



Supplementary Manual

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New Functions in MODX Version 2.50

Yamaha has upgraded the MODX firmware, adding the following new functions. This manual describes additions and changes with respect to the Reference Manual that came with your instrument.

- New Performances have been added.
- The Smart Morph function has been added.
- New functions have been added to the Pattern Sequencer.
- The DAW Remote function has been added.
- Controllability and playability have been improved.

Additional New Performances

The MODX offers 32 new Performances.
For information on the added Performances, refer to the Data List.

New Smart Morph function

The Smart Morph function uses machine learning for morphing FM-X sounds. MODX learns the sounds assigned to Parts 9 to 16 by sophisticated logic and plots each sound as a point on the Map. The distance of points indicates similarity of the sounds. This function automatically creates interpolated FM-X sounds to fill in the gaps on the map.

Touch a position on the map to assign the sound to Part 1. By selecting points you like in this way and saving the results, you can use this as a powerful tool for creating new FM-X sounds. You can also drag points on the map, or assign the behavior between any two points to the Super Knob—giving you unprecedented real-time control for expressively morphing the FM-X sound as you perform.

Home

Operation [PERFORMANCE] → [Home]



View


Use this to switch among three displays: the default screen display of eight Parts, a display of four Parts with various data, and a display of four Parts and the Smart Morph map.




NOTE You can also use the [PERFORMANCE] button for the same operation.

NOTE When the current View is the Smart Morph display and the Performance does not yet have Smart Morph data, four Parts with various data is shown.

NOTE On the Live Set display, a special FM-X icon indicates if the assigned Performance has Smart Morph data or not.

 : Displayed for a Performance with an FM-X Part.

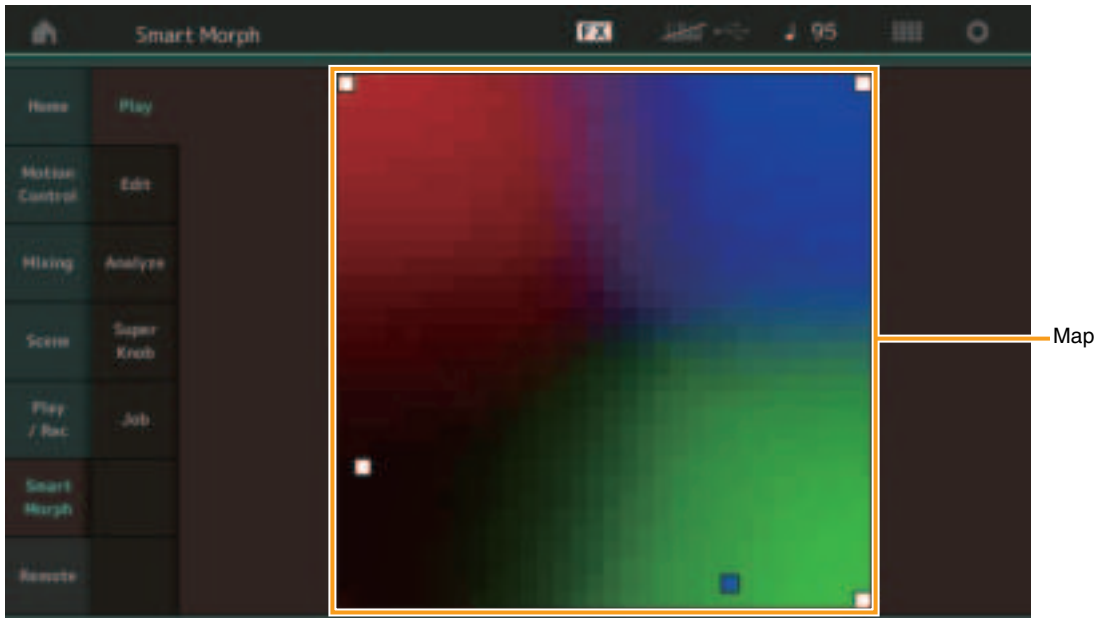
 : Displayed for a Performance with an FM-X Part and Smart Morph data.



