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This Essential Knowledge Guide provides a comprehensive overview that also includes all the features of the original MODX(+) Series. If you already know the MONTAGE M or the MODX(+) and are only interested in the new features and enhancements, we recommend the "MODX M New Features Guide", which can be downloaded here:

www.musicproductionguide.eu/EKG/MODXM_NFG_EN.pdf



SOPHISTICATED DYNAMIC CONTROL

Music is expression. The MODX M adds a vast level of expression with the Motion Control Synthesis Engine. This Engine allows a variety of methods to interact with and channel your creativity into finding your own unique sound.

MOTION CONTROL SYNTHESIS ENGINE

The Motion Control Synthesis Engine unifies and controls three iconic Sound Engines: AN-X (Virtual Analog Synthesis), AWM2 (high-quality Waveform and Synthesis), and FM-X (modern, pure Frequency Modulation Synthesis.) These three Engines can be freely zoned or layered across eight Parts in a single MODX M Performance.

Interact with MODX M Performances using Motion Control: a highly-programmable control matrix for creating deep, dynamic and incredibly expressive sound. With Motion Control, you can create new sounds not possible on conventional hardware synthesizers.

SUPER KNOB

Create dynamic sound changes from radical to sublime with the Super Knob. The Super Knob can control multiple parameters simultaneously resulting in anything you can imagine.

For example: Change your listening position from "right in front of an instrument" to "the very back of a concert hall". Or radically change the character of a Performance from "atmospheric and mellow" to "rhythmic and edgy".

The Super Knob can even be assigned to a second FC7 Foot Controller making it easy to manipulate the sound when playing with both hands.

MOTION SEQUENCES

Motion Sequences are tempo-synchronized, completely customisable Control Sequences that can be assigned to virtually any synthesizer parameter and provide incredible new ways of creating sound.

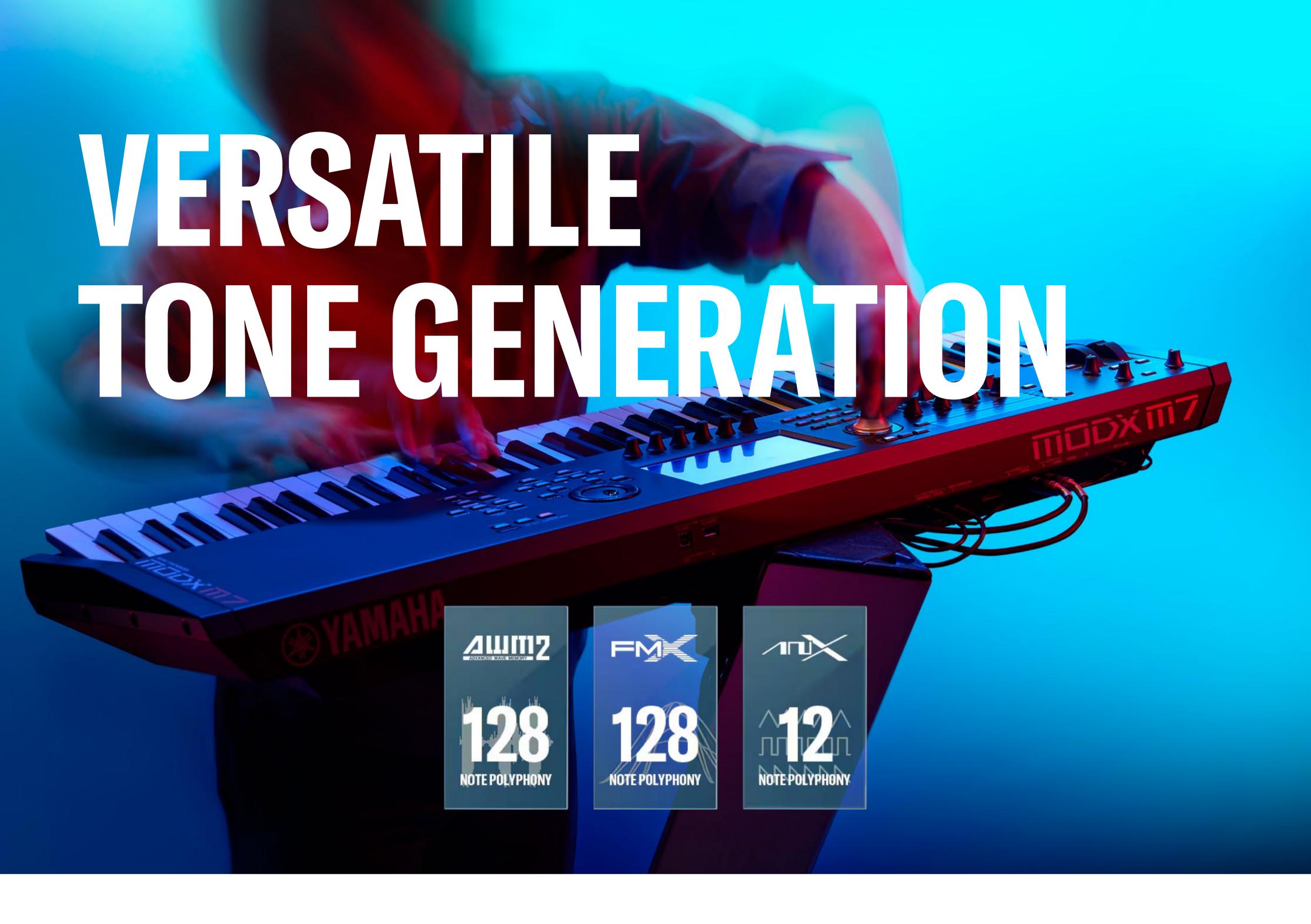
Motion Sequences also have dedicated controls on the front panel making it easy to manipulate and change them in realtime, providing incredible interactivity and expression.

ENVELOPE FOLLOWER

The Envelope Follower converts Audio into a Control Source to control virtually any synthesizer parameter. For example, a drum loop could drive Effects parameters for a cool rhythm, or a vocal recording could control multiple parameters for a "talking" synthesizer. The Audio can even be a "live" source coming from the A/D Input.



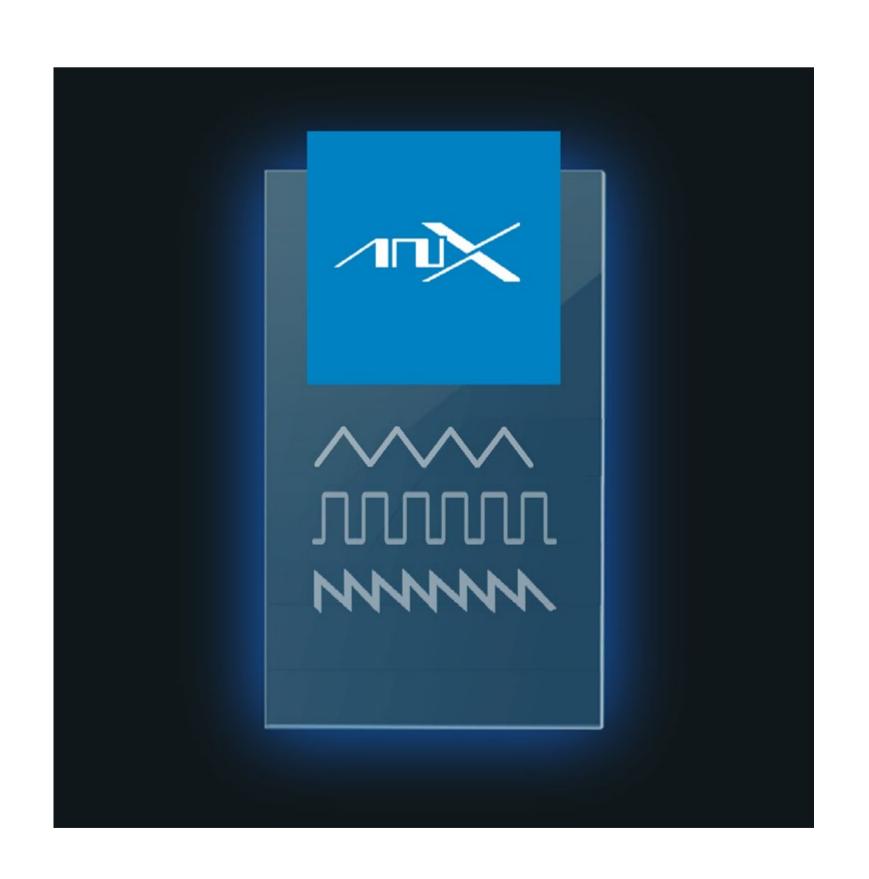




With AN-X, FM-X, and AWM2 the MODX M features three iconic Sound Engines modernised for amazing sound playback and complex sound design.

AN-X

It is not easy to make a "digital" synthesizer sound truly "analogue". To achieve this, Yamaha has developed the successful AN Synthesis of the 1990s into a new Sound Engine: AN-X. This new Engine allows the creation of sounds between "warm" and "fat" and "well-behaved" to "grippy". It offers plenty of possibilities to breathe the liveliness of the analogue models into the sound with the help of specific parameter settings. Tradition and innovation merge into an independent sound character that integrates seamlessly into the Motion Control Synthesis Engine.





AWM2

Powered by proprietary Yamaha technology for data compression and sound playback, AWM2 allows tremendous data compression without sound quality loss for unparalleled, realistic sound reproduction.

128-NOTE STEREO POLYPHONY

Experience rich stereo sound without halving the available number of notes. There are 128 voices for the AWM2 Engine accessible. A Performance thus has a possible total polyphony of up to 268 voices (128 AWM2, 128 FM-X, 12 AN-X).

WAVEFORM CAPACITY

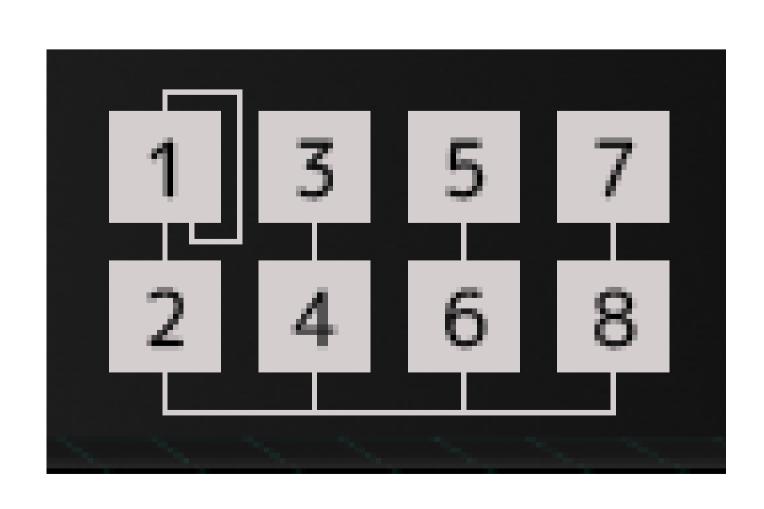
In comparison to the MODX(+) the capacity in the MODX M is nearly doubled to now 10.7GB, allowing more Samples per instrument, and higher Sample Rates for incredibly realistic and nuanced sound. This means, the MODX M features nearly fourteen times the Waveform capacity of the MOTIF XF.

INTEGRATED FLASH MEMORY

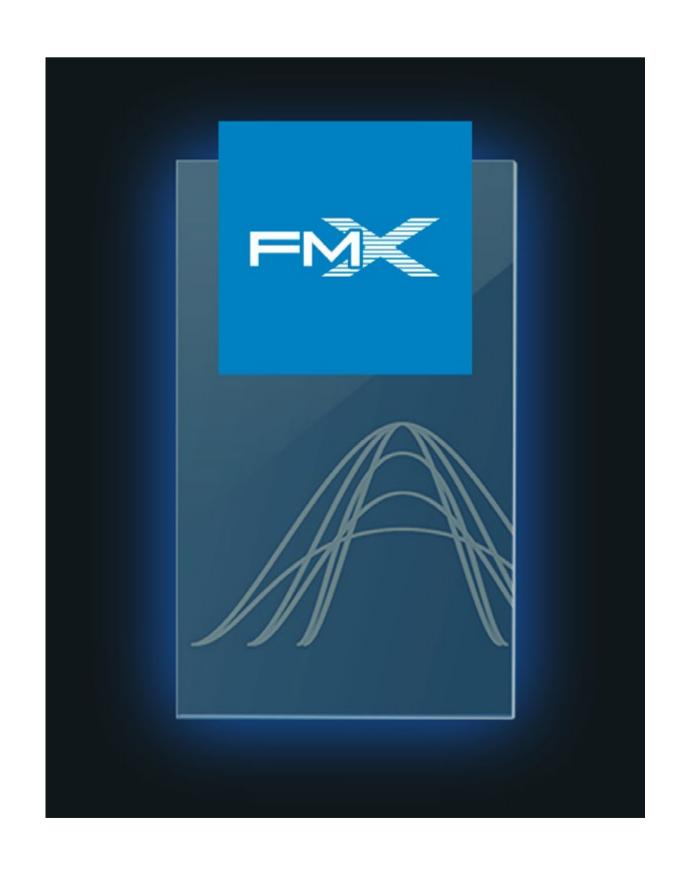
The MODX M includes 1.9GB of User Flash Memory with high speed reading/writing for your own custom Samples (in comparison to the 1.75GB of the original MODX+). You can also purchase Sample Libraries from yamahasynth.com or other suppliers.

FM-X

FM-X is an amazingly sophisticated pure Sound Engine capable of producing classic '80s or cutting-edge electronic sounds with incredible dynamic range, power, and fidelity. The MODX M features an 8-Operator FM architecture and 128-note polyphony, allowing for a massive array of sound design options.









EXPANDED SOFTSYNTH PLUGIN

In early 2026 we will introduce the "Expanded Softsynth Plugin" (short: ESP) for MODX M that has the same Sound Engine as the hardware of the instruments. The software works synchronously with the hardware. This allows the same MODX M sounds to be seamlessly integrated into a music production. ESP can also be used for live performances when a MODX M is played on stage. You therefore have the option of using your preferred version of the MODX M depending on your preferences and the particular application. ESP will be available a few months after the release of the MODX M Series.

EFFECTS

high-definition From Reverbs incredibly detailed Virtual Circuit Modeling (VCM) Effects, the MODX M is loaded with DSP innovation, power, and, most importantly, sound quality. Use Effects like Beat Repeat, Vinyl Break, or Bit Crusher to get a modern electronic sound. You can even add a Compressor with Sidechain for a modern "ducking" effect. Or go retro with Vintage Effects like Analog Delay, VCM Phaser, or a variety of Amp Simulators. The VCM Rotary Speaker simulates the rich and enveloping motion of a classic rotary speaker cabinet for your organ Performances and more. Piano players will appreciate piano-focused Effects like Damper Resonance for a super-realistic piano experience and the HD Reverbs that let you put yourself in any performance space.



SIDECHAIN

Automatically control the dynamic behaviour of one Part from another. Sidechain is very popular in modern dance music where a pad or other sustained part is "keyed" to the kick drum. When the kick drum plays, it ducks down the sustained part creating a "pumping" rhythmic effect.



CONTENT

Every instrument needs great content to inspire your creativity. The MODX M features a huge range of incredible sounds like a brand-new Yamaha Premium Grand Pianos, detailed new strings, and woodwinds, and select content from the DX and TX family, all modernised to take advantage of the Motion Control Synthesis Engine. An international team of sound designers created brand new and high quality sounds of all categories for the AN-X Engine.

COMPATIBILITY

The MODX M is directly compatible with the Performances of the original MODX, with MOTIF ES / XS / XF and MOXF Voices, and the Performances of the MONTAGE M. The MODX M contains all Preset Voices and Preset Performances of the MOTIF XF. In addition, the MODX M can also load ALL Files (".X3A") of the MOTIF XF including User Waveforms. All Voices are then converted to Single-Part Performances.

Yamaha has developed an FM Converter to make it compatible with Voices from the classic FM synths DX7, DX7II, TX802, and TX816 as well.

STREAMLINED WORKFLOW

How do you want to integrate your instrument with your system? How do you want to organise the onboard content? How do you want to interact with the instrument while you play? The MODX M answers these questions and more with a flexible, streamlined workflow, and an extensive number of Controllers and meaningful displays.

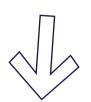
USB AUDIO/MIDI

Connect the MODX M to your computer with a single USB cable and capture every nuance of your creativity into your DAW. MODX M's powerful USB driver can send 5 and receive 2 channels of stereo 24-bit/44.1kHz digital audio to/from your computer or iOS device (the MODX M is Class Compliant, no driver needed!), no other hardware required!

The USB connection also features full MIDI support of 16 channels.

















LIVE SET

Live Set lets you organise your Performances however you want without copying, changing order, or renaming. When a Performance is selected, you can easily register it to a Live Set Slot. This is perfect for playing gigs or even creating your own organisation scheme for Performances.

SEAMLESS SOUND SWITCHING

The MODX M features dual Insert Effects on twelve of its Parts. When using a Performance with six or fewer Parts, Seamless Sound Switching (SSS) is possible. Seamless Sound

Switching lets you change Performances seamlessly without any cut-off in Envelopes or Effects. This is perfect for live performances where you have to change the Performance within a song or end one song and start another without stopping.

CONTROLLERS

The MODX M features a comprehensive set of physical controls for intuitive music making and sound creation, like the new KEYBOARD HOLD button that lets you sustain chords while using Knobs to edit, and a Portamento On/Off button and dedicated Portamento Time Knob.



EIGHT SLIDERS AND FOUR KNOBS

The four Knobs are always in the right position for you to turn the selected parameter up or down. No need to search for the "catch" or "latch" point, just turn the Knob.

TOUCHSCREEN

Select and change parameters directly with the colour touchscreen as the Main Display. Six Knobs underneath the Main Display also support and speed up the workflow enormously.

VARIANTS OF THE MODX M

The MODX M is available in three different configurations: MODX M6 and M7 feature the premium FSB semi-weighted synthesizer action keyboard with 61 and 76 keys respectively.







The MODX M8 is equipped with a redesigned GHS-88-key keyboard. It is aimed at musicians with an affinity for the piano. The new keyboard offers a great feel for playing a variety of sounds, from acoustic pianos to electric pianos, synth sounds, organs, and more!

The MODX M7 is primarily intended for live keyboardists who usually need a wide range of acoustic and synth sounds. With its 76-key FSB keyboard, it offers enough space for Split/Layer combinations, the Live Set for organising Performances, and rich possibilities for having every sound under control. In relation to the keyboard, the housing of this variant is nevertheless compact enough to find room in smaller cars, for example.

Synthesiser enthusiasts and "sound wizards" in particular will enjoy the MODX M6. With three extremely powerful Sound Engines, an equally powerful Controller Matrix, a compact design and the 61-key FSB keyboard no wishes should remain unfulfilled.



DIRECT CONTROL ASSIGNMENT

Direct Control Assignment assigns controls at the touch of a button. Simply select a parameter, hit the Direct Control Assignment button and move the Controller to control that parameter. Easy!

A/D INPUT

The A/D Input processes external audio sources with your instrument's DSP. Use guitars, mics, or any line source as an input and process with the internal Effects. You can even use these sources with the Envelope Follower or Sidechain for a truly unique sound.

8-PART PERFORMANCES ONE ARPEGGIATOR PER PART

The Performance Mode developed for the MONTAGE Series combines all the features "under one roof". Whether live, in the studio, or for sound design: Everything takes place in the Performance Mode.

Eight Parts are available for a live performance and provide direct access for spontaneous adjustments. All eight Parts can be simultaneously controlled by the Arpeggiator.

24 LIBRARY BANKS FOR AN IMMENSE STOCK OF SOUNDS

The storage capacity of the MODX M was enhanced in comparison to its predecessor from 1.75GB to 1.9GB. A so-called Library allows the user to "freeze" complete User Banks and to use them as if they were Presets. Up to 24 Library Banks are available in addition to the User Bank. That results in direct access to 25 x 640 Performances and 8,192 Live Set Slots (2,048 User, 6,144 Library)!

SCENES

Within a Performance eight Scenes ensure a considerably increased flexibility. Such a Scene can store, for example, Motion Sequences, the current value of the Super Knob, and more. Even the assignment of the Arpeggios to the Parts are part of a Scene.

Moreover, Mixing parameters like Part Volume, Part Mutes, Effects Sends, and parameters for the Amplitude Envelope can be stored in a Scene.

AUDITION - THE ON-BOARD "PRESENTER"

A stock of sounds so vast as in the MODX M requires good managing tools. Among other things, it is important, of course, to sensibly allocate Categories. Nonetheless, especially with the Controller features such as the Super Knob and Motion Sequences, there are Performances which intention is not opening up at first glance. Not only at this point the "Audition" function comes into play. Press the [AUDITION] button (top right of the panel) and you get to hear a demo sequence of the current Performance. Regardless of whether you are currently in Performance or in Live Set Mode: Whenever you turn on Audition, you will hear the demo sequence. You can even change the Performance without interrupting the demonstration at any time. In addition, you can integrate your own User Auditions for your self-created Performances.





MODX M BASIC KNOWLEDGE

USER INTERFACE ORIENTATION

In the center of the user interface is a 7" TFT Colour Wide VGA LCD touchscreen with its six Display Knobs, which are assigned to different parameters depending on the screen content.

The touchscreen is easy to read from different angles and responds sensitively to your fingertip. Many functions are accessible via the Display and the buttons / Knobs in parallel.

To the right of the touchscreen are the Data Wheel with navigation buttons arranged around it and buttons for changing data ([INC/YES] | [DEC/NO]). Below are buttons for Sequencer control.

Below the [PERFORMANCE HOME] button there are several Function buttons.









The Audition button starts the demo assigned to the respective Performance.

All buttons are backlit. The lighting of the buttons is dimmable. In addition to simply being on or off, this is used to indicate whether a button has a function in the current Mode at all.

To the left of the touchscreen is the Super Knob, below which are other buttons whose multi-functionality will be described in detail in a later section. Furthermore, there are buttons for the selection of up to eight Scenes, which are available in each Performance.



The Control area on the left side of the user interface contains eight Sliders with buttons below them for selecting Parts, Oscillators, Elements, and Operators. Two buttons directly to the left of the Sliders determine what the controls act on. The position shown in the picture as well as the blue background lighting of the Sliders and buttons below correspond to the standard assignment.

Thus the Sliders act on the Part Volumes. The buttons 1-8 below are used to select Parts. The [COMMON] button to the left of button 1 activates the Common Section of the currently active Performance. With the selection of the individual Sections (Common, Part "X") the display indications also change accordingly in different Modes.

Above the Sliders are the multifunctional Knobs that can be assigned to different parameters.



Below and next tp the Main Volume control there are further Function buttons as well as a control for the Gain of the A/D Input.

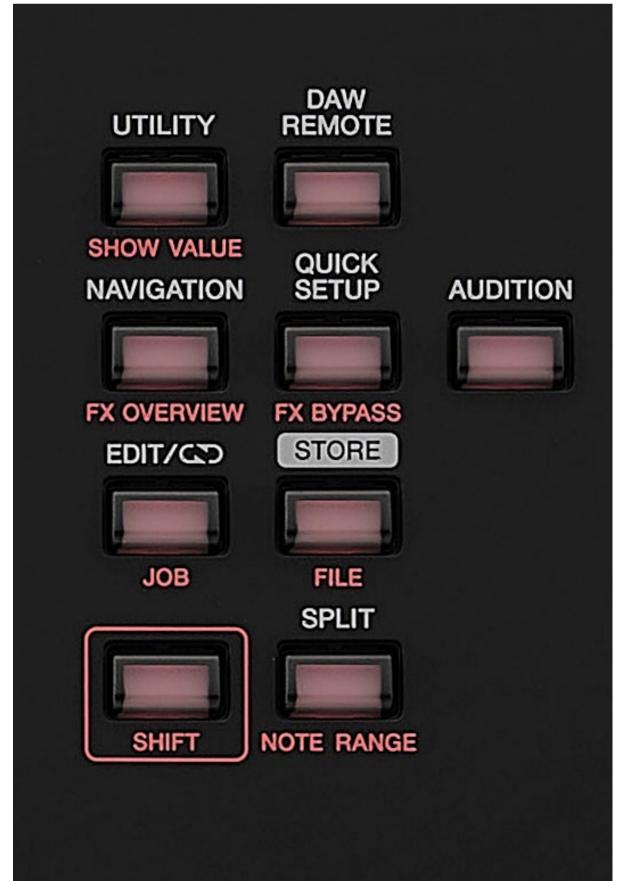
Above the left of the keyboard are the Modulation and Pitch Bend Wheels, as well as the [KEYBOARD HOLD] and [PORTAMENTO] buttons and a control for the Speed of the Portamento. The buttons [ASSIGN 1/2] can be assigned to various functions in the Controller Matrix as well as the AWM2 Engine. With the help of [MSEQ TRIGGER] a Motion Sequence can be started.

Below the [PERFORMANCE HOME] button are eight buttons, each assigned to a specific area in the instrument's operating system.

Probably not all of these buttons are needed immediately during the "first contact" with the instrument. The most important Functions are [NAVIGATION] to intuitively navigate and access parameters and [STORE] for saving any edits. The [EDIT] button switches to the "classic" Edit Mode.

Many buttons have a double assignment. In these cases, the font for the alternative Function is red and it is opened in combination with the [SHIFT] button. To call up the Function, the [SHIFT] button is always held down first and then the corresponding button is pressed. Example: [SHIFT] & [PERFORMANCE HOME] calls the Information Page of the currently selected Performance. To ensure important calls and shortcuts that can often be reached with one hand, the [SHIFT] button is located in two places on the control panel.





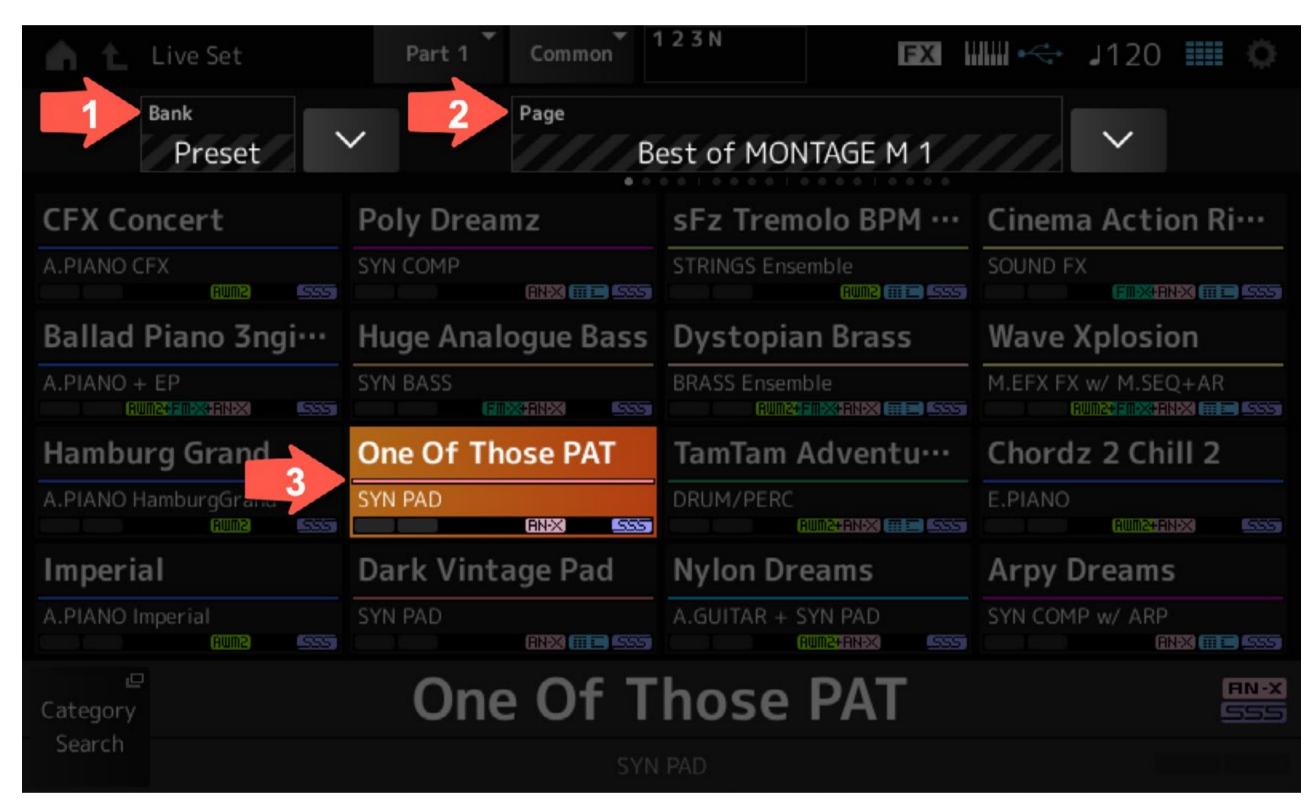


FIRST STEPS

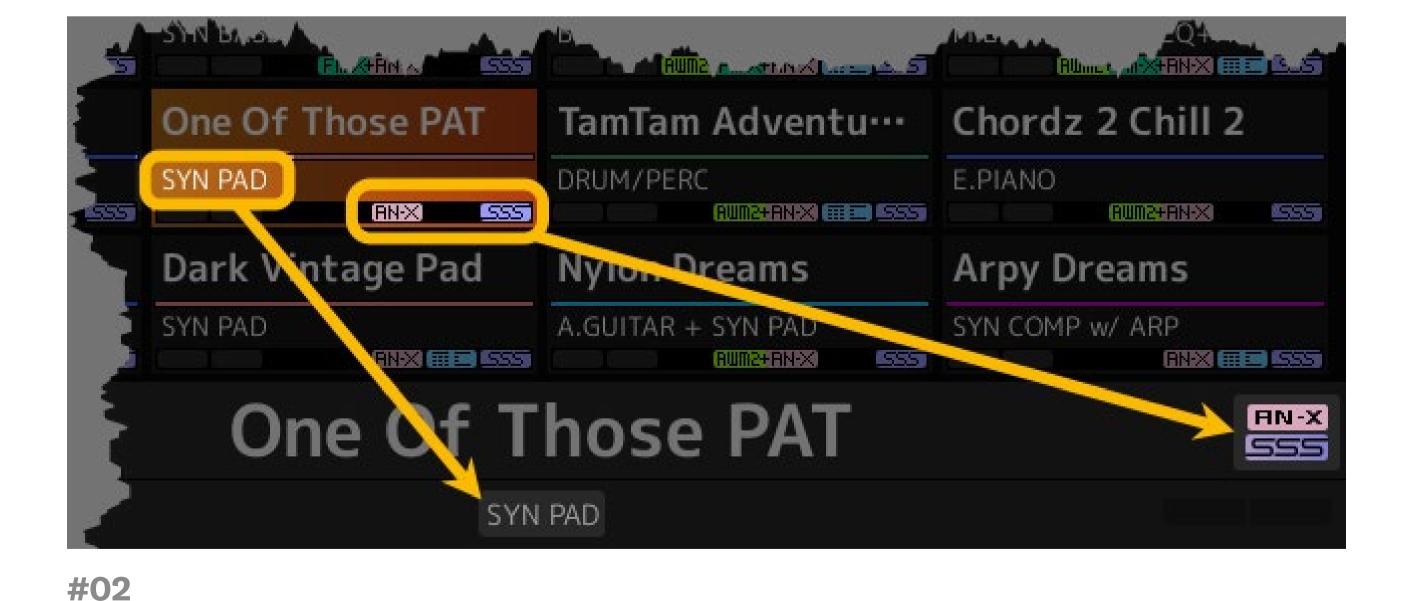
EXPLORATION TOUR

One of the first actions on a new instrument is probably to explore the Preset content. With 3,427 Preset Performances on board of Version 1.0, this could become a time-consuming challenge without a "guide". In order to prevent this, I would like to provide some guidance for your start.

Out of the box the MODX M "reports" directly to Live Set Mode after being switched on for the first time. If, exceptionally, this is not the case, simply press the [LIVE SET] button to call up the first Page of the "Best of MODX M 1" Presets. The display on this Page alone gives you an informative overview.



#01



At the top left, you can see which Live Set Bank (1) you are in. To the right, the name of the active Page is displayed (2). The active Live Set is highlighted with a colour gradient (3). **#01**

Each individual Live Set Slot already provides helpful information about the linked Performance. Below the name there is a note that allows a rough classification of the expected sound. Icons underneath provide information about the Engines used, whether Motion Control is active, and whether Seamless Switching is guaranteed. In the active Live Set, this information is displayed in enlarged form at the bottom of the display. #02



A Live Set can be selected directly via the touchscreen. The Pages or Banks of the Live Set can also be called up using the corresponding arrow buttons on the Display. #03

With these tips, you will be able through the navigate Live Set according preferences. to your uncertain about the you musical intention when calling up a Performance, pressing the [AUDITION] button will help you by playing the corresponding demo immediately.

Live Sets are also available for User Content. Information on this will follow in a separate section.

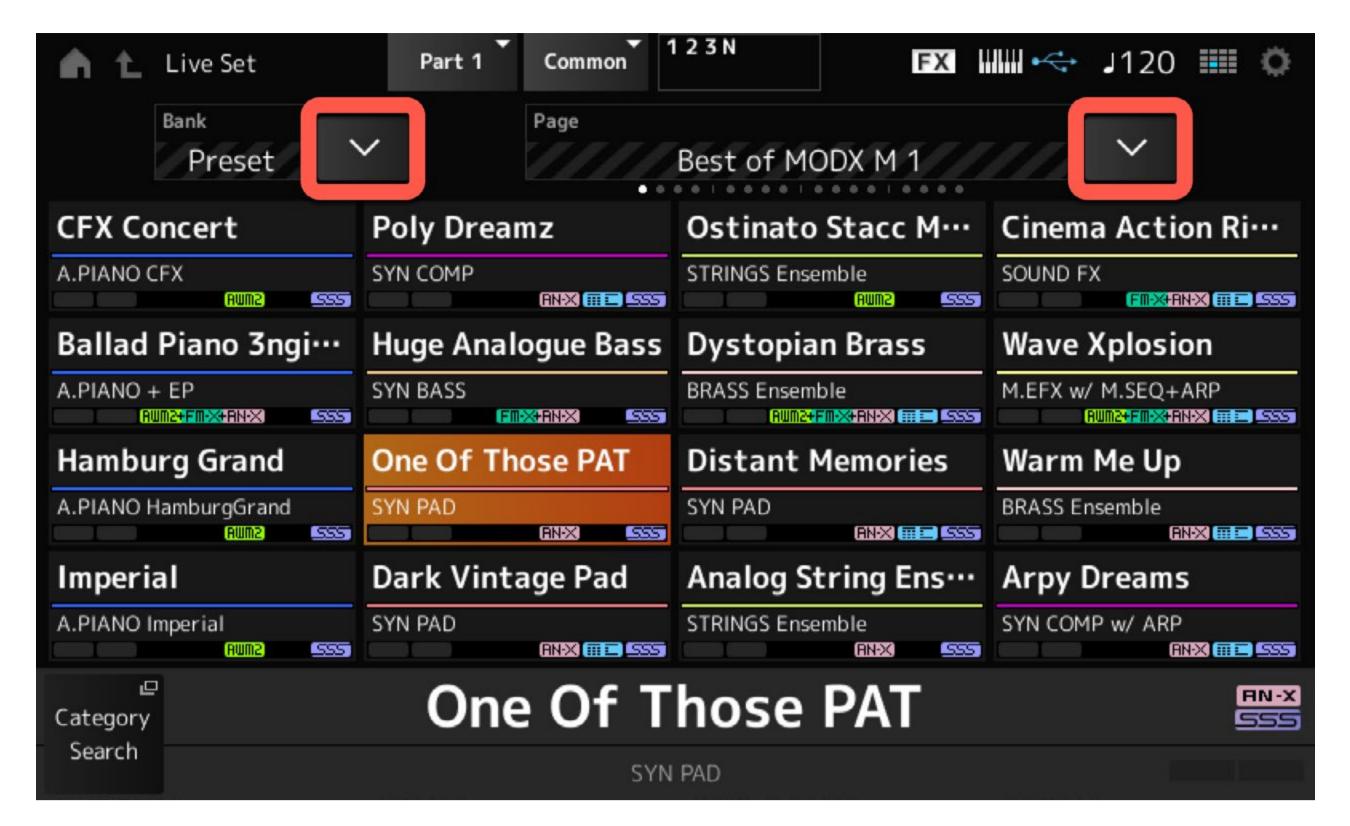
CATEGORY SEARCH

If you want to further filter the MODX M content, press the [CATEGORY SEARCH] button.

