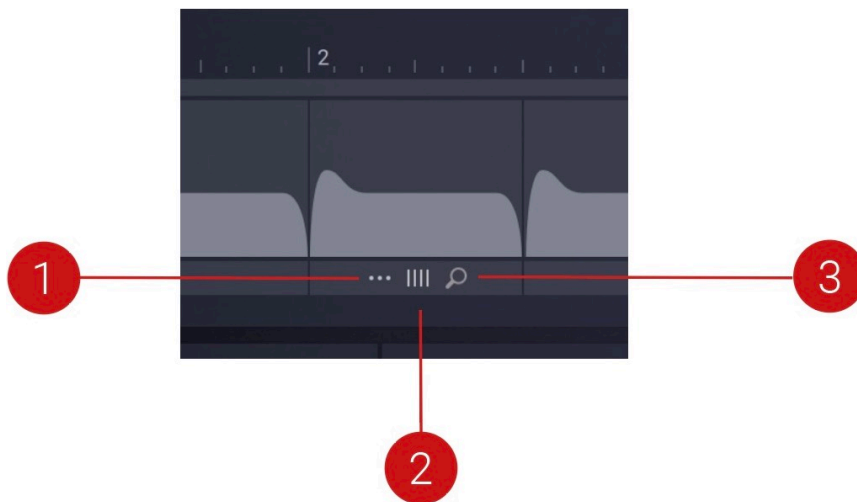


A sequence does not have to be filled with articulations. An empty section simply means no notes will sound at those points.

Edit Buttons

The Edit buttons give you access to additional edit functions as well as the Articulation browser, which lets you load an articulation.

► To show the Edit buttons, hover the mouse over the bottom of an articulation in the sequence.



Edit Buttons: Contains options for editing the Articulation sequence. Clicking the menu icon (...) enables you to delete an articulation, or repeat it to fill the whole sequence. Clicking and dragging the position icon (III) enables you to change the position of an articulation in the sequence. Clicking the magnifying glass icon

1. **Edit menu:** Enables you to delete an articulation, or repeat it to fill the whole sequence. Note that **Repeat** is not available when there is insufficient space in the sequence.
2. **Position:** Changes the position of an articulation in the sequence by clicking and dragging the icon.
3. **Articulation Browser:** Opens the Articulation browser where you can select a new articulation. For more information about the available articulations, refer to [Articulations](#).

Locators

The left and right locators govern the length of the loop for a sequencer track. By moving these around you can set any sequence to play a part of the loop rather than the entire loop. This makes Valves Pro Player polymetric, since different instruments can play different length loops as part of the same preset. The articulation data and the locators will snap to a beat grid based on the setting you make in the Grid menu at the top of the Sequencer page.

- ▶ Move the mouse over the left or right edge of any articulation and drag it to be longer or shorter.



You cannot overlap one articulation with another so dragging will stop as soon as it meets another articulation. Note that dragging articulations adheres to the **Beat** and **Grid** settings in the menus at the top of the Sequencer page, which apply to all five sequencers.



If you hold the [option] (macOS) or [Alt] (Windows) key on your keyboard while dragging the left or right markers in the Sequencer you can temporarily disable snapping, meaning they will no longer snap to beat or bar markers.

10. Articulations

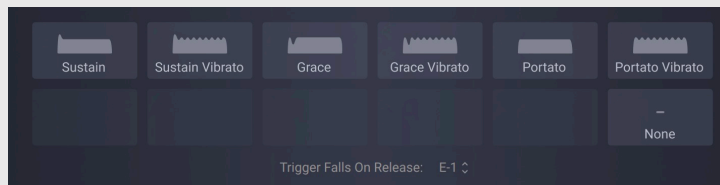
Articulations are musical parameters that determine how notes are performed. They determine a note's timbre, dynamics and pitch. In Valves Pro, all the articulations are created using meticulously sampled performances by real musicians. This includes multiple velocity layers as well as polyphonic legato for sustain articulations and true legato sustain transitions. When playing Valves Pro, MIDI note input is translated into complex playing styles of a real brass player by applying the articulations in real-time.