Smart Morph

Play

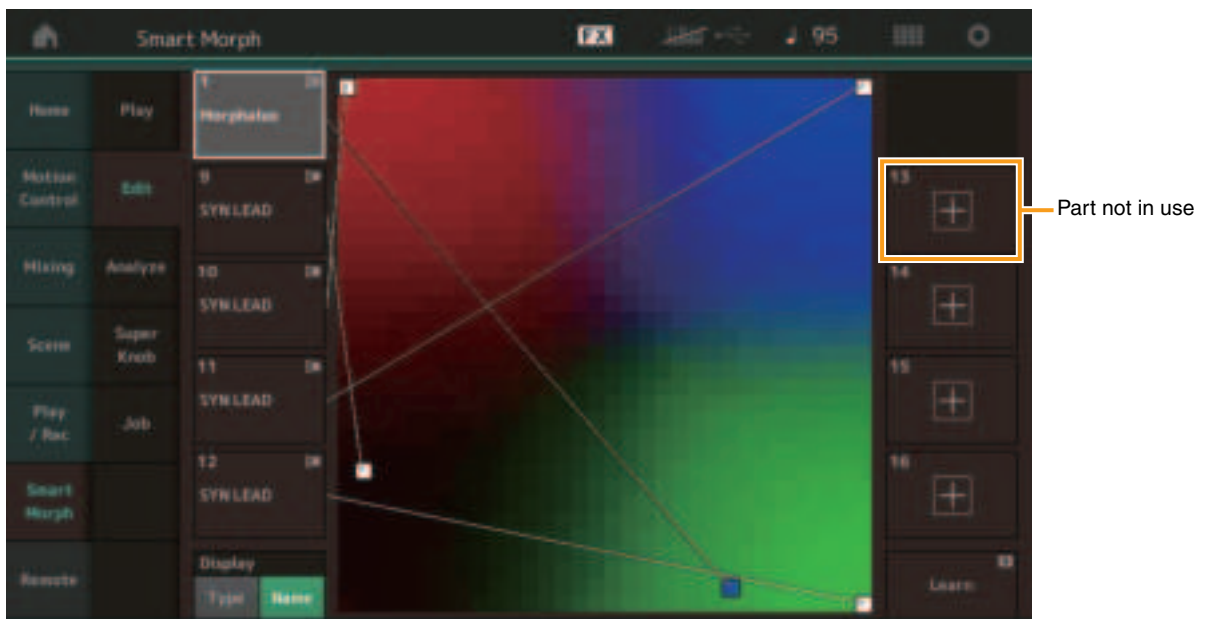
Operation [PERFORMANCE] → [Smart Morph] → [Play]



On this display, tap the Smart Morph map to change the FM-X sound for Part 1.

Edit

Operation [PERFORMANCE] → [Smart Morph] → [Edit]



Part not in use

Calls up the Part Category Search display for selecting an FM-X sound when you tap one of the plus (+) buttons.

Part in use

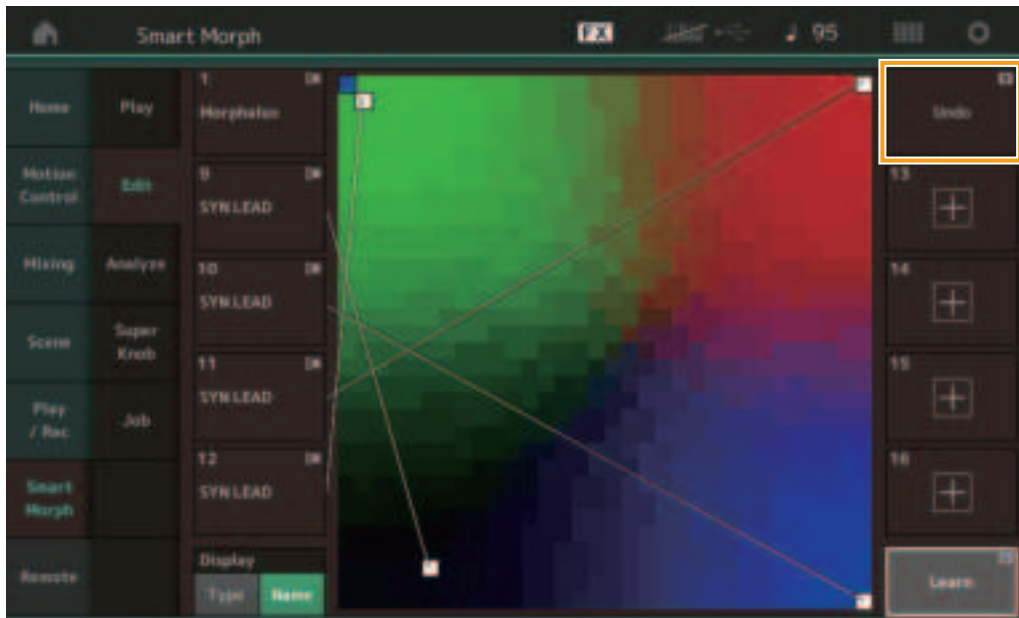
Calls up the context menu (Category Search, Edit, Copy, Delete) when you tap this.