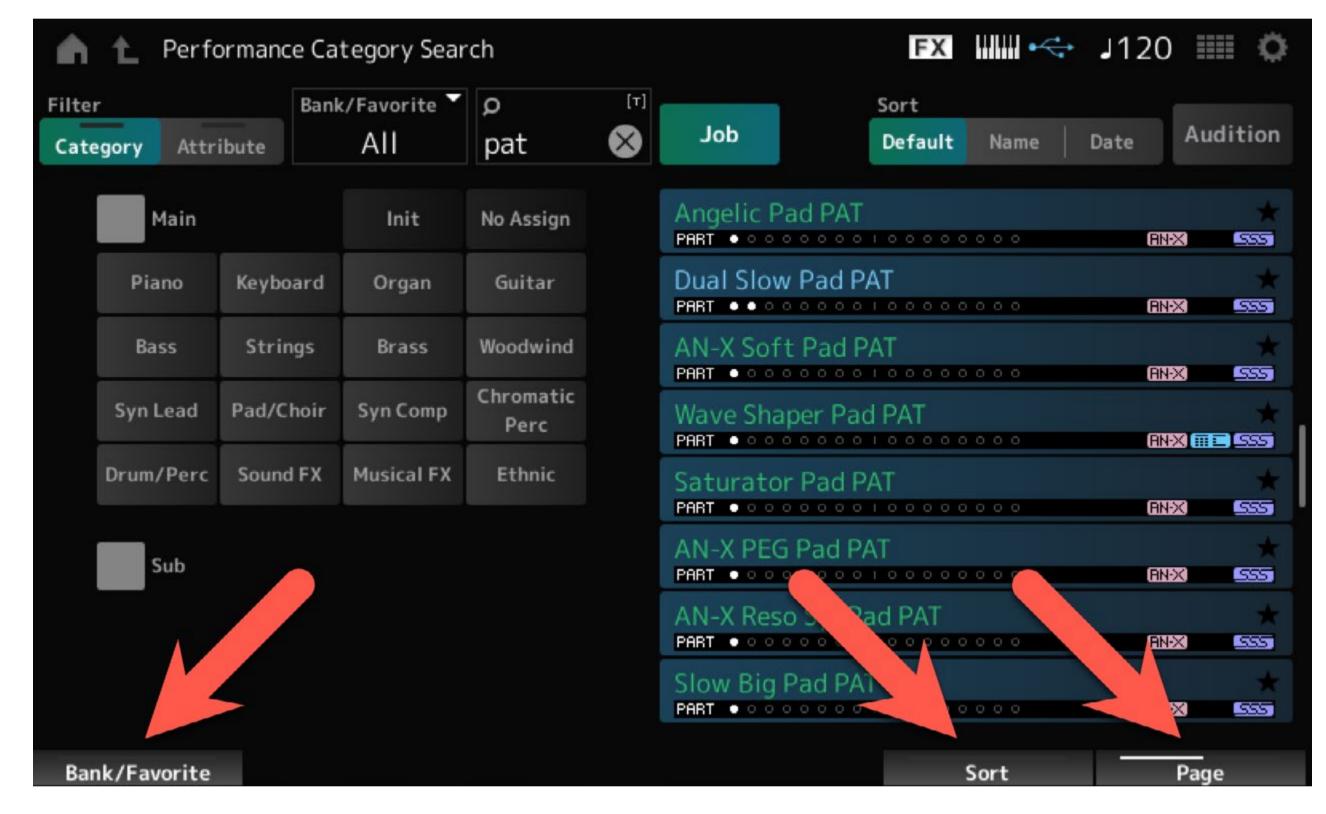
After selecting a Category, only the correspondingly assigned Performances are offered for selection.

In this view, three of the Knobs below the Display are active. The left one (Bank/Favorite) is used to quickly navigate through the Banks such as Preset, User, Library, or Favorite. This is also achieved by pressing the [CATEGORY SEARCH] button sequentially.

The right Knob (Page) scrolls through the Performances within the Category. The "Sort" Knob influences the sorting of the results between "Default", "Name", and "Date". The latter, however, is not a "real" date, but refers to the order in which Performances are arranged in the memory. #04



#03



#04

The selection for loading a Performance can be made in three ways:

- with the Data Wheel
- with the [INC/YES] / [DEC/NO] buttons
- via the touchscreen

When a Part is selected, the button combination [SHIFT] & [CATEGORY] directly leads you to the Category Seach for the Parts.



Tip: The procedure for deactivating Categories is also important. Let's assume that your User Memory does not contain any Performance that corresponds to the Category you have just selected, or you simply want to scroll through your content "outside of Categories".

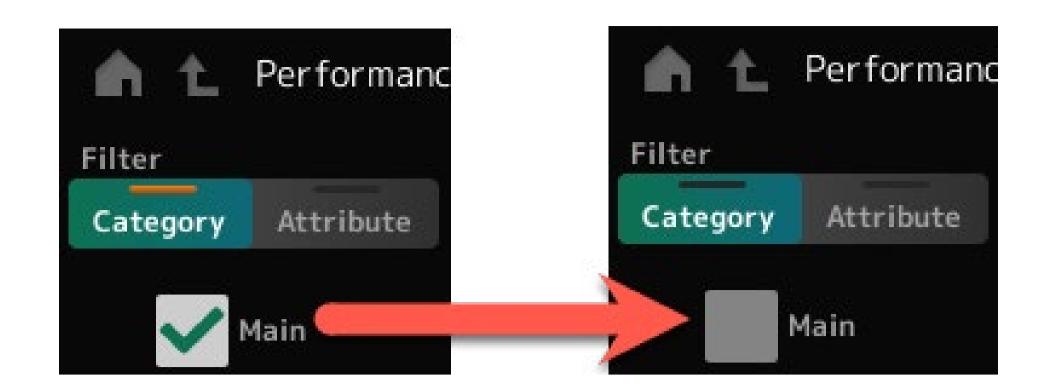
The Category is deactivated by removing the tick. **#05**

It is even possible to select several Categories at the same time. This works by holding down the [SHIFT] button simultaneously. #06

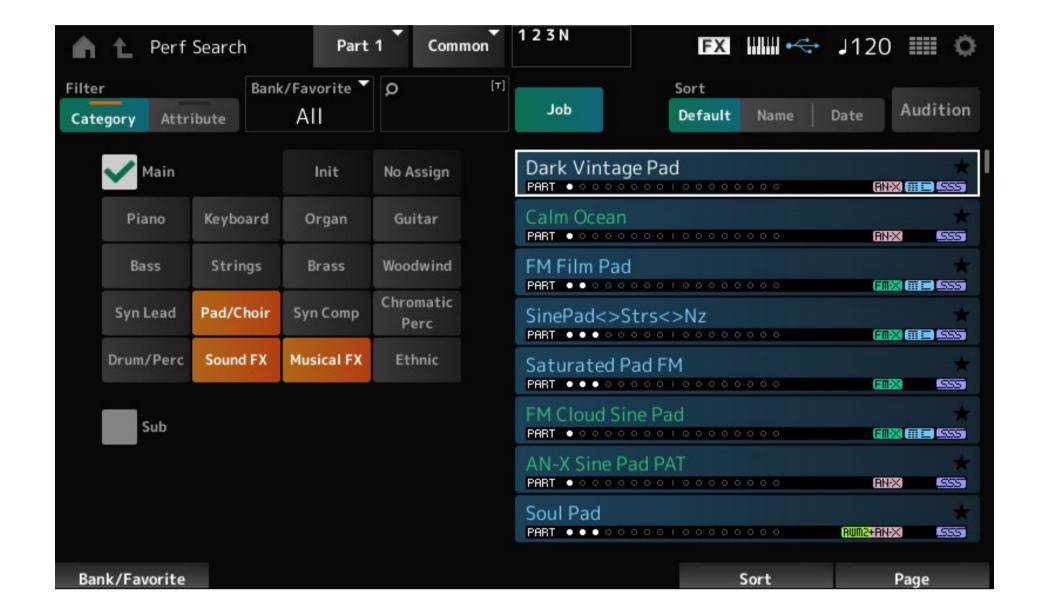
Last but not least, further Filter criteria can be set at the top left of the Display by changing the Filter from "Category" to "Attributes". Here, for example, the search result could be limited to Performances that are only based on the AN-X Engine or that are derived from the MOTIF XF Series. #07

If one or more Attributes have been set, this is shown with a kind of LED simulation (orange) in the control element. This makes it recognisable when searching in the "Category" area.

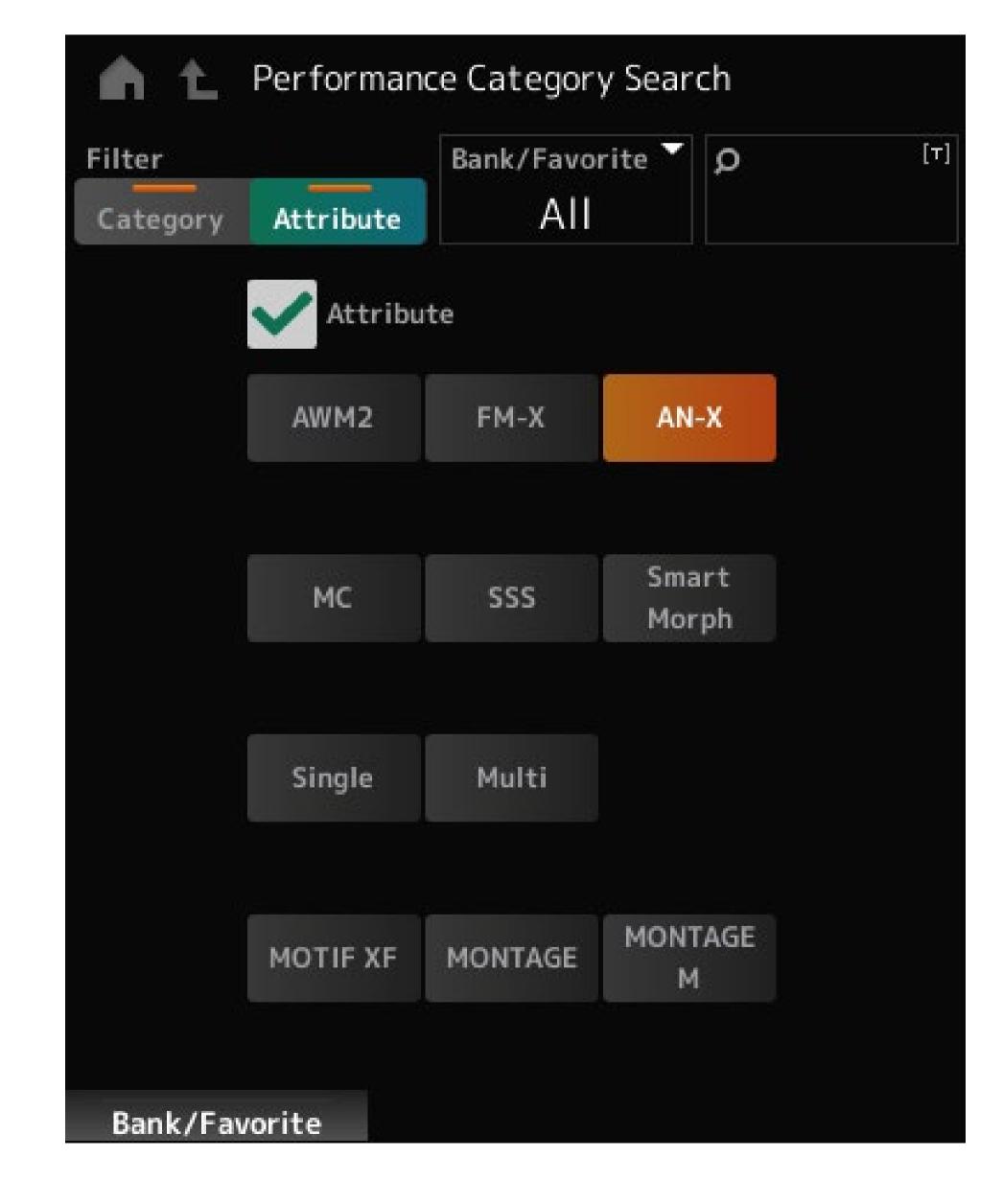
#05



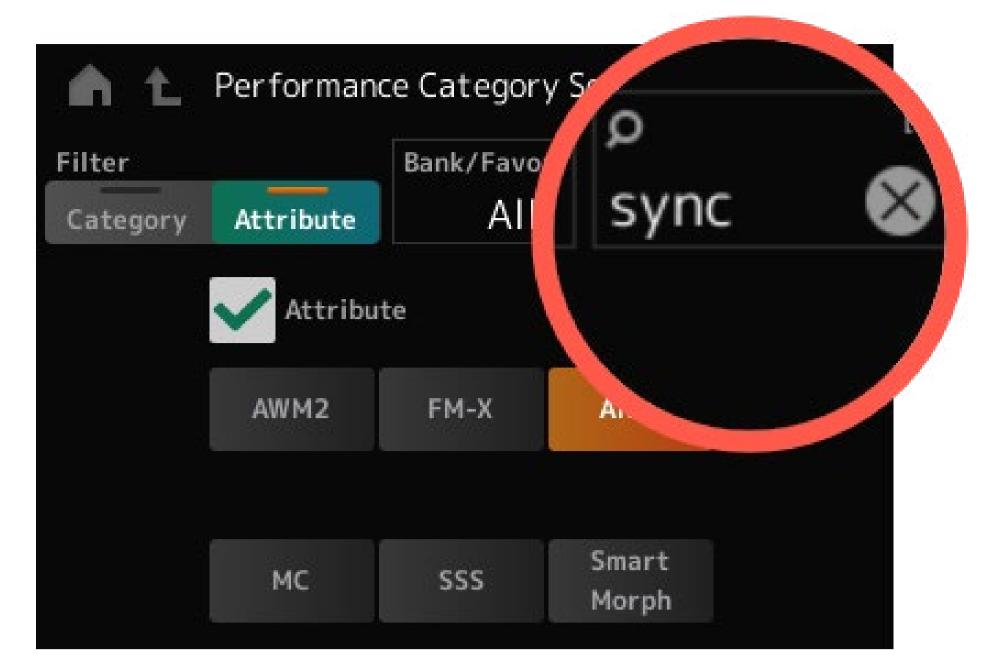
#06



#07





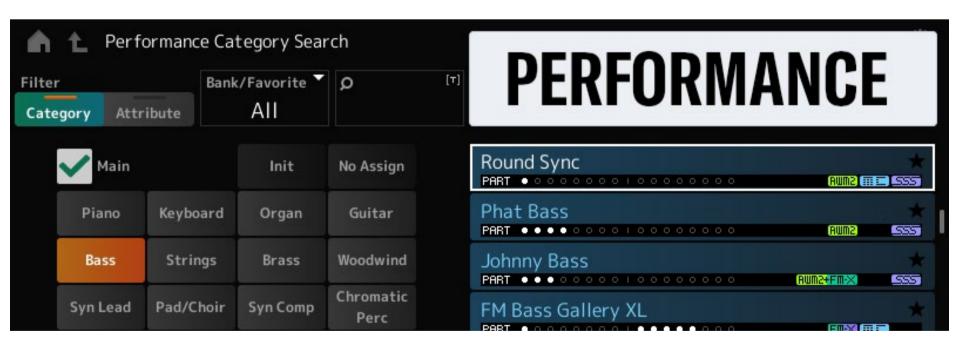


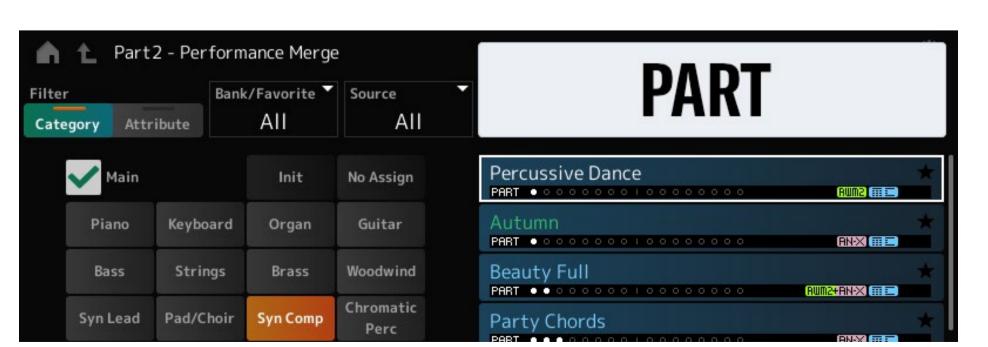
#08



#09

#10





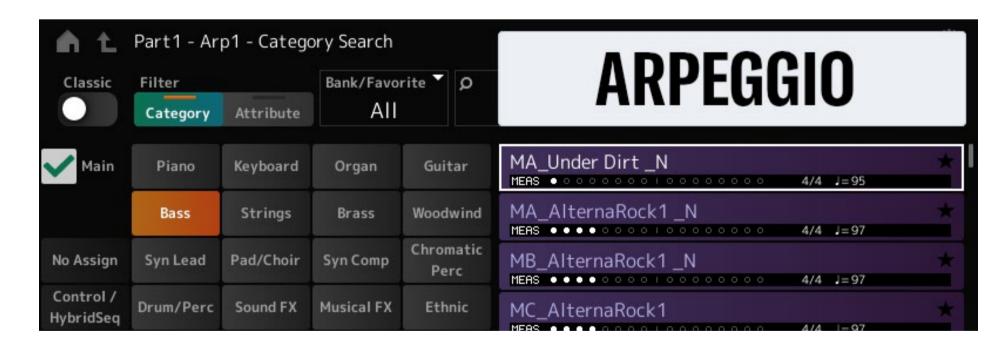
A tap on the field with the magnifying glass and the text symbol opens the "Name Search" dialogue, which allows filtering by name - or parts of a name. #08

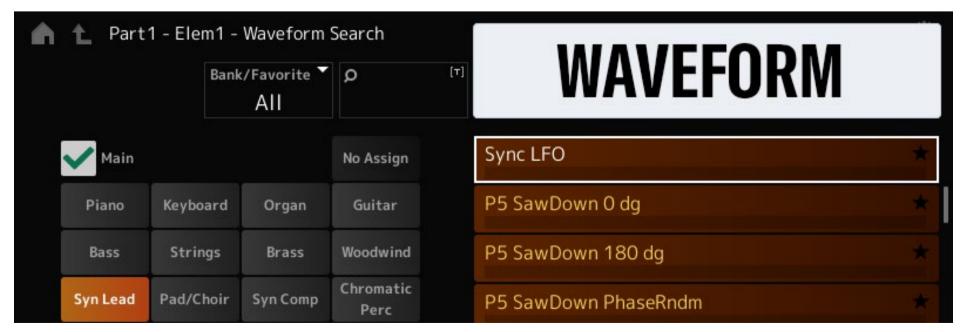
Additional notes on the result list: A Performance that has been selected and is ready to play is shown with a white frame and white text. The name of inactive Single-Part Performances is displayed in green. Inactive Multi-Part Performances are displayed in blue, and the number of Parts is shown in white dots directly below the name. #09

Note: If [CATEGORY SEARCH] is selected from the Live Set or the Performance Home screen, the search result always lists complete Performances (Single- or Multi-Part). However, the principle of "Category Search" can be found in many other places in MODX M. This applies to the following contents:

- Parts (from Preset, User, and Library Performances)
- Arpeggios (Preset, Library & User)
- Waveforms (Preset, Library & User)

Since the main view of the "Category Search" looks very similar for different contents, it is highly recommended to pay attention to the indicator in the upper left corner of the Display, which always shows you where you are. #10







PERFORMANCE PLAY & VIEW

A Performance selected via [LIVE SET] or [CATEGORY SEARCH] is immediately ready to play. This is independent of whether the list view of the Performances of a Category is still shown in the Display. However, if you want to see more information about the structure of the Performance as well as further access options, we recommend pressing the [PERFORMANCE HOME] button. This display has several variants that can be saved with the Performance.

The three Display Knobs on the right are assigned to the Functions "Favorite", "Display Mode", and "View Mode". The Knobs initially react to a minimal movement by displaying the currently active value without immediately causing a change. The "classic" display of the Performance results when the Knobs are set all to the left to the beginning of their value ranges.

For a kind of "standard" in the Performance Home screen this means: #11

- Knob 4 | Favorite = Off
- Knob 5 | Display Mode = Range
- Knob 6 | View Mode = Default

With Knob 4 - or the corresponding switch in the Display - the currently loaded Performance can be added to the Favorites. Additional notes on Favorites will follow in the further course. In this mode, you can also jump to the Display Pages "Navigation", "FX Overview", and "Control View". #12

The following options are available for Knob 5 (Display Mode):

- Range
- FX/Pan
- Arp/MS/Porta
- Mode/Transpose
- Filter

Each of these options offers direct access to the corresponding parameters from the Performance Home screen, which can avoid to have to enter the Edit Mode in many cases. #13



#11

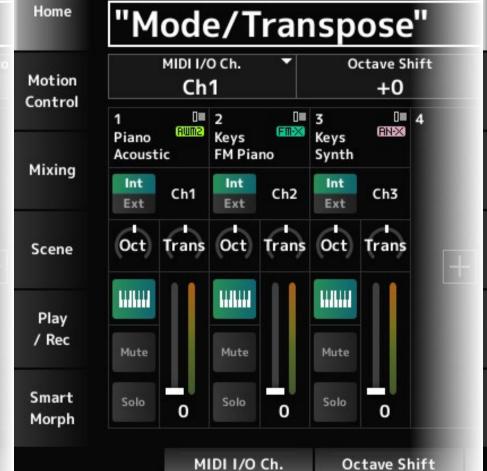


#12





Performance





#13





The "Range" setting makes it possible to limit each Part in terms of playability on the keyboard left and right in order to achieve Split Zones. It is also possible to limit the Velocity Range to which a Part should react. To make these settings, a Part must be selected. This can be achieved by tapping on the Part in the Display. The [PART] buttons (1-8) are also provided for this purpose. #14

#14



#15

These parameters:

- "TG Note Limit Low"
- "TG Note Limit High"
- "TG Vel Limit Low"
- "TG Vel Limit High"

are assigned to the Display Knobs 1-4 and can be changed immediately for the selected Part. #15

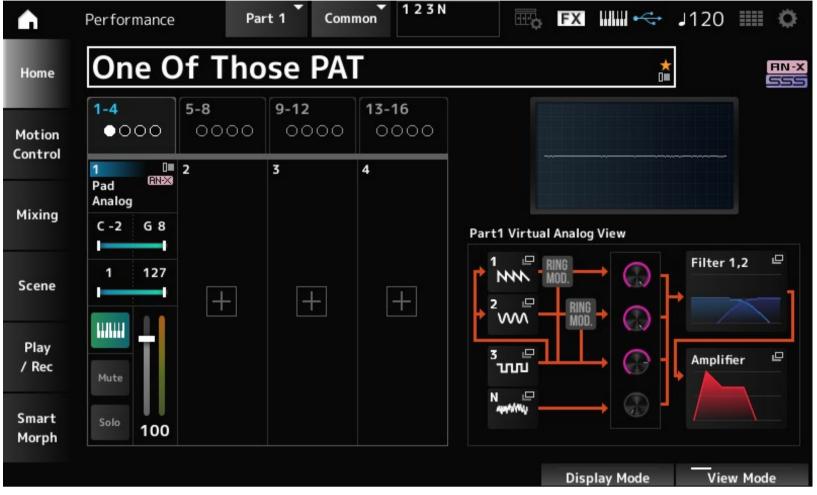
There is another, very comfortable way to set up Split-Performances. This is described in a separate paragraph below.

In the Display Mode "FX/Pan", in the position "Common" (no Part selected), the Effect Returns of Reverb and Variation as well as Panorama and Volume of the Performance can be influenced with the Display Knobs 1-4. If a Part is selected, the assignment of the Knobs changes to the Send Levels for Reverb and Variation as well as Panorama and "Dry Level".

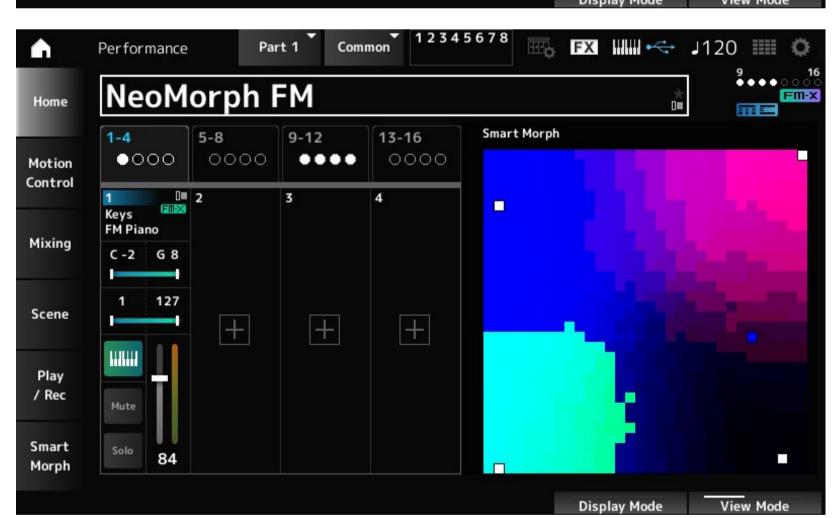
According to the same principle, further parameters are directly accessible via the remaining Modes.



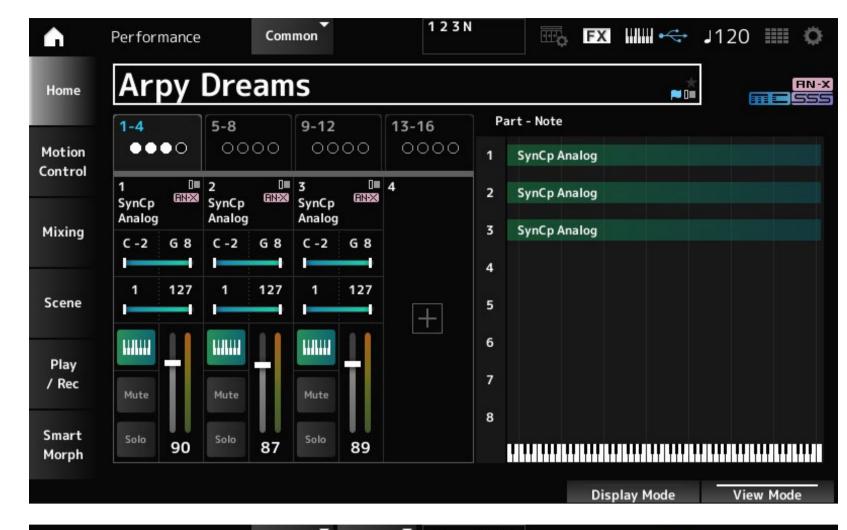
#16

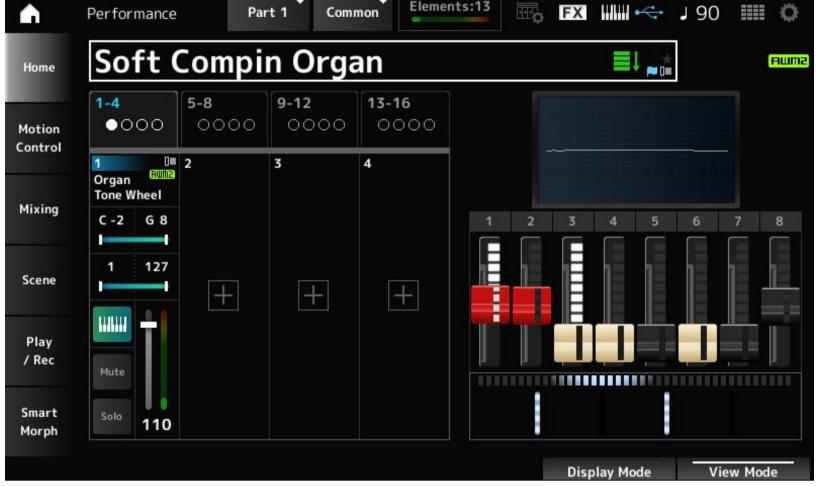


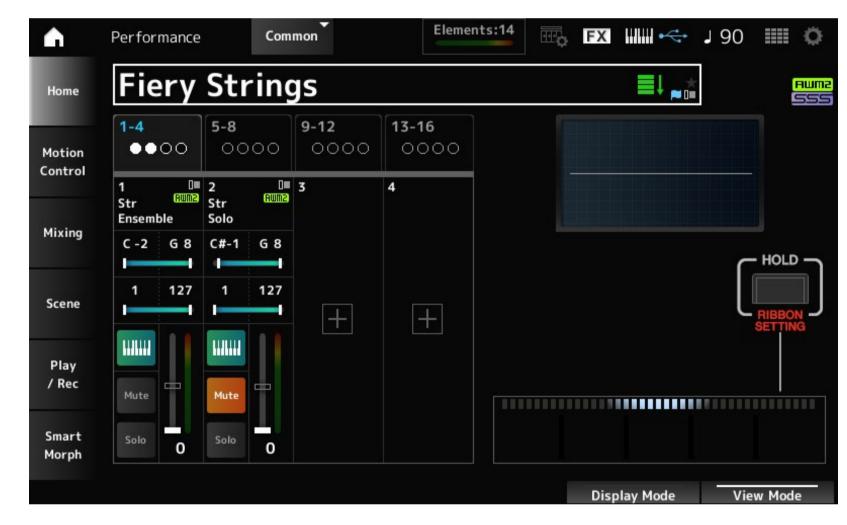












Display Knob 6 (View Mode) splits the screen. The View Modes that can be selected - independent of the active View Mode - are:

- Default (standard view)
- Part Info
- Smart Morph (only for FM-X Performances that use Smart Morph)
- Motion Sequence ("Motion Seq" only available when using a Motion Sequence)
- Velocity Note
- Part Note
- Ribbon

Depending on the Sound Engine used, the corresponding displays may vary as shown in these pictures. **#16**

Tip: The View Mode can also be changed by pressing the [PERFORMANCE HOME] button sequentially.



INFO & MORE

At the top edge of the touchscreen is an area that offers both an orientation and direct access to certain areas of the system. The content changes dynamically with the current Display Page.