The following categories of articulations are available in Valves Pro:

- **Monophonic:** Monophonic articulations that enable legato playing of Valves Pro Pro Solo. For all monophonic articulations in Valves Pro Player and Ensemble, the sustain pedal helps you to play legato to the next note or chord. If a single note or a chord is detected, the instrument's interpretation depends on the [Auto Divisi and Response Time](#) settings.
- **Long:** Sustained and portato articulations that can form the basis for a huge variety of different expressions.



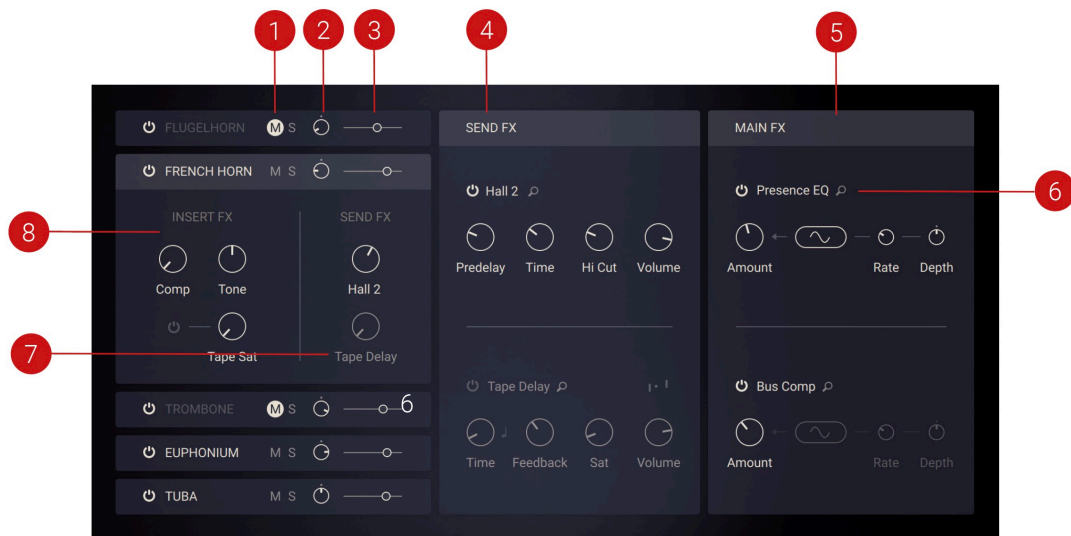
Long articulations have an extra keyswitch called **Trigger Falls On Release**. On key release, the articulation doesn't end with a regular release sample but rather with a fall, as used in disco and funk, for example.



- **Short:** Staccato and marcato articulations that can form the basis for a huge variety of different expressions.
- **Crescendo:** Articulations that build slowly to a peak and then diminish quickly. These articulations sync their tempo to your host.
- **Decrescendo:** Articulations that build quickly to a peak and then diminish more slowly. These articulations sync their tempo to your host.
- **Swell:** Articulations that build to a peak and then diminish over time. These articulations sync their tempo to your host.
- **Fortepiano:** Articulations that begin with a loud accent quickly followed by a crescendo or swell. These articulations sync their tempo to your host.
- **Motives:** Articulations that add specific rhythmic gestures to the sequence. These articulations sync their tempo to your host.
- **Expressive:** Unique, long, and dynamic rhythmic articulations. These articulations sync their tempo to your host.
- **Noises:** Articulations that capture non-pitch noises and effects performed on brass instruments. **Swell, Swell Valve, Cresc 1 beat, Cresc 2 beats** and **Decrescendo** articulations sync their tempo to your host.