Display

Determines whether each Part is indicated by its Main Category or by its Part Name.

Learn

Begins learning (map creation) by tapping. During processing, some interface operations are disabled and the [Cancel] button is shown in place of [Learn]. If you cancel processing, the map will return to its status before learning. You can also play the instrument during the learning operation.



ETA (Estimated Time of Action)

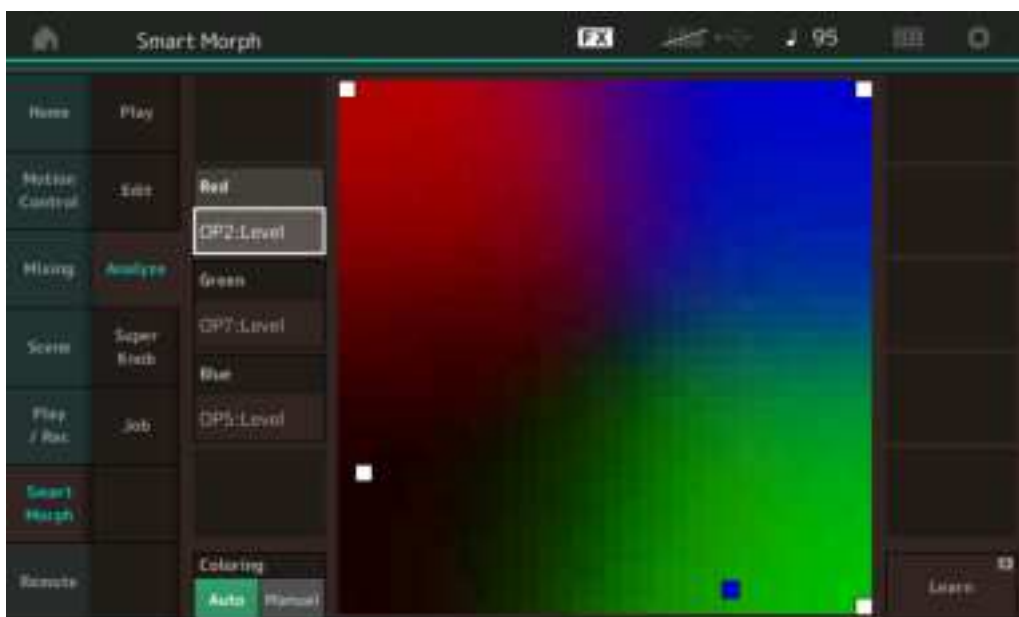
Displays the estimated time remaining for the learning operation.

Undo/Redo

After operating the learning function, the [Undo] button is shown at the upper right. Press Undo to cancel your edits and return the map to its pre-learning state. After you use Undo, [Redo] is shown, letting you restore the edits you've made.

Analyze

Operation [PERFORMANCE] → [Smart Morph] → [Analyze]



Red

Displays the size of the value for the selected parameter as a shade of red. For setting values, refer to “Parameters that can be set for Red, Green, and Blue” (page 9).

Green

Displays the size of the value for the selected parameter as a shade of green. For setting values, refer to “Parameters that can be set for Red, Green, and Blue” (page 9).

Blue

Displays the size of the value for the selected parameter as a shade of blue. For setting values, refer to “Parameters that can be set for Red, Green, and Blue” (page 9).

ETA (Estimated Time of Action)

Displays the estimated time remaining for the learning operation.