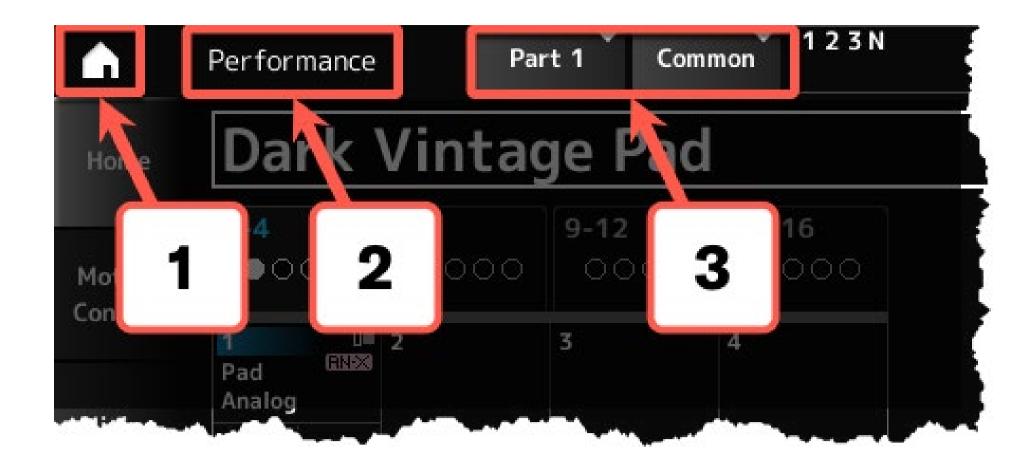
The "Home" symbol on the far left (1) is available in all Display Pages, it leads back to the Performance Home screen from every Sub-Menu. Next to it the Info area (2) is an important orientation as to where you are at the moment. This is followed by a combined area of information and interactivity (3), which shows the currently active level of the Performance. #17

This choice is linked to the Slider assignment, for example, or determines the target of the Edit Mode. Possible areas are Common Performance, Common Part, Oscillator, Element, or Operator. #18

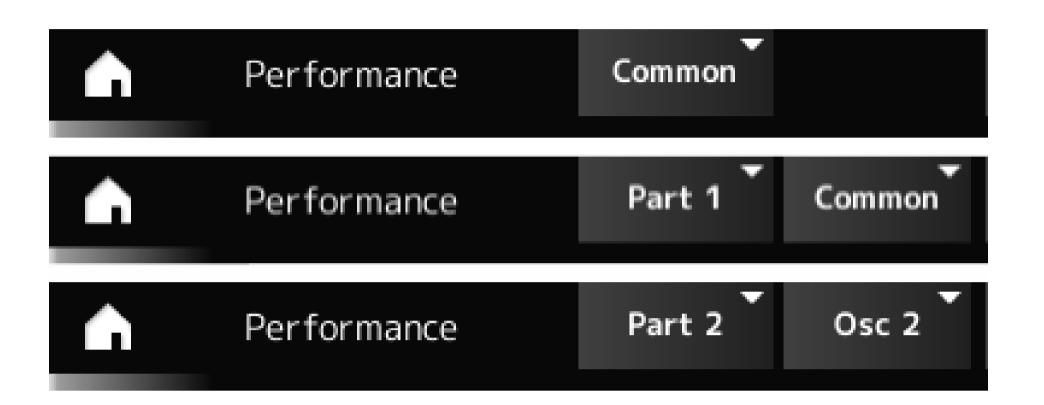
In the center of the upper display line, the Oscillators, Elements, or Operators used by Part 1 of the Performance are shown. #19

In addition, for Performances with more than eight active Parts, the Display depicts which of the Parts 9-16 are being used. #20

The icons in the Info line, which depend on the current Display Page, are usually linked with shortcuts to other Display Pages. #21



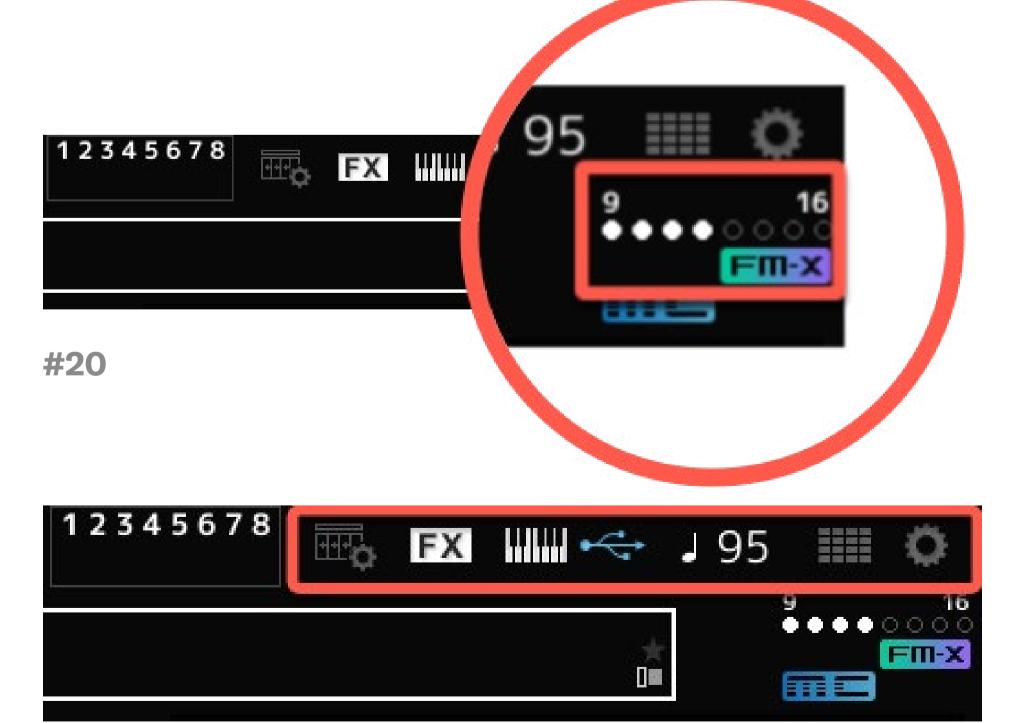
#17



#18



#19



#21

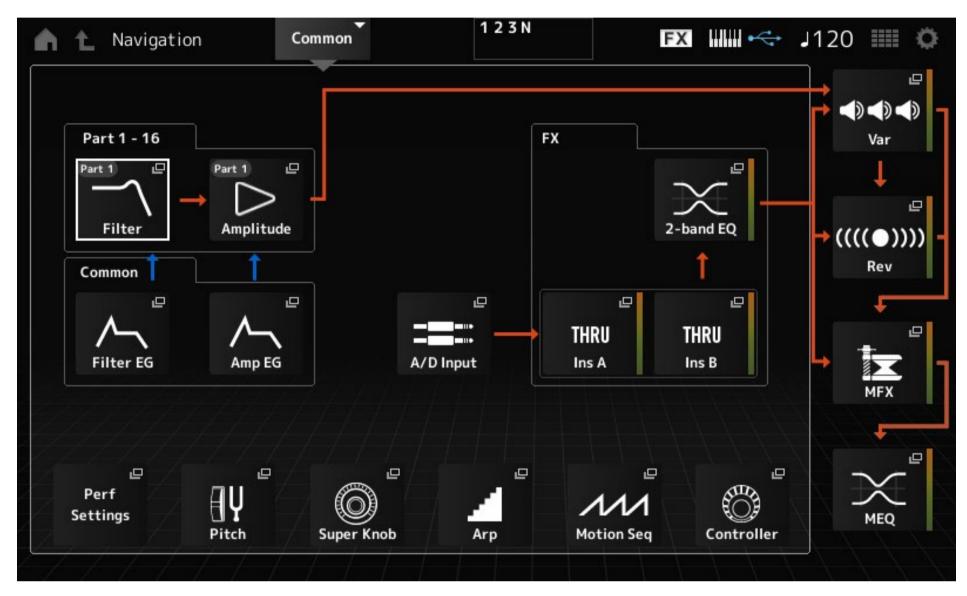




NAVIGATION & FX OVERVIEW

The [NAVIGATION] button (below [UTILITY]) opens a Display Page that shows the structure and signal flow of a Performance in a very informative way, as well as offering numerous access options to all essential areas of Tone Generation and Effects. #22

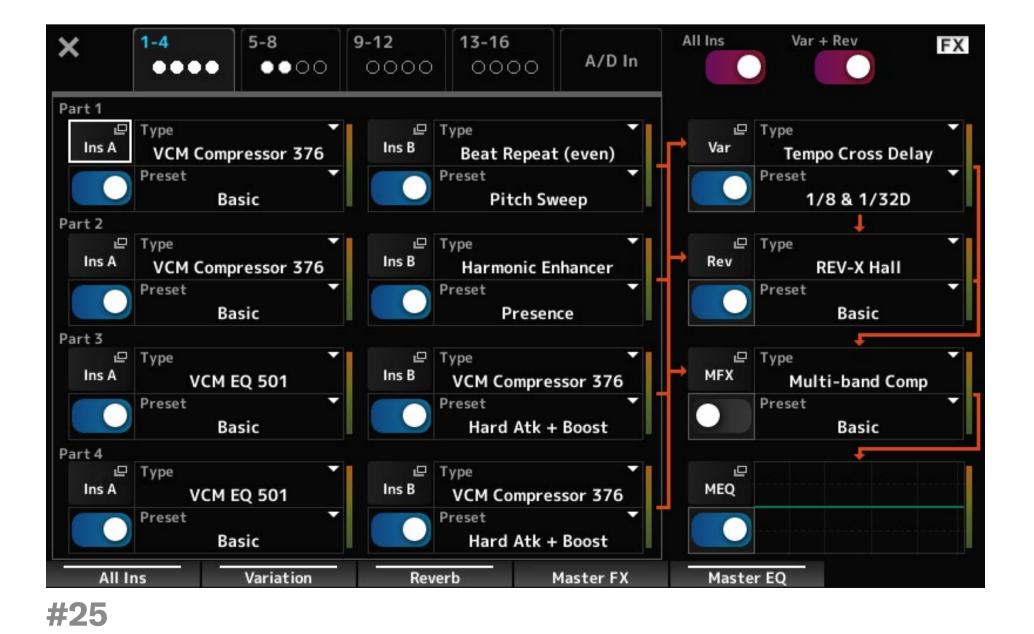
#22



#23



#24



These helpful shortcuts are represented - also in various other Display Pages - by a small symbol in the virtual buttons shown in the Display Page.



The Navigation Display is also shown depending on the currently selected Performance area - Common or Part 1...16. #23 #24

Using the shortcuts from the Navigation Display usually saves at least the selection of a Menu Item compared to the "conventional" way via [EDIT]. Almost more important is the arrangement in the navigation with helpful symbols as well as the omission of some searches in text Menu Items.

If you press the [NAVIGATION] button in combination with [SHIFT], an overview of and access options to all Effects used within the Performance is shown. The Page always displays four Parts and the Common Effects simultaneously. #25

Here, not only the cross-connections to the Effects are quickly accessible, but also switches for individual Effects or Groups. In addition to the individually switchable Effects via the Display, the Display Knob 1, for example, offers the possibility of deactivating the Insert Effects of all Parts together. The other Knobs switch System Effects or the Master EQ. This way, even in Multi-Part Performances with up to 29 simultaneously active Effects, it should be easy to find out where adjustments are needed.

If all Effects are to be deactivated together, the fastest way to do this is via the "Effect Switch" Page in [UTILITY]. This can be accessed directly with the button combination [SHIFT] & [QUICK SETUP].





ARP EDIT

MSEQ

CONTROL

ASSIGN 2

MSEQ TRIGGER

MODULATION, PITCH BEND & MORE

To the left above the keyboard the "classic" Controllers for Modulation and Pitch Bend can be found. Since they are freely assignable within the Motion Control Synthesis Engine, they do not necessarily have to be "classically" assigned.

Above the Pitch Bend Wheel is the [KEYBOARD HOLD] button. This allows you to hold notes played on the keyboard. The function works for all Parts for which Keyboard Control is activated or for an individually selected Part.

To the right is the [PORTAMENTO] button and a "Time" Knob. This allows you to switch Portamento for the Performance and to control the parameter "Portamento Time" without having to navigate to an Edit Menu. The button combination [SHIFT] & [PORTAMENTO] leads to the setting options in the Common Area of the Performance.

Below the Time Knob are the [ASSIGN 1] and [ASSIGN 2] buttons. These can be assigned in the Controller Matrix as well as to specific parameters in AWM2 Elements. If they are assigned a Function, they light up dimmed.

The [MSEQ TRIGGER] button below [ASSIGN 2] is used to start a Motion Sequence if, for example, it does not start automatically with the stroke of a key.



RIBBON CONTROLLER

The explicitly for MONTAGE M Series newly developed backlit Ribbon Controller offers a lot more than one would expect at first glance. Although it is not physically available on the MODX M, it is available virtually on the Display. To access it from the Performance Home Screen, turn Display Knob 6 clockwise all the way to the right (View Mode = Ribbon).

This virtual representation can be integrated into the Control Assignment of the Motion Control Synthesis Engine as a Modulation Source like any other hardware controller (Modulation Wheel, Pitch Bend Wheel, etc.).

The different configuration options are interesting. The shortest way to get there is:

• [SHIFT] & [HOLD] (in the Display directly above the Ribbon Controller)

The first entry under "Grid Mode" is "Continuous" and can be described as a kind of standard mode. Using a finger, the value of the assigned parameter is modulated evenly according to its programming and the movement. The parameter assignment takes place in the regular Control Assignment.

The "Ribbon Mode" distinguishes:

- "Reset" = After releasing the finger from the Ribbon Controller, the position falls back to the programmed default value (middle position)
- "Hold" = The value of the assigned parameter remains in the position selected by the Ribbon Controller

This switch can be made in the Performance Home Screen in order to be able to change it quickly during a live performance.

In Grid Mode "5 step" or "3 step", the Ribbon Controller is divided accordingly. This results in button-like zones and further configuration options. First of all, in this Mode, the assignment to Common or Part and Target parameters is done directly from this Page.

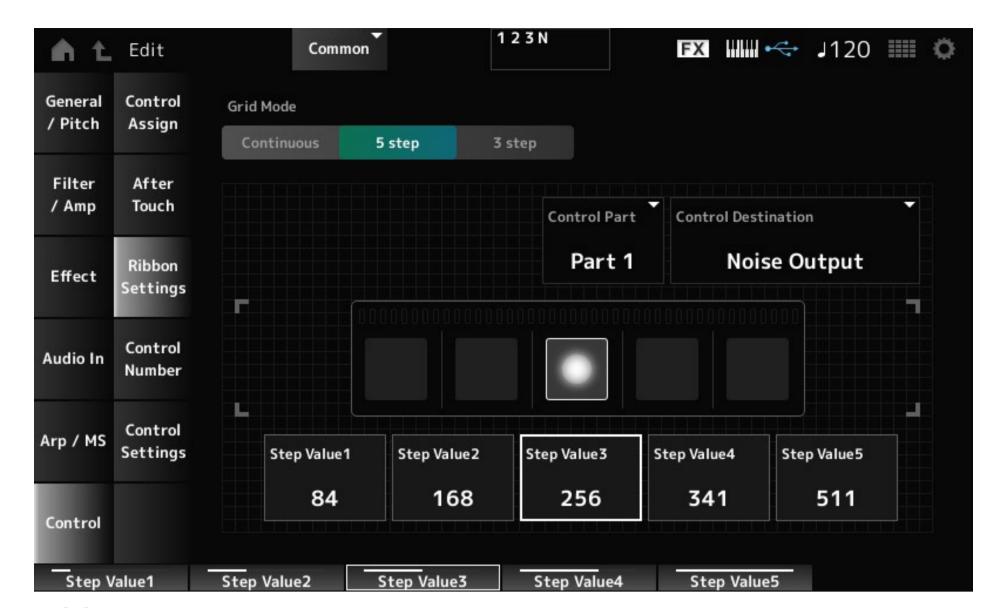


For each Step a value can be defined, which is then applied directly. Depending on the programming, this can of course also act like a switch. #26

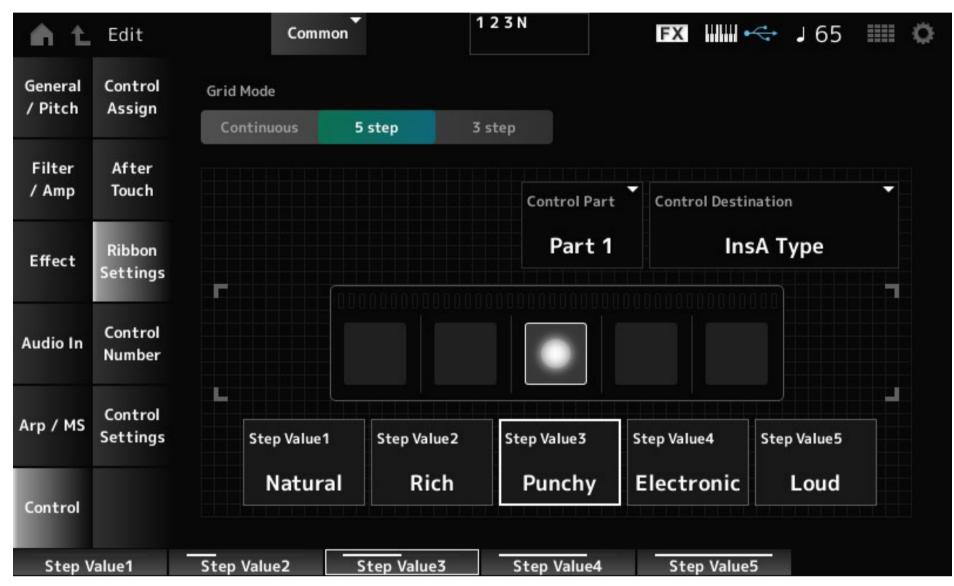
Depending on the Destination, the selection of a parameter is also displayed in text form. The Destination parameter for this example is the Insert Effect "Parallel Compression" and the parameter "Type". #27

The "Speed Control" parameter of the "VCM Rotary Speaker" Effect supports "Slow", "Fast", and "Stop". Using the Grid Mode "3 step" of the Ribbon Controller, these three parameters can be controlled, as shown in the picture as an example. #28

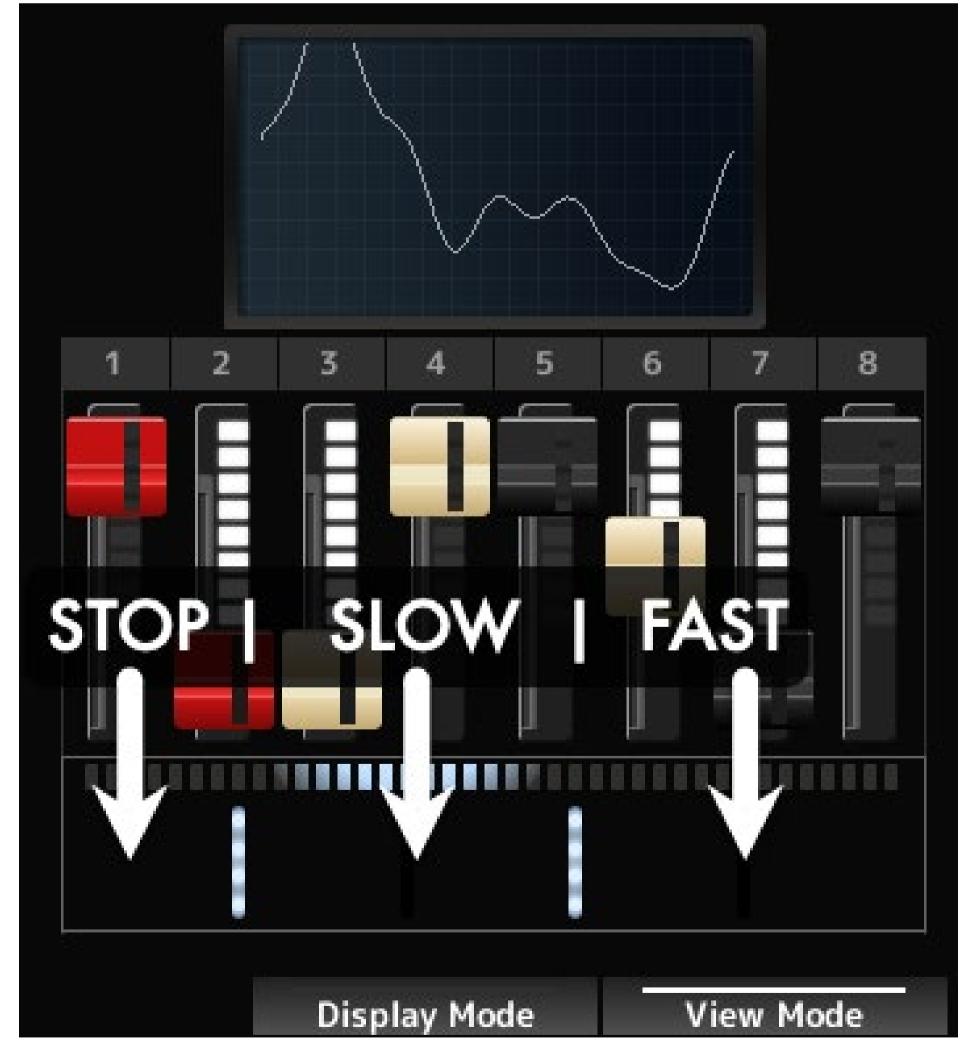
This creates a relatively natural "speed control feeling", not only but especially for fans of organs with Rotary Speaker Effect.



#26



#27



#28



PERFORMANCE BASICS

Performances of the MODX M consist of a maximum of 16 Parts.

Up to eight Parts can be used as Layer, Split, or Arpeggio Parts with all Performance functions. In the Preset Performances only the Parts 1-8 are used. #29

Parts 9-16 can be activated as additional Mixing Parts in the "Mixing" Page, if required, with the "Part 1-16" Function.

There is no "empty" Performance. At least Part 1 is active in every Performance. #30

Each Performance Part uses a Part Mode that is either linked to one of the MODX M's Sound Engines or controls an external sound generator:

- · AN-X
- AWM2 Normal
- AWM2 Drum
- FM-X
- External

So-called "Flags", which are located to the right above the name of the Performance, provide information about the use of the Sound Engines as well as Motion Control (MC) and whether Seamless Sound Switching (SSS) is possible. The Flags are also located in the header of each Part. Parts that are not assigned to a Sound Engine contain the label "External" and the MIDI Channel used. #31

Apart from "External", it is not possible to change the Mode of an existing Part. If necessary, either a Part from another Performance with the desired Mode or an initialised Single-Part Performance from the Category "Init" can be selected. The following variants are available for this:

- Init Normal (AN-X)
- Init Normal (AWM2)
- Init Normal (FM-X)
- Init Drum

The Performances in the "Init" Category can then be programmed from scratch.



#29



#30



#31





#32

A Performance is divided into several levels. The "Performance Common" level is the highest level, which is active by default in the Performance Play Mode of the majority of the Presets. Below this are the "Part Common" levels and the sub-levels depending on the Engine used, such as "Oscillator", "Operator", or "Element". #32

The different levels of a Performance can be selected not only via the touchscreen, but also via the buttons below the Sliders. A jump to the Edit Mode leads directly to the currently active level of the Performance. The indicators already described in the header area of the Display therefore support the necessary orientation.

Presettings selected in this way can be saved with the Performance to enable targeted intervention in the sound even in live situations on stage and without switching.



SELECT & TWEAK

A touchscreen offers a very comfortable and intuitive workflow, as a lot of information can be displayed simultaneously and selected directly. However, especially in a live situation, working with physical controls is sometimes easier and faster. The Preset Performance "Stomp Box" is a good example because it uses all three Sound Engines. After calling it up, [COMMON] and [Part SELECT] are active, the corresponding buttons light up brightly, and the Display shows accordingly. #33

Pressing [ENTER] opens a Side Menu in the Display, which contains the following options: #34

- Performance Category Search
- Performance Edit Common
- Edit Recall
- Property (information about the Performance)

Pressing [EXIT] hides the Menu.

The blue LED "Part" to the left of Slider 1 is active and indicates that the Volume of the Parts is currently being controlled by moving the Sliders. #35



#33







#36

The buttons "1...8" below the Sliders are used to select the corresponding Part. The Display changes, pressing [ENTER] again opens a similar Side Menu in the Display - in this case, however, related to the selected Part! #36

- Part 1 Category Search
- Edit Part 1 (Common)
- Copy (Part Copy/Exchange)
- Property (information about the Part)

In this way, the first eight Parts of each Performance directly. With a combination be selected button can [SHIFT] [CONTROL of and the button above ASSIGN], Parts 9-16 can be selected, if necessary.



#35



This switching also applies to the Volume Sliders. If this button is pressed without the [SHIFT] button, the select buttons and Sliders are switched to the channels "DIGITAL IN", "USB MAIN", and "A/D INPUT". The red LED and the corresponding backlighting of the Sliders indicate this status.

With the help of the [SHIFT] button, the [Part SELECT] buttons can be used for soloing or muting ([SOLO]/[MUTE]) Parts. The colour of the Part Select buttons changes to purple and the active Function button flashes to indicate the selected state. #37



#37



The button next to the "PART" LED can be used to go one Performance level deeper. After pressing the button, the green LED "EL/OP/OSC" is active, the backlighting of the Sliders also changes from blue to green. #38

In this state, depending on which Sound Engine is used by the Part, the following Volumes can be directly influenced:

- AN-X: Oscillator Level (OSC 1...3 & Noise)
- FM-X: Operator Level (1...8)
- AWM2: Element Level (1...128)

The Part Select buttons can now be used in conjunction with [SHIFT] to apply [MUTE] also to Oscillators (AN-X), Operators (FM-X), or Elements (AWM2). The procedure - e.g. for muting an Oscillator - is as follows:

- 1) [SHIFT] & [PART SELECT] ([MUTE]) the selected Part will be muted
- 2) [SHIFT] & [2] Oscillator 2 is muted (shown in the header of the Display) #39

An experienced handling of these button combinations can save many a jump into an Edit Mode. However, the possibilities of sound editing without calling up a dedicated parameter Page in the touchscreen are by no means at an end.

Any changes to the Performance are indicated by a blue Flag at the bottom right of the Performance name. To save changes permanently, the Performance can be saved by pressing the [STORE] button. If the edited Performance is a User Performance, the options "Store As New Performance" or "Overwrite Current Perf." are available. #40

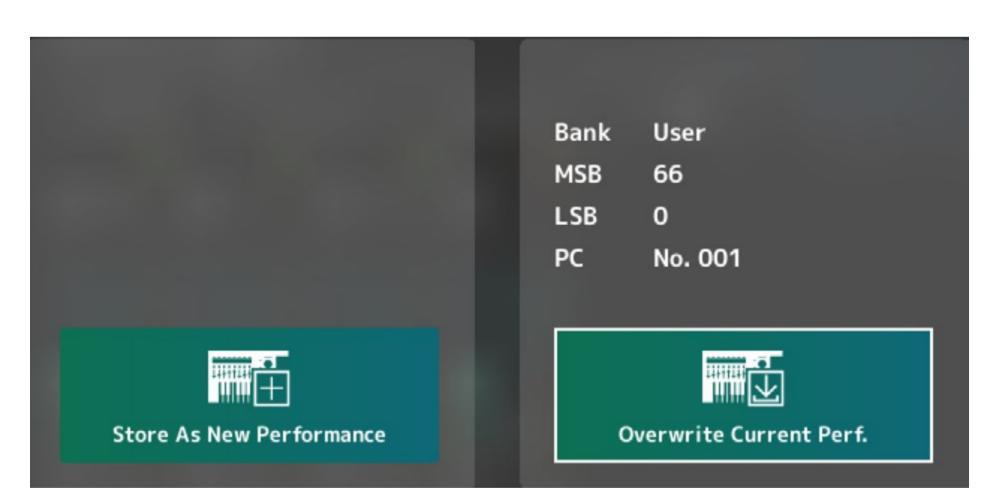
Only a new User Performance can be stored from a Preset, as Presets cannot be overwritten.



#38



#39



#40



QUICK EDIT

The four endless Knobs above the Sliders can be assigned numerous functions and parameters. The two buttons to the left of the row of Knobs - [QUICK EDIT] and [ASSIGN] - first decide which of the two possible main areas the Knobs are currently assigned to. #41

#41



If [ASSIGN] is active (lights up bright white), the Knobs function as so-called "Assignable Knobs" and are assigned to parameters via the "Motion Control Synthesis Engine" - a very powerful and largely freely programmable Controller Matrix. Details will follow in a later section. Since the operating system has eight virtual "Assignable Knobs" but only four Knobs, pressing [ASSIGN] again switches between Assignable Knobs 1-4 and 5-8.

When one of the [QUICK EDIT $\land \lor$] buttons is pressed, there is direct access to defined functions and parameters, whose names are printed on the panel. Pressing [$\land \lor$] sequentially switches between the sets of parameters.

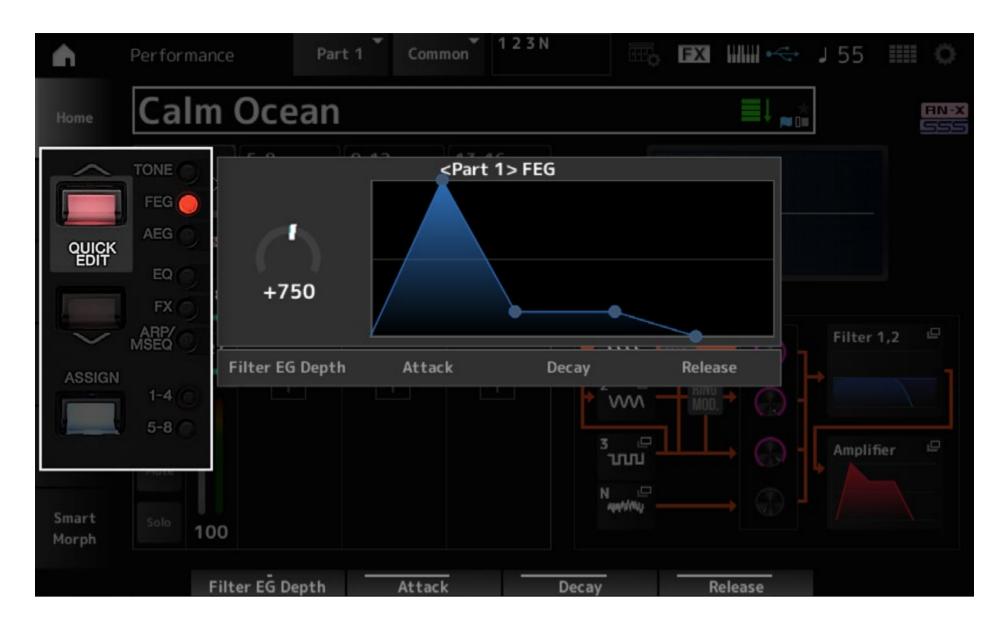
These Controllers aim at a certain Performance level, depending on the preselection described above, such as Common or Part.

Since the Knobs sometimes move through a wide range of values with a high resolution - e.g. 0-1,023 - setting a specific value can be more difficult. However, if a Knob is moved in conjunction with [SHIFT], the speed of the value change is reduced. In this way, all desired values can be set very sensitively.



The selections made for [QUICK EDIT] or [ASSIGN] are saved with a Performance. For example, direct access to the parameters of a specific Part could be made available simply by calling up a Performance, in order to work with it during a live performance without having to navigate to the corresponding parameters. #42 & #43

The [PAGE JUMP] button to the right of the Quick Edit parameters opens the corresponding Page in the touchscreen and thus spares you the "regular" way via the [EDIT] button and the navigation through often several Menu Items. With the help of the [SHIFT] button, the parameters are synchronised in the opposite direction: The corresponding Quick Edit row gets activated. If necessary, this is the quickest way to prepare the Performance for saving in a certain state. #44



#42



#43



#44



PERFORMANCE MERGE & MOVE

Even Parts can be added, exchanged, or put in a different order directly from the Performance Home screen.

Tapping on the plus sign of a Part placeholder immediately calls up the "Category Search" Page - in this case, however, in "Part X - Performance Merge" Mode. #45

Apparently comparable to a direct press on the button [CATEGORY SEARCH], all available memory areas can be searched for Categories and, if necessary, with set Filters (Attributes) as already described. However, in this Mode, the result after the selection is the merging of both Performances. In addition, the merging works dynamically depending on the respective initial situation.

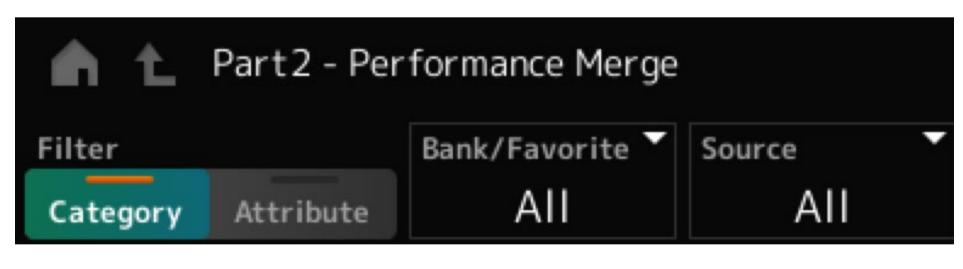
All Preset Performances contain a maximum of eight Parts. In Multi-Part Performances with less than eight Parts, the Parts are always assigned in the order from 1 to x, i.e. without gaps. If, as described above, the plus sign of the first empty Part Slot is tapped, theoretically up to 15 Parts could be added from existing Performances (Single/Multi) or a complete Multi-Part Performance. It should be noted that in normal Performance Play Mode, only Parts 1-8 are controlled by the keyboard.

For successful Performance merging, it is therefore important to consider how many Parts the existing Performance contains from which "Performance Merge" is called. For the selection of the Performance to be added, it is very helpful that in the list display below the name in the line "Part", the number of contained Parts is graphically indicated. #46

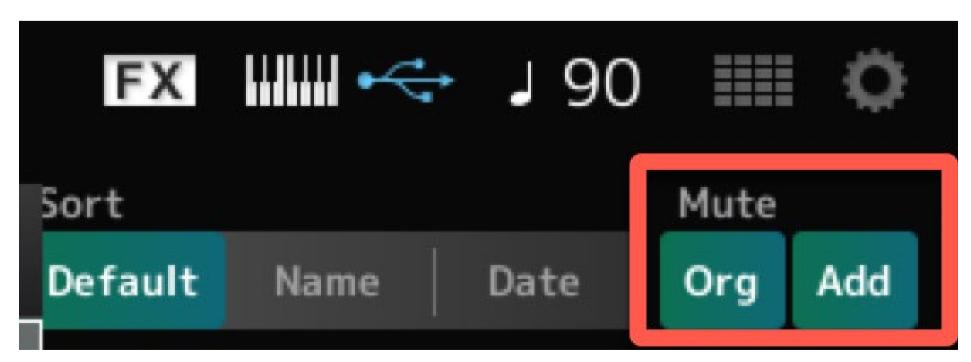
This makes it easy to do the necessary mathematics before the final merging and to estimate whether all Parts still fit into the frame of the eight Performances under "Keyboard Control".

Of course, it is not necessary to add complete Multi-Part Performances with all contained Parts via Performance Merge. In this case, it is possible to select a specific Part. This is done by tapping in the "Source" field, which opens a corresponding list. #47

When working specifically, the Part of a Performance to be added is probably already known in advance in most cases. However, it is very helpful to be able to mute this Part as well as the existing Performance that is currently being worked on. For this purpose, there are two switch options in the top right-hand corner of the display under the heading "Mute". #48



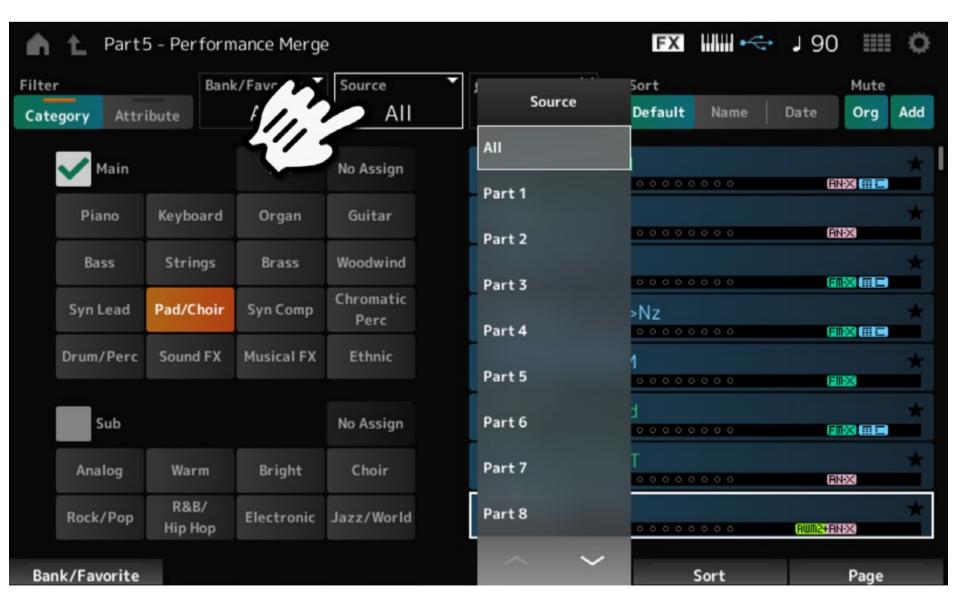
#45



#48



#46



#47



"Org" mutes the "host" Performance, "Add" the Part of a Performance to be added. Regardless of whether it is a Single- or Multi-Part Performance. In this way, you can check how the components to be merged sound individually and in combination without leaving the "Performance Merge" dialogue.

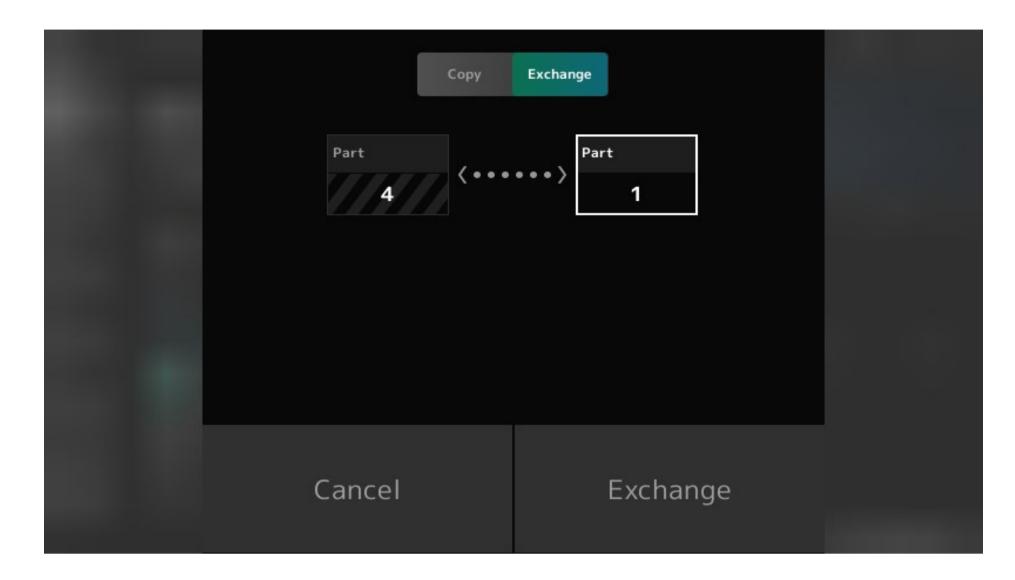
Parts can be copied within a Performance or rearranged in order. If the Part to be edited is selected, this works via the following shortcut:

• [SHIFT] & [EDIT]

If the target Part is not empty during a copy operation, a corresponding error message appears.

"Exchange" swaps the Parts with each other, which makes it possible to re-sort them in a way that can contribute to order or clarity within the Performance. #49

All of the adjustments and edits described up to this point are possible without switching to an Edit Mode. The following sections will take you to somewhat deeper levels of Performances.