11. Mixer Page in Valves Pro Player and Ensemble

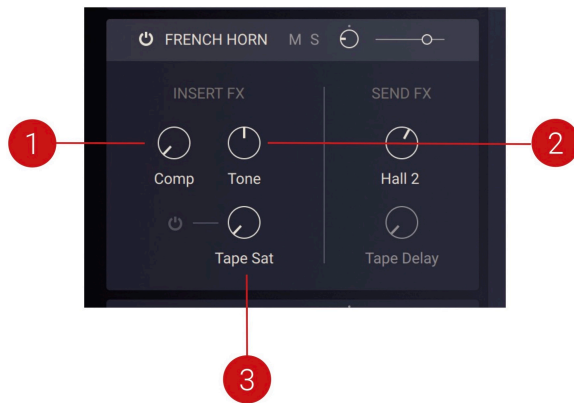
The Mixer page in Mixer Page in Valves Pro Player and Ensemble is where you change and balance the levels of each of the instruments and assign insert, send and main effects. It has the following elements:



1. **Mute and Solo:** Mute or Solo any instrument.
2. **Pan:** Change the stereo panning of an instrument between left and right sides.
3. **Volume Level:** Set the instrument's volume level.
4. **Send FX:** Activate and control up to two send effects per preset. For more information, refer to [Send FX](#).
5. **Main FX:** Activate and control up to two main effects per preset. For more information, refer to [Main FX](#).
6. **FX Browser:** Open the effects browser for the corresponding effect.
7. **Send FX Level:** Adjust the amount of send effect applied to each instrument.
8. **Insert FX:** Adjust parameters related to the insert effects of each instrument. For more information, refer to [Insert FX](#).

Insert FX

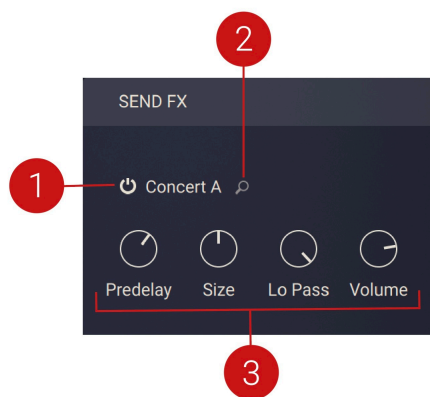
The Instrument controls area contains Insert FX controls for each instrument. The three knobs here are actually Macros which means they control several parameters at once. The controls are:



1. **Comp:** Adjusts the amount of compression applied to the instrument. The compression is tailored to the specific instrument.
2. **Tone:** Adjusts a tilt equalizer that is tailored to the specific instrument. When set to center position, the frequency response is flat. Turning the control to the left emphasizes low-frequency content and attenuates high-frequency content. Turning the control to the right emphasizes high-frequency content and attenuates low-frequency content.
3. **Tape Sat:** Adjusts the amount of tape saturation applied to the instrument.

Send FX

Each individual instrument can send its output to either of the two available send effects. The Send FX consist of the following controls:



1. **Effect On/Off:** Activates or deactivates the effect.
2. **Send FX Browser:** Opens the Send FX Browser which you can use to select an effect from six categories of echo and reverb effects. The categories include Delay, Room, Hall, Plate, Spring, and Special.
3. **Effect Controls:** The controls are specific to the selected effect and allow you to fine-tune key parameters.

Delay

Send effects in this category provide a set of four parameters, and the additional Stereo option. You can find descriptions of all parameters used in this category below.

Basic Delay Parameters

The following basic parameters are used in all of the effects in the Delay category.

- **Stereo:** When activated, the modulation between the left and the right channel is offset in time, resulting in a wide stereo effect. When deactivated, the modulation affects both channels in the same way. This control is not available for the **Pitch** effect.
- **Time:** Adjusts the delay time in milliseconds. When tempo sync (note icon) is activated, you can set **Time** in note divisions relative to the tempo of your host or Master Editor.
- **Feedback:** Adjusts the level of the signal that is fed back to the delay's input. Increasing Feedback adds delay repeats. Levels above 100% create swelling echo repeats up to self-oscillation.
- **Volume:** Adjusts the output level of the effect.