#49



SPLIT

Pressing the [SPLIT] button (below [STORE]) calls up a Quick Edit mode especially for fast and convenient editing of Split Performances. #50

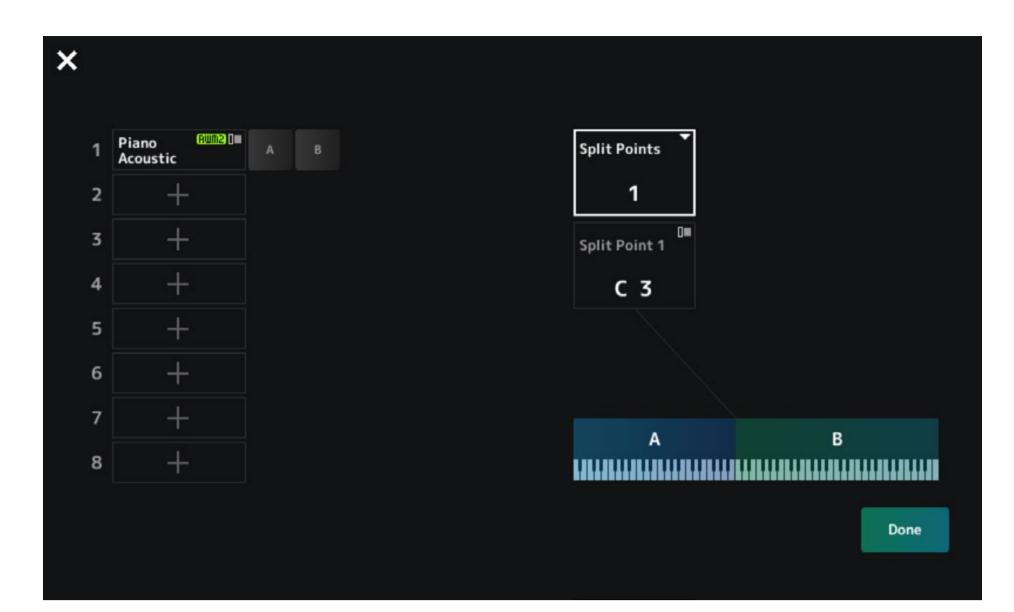
As a rule, you will probably use this function on a Performance that already contains several Parts. However, it is also possible to compose the Parts directly from this Page. To do this, simply tap on an empty plus sign next to the Part numbers 1-8, which leads directly to the Part Category Search with the Mode "PartX - Performance Merge".

If the Performance contains several Parts, Zones and Split Points can be assigned here. The range of the "Split Points" parameter is from "Off" to "3", which creates up to four Zones (A to D). Dynamically and depending on the number of Split Points, corresponding parameters are displayed for setting. **#51**

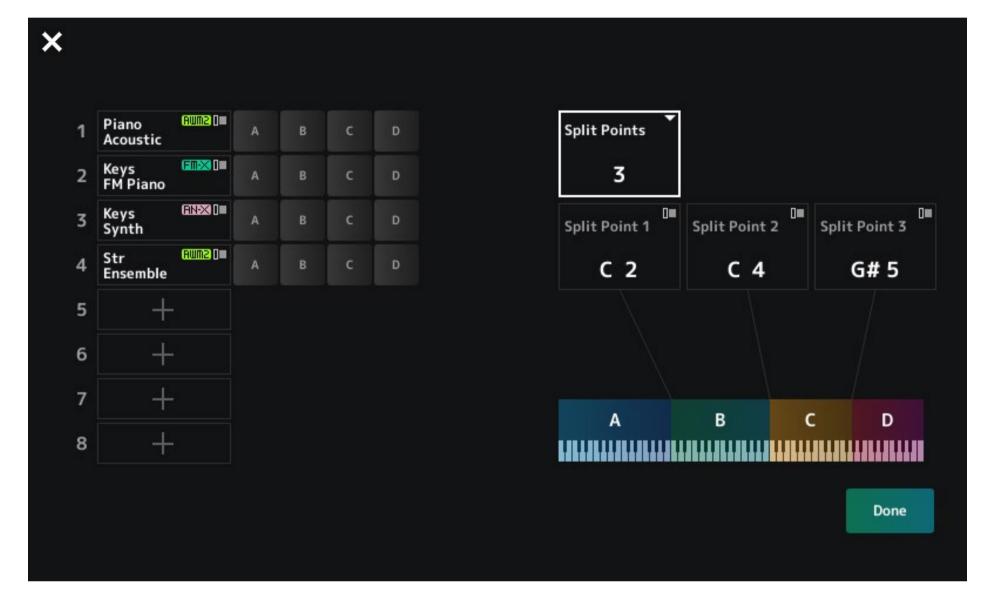
Once the Split Points have been set as desired, the Zones can be arranged with a simple tap on the buttons A-D next to the Parts. The unambiguous colouring allows the structure of the Performance created in this way to be visually grasped quickly. By pressing the [SHIFT] button while selecting a Zone, you can set multiple Zones for a single Part. #52

A tap on "Done" is sufficient to apply the settings. Any necessary changes can also be made much more quickly on this Page than by changing the Ranges in the Performance Home screen. If the order of the Parts is to be adapted to the Split Zones, the button combination [SHIFT] & [EDIT] (JOB) is sufficient to do this via "Exchange".

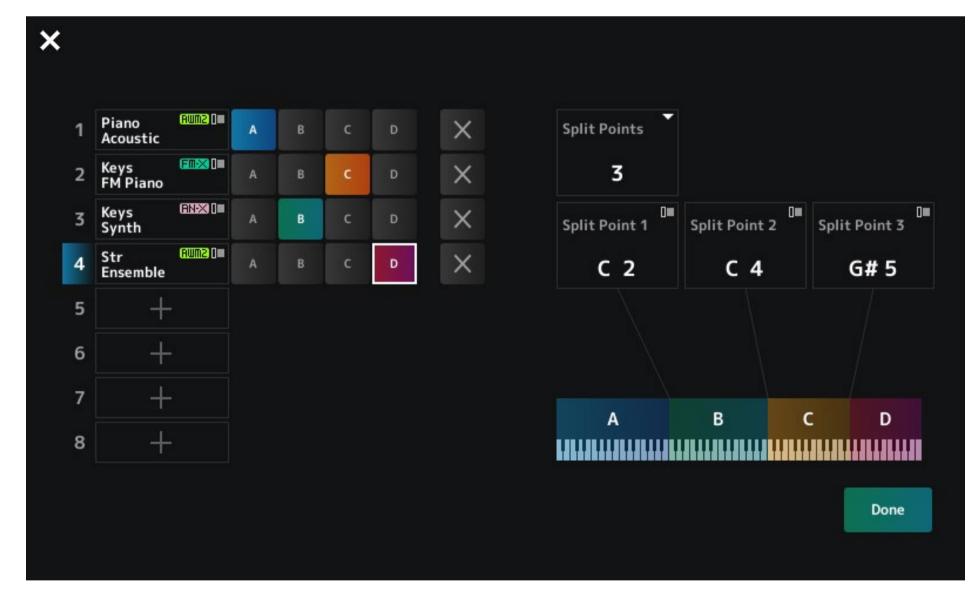
If additional Zones were needed, they would have to be created via the "regular" and already described way from the Performance Home screen or in the Part Edit Mode. Theoretically, a Zone could be assigned to each Part, so that up to eight Zones could be provided for Parts 1-8 under Keyboard Control.



#50



#51



#52



Elements:18 FX ₩₩ ← J 90 Edit Common Var Pan Var Return Routing / Pitch C 96 SPX Hall Filter Preset Var To Rev Variation / Amp Basic 0 Effect Reverb 16 Parts Rev Pan Rev Return HD Hall Audio C 64 Large Hall Master Audio In FX Envelope Side Chain Follower Master Off Arp / MS Master EQ MFX **Multi-band Comp** Preset Main L&R Control Basic Var Pan

#53



#54

PERFORMANCE EDIT - COMMON

If you press the [EDIT] button from the Performance Home screen while the [COMMON] button is lit, you will find yourself in the "Edit - Common" area. Almost all parameters accessible here have an effect on the sound or behaviour of the entire Performance including all contained Parts. This applies, for example, to the Filter and Envelope settings available in the Common area. However, it must be taken into account that these are so-called "Offset Values" that act in relation to the settings programmed in the Part. If no Filter were assigned to one of the Parts, it would not be able to react to Offset settings in the Common area.

Other important parameters in the Common area of a Performance are the System Effects "Variation", "Reverb", as well as "Master FX" and "Master EQ". #53

"Common" also contains overlapping parameter sets that can be edited here as well as in the Part. These include selection and setting options for Arpeggios and Motion Sequences.

The [Part] buttons (below the Sliders) described above allow you to jump to the "Edit - Part x" area at any time. Depending on the Edit Mode (Common/Part), the Display Page is different. First of all, active Menu Items and parts of the control elements in the Display have different colour gradients, depending on the use of the Sound Engine assigned to the Part. In addition, the header of the Display changes, indicating which Sound Engine the Part is using. **#54**



PART EDIT - COMMON

In Edit Mode of a selected Part, there is again a Common area that contains settings that affect the sound and behaviour of the Part. Regardless of whether the actual sound-generating components are Oscillators (AN-X), Operators (FM-X), or Elements (AWM2). Similar to the Performance Edit Mode Common, the setting options for e.g. Part Volume and Panorama, Pitch settings, Insert Effects, Arpeggios, Motion Sequences, and much more can be found here.

The header of the Display also shows which of the Parts is currently being edited.

PART EDIT - AN-X

The editing of the native AN-X parameters begins with the selection of one of the three Oscillators or "Noise". #55

PART EDIT - FM-X

Here, too, it is necessary to select one of the eight Operators to gain access to the FM-X parameters. Important to know: The choice of Algorithm is located in the Common Edit area of an FM-X Part. #56

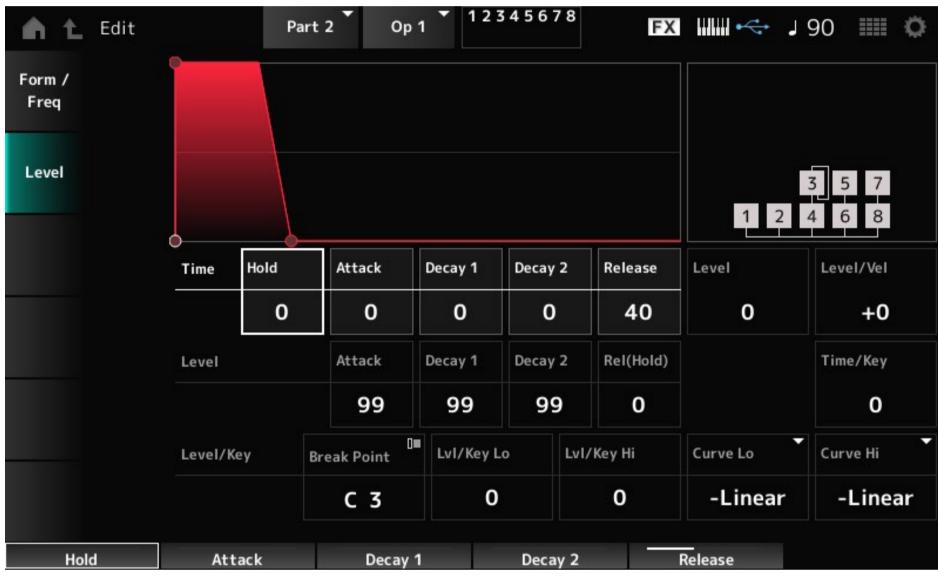
PART EDIT - AWM2

So-called Elements are the sound-generating basis of an AWM2 Part. Elements are based on Samples organised in ROM Waveforms or optional User Waveforms. #57

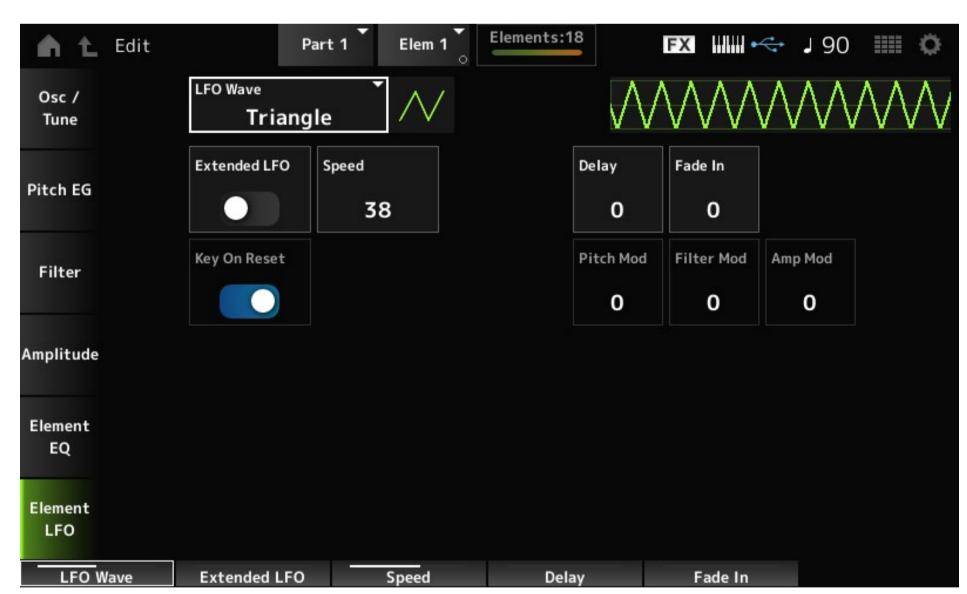
An initialised AWM2 Part is initially based on eight Elements, which can be activated individually via a switch. Using the Element Settings menu, the number of Elements in a Part can be increased up to 128. The representation in the header of the Display changes accordingly. **#58**



#55



#56

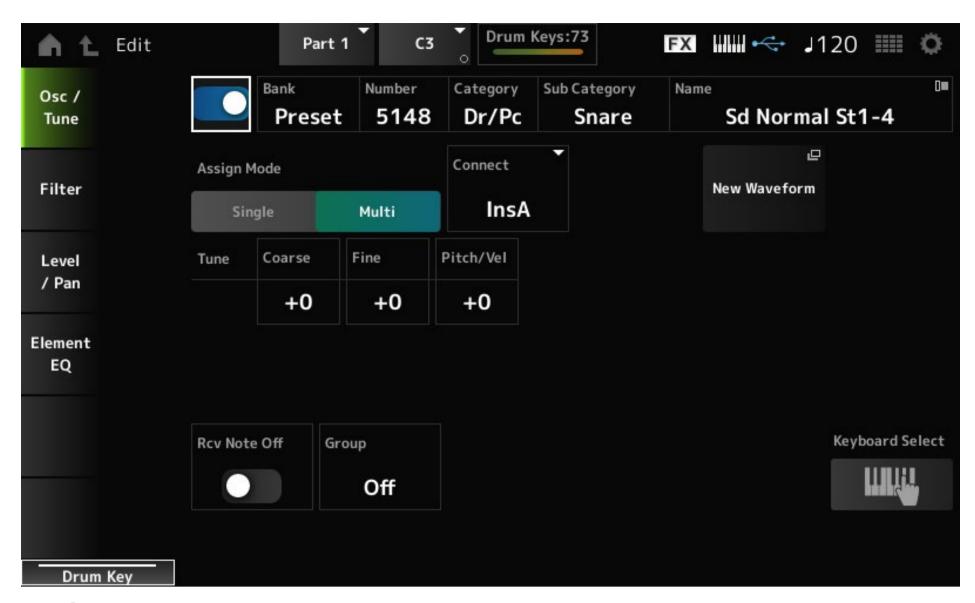


#57

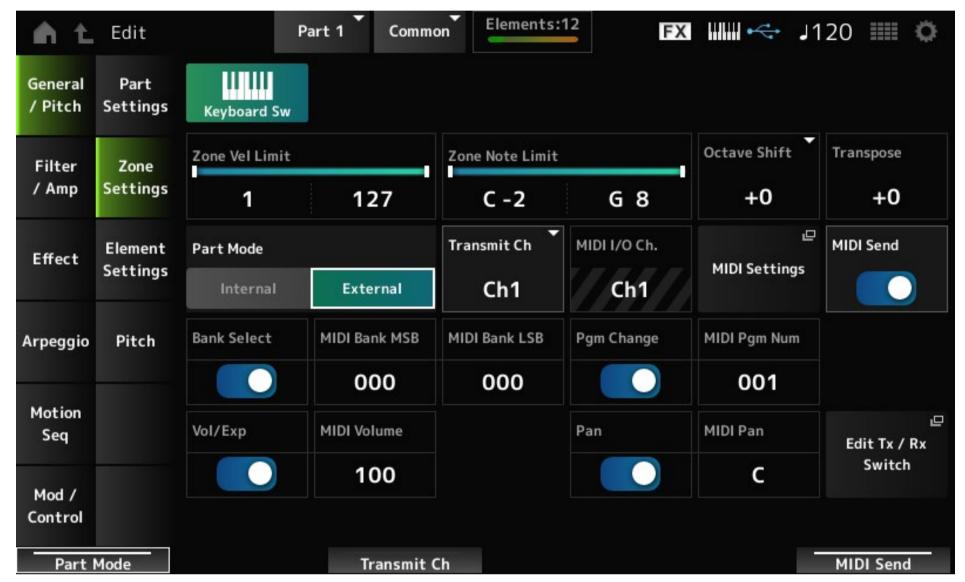


#58





#59



#60

PART EDIT - AWM2 DRUM

A Drum Part is based on 73 AWM2 Elements. The whole Part structure is tailored to Drum Kits and contains some parameters that differ from regular AWM2 Parts. #59

PART EDIT - EXTERNAL

Parts can be switched to External directly from the Performance Home screen or from the Part Edit Common "Zone Settings". Tip: You can also use a "double tap" on a [PART SELECT] button to toggle the Part Mode between Internal and External. #60

This is a kind of "Sub-Mode" that switches from the internal sound generation to the control of an external sound generator (hardware or software) within a regular Part (AN-X, FM-X, AWM2, or Drum). This Mode can be regarded as a "Local Off" circuit limited to the Part. With this circuit, further parameters are added to the "Zone Settings" in order to be able to control external sound generators to a large extent. All other parameters of the "regular" Part remain unaffected by the circuit. Thus, it would be possible to use the circuit even in a live Performance, for example, to control an external sound generator only temporarily.



SCENES & KEYBOARD CONTROL

SCENES

With Scenes 1-8, certain settings of the Parts can be saved like a snapshot on a digital mixer.

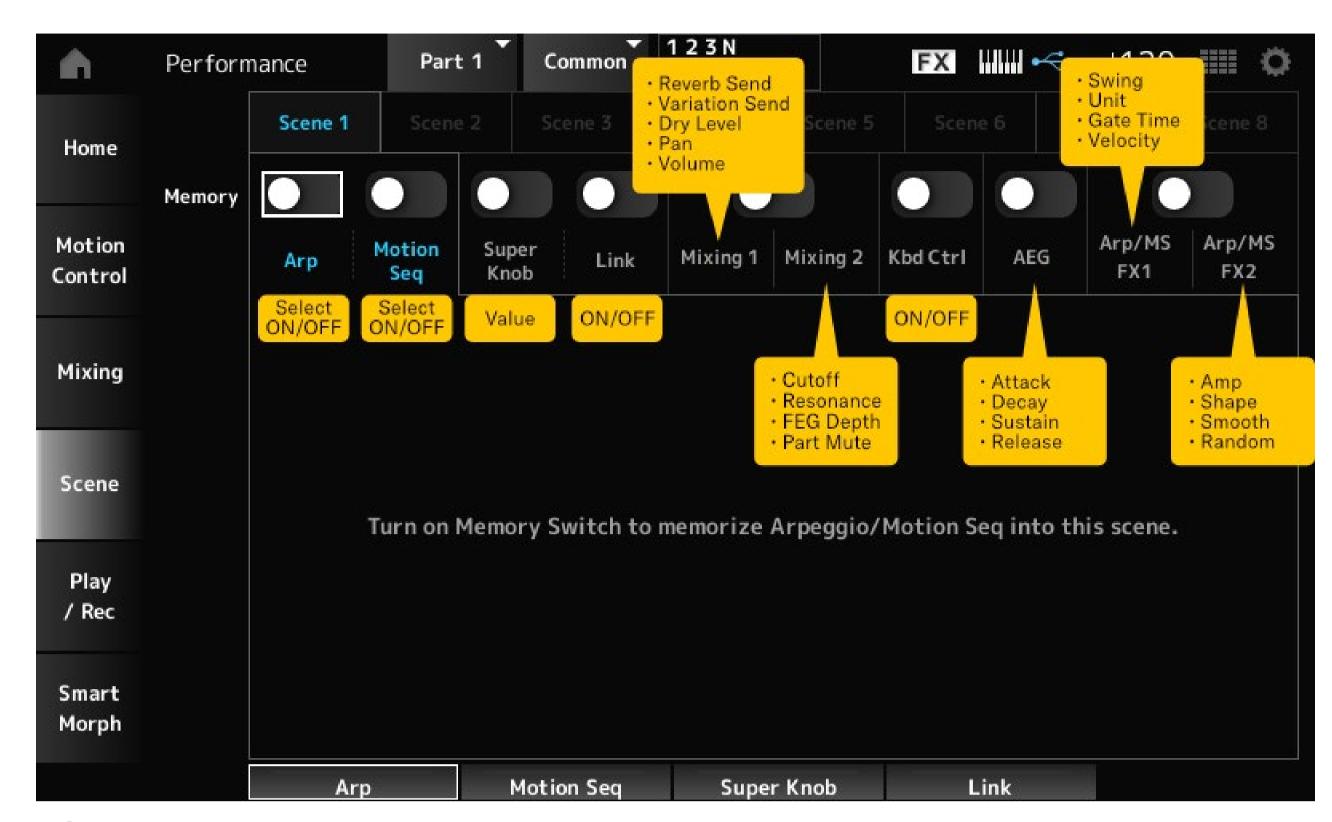
The screenshot **#61** shows all the parameters that can be saved with a Scene. Some are grouped together.

The buttons [1]...[8] below the Super Knob are used to call up the Scenes. If Scenes are allocated with data, the corresponding buttons light up dimmed, the LED of the currently active Scene lights up brightly. #62

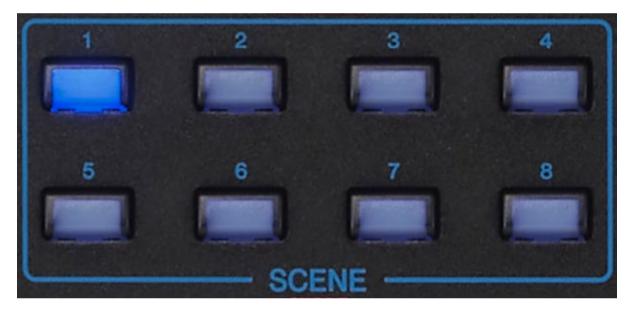
Button [1] also lights up brightly when no Scene is stored to it. By tapping on the Menu Item "Scene" in the touchscreen, you can get an overview of which parameters are stored with the respective Scene. Similarly, the virtual switches for individual parameters or combined parameter sets, such as under "Mixing", are also defined here.

For the Arpeggios and Motion Sequences, the respective master switch can be activated in the lower area and the "Arp"/"Motion Seq" number 1-8 can be set for each Scene. #63

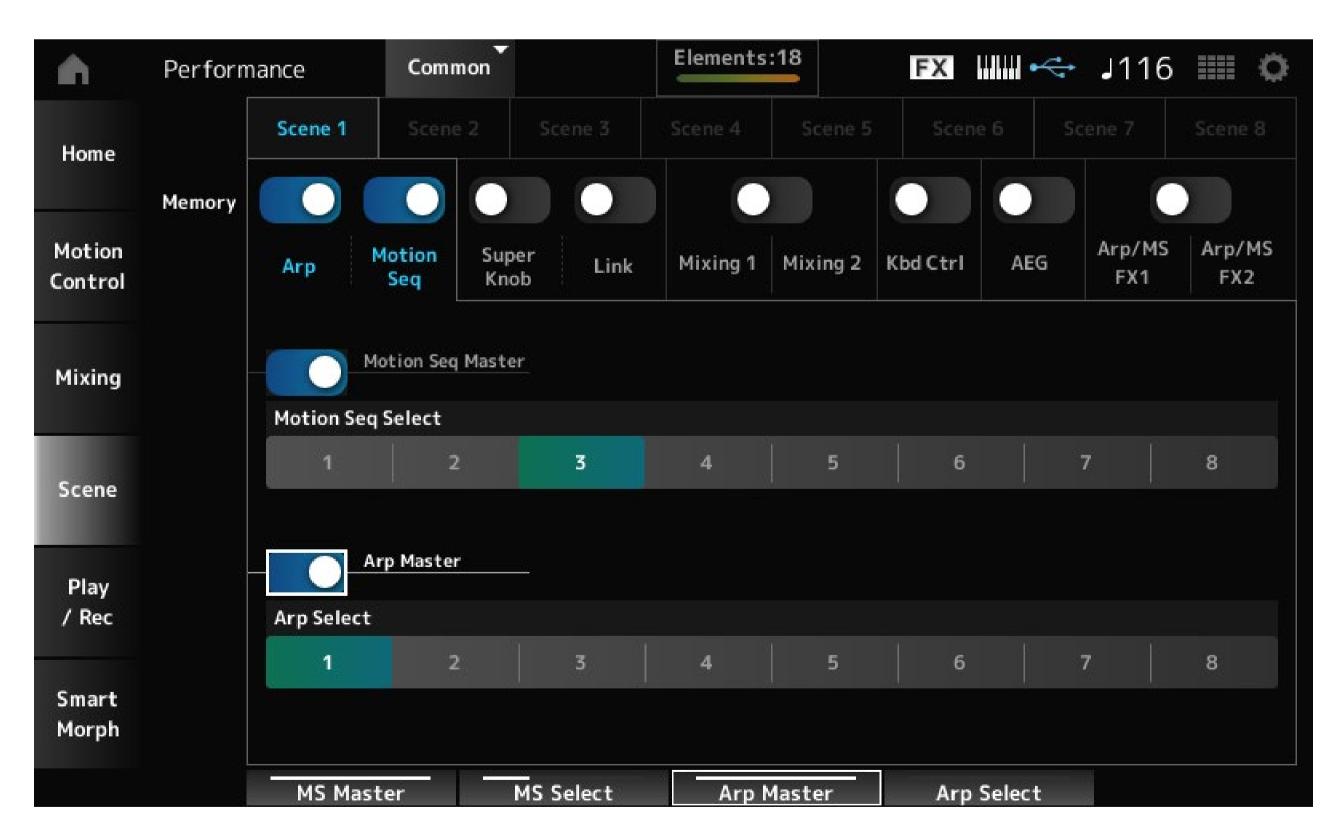
Settings selected here are stored with the Performance.



#61



#62



#63

However, it is not absolutely necessary to call up the Scene Page. The transfer of relevant changes of a Performance into a Scene also works via the button combination [SHIFT] & (Scene button [1]...[8].



When using this shortcut, there is a decisive difference whether the target memory (1...8) for the Scene is empty or already contains data. For free Scenes, all available parameters are switched active, as the system cannot "know" which parameters are to be saved with the new Scene. For example, the current position of the Super Knob is saved in the new Scene. This means that it immediately jumps to the saved value when changing to this Scene. Regardless of whether the initial position comes from another Scene or was selected manually. Accordingly, if necessary, certain areas must be deactivated again after using the shortcut.

When using the button combination in a Scene that has already been stored, no changes are made to the preassignment. This means that only the already activated parameters or ranges are stored again with their possibly deviating values.

An example: You want to save the Volume of a Part into an existing Scene with the help of the button combination. However, the switch for "Mixing 1 / Mixing 2" is not active in the existing Scene. This means that the changed Volume value of the Part is not transferred to the Scene. It is necessary to activate the combination "Mixing 1 / Mixing 2" in the Scene Page in advance. Do this for each Scene into which a Part Volume is to be saved.

When a Performance is saved, the currently active Scene number is also saved. In addition, the Performance can be saved with values that differ from the Scenes, so that only when the first Scene is selected are its values "recalled". Please note that all parameters such as Part Volume, Super Knob positions, soloing and muting of Parts are activated immediately when the Scene is called up, which can lead to clearly audible parameter jumps when notes are held.

There is one exception:

KEYBOARD CONTROL

As already briefly described under "Select & Tweak", the virtual "Keyboard Control" switch determines which Parts can be played together from the keyboard (Layer or Split).

"Keyboard Control" is only available for Parts 1-8. Keyboard Control is also important for integrating the MODX M into a MIDI environment (external keyboard, DAW...). For details, please refer to the section "MIDI & Part Mode External".



The position of the "Keyboard Control" switch can also be saved with the Scenes. Roughly speaking, deactivating Keyboard Control for a Part has the same effect as muting. The latter, however, is always "hard". This means that the sound is immediately cut off when notes are held. If, however, the Keyboard Control of a Part is deactivated by changing a prepared Scene, it continues to sound until the keys or the sustain pedal are released, even if the next Scene is already active. "Seamless Sound Switching" thus functions within the Performance and makes it possible to prepare different Part combinations within a Performance. Tip: Play Performances from the "Rd Gallery" series.

Parts are always playable from the keyboard when selected, even if Keyboard Control is deactivated for them. #64



#64



MIDI & PART MODE "EXTERNAL"

MIDI connections are possible via USB or the MIDI Interface. When delivered, MODX M works with MIDI Channel 1 for incoming and outgoing MIDI connections. The setting is made under [UTILITY] > Settings > MIDI I/O > "MIDI I/O Ch". In Display Mode "Mode/Transpose", this Channel can also be set directly from the Performance Home screen using Display Knob 2.

All "regular" Parts 1-8, for which "Keyboard Control" is activated, transmit and receive together on this MIDI Channel - independent of a possibly deviating setting in the respective Part! Parts 9-16, for which Keyboard Control is not available, send and receive on the Channel corresponding to their Part Number by default.

However, this can be set freely, which also applies to Parts 1-8 as soon as Keyboard Control is deactivated.

Consequently, when Keyboard Control is deactivated for all Parts, a MIDI Multimode with up to 16 Channels could be realised for the reception of MIDI Events. Parts under Keyboard Control are combined on the "MIDI I/O Ch" to receive on one Channel. Other Parts with deactivated Keyboard Control could also be combined by setting the same MIDI Receive Channel that deviates from the "MIDI I/O Ch", for instance to be controlled by an external keyboard. Since all Parts otherwise offer matching features, externally controlled Split/Layer combinations can also be constructed.

The setting of the individual MIDI Channel can be done in the Part Edit Mode, the path (for a selected Part) is:

• [EDIT] > General/Pitch > Zone Settings > "Tx/Rx Ch"

There is also an additional field with a hatched background, which represents the currently active "MIDI I/O Ch". The hatching indicates that no change is possible here. #65

However, the MIDI Channel can also be set very comfortably directly from the Performance Home screen.

Select a Part (in the Display or via the Part Select button)



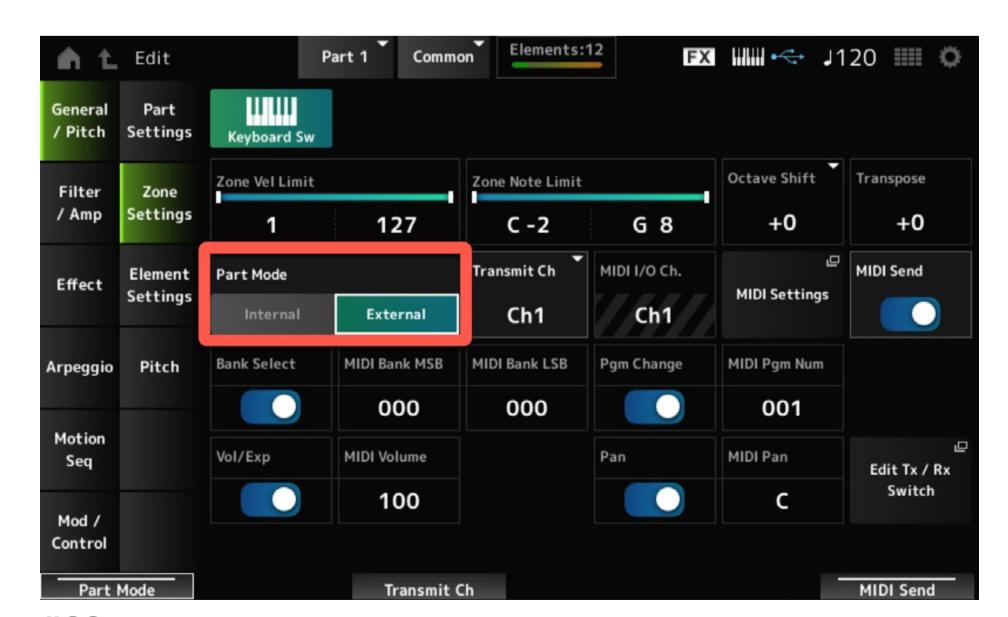
#65

- Turn Display Knob 5 ("Display Mode") to the "Mode/ Transpose" position
- Turn Display Knob 2 ("Tx/Rx Ch") to the desired value (1-16, off)

The Part Mode "External" offers even more flexibility for sending MIDI data beyond the standard situation described above.

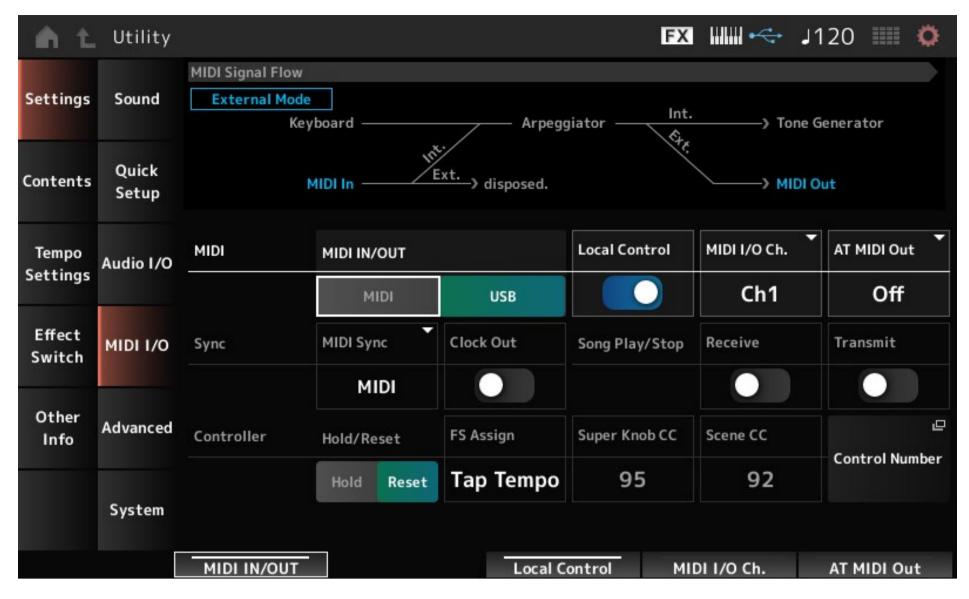
EXTERNAL

If a Part is selected, the "Part Mode" can be set via the Display Knob 1. "Internal" is the "Standard Mode" in which the Part plays the audio signal of one of the Sound Engines. The "External" Part Mode decouples the internal Tone Generator and changes the functionality into a pure MIDI Part that transmits to the outside on a freely selectable Channel. #66



#66





#67

The diagram shows that the MIDI data of the Arpeggiator is also sent to the external sound generator. #67

Several external sound generators, which receive on different MIDI Channels, can be controlled by Parts in "External" Mode. As with Parts in "Internal" Mode, data is sent when the Part is under "Keyboard Control" or is selected. Also in the combination of several Parts with different Modes, the activation of "Keyboard Control" combines the Parts. In this way, Split and Layer combinations of the internal and external sound generators could be set up. In such a case, MODX M transmits simultaneously on all Channels of the Parts in "External" Mode. The internal "Master Channel" under "MIDI I/O CH" is deactivated as soon as one Part is in "External" Mode.

Since "Keyboard Control" can be stored with the Scenes, up to eight different Scenes could be preprogrammed within a Performance, which could play either only the internal, one or more external sounds or any combination of internal and external sounds from the keyboard.

An "external" Part with deactivated (or non-existent) "Keyboard Control" only sends MIDI data - like an "internal" Part - when it is selected.

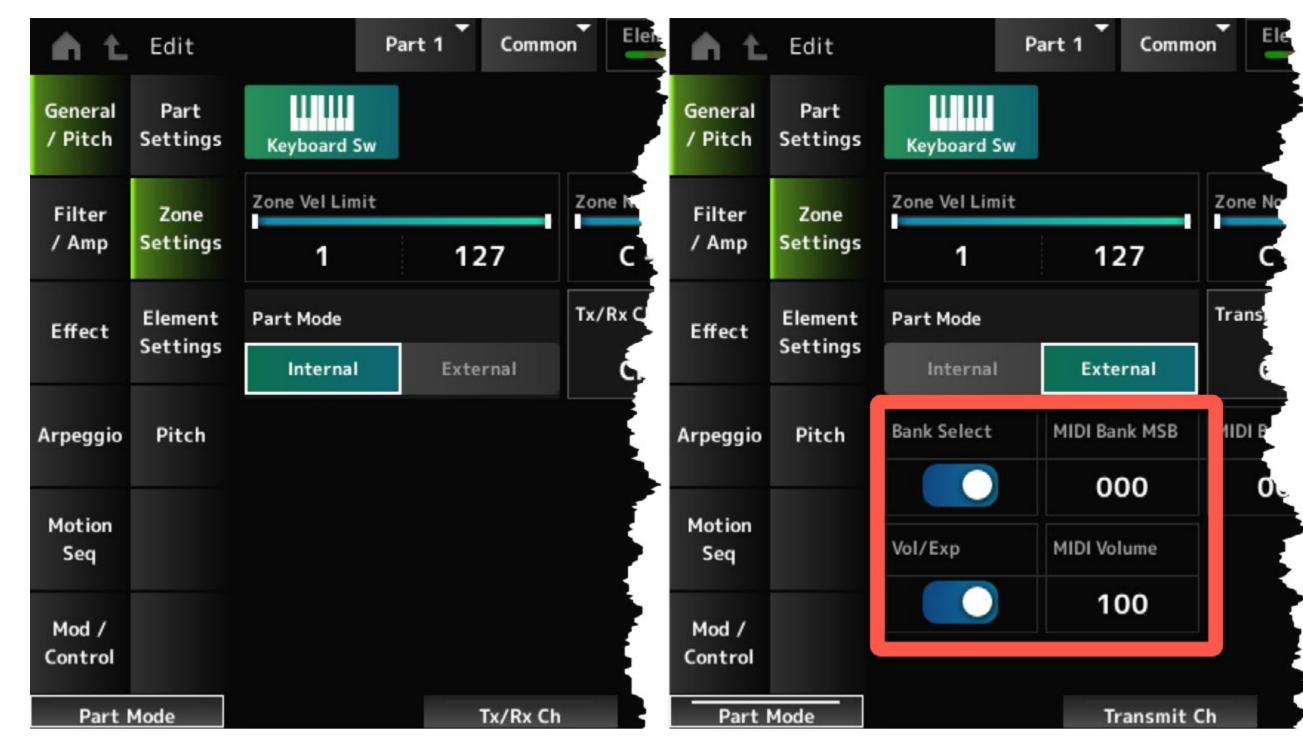
Even if "External" is the active Part Mode, the internal Part retains its connection to the sound generation and all settings. If you needed a little more flexibility within the Performance, you could quickly change the Mode using the "double tap" on the [PART SELECT] button (as mentioned above) and thus control either the internal or an external sound generation.



MIDI MASTER MODE PER PART

Under Part X > [EDIT] > General/
Pitch > Zone Settings, elementary
parameters for the MIDI Master
Mode are available. To ensure a good
overview, the parameter sets for the
Part Mode "Internal"/"External" have
been divided so that only the relevant
parameters are accessible. #68

Switching the Part Mode is also possible directly from here. If "External" is active, MSB/LSB/PRG Change commands as well as values for MIDI Volume and Panorama can be set. These are saved with the Performance and sent when the Performance is called up.



#68

In many Display Pages in the MODX M, there are link options to other Display Pages that are related to the currently active one. On the bottom right of this Page there is a button called "Edit Tx/Rx Switch".

This leads to the Page Part X > [EDIT] > Mod/Control > "Tx/Rx Switch".

Depending on the Part Mode, you can configure here which MIDI commands the internal sound generation reacts to or which are sent externally. The header of this Page shows either "Receive Sw" or "Transmit Sw".

All 16 Parts of a MODX M Performance contain this functionality! With these possibilities, you can probably "master" almost any MIDI situation imaginable.



MEMORY STRUCTURE

In the MODX M, the following memory areas are available.

PRESET

The Preset Performances of the MODX M contain a mix of new content and Performances or converted Voices from previous models:

- MOTIF XF Preset Voices (Single-Part Performances, AWM2)
- MOTIF XF Preset Performances (Multi-Part Performances (4 Parts), AWM2)
- MONTAGE Preset Performances (Single- and Multi-Part Performance, FM-X & AWM2)
- MODX M Preset Performances (Single- and Multi-Part Performance, AN-X, FM-X & AWM2)

When using the AWM2 Engine, the Preset Performances access a non-erasable "WaveROM" memory. Non-erasable Preset Arpeggios are also available for all Performances.

USER

The User Memory holds up to 640 User Performances (Single Part and Multi Part). In addition, up to 1.9GB of User Waveforms and up to 256 User Arpeggios can be stored. Furthermore, up to eight Banks with 256 User Live Sets each can be held in the User Memory.

LIBRARY 1-24

A Library is a copy of a complete User Memory and can contain all of the above content, except for the Live Sets. Only one Live Set Bank with 256 Live Sets is available per Library. To create such a Library, simply select "Library File" instead of "User File" when storing. Afterwards, the File created in this way can be loaded into one of the 24 Library Slots.

More details about this feature will follow in the chapter "Library Files".

In order to be able to select Performances either as complete Multi-Part Performances or as Single-Part Performances (Part 1 only) via MIDI, each Performance has two Bank and Pro-gram Select addresses (MSB/LSB/PGM):

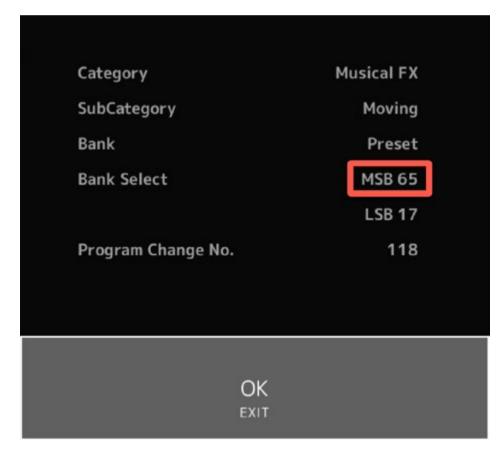
- Performance Multi-Part MSB/LSB/PGM
- Performance Single-Part MSB/LSB/PGM

The MSB/LSB/PGM address of the currently selected Performance is shown in the Info Page.

EXAMPLE: SHOW THE INFO PAGE FOR PERFORMANCES

Use Category Search to select the Performance "Gate of Eden" (Preset Bank, Category "Musical FX"). When selecting the Common Mode must be active. If a Part is selected when you are using the Category Search, not a complete Performance, but only a Part is selected.

- Leave Category Search with "Exit"
- Press [ENTER]
- On the left of the Display tap on "Property". You will now see the Page shown in figure #69
- At the bottom of this Info
 Page (Bank Select and
 Program Change No.)
 the address with which
 you can call up the
 Performance (Multi-Part)
 via MIDI is shown

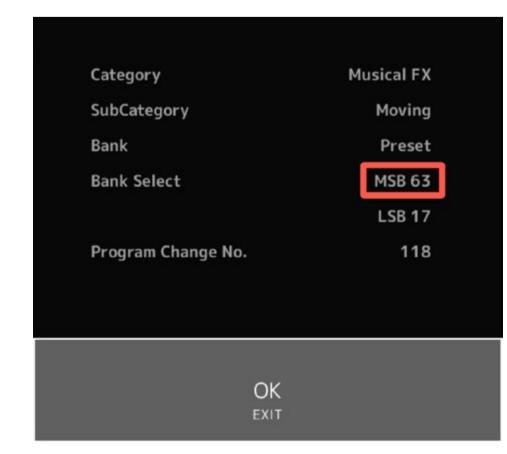


#69

- Press [EXIT] to exit the Info Page
- Press button 1 [PARTY SELECT] (DIGITAL IN) (under Slider 1) to select Part 1
- Press [ENTER]
- Again, tap on "Property" on the left of the Display. You will see the Page shown in

figure **#70**

 In the lower Part of this Info Page (Bank Select and Program Change No.) you see the address with which you can reach Part 1 of the Performance (Single-Part) via MIDI



#70



FAVORITES

The so-called "Favorites" play a special role in the Memory structure. Each Performance - regardless of whether it is a Preset, User, or Library Performance - can be marked as a Favorite.

The Attribute can be set or deactivated directly in the Performance Home screen (View Mode = "Default") via the corresponding button in the Display. #71

A star symbol is added to the name of the Performance to identify it; this symbol also appears in the List View of the Category Search.

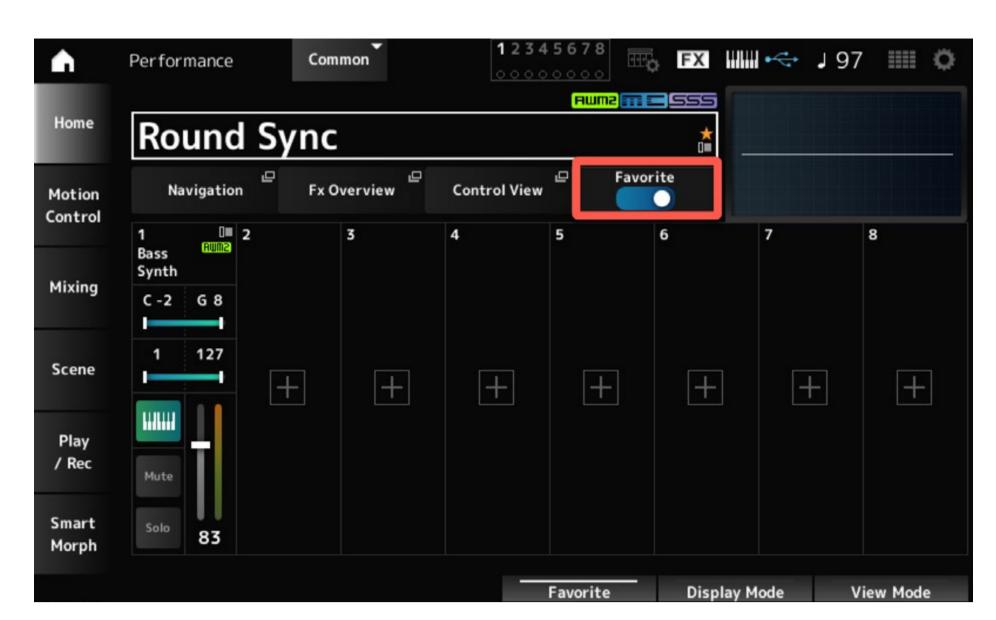
Within [CATEGORY SEARCH], the entry "Favorite" under "Bank/Favorite" then behaves like a separate Memory area, comparable to a Library or the User Memory. #72

Favorites can also be set directly in the List View of the Category Search. The "Job" button uses Display Knob 4 to mark or unmark the currently selected Performance as a Favorite. In addition, the command "Favorite > All Clear" appears in the top right-hand corner of the Display, which can be used to clear all Favorite markings in one go. **#73**

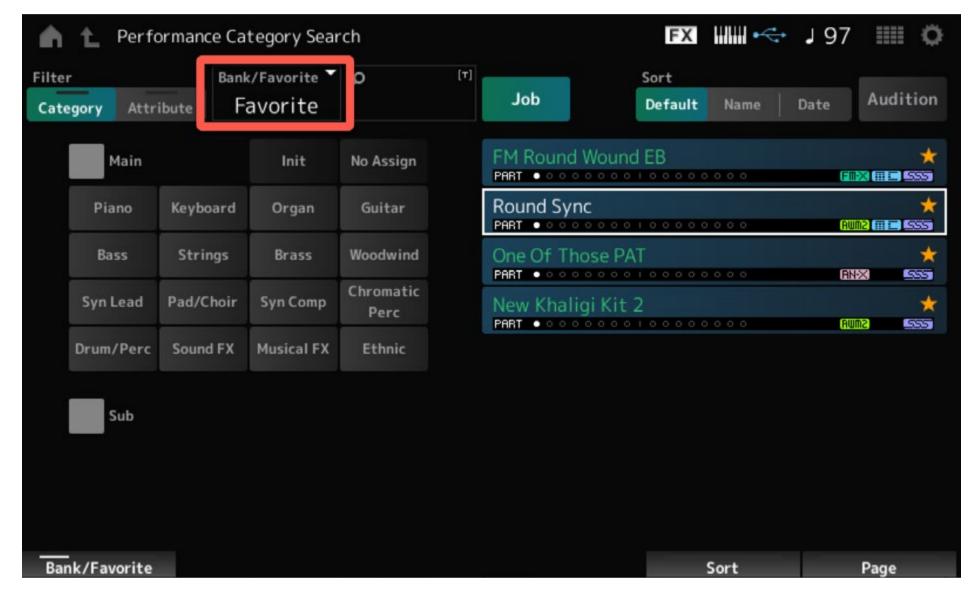
In this way, several thousand Performances from all the Performances currently available in the instrument can be combined into a personal "best-of" Bank. Within the

Favorites, the usual Filters and Attributes of the Category Search can be used.

It is important to note that when a Library is deleted, the links to the Favorites are lost and cannot be restored. Since a Backup File contains the entire Memory content including the currently installed Libraries, it is recommended that when working intensively with Favorites, you always work within the content that is mirrored by a Backup.



#71



#72



#73



ORGANISATION OF PERFORMANCES WITH USER WAVEFORMS

Basically, every Performance can use User Waveforms, regardless of whether it is located in the User Bank or one of the Library Banks. Each File Type (User or Library) contains a self-contained data structure. Performances and Live Sets are loaded into the User or Library Bank, User Waveforms are installed on the Flash Memory. The management of the Flash Memory is done automatically.

As long as Performances use their associated User Waveforms only within their Memory area (User, Library X), everything works without the need to consider anything. But: When a Performance of a Library uses its Library Waveforms and is stored as a new User Performance, then the Library containing the corresponding Library Waveforms has necessarily to be loaded when you want to use this User Performance. Waveforms are not copied automatically when you save. This way, unwanted double storage of User Waveforms is prevented.

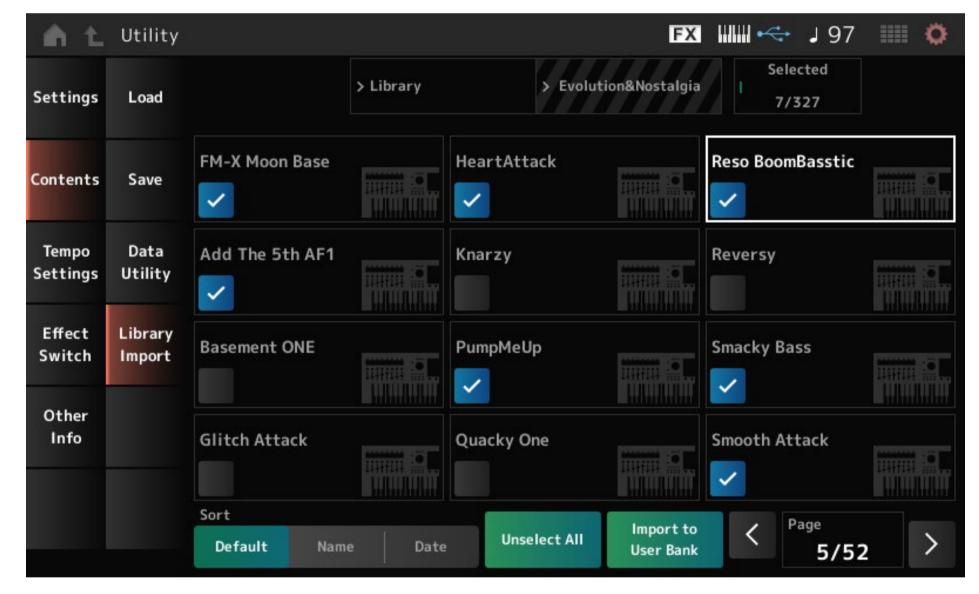
The allocation of the 24 Library Banks is dynamic. Thus, reloading a possibly missing Library cannot reestablish the connection between the stored User Performance and the possibly missing Library Waveforms. The same applies to User Arpeggios that became Library Arpeggios when they were saved in a Library.

To edit a Library Performance that contains User Waveforms or Arpeggios, the Library Import is provided. #74

• [UTILITY] > Contents > Library Import

This imports a Performance with all necessary components into the User Memory. Since multiple selections within the source Performances are possible, this command is also suitable for a "best of" compilation of content from different Libraries. If necessary, a newly compiled User Bank can of course be saved as a Library.

In order to enable subsequent changes to Library Banks, it is highly recommended to save the source User Memory with an appropriate naming as a User File.



#74



🛕 🛕 Live Set FX WWW J118 **Ⅲ** • Part 1 Common Preset **Poly Dreamz CFX Concert** Cinema Action Ri… Ostinato Stacc M··· A.PIANO CFX STRINGS Ensemble Ballad Piano 3ngi··· Huge Analogue Bass Dystopian Brass Wave Xplosion A.PIANO + EP Hamburg Grand One Of Those PAT Warm Me Up Distant Memories SYN PAD BRASS Ensemble Analog String Ens... Arpy Dreams Dark Vintage Pad Imperial SYN PAD STRINGS Ensemble **Poly Dreamz** ME 555 Category Search SYN COMP

#75

LIVE SET

A Live Set is a "play list" for Performances, i.e. an individual compilation of the Performances available in the MODX M.

The following Banks are available in the Live Set:

- Live Set Preset Bank
- Live Set User Bank 1 to 8
- Live Set Library Bank 1 up to 24 (one Live Set Bank per installed Library)

In each Bank, up to 256 Performances can be organised in so-called "Slots".

In each of the 16 Display Pages of a Bank, 16 Performances are displayed. **#75**

The composition of the Live Set Preset Bank is already done by Yamaha and cannot be changed. The Live Set User Banks, on the other hand, can be put together completely individually.

In the MODX M Live Set, a maximum of 33 Live Set Banks (1x Preset, 8x User, 24x Library) are available, which can contain a total of 8,448 (!) Performance assignments. That should be enough for any gig.

The User Banks of the Live Set can contain Preset, Library, and User Performances. The Live Set Banks are Part of a User File and are therefore overwritten when a MODX M User File is loaded.

When a new Library File is saved, the assignments made in the Live Set are automatically redirected to the Library Performance Banks.

The purpose for which the Live Set is used is up to the user. The primary intention, as the name suggests, is to compile and sort Performances for live playing on a stage. So if you are working on several live or recording projects at the same time, you can compile a separate Live Set Bank for each.

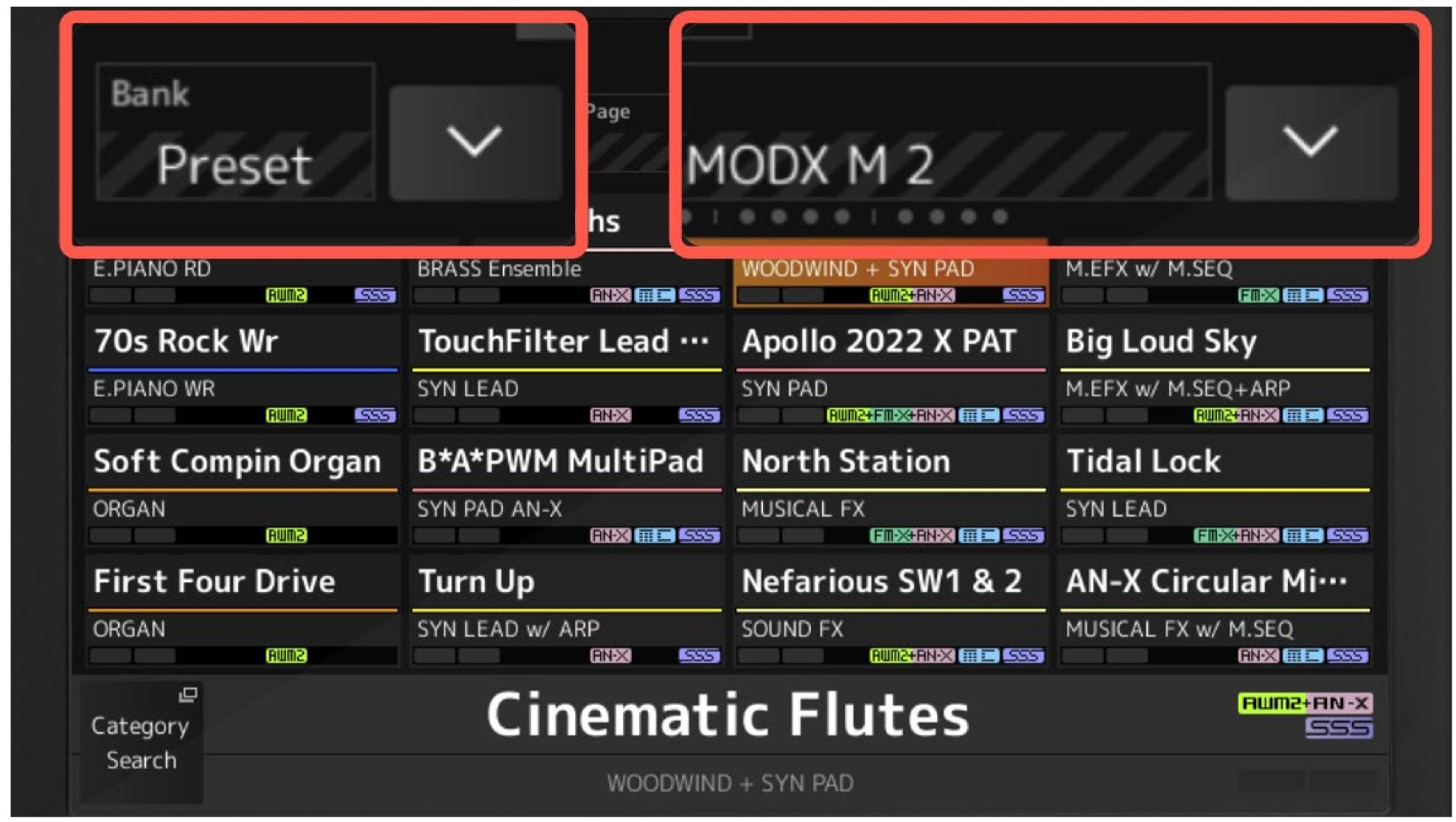
The changing of Performances also works seamlessly in the Live Set. In this way, several Performances can be prepared for one title and called up in the required order. It is also conceivable to use Live Set Banks for individual "Best Of" selections.



SELECTING LIVE SET BANKS AND PAGES

All 256 Performances assigned to a Live Set Bank can be selected either on their respective Pages of the Display.

With the help of the arrow buttons on the right of the Bank and Page it is possible to change the Banks or Pages in the Live Set. #76

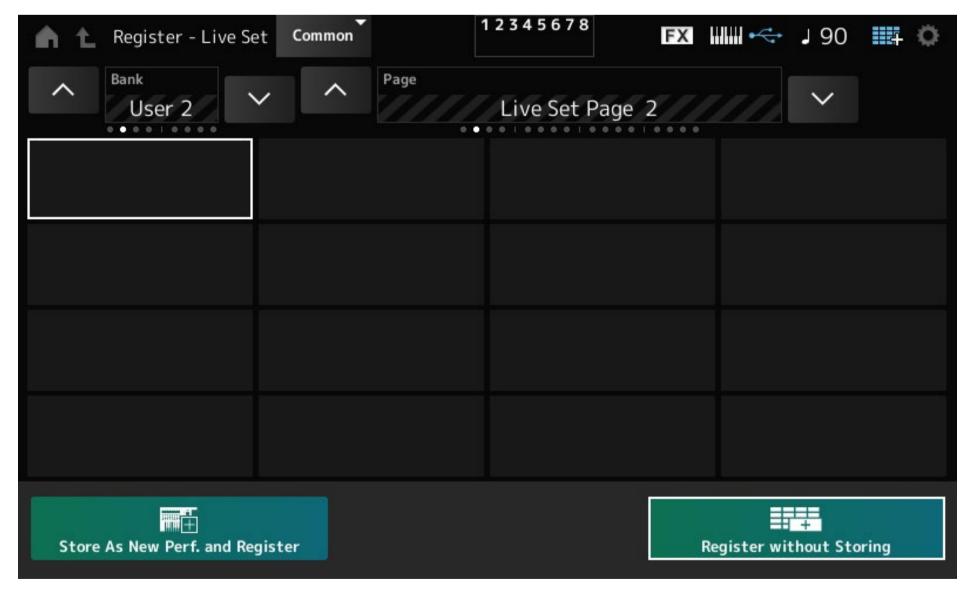


#76

EXAMPLE: INSERTING A PERFORMANCE INTO A LIVE SET USING THE [SHIFT] BUTTON

Activate Performance Mode and select the Performance you want to add to a Live Set.

- Press and hold the [SHIFT] button and then also the [LIVE SET] button
- The Display changes to the Live Set User Bank and jumps directly to the first free Slot within the Live Set Pages
- The Slot is marked by a flashing frame
- The following options appear at the bottom of the Display:
 - 1) "Register without Storing"
 - 2) "Store As New Perf. and Register" #77
- A tap on option 1 is enough to store a link to the Performance in the Slot
- Option 2 carries out two actions together saving as a new
 Performance and linking in the Live Set



#77



Pressing the [ENTER] button directly triggers option 1, which is visually highlighted in the Display.

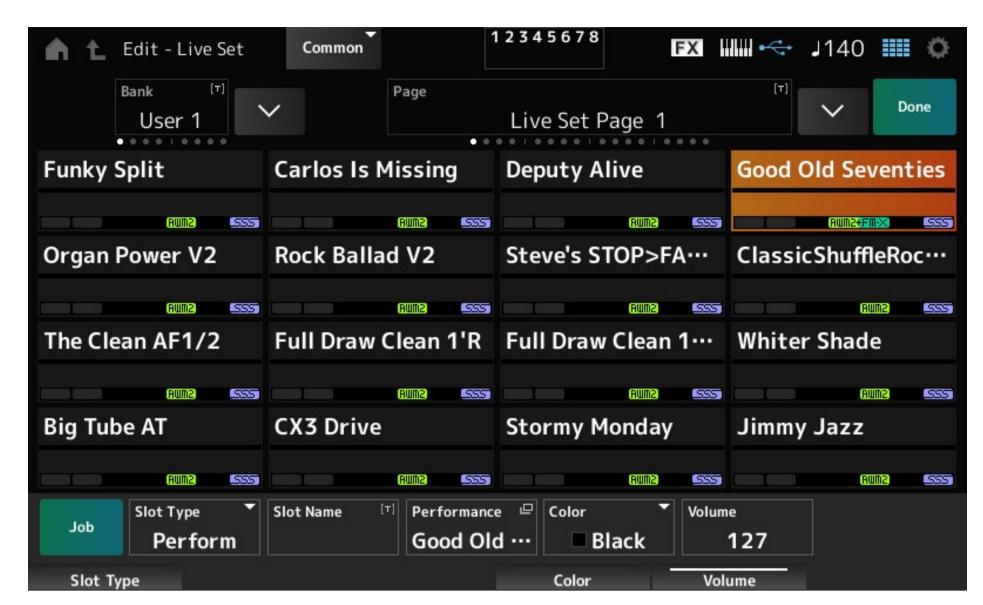
If you want to use another Slot, change the Page if necessary and select the desired Slot. In this case, switching the Page and selecting the Slot is also done via the buttons as described above.

For additional editing in the Live Set, a separate Edit Mode is available, which can be called up both via the Display and the [EDIT] button. #78

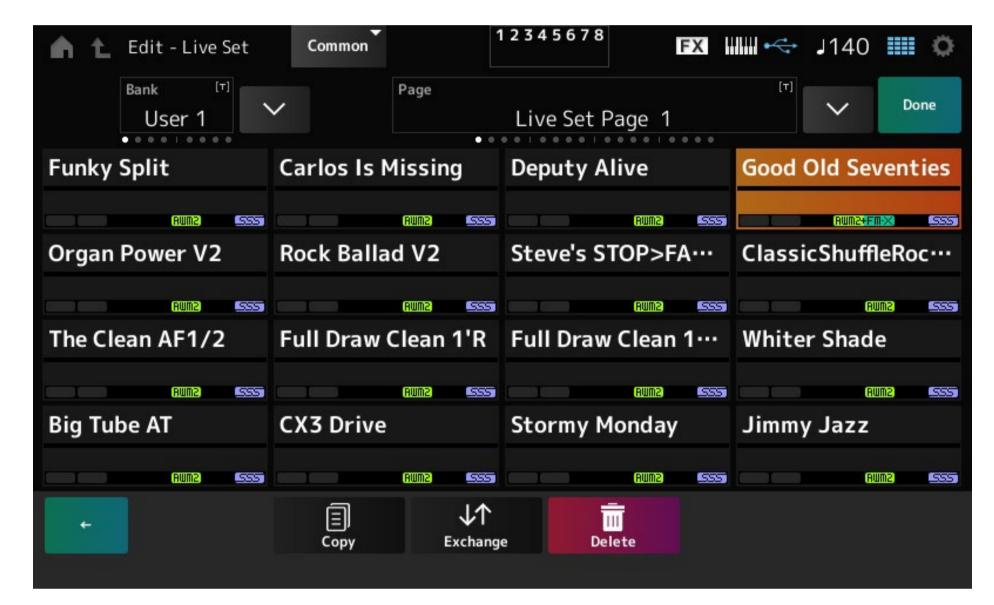
Here you can make the following settings for the currently selected Slot:

- Slot Type (Performance, Song, Audio, Pattern)
- Slot Name (text that appears under the name of the Performance)
- Color (colour of the Slot)
- Volume (Volume of the Performance selectable explicitly for this Live Set)

In addition, there is a "Job" that can be used to copy, exchange, or delete Live Sets. #79



#78



#79



MOTION CONTROL

MOTION CONTROL SYNTHESIS ENGINE

Motion Control

Motion Sequences

Super Knob

Envelope Follower

Tone Generator





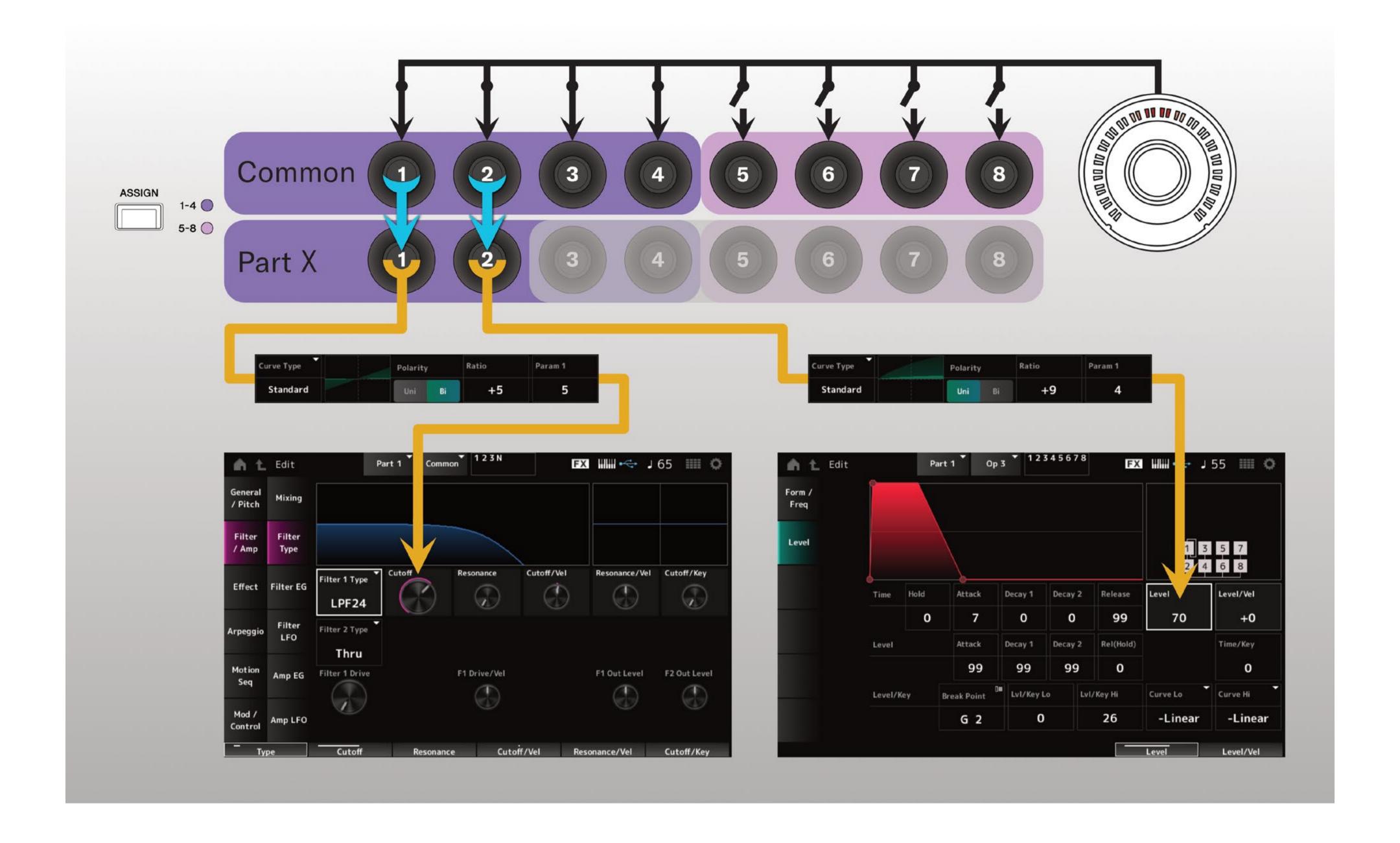


The "Motion Control Synthesis Engine" functions as a kind of powerful control centre in the MODX M. It is comprised of the following components:

- Super Knob
- Controllers
- Motion Sequencer
- Arpeggiator
- Envelope Follower
- Side Chain Modulation

The figure shows the complex interaction of the different components. Multidimensional sound changes affect the Tone Generator which can also process the sound with Effects. All used components of Motion Control are running in sync with the Tempo and can even be controlled by external audio signals.





SUPER KNOB

An outstanding feature of the MODX M is the Super Knob, which can automatically control one or more Assignable Knobs of the Parts simultaneously.

The Common Assignable Knobs can be assigned parameters in the Common section of the Performance. Access to Part parameters does not work directly, but via a further eight virtual Part Assignable Knobs. These can be "remote controlled" by the Motion Control Synthesis Engine as well as individually and manually controlled when a Part is selected.