Additional Delay Parameters

The following additional parameters are specific to particular effects in the Delay category.

- **Depth:** Adjusts the amount of modulation applied to the delay time.
- **Lo Cut:** Cuts low-frequency content in the feedback path of the delay with a non-resonant filter. Turned fully counter-clockwise, the filter is off.
- **Sat:** Adds tube-like saturation at the delay input. Turning it clockwise pushes the sound from subtle warmth to overdrive. Turned fully counter-clockwise, the saturation is bypassed.
- **Flutter:** Increases the effects introduced by mechanical imperfections of the tape delay's motor and tape transport, resulting in pitch variations over time.
- **Modulation:** Sets the depth and speed of modulation applied to the diffusion, shifting the timing and pitch of the reflections for a wide reverb effect.
- **Hi Cut:** Cuts high-frequency content in the feedback path of the delay with a non-resonant filter. Turned fully clockwise, the filter is off.
- **Pitch:** Adjusts the pitch of the echo repeats in the range of -12 to +12 semitones. Combined with feedback you can use this to create progressively harmonized echo cascades.

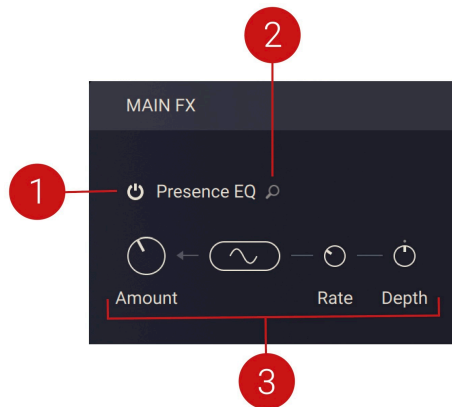
Room, Hall, Plate, Spring, Special

Send effects in these categories provide a set of four parameters. You can find descriptions of all parameters used in these categories below.

- **Predelay:** Introduces a short amount of delay between the direct signal and the convolution output. This is useful when used with reverb responses to simulate the reverberation of big rooms, where a short delay occurs between the direct sound and the first reflections from distant walls.
- **Size:** Artificially compresses or stretches the impulse response in time.
- **Time:** Adjusts the duration of the reverb effect.
- **Lo Pass:** Adjusts the cutoff frequency above which the signal's frequency content will be attenuated.
- **Hi Cut:** Cuts the high-frequency content of the reverb signal.
- **Volume:** Adjusts the output level of the effect.

Main FX

The mix of all individual instruments can be processed using two main effects. The Main FX consist of the following controls:



1. **Effect On/Off:** Activates or deactivates the effect.
2. **Main FX Browser:** Opens the Main FX Browser which you can use to select an effect from six available categories, including Filter, Equalizer, Saturation, Modulation, Compression, Utility.
3. **Effect Controls:** The controls are specific to the selected effect and allow you to fine-tune key parameters.

Filter

Main effects in this category provide a set of four parameters. You can find descriptions of all parameters used in this category below.

- **Amount:** Adjusts the cutoff frequency of the filter.
- **Modulation Wave Selector:** Selects the waveform of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.
- **Rate:** Adjusts the speed of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.
- **Depth:** Adjusts the strength of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.

Equalizer

Main effects in this category provide a set of four parameters. You can find descriptions of all parameters used in this category below.

- **Amount:** Adjusts the gain of the equalizer.
- **Modulation Wave Selector:** Selects the waveform of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.
- **Rate:** Adjusts the speed of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.
- **Depth:** Adjusts the strength of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.

Saturation, Modulation, Compression, Utility

Main effects in these categories provide a set of four parameters. You can find descriptions of all parameters used in these categories below.