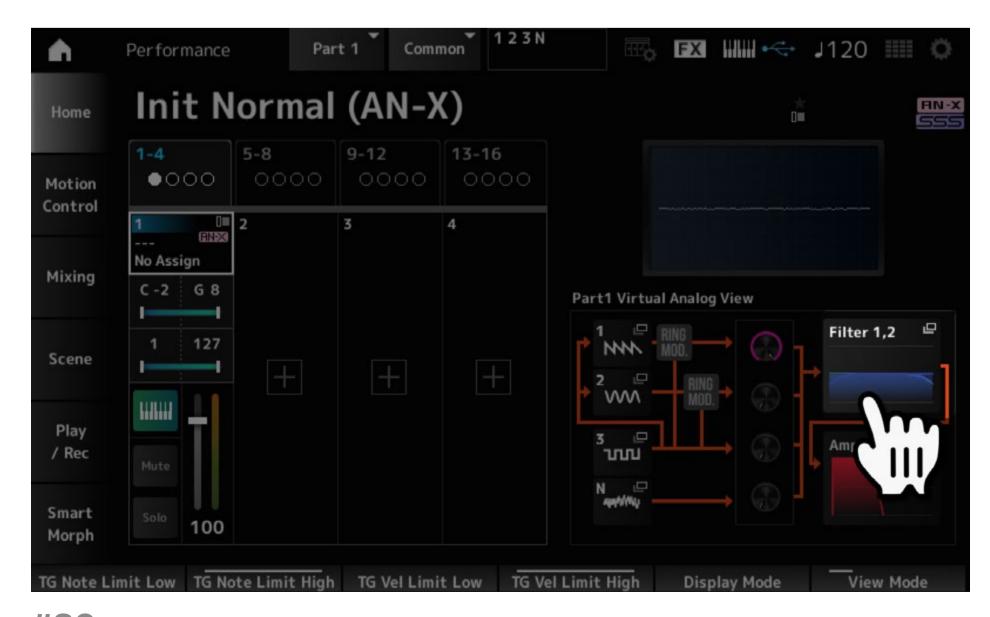
So there is a huge potential of parameters to choose from when controlling with the Super Knob.

Based on the graphic, it can be roughly estimated that assigning parameters to the Super Knob via the Edit Modes "Performance Common", "Part Common", and "Oscillator / Operator / Element" (depending on the Sound Engine used) requires a little effort and preparation.

Alternatively, the system offers a quick and easy way via the so-called "Quick Assignment"..

EXAMPLE:

- Select the Performance "Init Normal (AN-X)" using the [CATEGORY SEARCH]
- In the Display on the right under "Part 1 Virtual Analog View" tap on "Filter 1,2" #80



#80



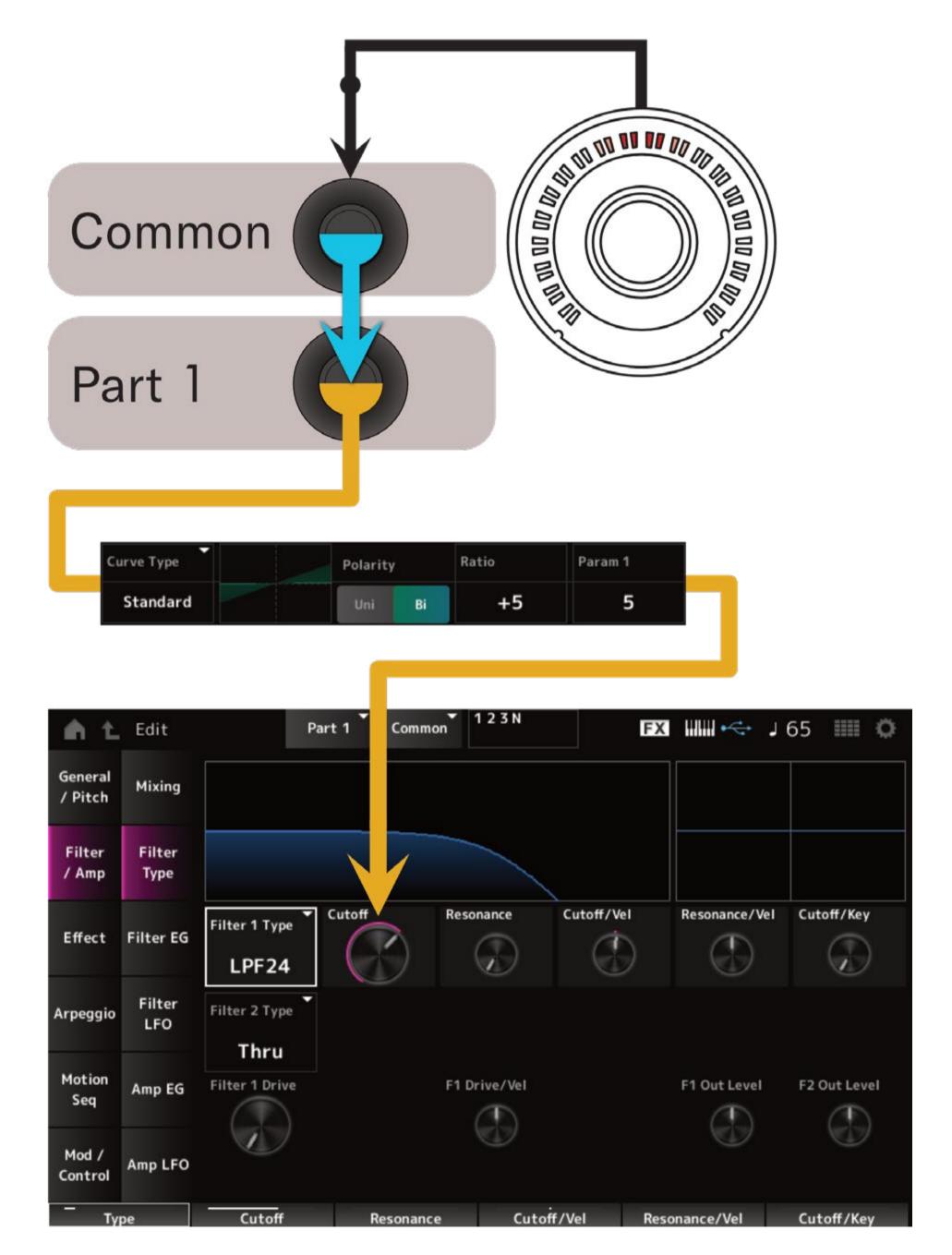
- Tap on the virtual "Cutoff" control in the Display (gets a white frame)
- Bring the value approximately to the middle position with the help of the rotary control on the Display #81
- Press the [CONTROL ASSIGN] button #82

A Page appears informing about the selected Part and parameter - in this case "Destination Parameter Part 1 - Cutoff". Below this is the note: "Activate the source controller to assign".

Turn the Super Knob

Now the complete connection from the Super Knob via the Common and Part Assignable Knobs to the selected parameter has been established, as shown in the figure #83.

You are automatically taken to the "Control Assign" Page of the Part and have thus made your first parameter assignment to the Super Knob, which works immediately.



#83



#81



#82

This "Quick Assignment" works quite simply and basically with every parameter that can be reached as a target parameter via the Motion Control Synthesis Engine. Starting from Presets, however, the result will differ in every case, because - apart from the Init variants (AN-X, FM-X, AWM2, Drum, Multi/GM) - every Preset Performance already contains at least one parameter assignment to the Super Knob.

In some cases, the maximum number of possible assignments has already been exhausted on one level or some Assignable Knobs have been excluded deliberately from being controlled by the Super Knob. In this case, an error message "Assignable Knob Full." appears.



If you decide to work more intensively with the Motion Control Synthesis Engine, it is therefore essential to familiarise yourself with the subject without the aid of the "Quick Assignments".

It can also help to analyse the assignments of a Preset Performance.

EXAMPLE: PRESET PERFORMANCE"PERCUSSIVE DANCE 2" (CATEGORY "SYNCOMP")

This is a Single-Part Performance with a simple, easily understandable function of the Super Knob.

- Press [NAVIGATION]
- Select "Control"
- At the top left of the Display activate "Auto Select"
- Turn the Super Knob

You will see the following Destinations:

- Destination 1 = Part 1 Assignable Knob 1
- Destination 2 = Part 1 Assignable Knob 2
- Destination 3 = Part 1 Assignable Knob 3

In addition, the first parameter assignment is displayed below. It could even be edited directly from here, although the full editing takes place at the Part level in any case. #84

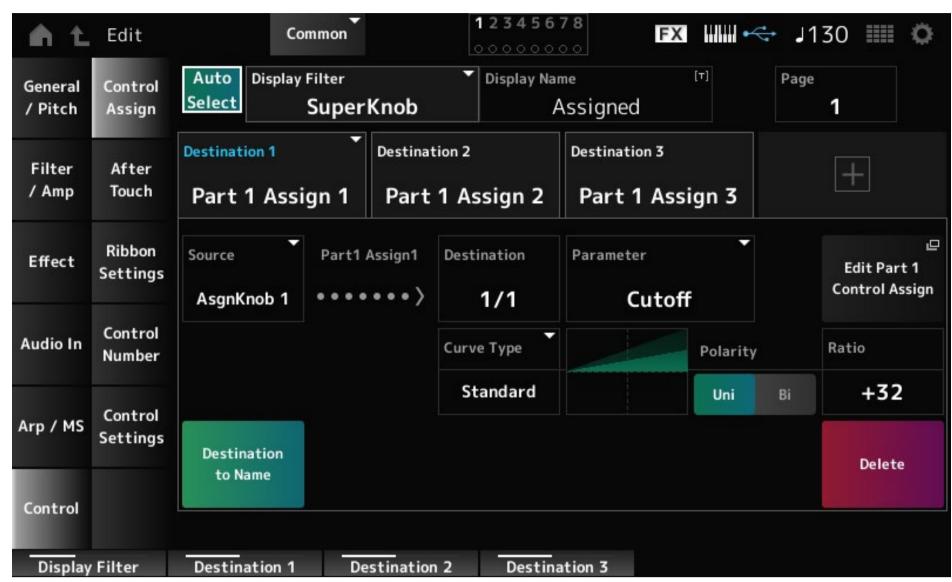
 Now turn the Knobs 1-8 one after the other. The Display Filter switches automatically to the corresponding Page.
 You can determine for each Common Assignable Knob, whether and which Part Assignable Knobs are assigned

You will notice the following assignments:

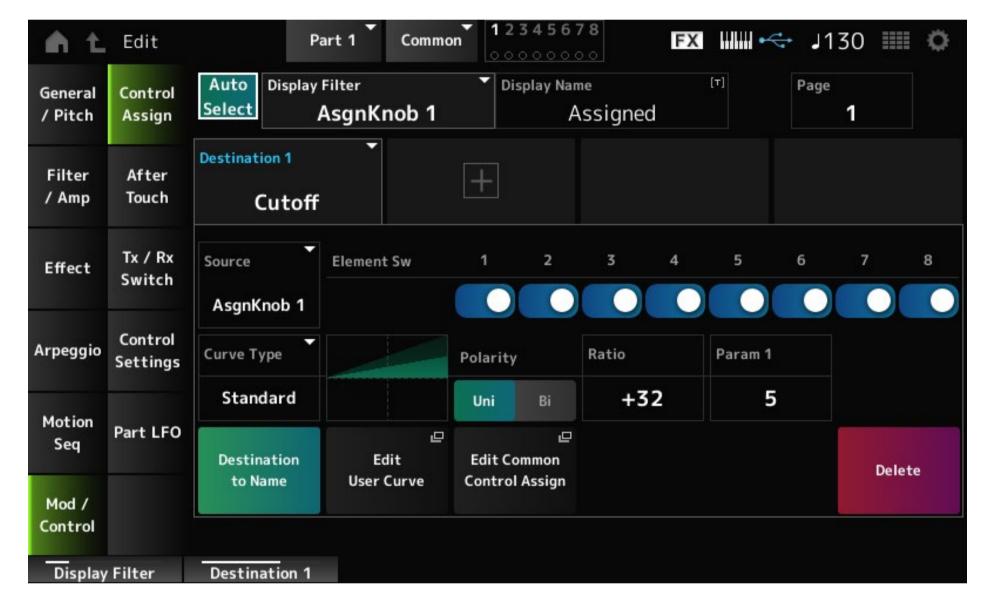
- Source = Common Assignable Knob 1
- Destination = Part 1 Assignable Knob 1 > Parameter = Cutoff
- Source = Common Assignable Knob 2
- Destination = Part 1 Assignable Knob 2 > Parameter = Resonance
- Source = Common Assignable Knob 3
- Destination = Part 1 Assignable Knob 3 > Parameter = Volume

These visible Destination parameters for each assigned Knob are the parameters that are controlled by the Super Knob.

If you want to have a closer look at individual assignments in the Part, tap on the button with the shortcut symbol "Edit Part 1 Control Assign".



#84



#85

The Super Knob starts with the value 0, ie the far left. With increasing movement to the right the "Cutoff" is decreased and "Resonance" slightly increased. To avoid distortions when the Filter is closed and the Resonance on a high value, the Part Volume is slightly lowered.

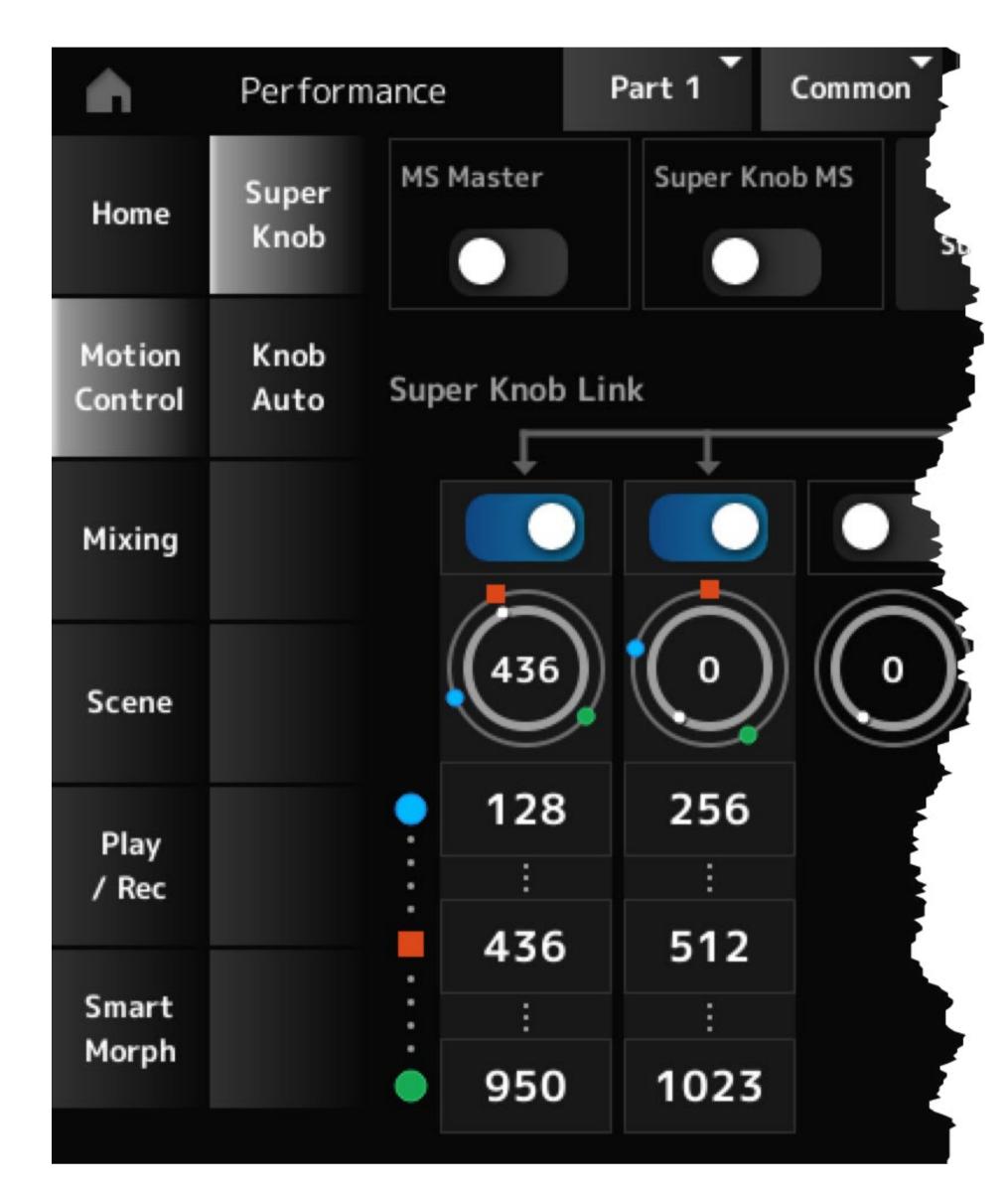
In addition, you can see that the parameters Cutoff and Resonance are on the Element level. In this case, the assignment can be switched on or off individually for each Element. #85



SUPER KNOB POSITIONS

Under the heading "KNOB POSITION" there are three buttons above the Super Knob. These allow three positions of the Super Knob to be stored and recalled. The [LEFT] and [RIGHT] buttons are permanently dimmed and are assigned to the end positions 0 and 1,023 by default. If different values are desired, they can be easily set with the Super Knob and defined by the combination of [SHIFT] & [LEFT] or [RIGHT]. The decisive point is that a limited effective range is then subdivided into the entire range of the Super Knob - i.e. 0-1,023. In this way, very sensitive control can be achieved within a selected value range. In addition, a centre position of the Super Knob that deviates from the standard can be stored on the [MID] button. #86

The values are applied to all Common Assignable Knobs that are controlled by the Super Knob via "Super Knob Link". The values can be changed via the corresponding fields below the Assignable Knobs shown on the Display. If necessary, different values can be saved for different Assignable Knobs. #87



#87



#86



MOTION SEQUENCE

With the Motion Sequencer complex sound controls can be carried out on the basis of parameter assignments in the Control Assign Pages.

The Motion Sequencer works similarly to a conventional multi-track step sequencer, but with the difference that here no notes, but in the Control Assign assigned sound parameters can be controlled in real time. The Motion Sequencer can be used independently of or in addition to the Arpeggiator and synchronised with all Tempo-dependent processes in MODX M.

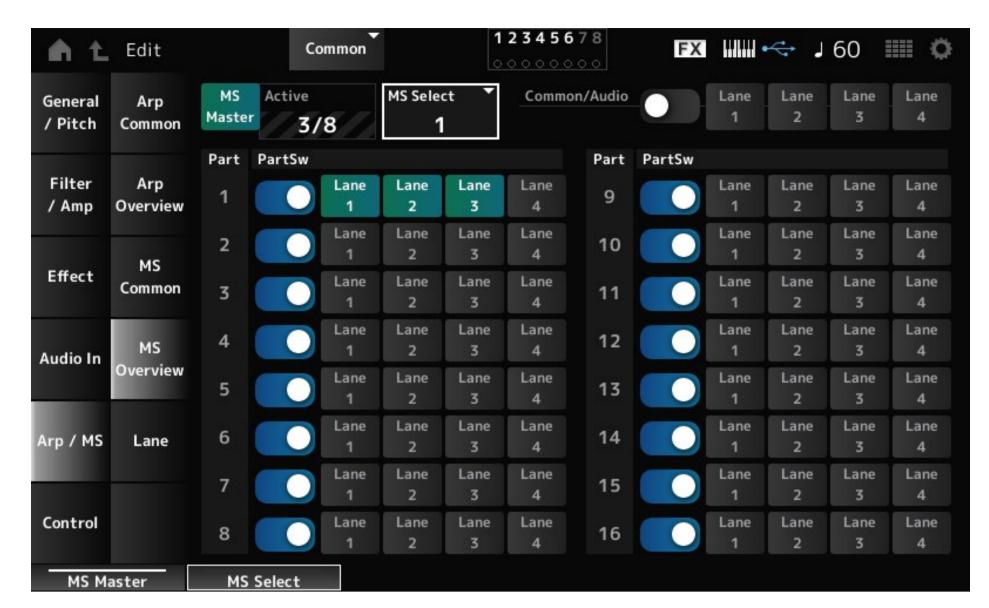
The Motion Sequence function is present in each Part of a Performance. The Common area and the Parts 1-8 all have up to four Lanes available. However, a maximum of eight Lanes can be used within a Performance.

A Lane can be virtually regarded as a Track of the Motion Sequencer, which controls the parameters that were assigned to it in Control Assign. Each Lane has its own set of parameters. Each of the four Lanes available in a Part contains eight Sequences. So, in one Part a total of 32 individual Sequences can be included.

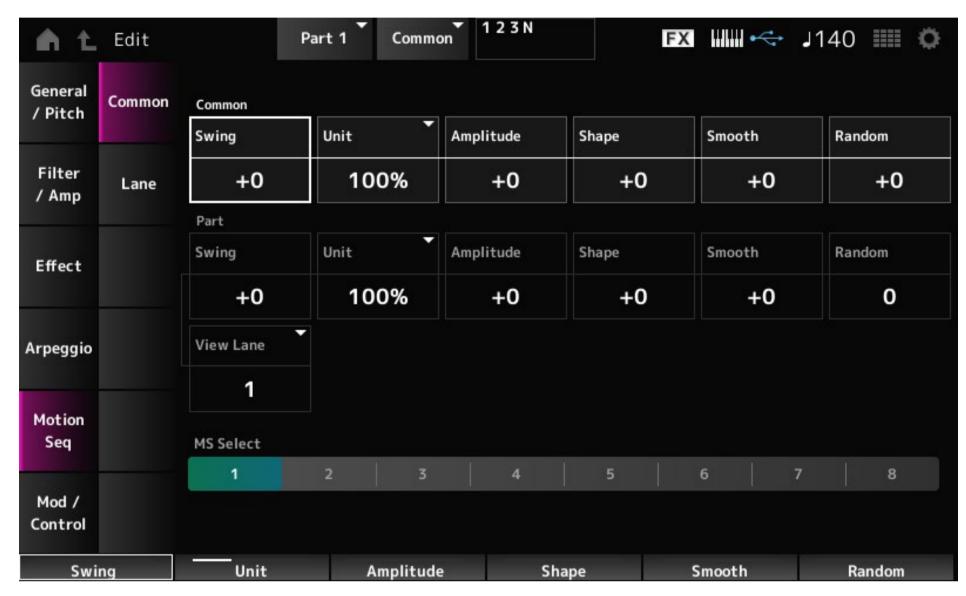
In Performance Edit Mode Common, the Page "Motion Control > Motion Seq" conveys an overview of the Lanes used in a Performance. For each Part there is a Motion Sequence Part Switch ("PartSw"), which is set to ON for all Parts per default. However, to activate Motion Sequences for the Performance, the Motion Sequence Master Switch must also be set to ON. This can also be done on this Display Page or by pressing the [MSEQ ON/OFF] button. The respective Lanes 1-4 are activated to the right of the PartSw. For example, if the Lanes 1-3 of a Part are set to ON, at the top of the Display "Active 3/8" appears. Therefore there are three of eight available Lanes active. #88

If eight Lanes are already active, one of these Lane must be turned OFF before another can be activated.

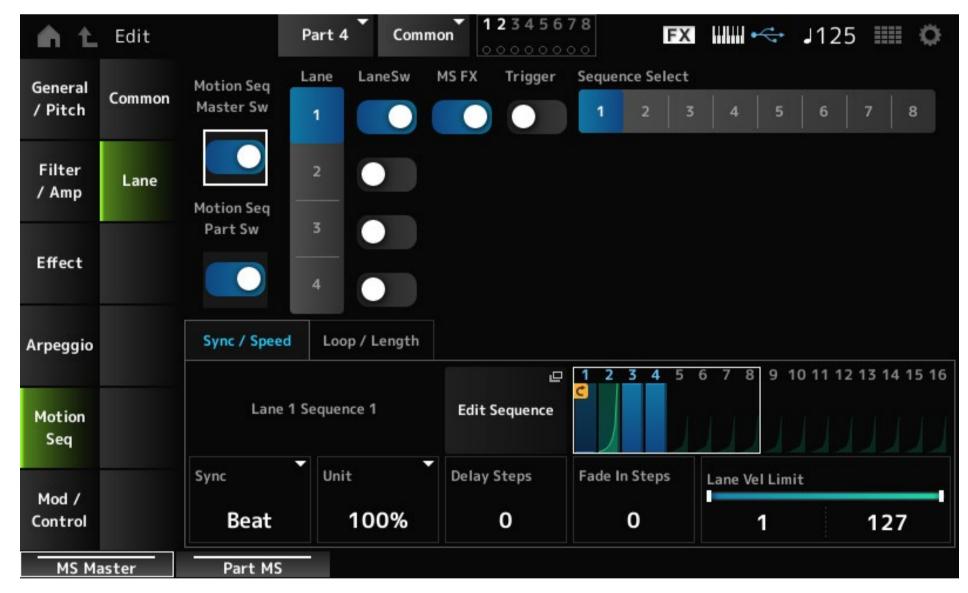
The Motion Sequence parameters of the Parts are available in Edit Mode from the Page "Motion Seq" with the two Sub-Pages "Common" and "Lane".



#88



#89



#90

The Page "Common" shows the Knob parameters which are related to the areas Arpeggio and Motion Sequence. These are used for changing global parameters in real time and play no role in the programming of Motion Sequences. #89

The Page "Lane" shows the settings for the Motion Sequence functions of each Part in a matrix. #90



The Lanes can be switched on and off using "LaneSW".

"MS FX" determines whether the global parameters Amplitude, Shape, Smooth, and Random are active or not to be controlled with the Motion Seq Knobs.

"Trigger" can be activated for each Lane when the Motion Sequence is to be started by pressing the [MSEQ TRIGGER] button.

"Sequence Select" selects the Motion Sequence Numbers 1-8. When switching the Sequence of all Lanes are switched simultaneously. The currently selected Sequence on one of the four Lanes is displayed in blue and framed in white.

Below the Lanes, various parameters are already available that allow extensive editing of the Sequence without having to switch to an extended Edit Mode. In this Page, the Sliders and the [Part] buttons are assigned to the Motion Sequence Steps. Switching between Step 1-8 and 9-16 is done by a selection in the touchscreen. The Sliders can be used to control the Amplitude of each Step, and the buttons can be used to switch between "Pulse A" and "Pulse B". #91

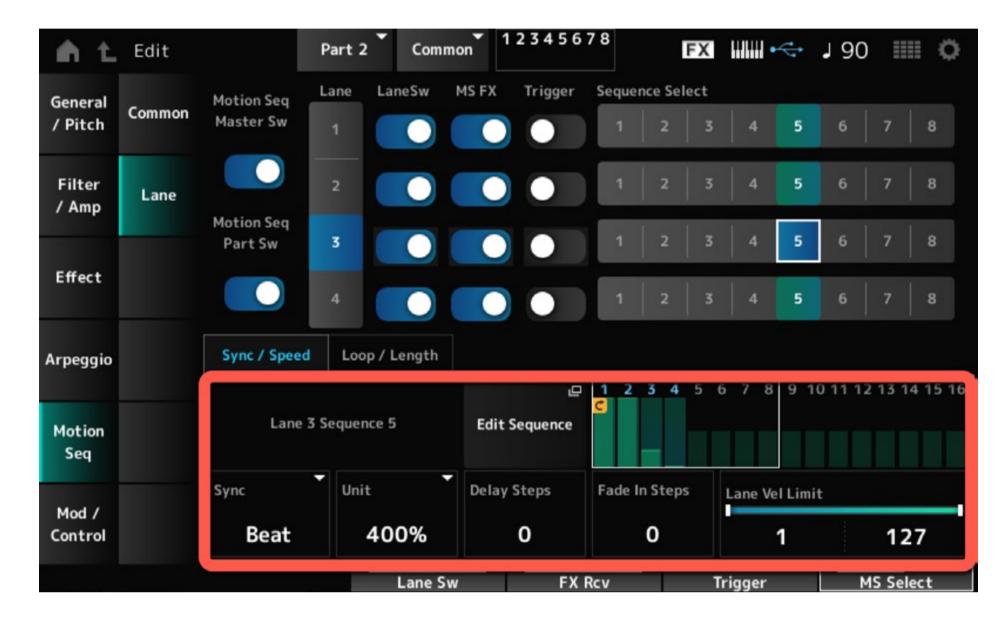
To further edit the selected Sequence of a Lane simply press "Edit Sequence" at the bottom of the Lane Page.

There, the Sequence can be programmed similar to a conventional step sequencer. #92

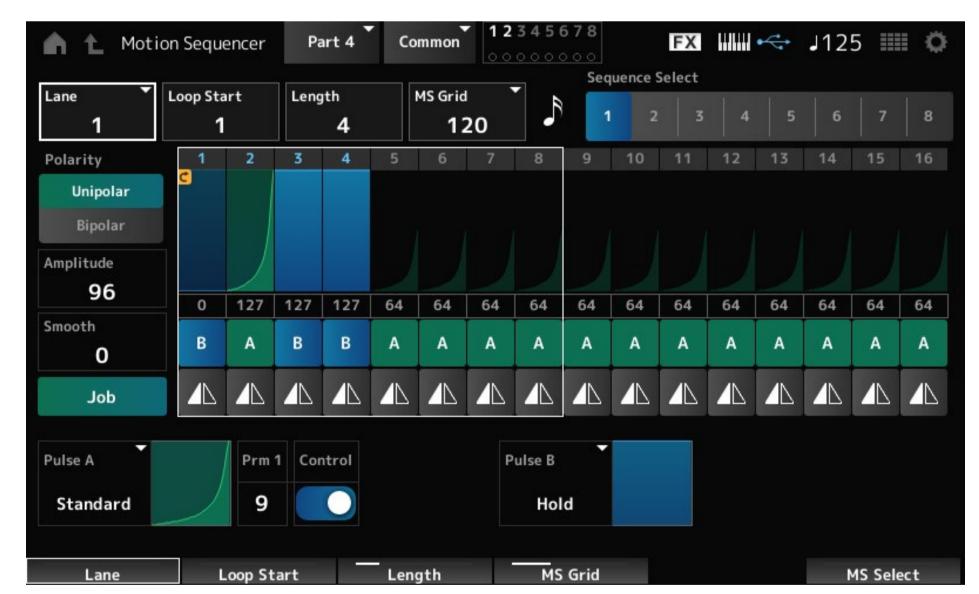
The number of Steps can be set with the parameter "Length". The default setting "Length = 16" offers 16 active Steps.

For each Sequence with "Pulse A" and "Pulse B" two different Curves can be selected. These can be played back either forward or backwards and - depending on the selected Curve - be modified by one (Prm1) or two parameters (Prm1 + Prm2).

In addition, the "Loop Start" parameter allows you to select a specific Step of the Motion Sequence as the starting point for the Loop.



#91



#92



ARPEGGIATOR

An Arpeggiator can be used for eight Parts of a MODX M Performance. Within the Performance, eight Arpeggio Variations can be selected for each Part. The different Variations can be saved and called up with the Scenes.

A total of 10,922 Arpeggio Types are available. Like Performances, these are assigned to corresponding Categories.

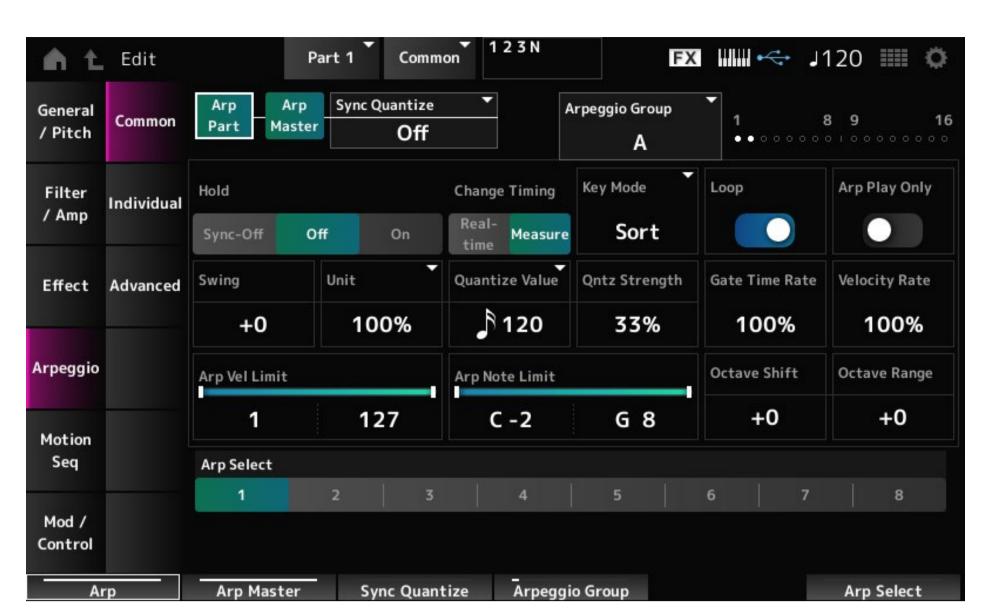
As with Motion Sequences, there is a main switch for the Arpeggiator within the Performance. This is available both in the Part Edit Mode, Menu "Arpeggio" > "Common" > "Arp Master", and in the form of a button with the apt name [ARP ON/OFF]. #93

The Arpeggiator can then be switched per Part using the virtual switch "Arp Part". The function "Arpeggio Group" can be used to group Arpeggios so that the same parameter settings for several Arpeggios only have to be made once.

The choice of Arpeggio Types in Part Edit Mode is made under "Arpeggio" > "Individual". #94

By tapping on one of the Arpeggio Slots, you can either jump to the Arpeggio Category Search on the left side of the Display or select an Arpeggio directly via its assigned number. #95

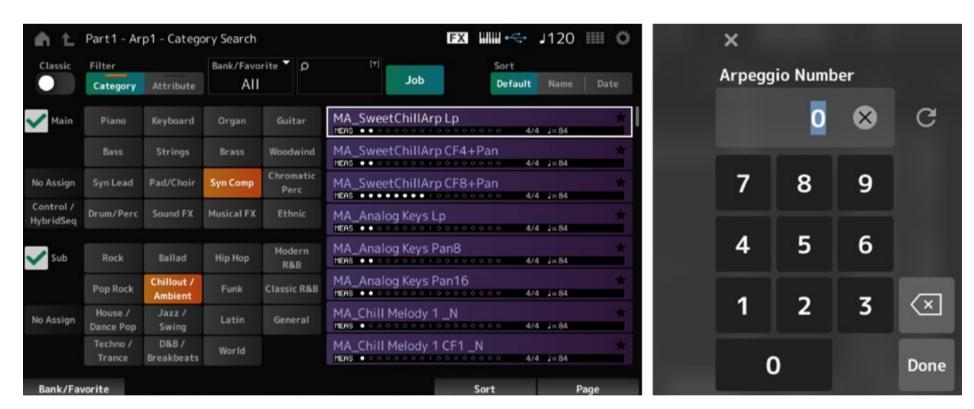
To make it easier to find "classic" Arpeggios such as "Up/Down", there is a button called "Classic" in the Arpeggio Category Search at the top left. After activation, all regular Categories are hidden and a choice between "All" and "Typical" is provided. #96a-c



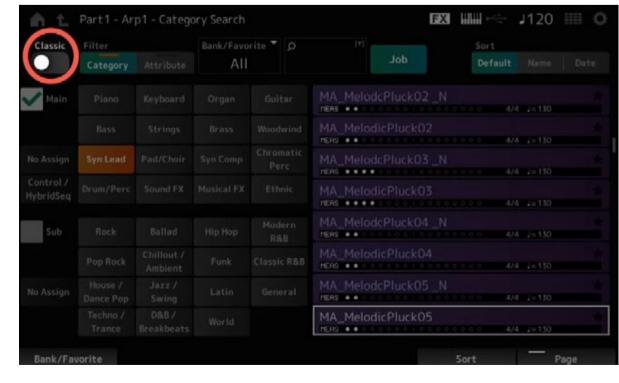
#93

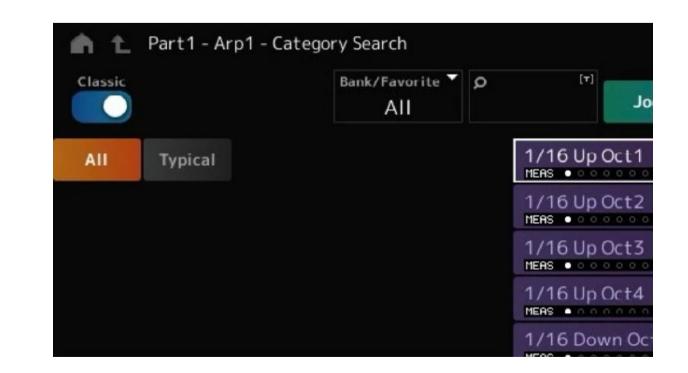


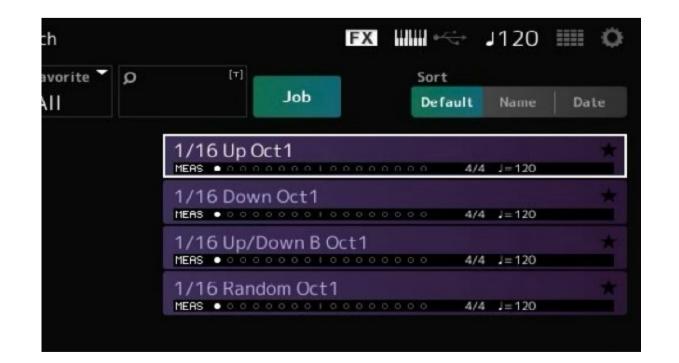
#94



#95







#96a #96c



ENVELOPE FOLLOWER

An interesting feature that can also be settled in the broader sense in the field of the Motion Control Synthesis Engine, is the Envelope Follower. With this function parameters of a Part can be modulated by the output of another Part. In this way, movements or rhythmic sequences of a Part can be transferred to other Parts.