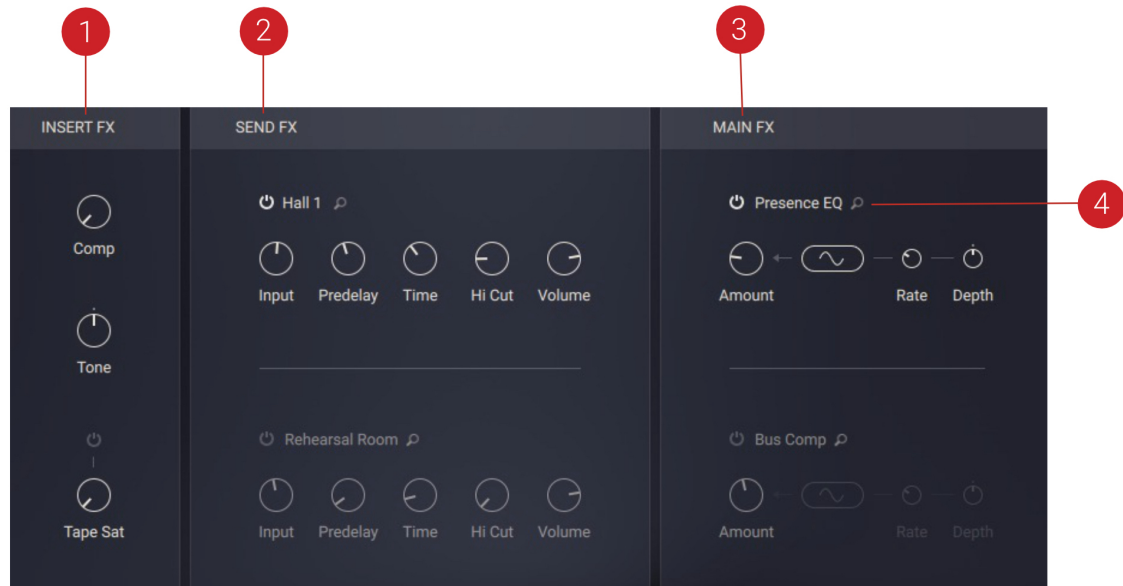
- **Amount:** Adjusts the intensity of the effect.
- **Modulation Wave Selector:** Selects the waveform of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.
- **Rate:** Adjusts the speed of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.
- **Depth:** Adjusts the strength of the LFO (low-frequency oscillator) modulation applied to the **Amount** control.



The modulation controls are not available for effects in the **Compression** category.

12. FX Page in Valves Pro Solo

The FX page in Valves Pro Solo is where you assign insert, send and main effects. It has the following elements:



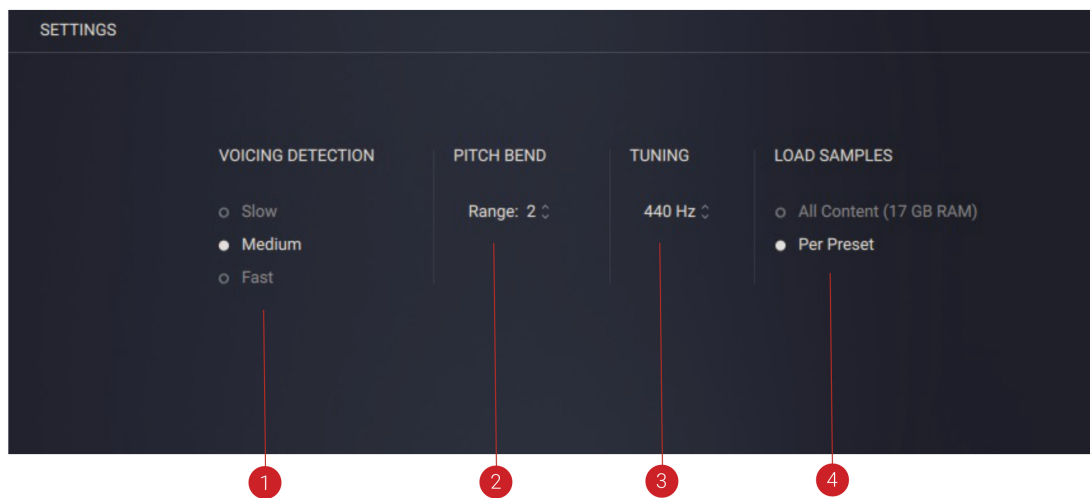
- 1. Insert FX:** Adjust parameters related to the insert effects of each instrument. For more information, refer to [Insert FX](#).
- 2. Send FX:** Activate and control up to two send effects per preset. For more information, refer to [Send FX](#).
- 3. Main FX:** Activate and control up to two main effects per preset. For more information, refer to [Main FX](#).
- 4. FX Browser:** Open the effects browser for the corresponding effect.

13. Settings Page

The Settings page is where you access global controls related to voice handling, pitch bend and tuning, as well as sample loading.

Settings Page in Valves Pro Player

The Settings page of Valves Pro Player contains the following controls:

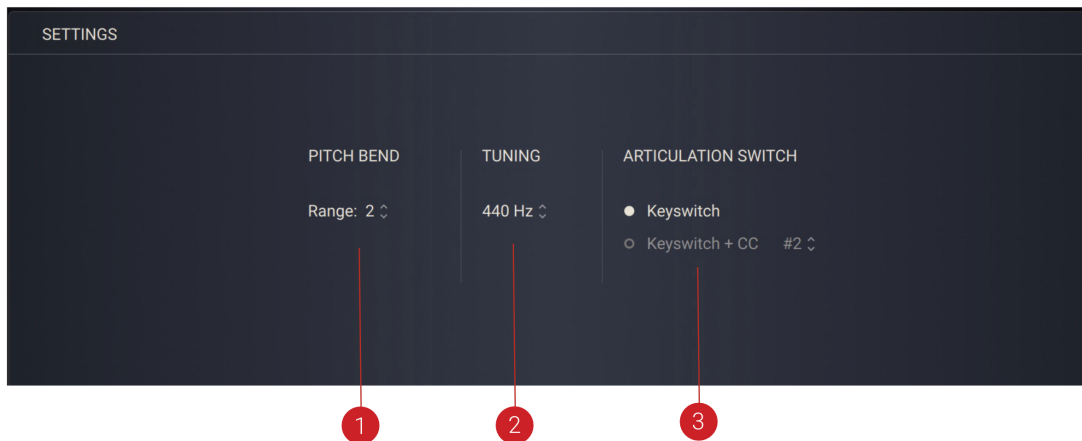


1. **Voicing Detection:** Determines how quickly the engine interprets note input when distributing chords across the five instruments. The three timing options correspond to 24ms (**Slow**), 12ms (**Medium**) and 1ms (**Fast**). The **Slow** setting will accommodate less precise playing by registering a chord even when notes are not all pressed at exactly the same instant. The **Fast** setting requires chords to be played more accurately and is particularly suited to playing back quantized MIDI chords in your host with a minimum amount of latency.
2. **Pitch Bend:** Sets the range of the pitch bend wheel from one to seven semitones. This can be used to create effects from subtle vibrato to more extreme pitching effects.
3. **Tuning:** Sets the global tuning reference in the range from 420Hz to 460Hz. The default setting is concert pitch at 440Hz.
4. **Load Samples:** Determines the sample loading behavior. **All Content** results in faster switching between presets, however requires more RAM. **Per Preset** loads only the samples required for the chosen preset, which reduces the RAM usage but increases the loading times of presets.

Settings Page - Valves Pro Solo

The Settings page of Valves Pro Ensemble is where you access global controls related to pitch bend and tuning, as well as articulation switching.

The Settings page of Valves Pro Solo contains the following controls:



1. **Pitch Bend:** Sets the range of the pitch bend wheel from one to seven semitones. This can be used to create effects from subtle vibrato to more extreme pitching effects.
2. **Tuning:** Sets the global tuning reference in the range from 420Hz to 460Hz. The default setting is concert pitch at 440Hz.
3. **Articulation Switch:** Sets whether articulation slots are selected using keyswitches in Kontakt or via a specific MIDI CC command. If Keyswitch + CC is selected the range of the MIDI CC gets divided into 32 parts, each corresponding to an articulation slot. Slot 1 goes from CC value 0-4, slot 2 from 5-9 and so on.