The setting of the Envelope Follower takes place by selecting the appropriate parameter assignment in the Part Page "Mod / Control > Control Assign". There, EnvFollow 1-16 as well as "EnvFollowAD" and "EnvFollowMst" are available as Sources. The numbers 1-16 correspond to the Parts 1-16. "EnvFollowAD" processes the audio signal at the A/D Input, "EnvFollowMst" the master output signal of the Performance.

Via the virtual button "Edit Envelope Follower" it is possible to adjust some parameters. Level indicators for "Input Level" and "Envelope Follower Output" as well as a Part overview with jump options help to optimise the desired result.

SIDE CHAIN MODULATION

The Side Chain Compression effect has long been extremely popular in music styles like Dance / Electronic - in MODX M this effect is easy to implement using the Compressor Effects with their Side Chain Modulation parameters.

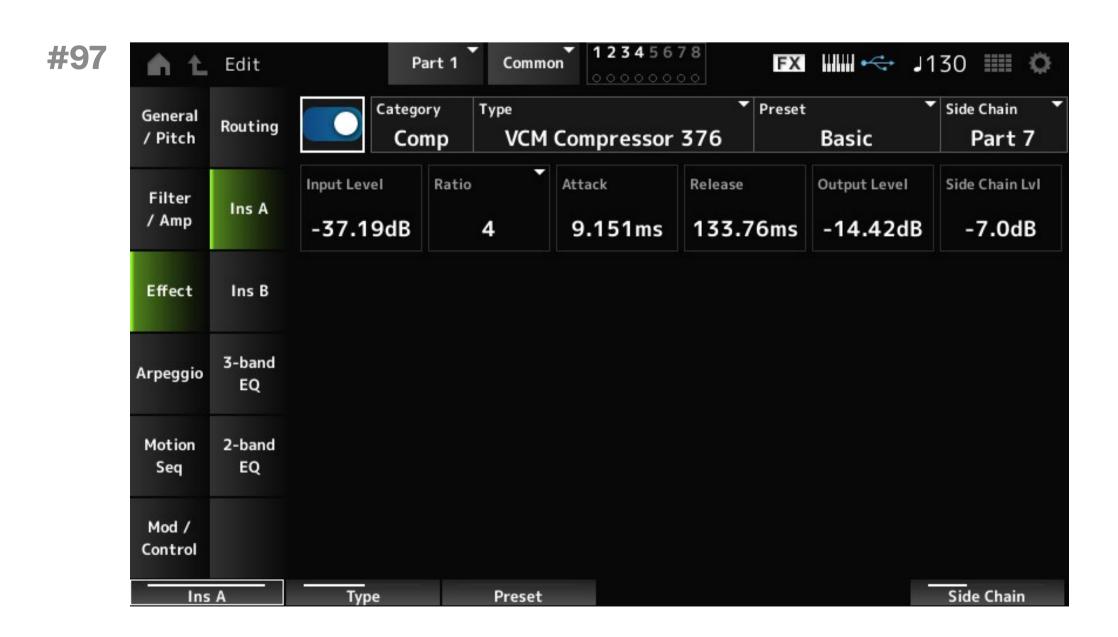
In Side Chain Compression (also called "ducking" or "pumping") the signal of a track is turned down in volume when the level of other tracks - ie the modulating signal - rises. For example, a bass drum signal is often fed to the Side Chain Input of a Compressor.

The following Insert Effects of MODX M feature a Side Chain Input:

- VCM Compressor 376
- Classic Compressor
- Multiband Comp
- Uni Comp Down
- Uni Comp Up
- Ringmodulator
- Dynamic Ringmodulator
- Dynamic Filter
- Dynamic Phaser
- Dynamic Flanger

The Side Chain modulation is activated for a Part by selecting the Part that is to be used as a modulation source in the "Side Chain" parameter in the Insert Effect Page. #97 This will be mostly the Drum Part.

A typical application of Side Chain modulation is the rhythmic level reduction of a trance synth pad by a bass drum that is played exclusively on the four beats ("four on the floor"). The resulting sound is often referred to as "pumping pad".





ANALOG PHYSICAL MODELING INCLUDED



With MONTAGE M, Yamaha introduced a contemporary Analog Physical Modelling Tone Generator that has enjoyed worldwide popularity since the release of the Yamaha AN1x in 1997. Over the last few years, there has been a continuous demand for this type of Sound Engine, which proves its unbroken fascination to this day.

With the beginning of the 1970s, Subtractive VCA Synthesis (Voltage Controlled Amplifier) became affordable and thus increasingly popular. An AN-X Part in the MODX M is capable of reproducing the sound of the analogue synthesiser classics almost 1:1. Including the simulation of technically caused instabilities, which - due to the state of development at that time - were often unavoidable. If you take into account the Effects plus Equalizer available for each Part in the MODX M, you have the separately required effects chain and the channel strip of the mixing console included.

The most important features of the AN-X Part:

- 3 Oscillators
- 5 Waveforms per Oscillator (Sawtooth 1 & 2, Square, Triangle, and Sine)
- 12-voice polyphony
- Puls-Width Modulation, Oscillator-Sync, and "Wave Shaper" per Oscillator
- Oscillator Modulation
- Ring Modulation and Frequency Modulation (FM)
- Oscillator 3 modulates Oscillators 1&2
- 1 Noise Oscillator
- Modifier (Wave Folder)
- 2 Filters (10 Filter Types each)
- Envelopes and LFO each for:
 - Oscillators
 - Amplitude (Part)
 - Filter (Part)
 - Pitch (Part)
- 2 Insert Effects
- Equalizer (3-Band or 2-Band)
- Extensive Controller Matrix (Super Knob, Motion Sequences, Envelope Follower...)
- Usable in combination with other Parts (AWM2, FM-X, Drum) and the Arpeggiator



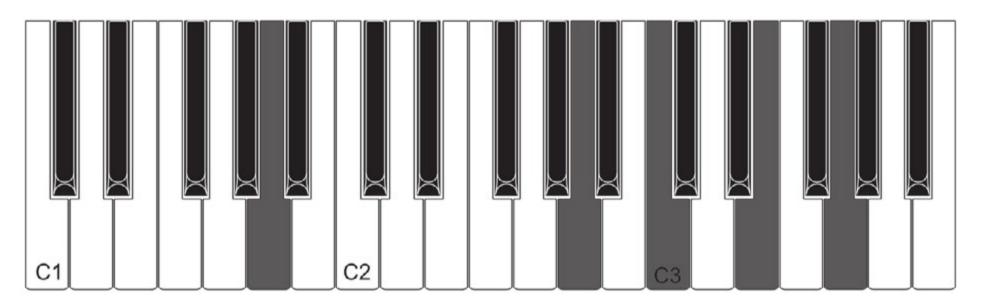
AN-X UNDER CONTEMPORARY CONTROL

The touchscreen, parameter combinations in a sensible arrangement, and the dynamically assigned Display Knobs makes working with the AN-X Engine extremely intuitive.

This can best be experienced with an example:

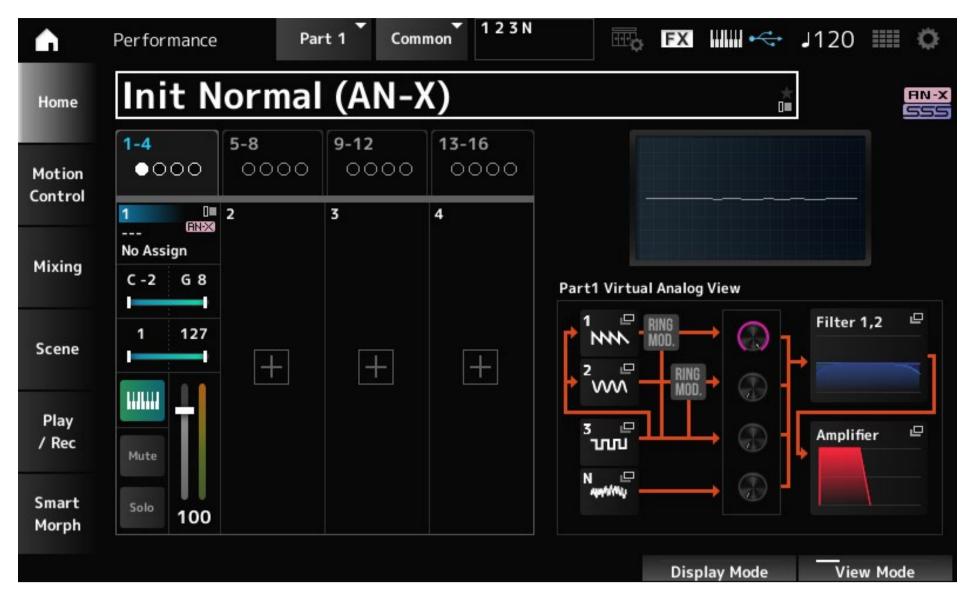
- Select [CATEGORY SEARCH] > Init >
 "Init Normal (AN-X)" > [ENTER] #98
- Press [ARP ON/OFF]
 and then [KEYBOARD HOLD] #99
- Play a combination of bass and chord on the keyboard containing five notes #100

An Arpeggio is played, so that you have your hands free for editing.



#100

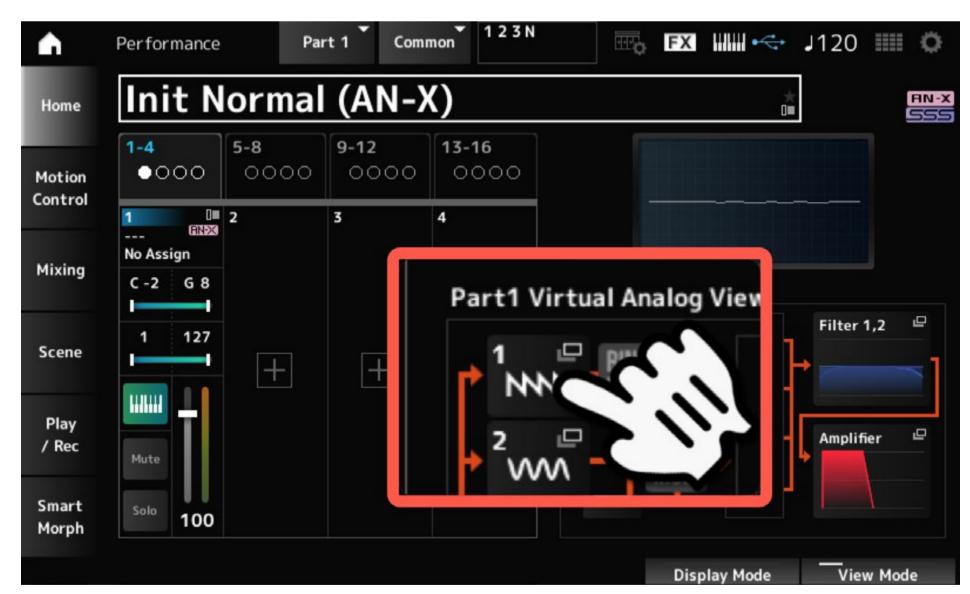
- On the Display tap on Oscillator 1 below "Part 1 Virtual Analog View" #101
- Set the value "16" with the "Octave" Knob
- Switch to [OSC 2] and select the Waveform "Square" with the "Wave" Knob #102
- Increase the Volume of Oscillator 2 with the Knob "Out Level"



#98



#99



#101





- Press [NAVIGATION] and select "Amplitude"
- Reduce the values for "Sustain" and "Decay" #103
- Select "Filter Type" and reduce the "Cutoff" for Filter 1 to about half
 #104
- Select "Filter EG" and increase the amount of the Filter Envelope with the parameter "FEG Depth" for Filter 1 as you like #105
- Press [NAVIGATION] and select the Insert Effect "Ins A" in the Display
- Select the Category "Chorus" via "Category" ("G Chorus" is displayed) and confirm with [ENTER]
- Work with the Knob [DRY/WET] as you like #106
- Tap on "Ins B" and select the Category "Delay" via "Category" ("Cross Delay" is displayed)
- Again, work with the Knob [DRY/ WET] #107

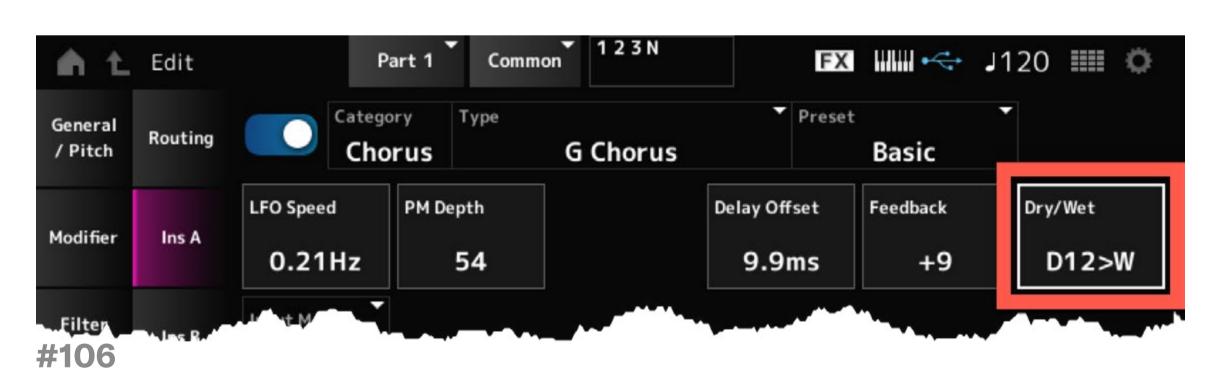
The procedure described above is very intuitive with the help of the "Navigation" and the Display Knobs. Numerical entries are not necessary.

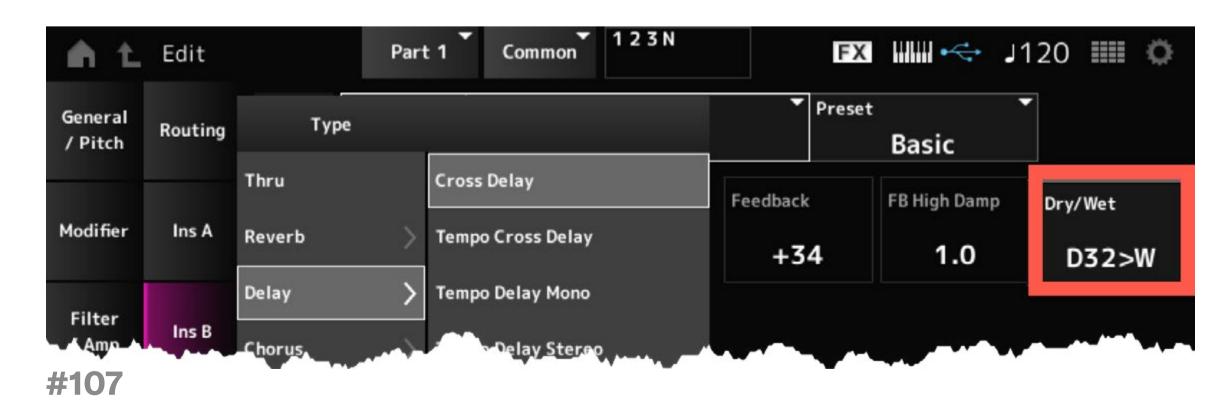
Of course, there is no obligation to start with an initialized Part. Feel free to be inspired by the large number of AN-X sounds from the Presets. There should be something for every taste.















The expanded FM Synthesis used in the MODX M is referred to as "FM-X". What distinguishes an FM-X Part in MODX M from the classic FM tone generation in the DX7?

The main enhancements over the DX7 are:

- 8 Operators (DX7 = 6 Operators)
- 88 Algorithms (DX7 = 32 Algorithms)
- 7 Spectral Forms (DX7 = only sine)
- Spectral Skirt (Broadening the Harmonic Curve)
- Spectral Resonance (Shifting the Harmonic Peaks)
- Frequency Envelope Generator
- Comprehensive Controllers
- Random-controlled Panorama
- Filter with multiple Types
- Additional Common LFO
- 3-Band and 2-Band EQ
- Multiple FM Parts can be used in a Performance
- Smart Morph AI based Part-Morphing
- Insert and System Effects
- Motion Sequences
- Intuitive sound editing with Sliders, buttons, and Knobs
- Sound control using the Super Knob
- Sound can be modulated by other Parts or external audio signals using the Envelope Follower
- Combination with AWM Parts and Drum Parts
- Arpeggiator with 10,922 Arpeggio Types
- FM stereo sounds possible when using two or more Parts



FM(-X) COLOR

If an FM-X Part is selected and you follow the path [NAVIGATION] > "FM-X Settings" you will find a special parameter arrangement which allows quick and easy editing of the FM-X sounds.

The Display Knobs give you direct access to an ADSR Envelope that acts as an Offset for the Operator Envelope parameters.

The parameters "FM Depth", "FM Harmonics", and "FM Texture" each combine diverse FM parameters at Operator Level. Depending on the initial programming, these macro controllers can be used to achieve considerable changes in the sound without having to dive into the "depths" of the FM-X Engine.

This realises a kind of "Easy Edit" for FM-X, in order to make sound editing easy to handle even for users without FM knowledge. Since the macro controllers always work in dependence on the original programming, the effect and result can vary considerably. Detailed and specific FM-X programming still requires working with the parameters on the level of the eight Operators.

If you are interested in detailed work with the FM-X Engine, we recommend the article series "MONTAGE FM-X Guide", which you will find in these issues of the Music Production Guide:

Music Production Guide 03/16 (Part 1)

www.musicproductionguide.eu/MPG/MusicProductionGuide_2016_03_EN.pdf

Music Production Guide 04/16 (Part 2)

www.musicproductionguide.eu/MPG/MusicProductionGuide_2016_04_EN.pdf

Music Production Guide 05/16 (Part 3)

www.musicproductionguide.eu/MPG/MusicProductionGuide_2016_05_EN.pdf

Music Production Guide 06/16 (Part 4)

www.musicproductionguide.eu/MPG/MusicProductionGuide_2016_06_EN.pdf

Although it was written for the original MONTAGE, it is valid for the MODX M without restriction.



SMART MORPH

Smart Morph is a powerful feature for creating new FM-X sounds and evolving sounds. Up to eight FM-X Parts in the range of Parts 9-16 can be used as a starting point. Using a Grid Map (32x32), the parameter sets of the Source Parts are interpolated after a learning process and applied to Part 1 of the Performance. #108

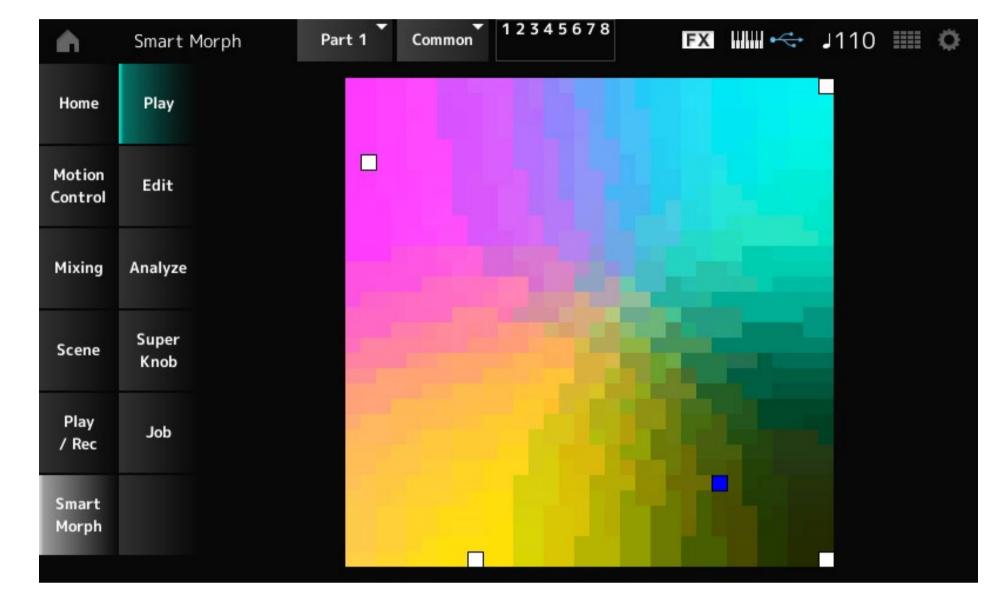
The interpolation procedure is based on a so-called "self-organizing map" (SOM). If you are interested, you can read more details about it on Wikipedia, for example.

https://en.wikipedia.org/wiki/Self-organizing_map

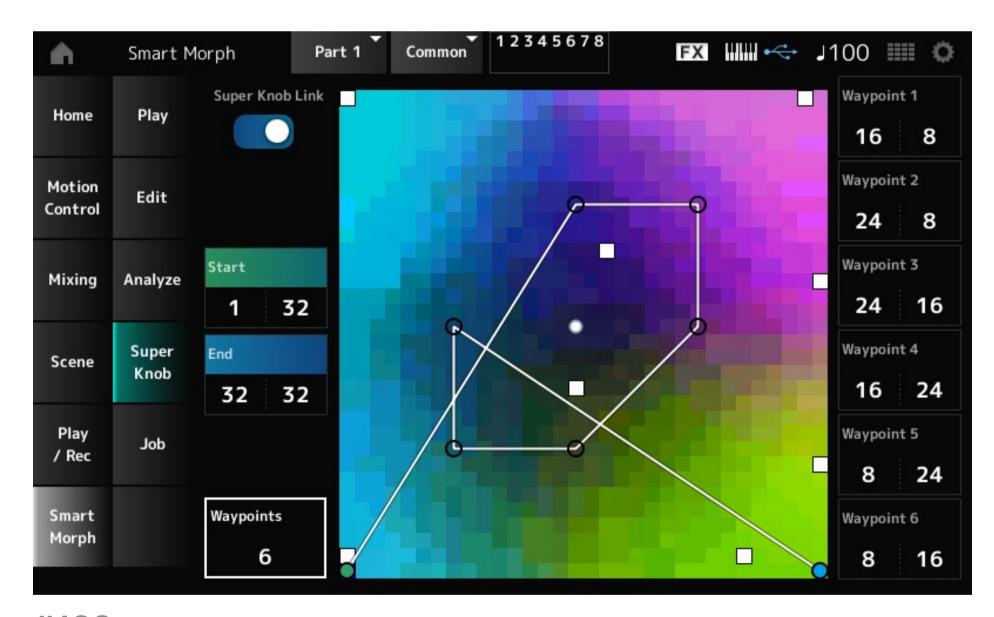
The interpolation is started by a Learning Process which can be repeated as often as required and which leads to different results after each completion. After a successful Learning Process, the Source Parts can be deleted. The different parameter sets are stored in Part 1 and, in purely mathematical terms, are thus available in 1,024 (32x32) possible variants. These can be called up via the Grid Map. A link to the Super Knob can be established. The Super Knob then moves the pointer along a curve with individual values for start and end point and up to six additional "Waypoints" over the Grid Map. #109

With the help of the Super Knob Motion Sequence, the movement of the Super Knob on the straight line can be individually automated.

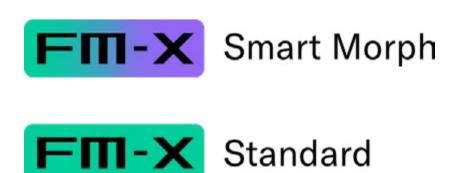
For Smart Morph, a further variant of the FM-X Flag exists, which signals the use of Smart Morph in the top right corner of the Performance Home screen, Category Search, and Live Set.



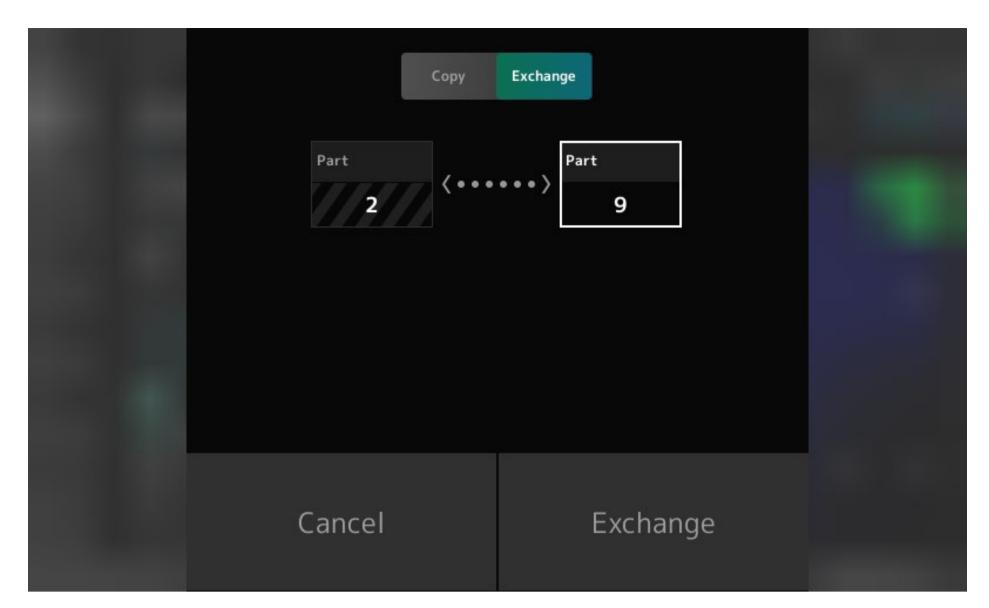
#108



#109







#110



#111



#112

GETTING STARTED

The recommended minimum requirement for a successful Smart Morph Learning Process is four FM-X Parts, which must be within the range of Parts 9-16.

There are different approaches and ways to insert the Parts there. Starting from a selected Part of a loaded Performance, the Part can be moved to Part 9 using the [SHIFT] & [EDIT] button combination, for example, using the "Exchange" function. The Part Slot of the Source is automatically emptied (but this does not apply to Part 1, since Part 1 cannot be deleted). #110

This method is particularly suitable for FM-X Multi-Part Performances, where individual Parts are to be used as the starting point for Smart Morph. Another possibility is to call up a complete FM-X Multi-Part Performance directly from the selected Part 9. In this way all Parts of this Performance will be placed on Parts 9-16 in one go, depending on their number.

The third variant is - starting from the Performance Home screen - accessible via the side menu "Smart Morph" > "Edit". #111

Here you can select per Part 9-16 one single Source Part of a Single- or Multi-Part Performance from all available memory areas. This procedure is especially suitable if you want to combine Parts from different sources for a Learning Process. Performance Merge, as in the second example, is not possible from here.

When the Part assignment is completed, the Learning Process is started by clicking "Learn" in the lower right corner of the Display. A small timer indicates the time in seconds that the Learning Process will probably take. If necessary, the Learning Process can be aborted via "Cancel". #112



After the Learning Process, the original parameter sets of the Source Parts are displayed as white squares in the Grid Map. A line between the Part and the respective square allows for a clear assignment. The Learning Process can be undone or restored via "Undo/Redo". With the help of the blue square you can navigate in the Grid Map. #113

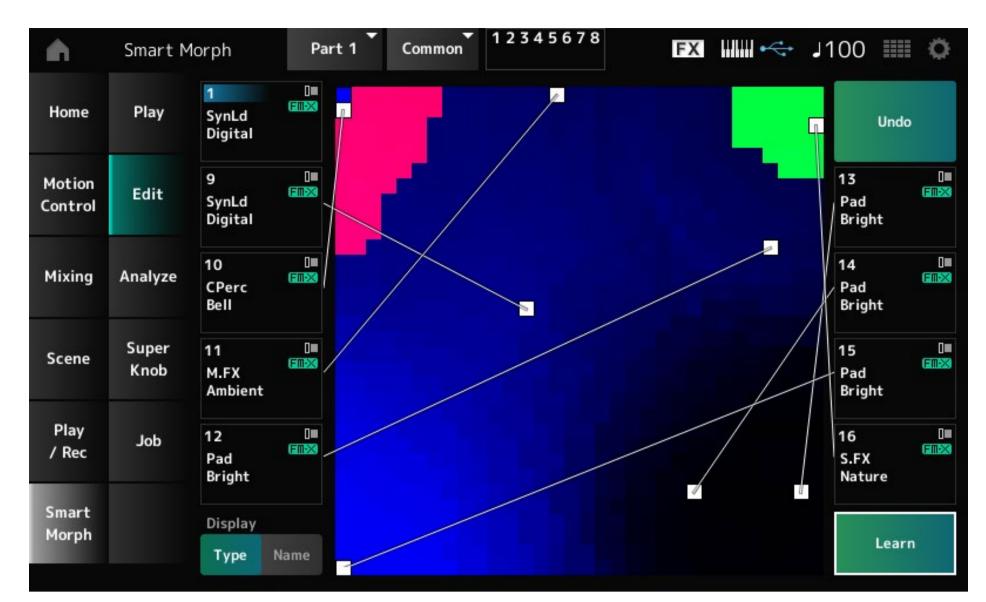
This allows the calculated variants resulting from the Learning Process to be called up, which can lead to interesting or even spectacular sound results. To be on the safe side, it is strongly recommended to save the Performance via [STORE] at this point. If there are several interesting spots on the grid, they can also be saved again.

The three basic colours red, green, and blue are automatically assigned to the parameters during the Learning Process. On the "Analyze" page you can change the automatic assignment from "Auto" to "Manual".

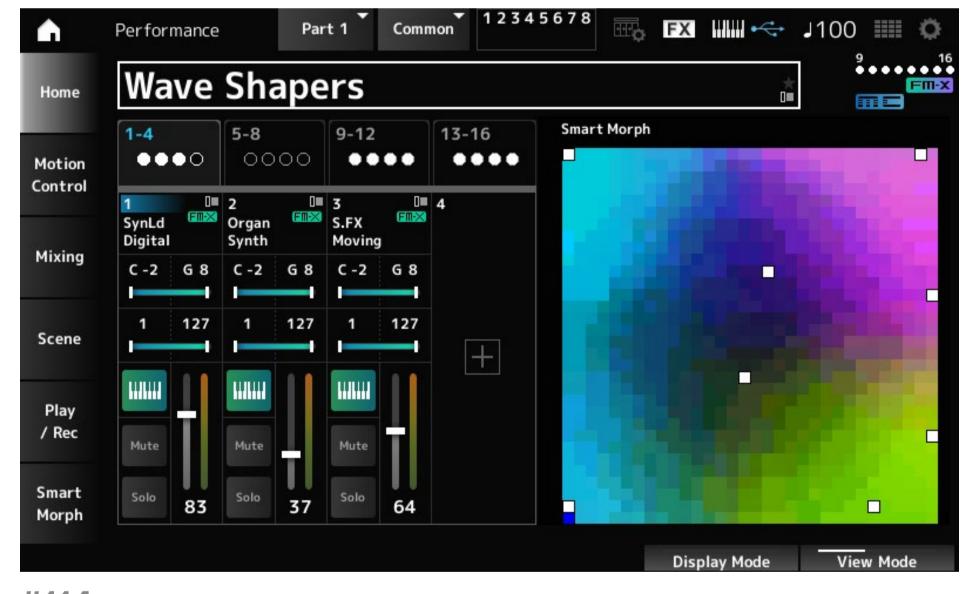
However, the assignment of the colours has only an optical effect. It does not change the interpolation procedure and therefore the sound of the Part.

"RANDOM" CREATIVITY

One potential of Smart Morph that should not be underestimated is the fact that over one hundred parameters from up to eight Source Parts can be controlled via the 32x32 matrix. Depending on the source material, a Learning Process results in areas on the Grid Map that cause hardly noticeable changes. But in most cases there are "sweet spots" with sometimes very interesting results, which would be difficult or possibly time-consuming to achieve by specific programming. **#114**



#113



#114



WHAT IS FM?

The FM Synthesis was already developed in 1967 by the American scientist Prof. Dr. John Chowning of Stanford University, but not published until 1973. A year later the Yamaha Corporation bought the patents to the then revolutionary Synthesis method. In 1983 the Yamaha DX7 was introduced and put the synthesizer world upside down - pushing even synth legends like Moog or Oberheim to the background.

Countless music productions were decisively influenced by the sound of the DX7, whose strengths lay mainly in completely new electric pianos, synth basses, harps, organs, and metallic synth sounds. The dynamics of these sounds were the benchmark for all future digital sounds.

FM is short for "Frequency Modulation". Here Oscillators are modulated by other Oscillators whose Volume and Frequency critically characterise the sound. In the Yamaha terminology the Oscillators of FM Synthesis are called Operators. The simplest interconnection is that one Operator as Carrier is modulated by another Operator as the Modulator. But, since the FM-X Sound Engine, however, features a total of eight Operators for a sound, the Algorithms (that determine how the Operators are linked) are often much more complex.

When editing Voices the Volume and Frequency of the Operators play an important role. The Volume of the Modulator determines the modulation intensity. The higher it is, the more harmonics are added to the Carrier's signal. With increasing count of harmonics the sound gets brighter. The basic sound of the Carrier Operator – a pure sine wave – is transformed by simple modulations to a sine wave that's enriched with harmonics.

Using further modulations and corresponding Frequency settings then create square waves, sawtooth waves, or complex sound spectra which can not be produced with conventional analog synthesizers. In addition, the sound is characterised by multi-stage Envelope Generators that are present for each Operator.

After the ground breaking success of the DX7 the FM synthesis has been implemented in a large number of Yamaha synthesizers.

Some popular examples are: TX7, TX816, DX21, TX81Z, DX27, DX100, FB01, DX7II, TX802, V50, SY77, SY99, FS1R, DX200, PLG150-DX, reface DX.





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Storing and managing large amounts of sounds for MODX M is extremely simple thanks to the support of USB drives as storage media.

STORING USER FILES

The entire User Data can be saved as User Files with the extension "Y2U" on a USB memory stick. A User File includes the following data:

• Performance max. 640

Curve max. 32 (for Control Assign + Motion Sequences)

Arpeggio max. 256
Motion Sequence max. 256
User Waveform max. 2,048
Micro Tuning max. 8
Live Set max. 2,048
User Audition max. 128

In addition to the Preset and User Banks there are 24 Library Banks available, which can be loaded as Library Files (extension "Y2L"). The difference to the User Bank is merely that the Performances of the Library Banks can not be edited.

LIBRARY FILES

A Library File is a copy of a almost complete User Bank. Unlike the User Memory, only the first of eight Live Set Banks is stored in a Library.

The Library file is created by storing a User Bank - ie all User Performances, User Waveforms, Samples, and User Arpeggio Patterns - as a Library File. Subsequently, the Library File can be loaded into the instrument, whose Performances can

then be used like user-created Presets. The first Library File is automatically loaded into the Library Bank 1, the next in the Library Bank 2 etc.

The contents of User Memory (incl. User Waveforms and Samples) can be saved as a Library with these steps:

- Press [SHIFT] & [STORE] (shortcut to "FILE")
- Select "Save"
- Select the Content Type "Library File" at the top of the Display
- Tap on "[Save As New File]"
- Enter a name and confirm with "Done"

Right afterwards the saved Library File can be loaded with these steps into a Library Bank:

- Press [SHIFT] & [STORE] (shortcut to "FILE")
- "Load" is pre-selected by default
- Select the Content Type "Library File" at the top of the Display
- Select the previously saved Library File (extension "Y2L")

IMPORTANT NOTE:

If you are editing a Performance from a Library Bank, it can only be stored as a new User Performance. It is not possible to directly store it in the Library Bank. For this reason, in addition to the Library File you should always store the same memory contents of the User Bank as a User File. If it is later necessary to change Performances of a Library or to add Performances to it, this has to be done in the User Bank the Library was created from. Subsequently, the modified User Bank must be saved as a Library File and the changed Library to be reloaded again.

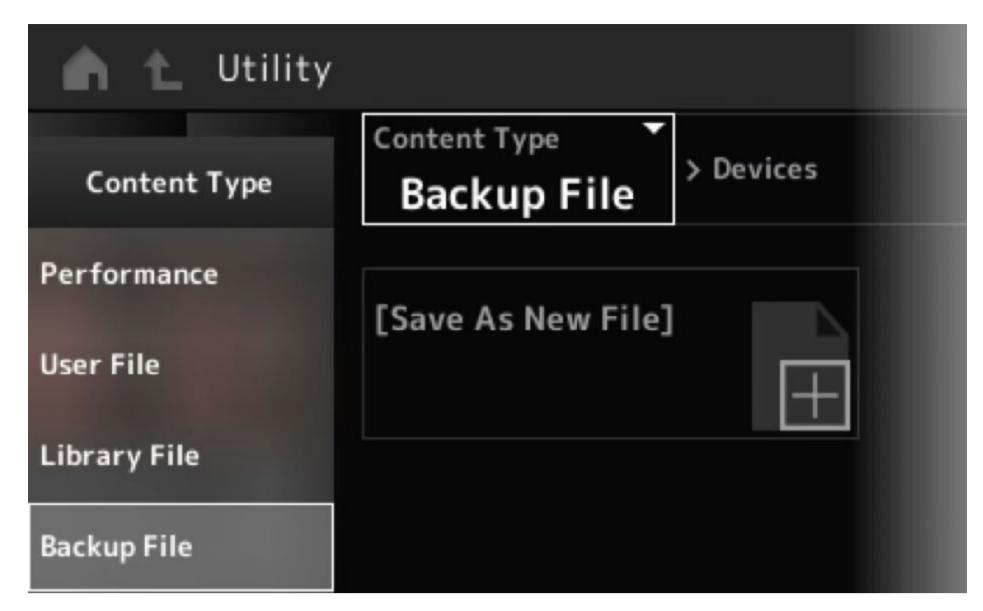


BACKUP FILES

A Backup File **#115** (extension "Y2A") saves the current system status and the entire memory content of the MODX M:

- User data (as already detailed above)
- Installed Libraries (up to 24) incl. Library Waveforms and Arpeggios
- Songs and Patterns
- System Settings

This makes it the "all-round carefree File" with which you can, for example, turn any rental instrument from a backliner into your own in a few minutes. It is also useful if you want to load some other sounds temporarily or in preparation for an OS update.



#115

LOADING DATA

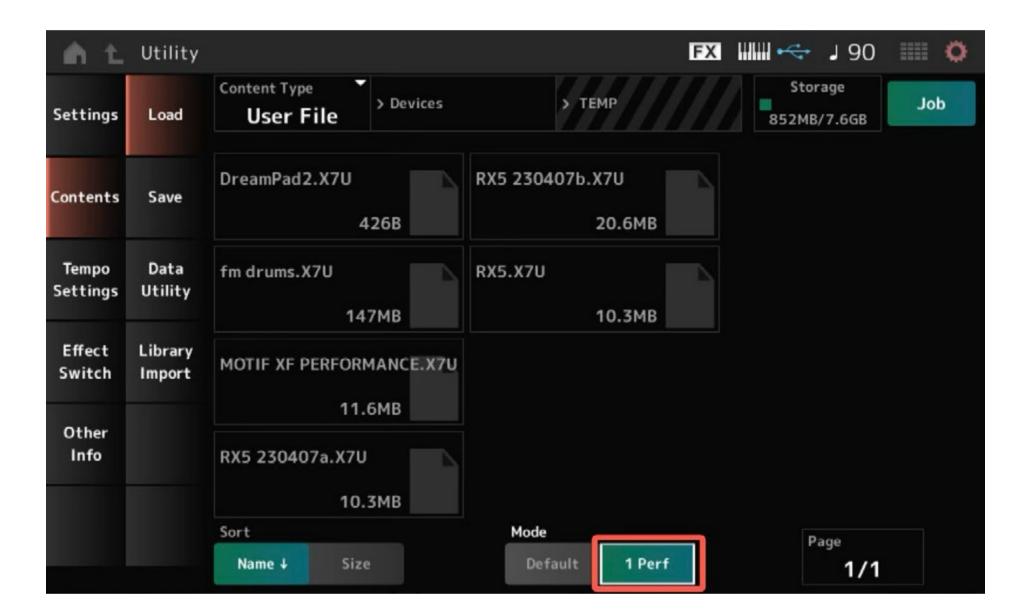
To avoid accidentally overwriting data, it is essential to know the main loading procedures.

When loading a Backup File, all data in the instrument is overwritten. This means that even if the Backup File does not contain data such as User Performances or installed Libraries, the System Settings saved with the Backup will be loaded, existing user data as well as installed Libraries will be deleted.

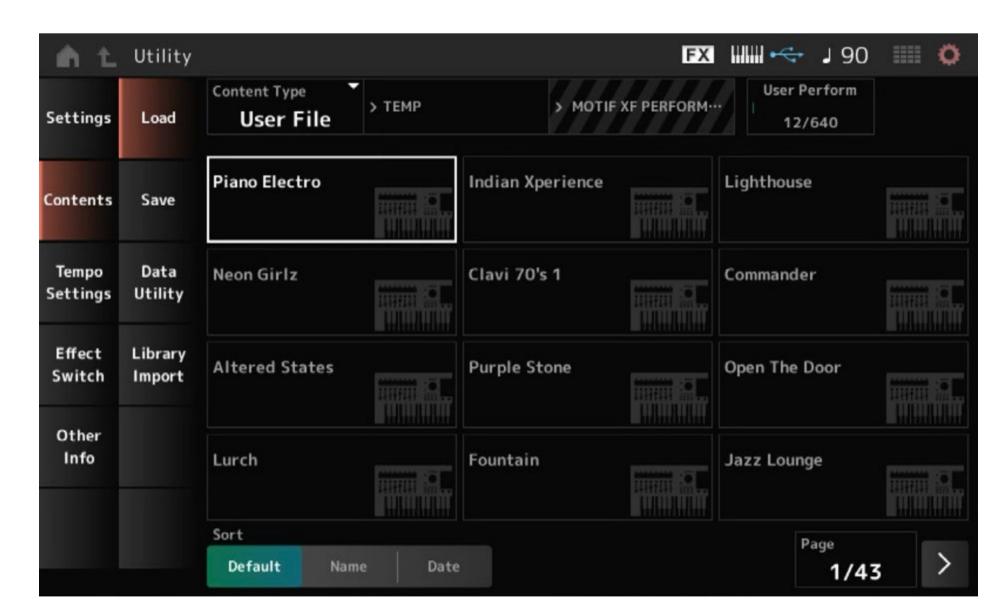
When loading a complete User File, only the User Memory with the contained Performances, Live Sets, and User Auditions is overwritten. Songs, Patterns, and installed Libraries remain unaffected.

It is also possible to load only a single Performance from a User or Library File. The following procedure is required:

- Press [SHIFT] & [STORE] (shortcut to "FILE")
- "Load" is automatically preselected
- Select the content type "User File" or "Library File" at the top of the Display
- Select "1 Perf" under "Mode" at the bottom of the Display #116
- Select the desired File (extension "Y2U" or "Y2L")
- Select the desired Performance #117



#116



#117



Library Files can be loaded at any time without hesitation. Therefore, each time the Display Page > [UTILITY] > Contents > "Load" is called up again, the "Content Type" "Library File" is always preselected.

A Library is always loaded into one of the 24 possible free Library Slots. If no more Slots are free, an error message is displayed. When loading a Library that has already been installed, there is also a corresponding warning message that indicates the status and gives the option to cancel. **#118**



#118





The sequencer functions of MODX M are enormously helpful to record the inspiration you just have with the instrument - with a simple push of a button. Or prepare backing tracks which you can then embed in your live performance.

Parts 9-16, which are not under Keyboard Control are particularly useful for this.

To enter the Sequencer area, the following options are available:

- Press the [SONG/PATTERN] button
- Press "Play" [▶] or "Record" [●] of the transport field
- Select "Play/Rec" from the Performance Home screen

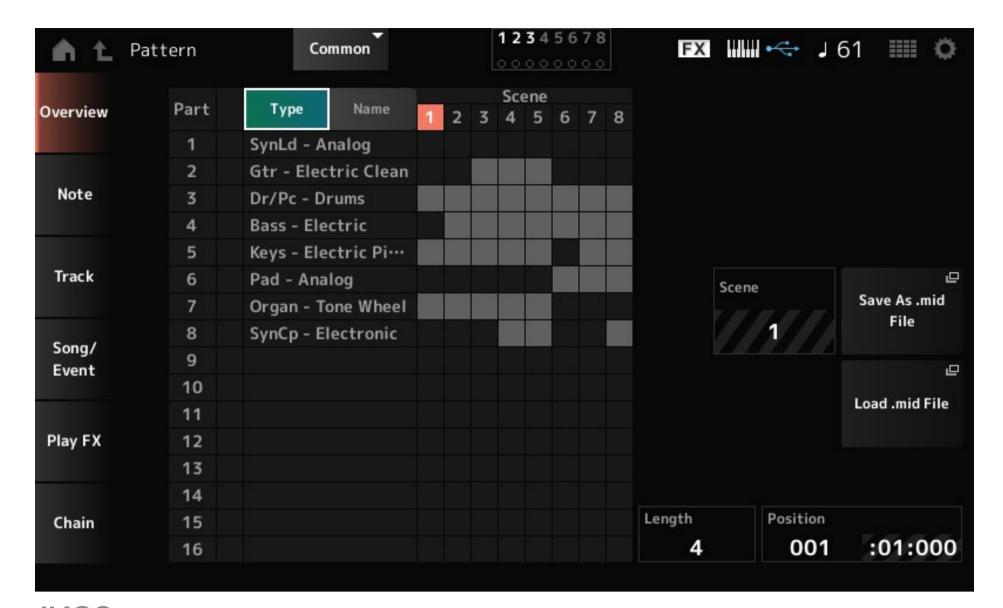
In this Page, a Sub-Menu offers various recording or playback options. #119

Under "Pattern", recordings can be divided into eight Patterns, which are assigned to the Scene buttons and can each be up to 256 bars long. The recordings can be made in real time and for several Parts at the same time but can also be built up gradually for individual Parts, for example as a loop in an overdub process.

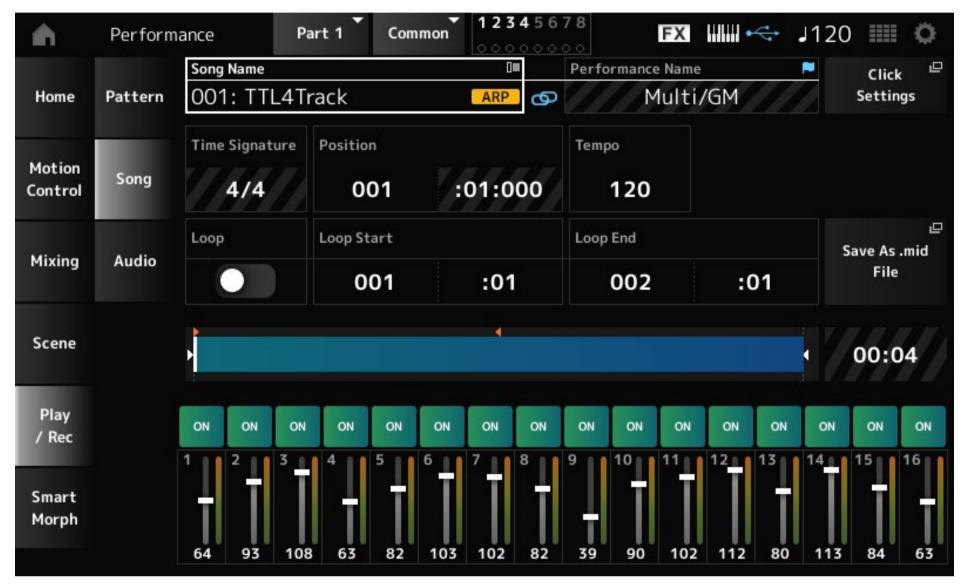


#119

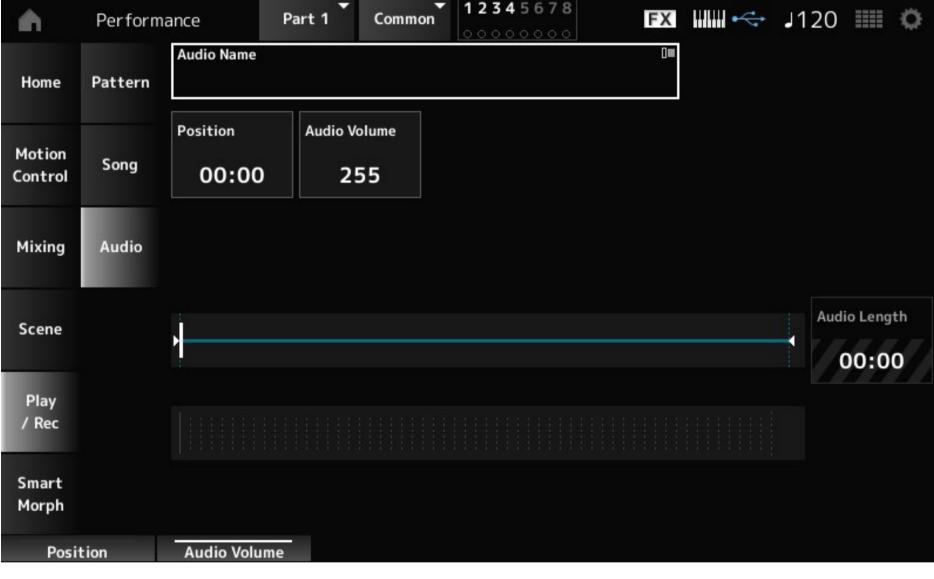




#120



#121



#122

The results can then be arranged live or converted into a song structure by means of a so-called "Pattern Chain". #120

The "Song" Recording Mode works like a MIDI tape machine, allowing multi-track recordings for up to 16 Tracks (Parts). The length and scope of the recordings are only limited by the maximum number of possible MIDI Events of approx. 130,000 notes per Song.

Importing and exporting MIDI Files via USB memory sticks is possible for both types of recording. #121

All operations of Controllers such as Super Knob, multifunction Knobs, and Sliders are recorded.

A recording under "Audio" is saved directly as a File in ".WAV" format on a connected USB memory stick or played back directly from there. #122



PATTERN RECORDING

If you are on the Display Page "Play/Rec", "Pattern" is selected by default. The name of the Pattern "NewPattern..." and the name of the Performance are shown in the header of the Display. Some presettings such as the Length of the Pattern under "Length" and the selection of the Scene (with the corresponding button) can be made before pressing "Record" [•]. After pressing the button, you can also select a Quantisation and decide whether the recording should be made in a Loop or stop automatically after the specified number of bars has elapsed. #123

The Tempo taken over from the Performance can also be changed here.

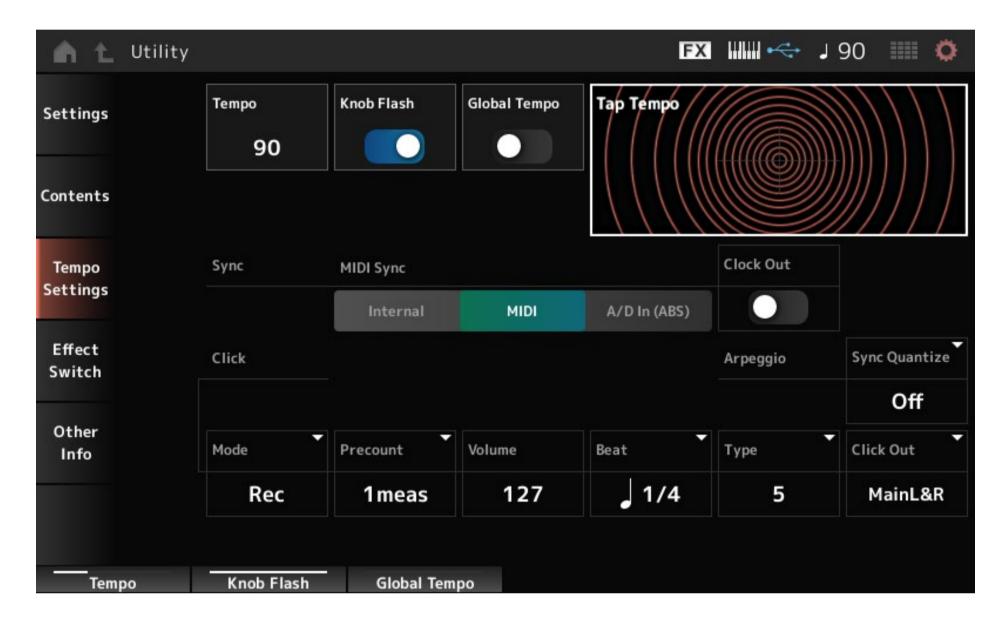
The fastest way to set a Tempo is to press the [TEMPO/TAP] button.

Once pressed, it calls up the corresponding Page in the Utility. Afterwards, the button can be used directly for "tapping" in order to adjust the Tempo. If necessary, a correction as "fine tuning" can be made via the Display Knob 1. Also in combination with [SHIFT] for finer value changes. In addition, the settings for the Click can be made directly here. With [EXIT] you return to the Display Page from which [TEMPO/TAP] was pressed. #124

When recording Multi-Part Performances, the selection of the Part(s) is of course also decisive. All Parts with an active "Keyboard Control Switch" are recorded simultaneously. If individual Parts are to be recorded one after the other, it is advisable to deactivate Keyboard Control for all Parts and to select only the Part to be recorded via the Part Select buttons. #125



#123

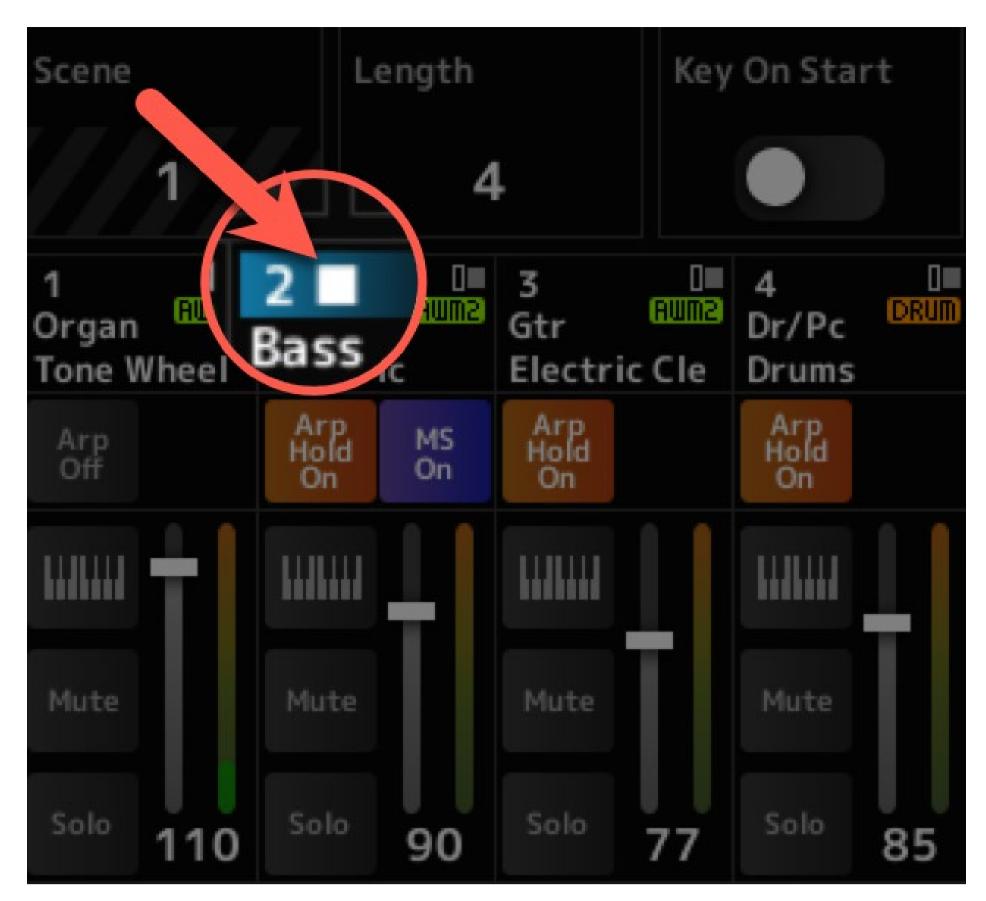


#124



#125

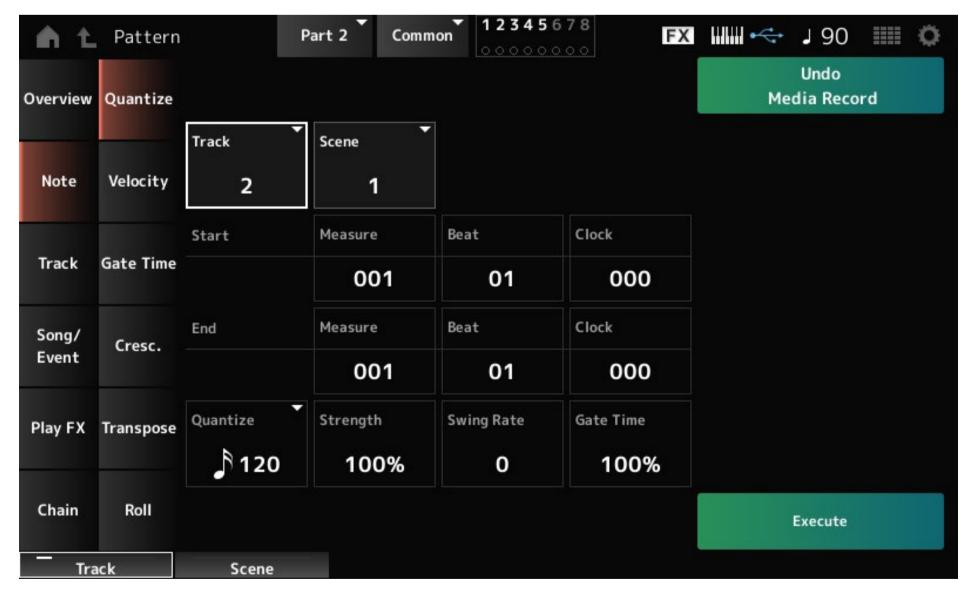




#126



#127



#128

Only after activating "Record" [●] do further setting options open up. These include:

- Time Signature
- Direct quantisation during recording ("Rec Quantize")
- "Loop" activates the recording in an endless Loop

While the "Record" LED is flashing, you are in Record StandBy Mode. The actual recording is started by hitting "Play" [▶]. If no Loop was selected, the recording ends automatically after reaching the preselected number of bars.

After the recording is finished, a white square appears in the header of the recorded Part. This indicates that the Part contains MIDI Data. #126

Furthermore, the new Pattern is automatically linked to the Performance you used. This means that when this Pattern is called up, the corresponding Performance is also called up - not the other way round! The connection is shown by the closed and blue coloured chain symbol. #127

The [EDIT] button or the "Edit / Job" button in the Display provide extensive editing options. #128



SONG RECORDING

The Song Record offers a few settings such as Tempo, Time Signature, Position selection, and Quantisation. By default the Tempo is taken from the active Performance and all Parts are set in the Play mode. The Playback button starts the recording.

A resulting recording is automatically saved as "New Song1", the number varies depending on the number of already saved recordings.

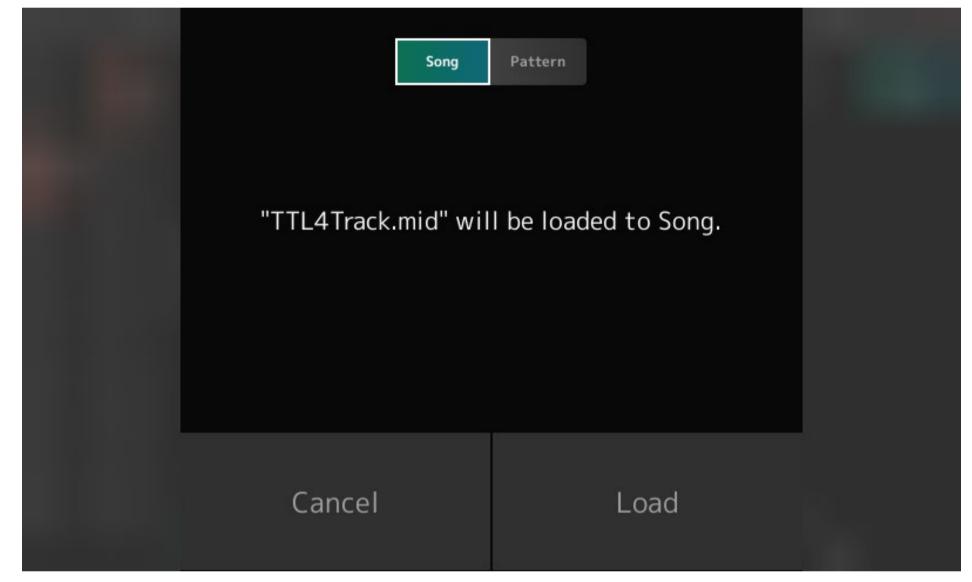
Every important recording should be saved as a MIDI File (format 0). This is directly possible from the Record Page. It requires a connected USB storage device. If the MIDI File is to be processed further in a DAW, you should extract the parts by their MIDI Channels after having imported the File onto a MIDI Track of your DAW. If the Performance is loaded in MODX M you should be able to playback the file instantly. Only the "Arp Play Only" parameter must be disabled for the corresponding Parts.

SONG PLAY

INCLUDING STANDARD MIDI FILES

The MODX M can load and play back Songs and Standard MIDI Files from a USB storage device. The following steps are required:

- Enable the Performance mode
- Optional: Select an INIT Performance
- Press [SONG/PATTERN]
- Select "Song"
- Tap on "Song Name" and then "Load"
- Tap on "Content Type" and then ".mid File"
- Locate the MIDI File on your USB device and select it
- Confirm the security question in the Display with "Load"
 #129



#129

With this procedure, the MIDI File is loaded into the RAM. With the help of the button in the Page "Store Song & Perf Settings", the Song is linked to the current Performance. This way up to 128 Files can be loaded that are kept in memory and are available even after the instrument was shut down. The selection is made via the Content Type "Song&Perf". General MIDI Files are played correctly.

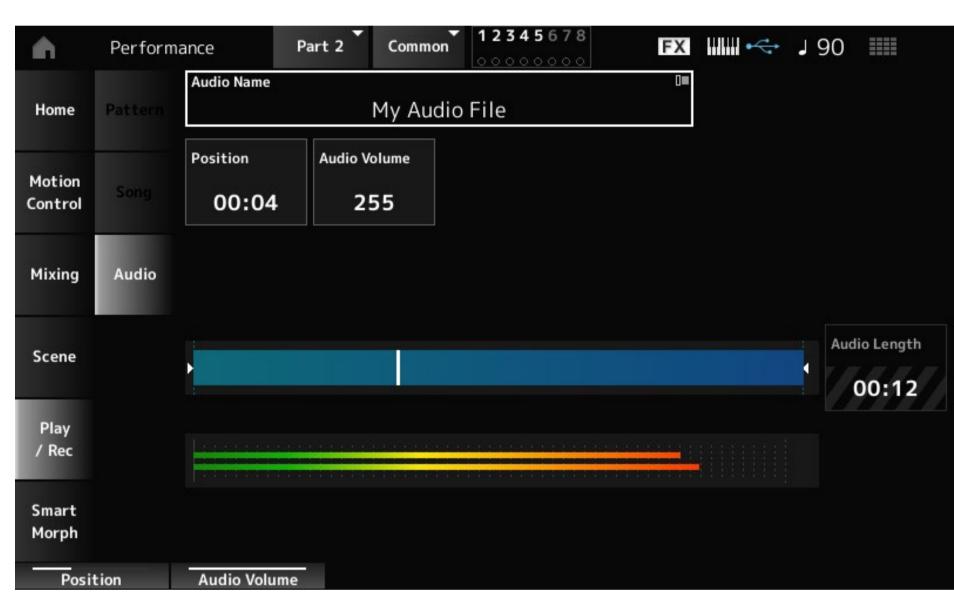


PLAYBACK OF AUDIO FILES FROM A USB DEVICE

Audio Files can be directly played back from a connected USB storage device, the File has to be in .WAV format. The following procedure is required:

- Enable the Performance mode
- Press [SONG/PATTERN]
- Select "Audio"
- Tap on "Audio Name" and then "Load"
- Locate the Audio File on your USB device and select it
- Start the playback

Using the Display Knobs 1 & 2 you can change the Playback Position and Volume. During playback, the Display and several buttons are locked. The selected Performance is, however, active, as are the Scene buttons, the Super Knob, and the Controllers. #130



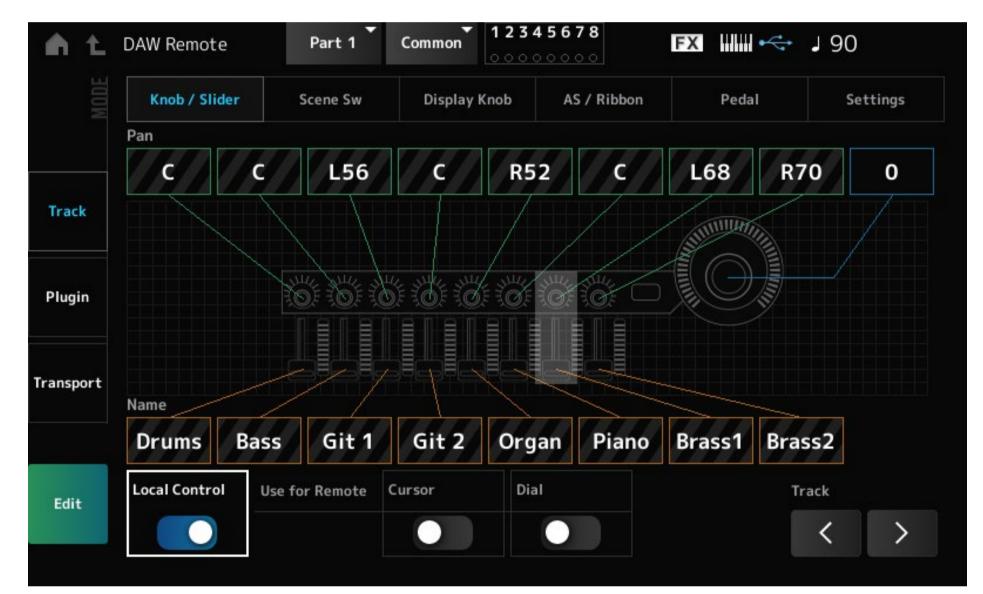
#130

DAW REMOTE

The [DAW REMOTE] button (to the right of [UTILITY]) activates this special Mode that allows DAWs to be remotely controlled via the MODX M's controls. The following DAWs are supported:

- Cubase
- Logic Pro
- Pro Tools
- Ableton Live

Using the "Mackie Control" protocol you can use the Transport buttons, Sliders, Knobs, and buttons, as well as connected Controllers, to remotely control a DAW. #131



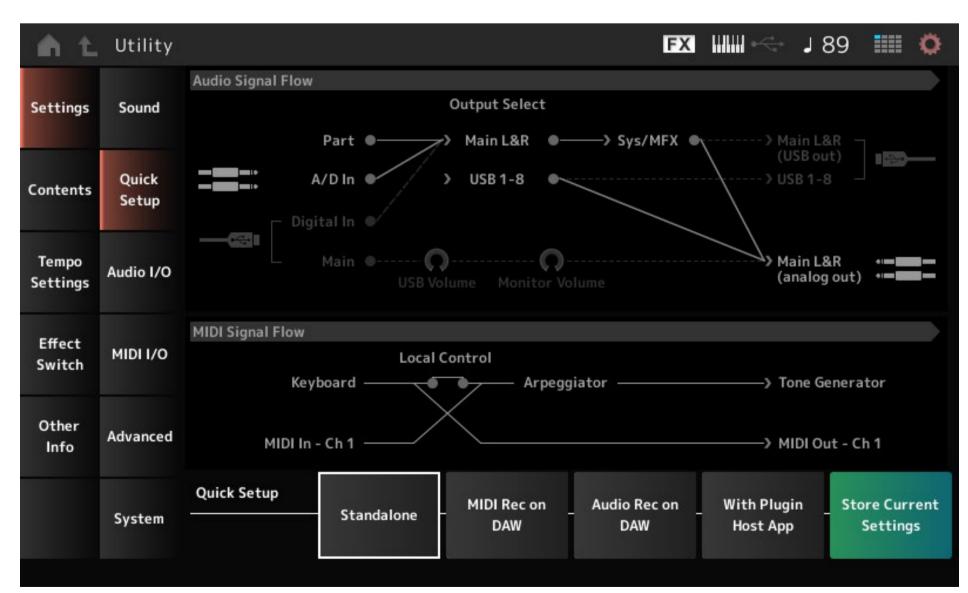
#131

QUICK SETUP

One of the most important Pages in [UTILITY] has been linked to the [QUICK SETUP] button.

First, the corresponding configurations are displayed in a clear graphic. The different Quick Setup Modes can be selected with the help of the onscreen buttons. #132

Own adjustments can be saved separately via "Store Current Settings".



#132



PICS MODX M6





MODX M7





MODX M8







SOFTCASES

There are premium softcases available for all three models of the MODX M. They are not only protective, but also lightweight and stylish. Manufactured with top-notch nylon, high quality zippers, pockets for pedals and cables, and a luxurious inside they will keep your MODX M protected and looking great for years to come.