Settings Page - Valves Pro Ensemble

The Settings page of Valves Pro Ensemble is where you access global controls related to pitch bend and tuning, as well as articulation switching.

The Settings page of Valves Pro Ensemble contains the following controls:



1. **Auto Divisi:** Sets the way in which incoming notes are distributed across the instruments. The options determine how quickly Valves Pro analyses and distributes the notes.

2. **Pitch Bend:** Sets the range of the pitch bend wheel from one to seven semitones. This can be used to create effects from subtle vibrato to more extreme pitching effects.
3. **Tuning:** Sets the global tuning reference in the range from 420Hz to 460Hz. The default setting is concert pitch at 440Hz.
4. **Articulation Switch:** Sets whether articulation slots are selected using keyswitches in Kontakt or via a specific MIDI CC command. If Keyswitch + CC is selected the range of the MIDI CC gets divided into 32 parts, each corresponding to an articulation slot. Slot 1 goes from CC value 0-4, slot 2 from 5-9 and so on.

Auto Divisi

The Auto Divisi and Response Time settings determine how Valves Pro Ensemble distributes notes to the five available instruments.

Auto Divisi introduces a number of great possibilities for playing the ensemble as a polyphonic section instrument and providing a highly natural feel:

- You can stop and restart one or more voices at any time to play rests while keeping some other notes held. Since articulations can be mixed, this feature can be used to combine an accompaniment section, for example using staccato with a melodic section.
- As a rule for the first notes played, the system always distributes the played notes to all instruments, doubling notes if needed. An instrument can be muted temporarily for a given key switch by assigning the articulation **None**.

When Auto Divisi is activated, the incoming notes of a chord are distributed across the instruments. Each instrument plays one note of the chord as this is the natural way of distributing notes across a brass section. The system distinguishes between chords and melodic lines. It also decides which instruments play in unison, or if an instrument rests or restarts again. The Response Time setting determines the time taken for the system to interpret notes as a chord. It is also related to the latency of the Auto Divisi system.

When Auto Divisi is deactivated, each instrument will play all the notes of a chord meaning each instrument plays polyphonically. Although this is less natural, it creates a bigger sound.



It is always possible to use the sustain pedal for convenient legato playing. In this case, a high latency setting is not required.

Response Time

The **Response Time** setting provides the following options:

- **Auto:** This mode is selected by default and tries to combine a natural feel with the lowest possible latency. For the first key-downs a short response time is used, just long enough to make up a chord. If no legato articulation is used on the keyswitch, additional playing uses the **Medium Fast** mode. If at least one legato articulation is used on the keyswitch, additional notes use the **Slow** mode.
- **Slow:** This setting is useful for manually playing or recording legato lines with more than one active instrument. If just one instrument is active, legato can also be played in **Fast** mode. It allows fluent manual playing and needs a higher latency but legato lines are smoother and unintended jumping of voices is prevented. This mode is also good for playing unison legato passages. The resulting latency is 72 ms.
- **Medium Slow:** This setting can be used for legato playing too, if the MIDI passage is edited in a DAW to minimise note overlap. The resulting latency is 24 ms.

- **Medium Fast:** This setting is recommended for short articulations. The resulting latency is 12 ms.
- **Fast:** Uses a very short chord collection time with an ultra fast response. This setting is useful for quantized chords. The resulting latency is 1 ms.

14. MIDI Learn

You can use MIDI learn to map your MIDI controller to controls in Valves Pro. This enables you to control multiple parameters at the same time, and play them in real-time using knobs.

To map a knob on your MIDI controller to a control in Valves Pro:

1. Hold [command] + [shift] on your computer keyboard and click the control you want to assign the knob to.
2. Turn the knob on your MIDI controller.

→ The knob on your MIDI controller is mapped to the control in Valves Pro.

15. Credits

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