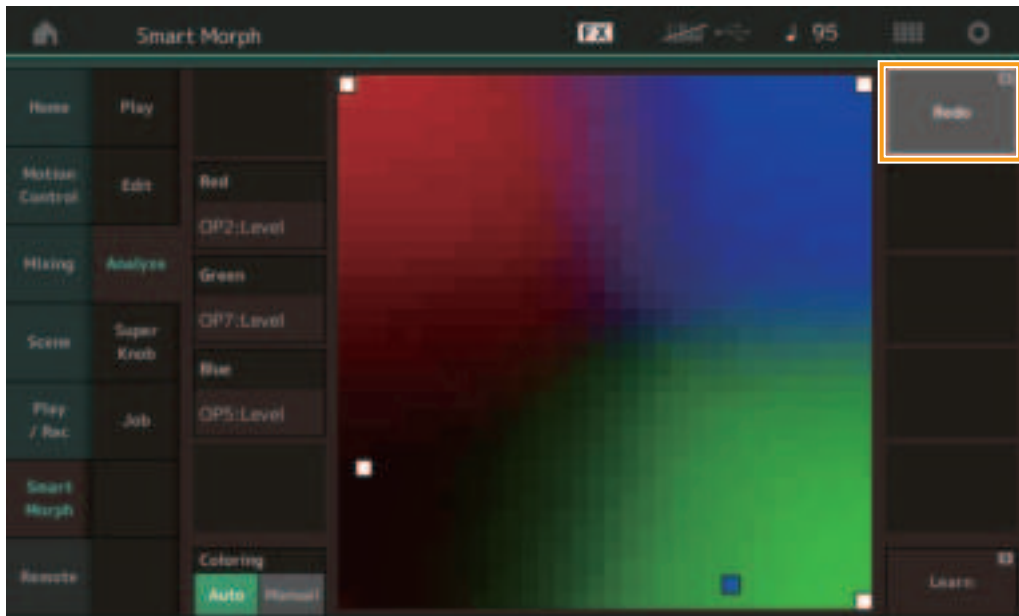
Coloring

Resets Red, Green, and Blue automatically when Learn is executed, if this is set to Auto. If this is set to Manual, then Red, Green, and Blue are not automatically reset when Learn is executed.

Settings: Auto, Manual

Learn

Begins learning (map creation) when you tap this. During processing, some interface operations are disabled and the [Cancel] button is shown in place of [Learn]. If you cancel processing, the map will return to the pre-learning status.



Undo/Redo

After operating the learning function, the [Undo] button is shown at the upper right. Press Undo to cancel your edits and return the map to its pre-learning state. After you use Undo, [Redo] is shown, letting you restore the edits you've made.

Parameters that can be set for Red, Green, and Blue

FM Common

Parameter Name	Display Name
Random Pan Depth	Random Pan
Alternate Pan Depth	Alternate Pan
Scaling Pan Depth	Scaling Pan
Key On Delay Time Length	Delay Length
Key On Delay Tempo Sync Switch	KeyOnDly Sync Sync Switch
Key On Delay Note Length	Delay Length
Pitch Velocity Sensitivity	Pitch/Vel
Random Pitch Depth	Random Pitch
Pitch Key Follow Sensitivity	Pitch/Key
Pitch Key Follow Sensitivity Center Note	Pitch/Key Center
Filter Type	Filter Type
Filter Cutoff Frequency	Cutoff
Filter Cutoff Velocity Sensitivity	Cutoff/Vel
Filter Resonance/Width	Resonance/ Width
Filter Resonance Velocity Sensitivity	Res/Vel
HPF Cutoff Frequency	HPF Cutoff
Distance	Distance
Filter Gain	Filter Gain
FEG Hold Time	FEG Hold Tm
FEG Attack Time	FEG Attack Tm
FEG Decay 1 Time	FEG Decay 1 Tm
FEG Decay 2 Time	FEG Decay 2 Tm
FEG Release Time	FEG Release Tm
FEG Hold Level	FEG Hold Lvl
FEG Attack Level	FEG Attack Lvl
FEG Decay 1 Level	FEG Decay 1 Lvl
FEG Decay 2 Level	FEG Decay 2 Lvl
FEG Release Level	FEG Release Lvl
FEG Depth	FEG Depth
FEG Time Velocity Sensitivity Segment	FEG Segment
FEG Time Velocity Sensitivity	FEG Time/Vel
FEG Depth Velocity Sensitivity	FEG Depth/Vel
FEG Depth Velocity Sensitivity Curve	FEG Curve
FEG Time Key Follow Sensitivity	FEG Time/Key
FEG Time Key Follow Sensitivity Center Note	FEG Center

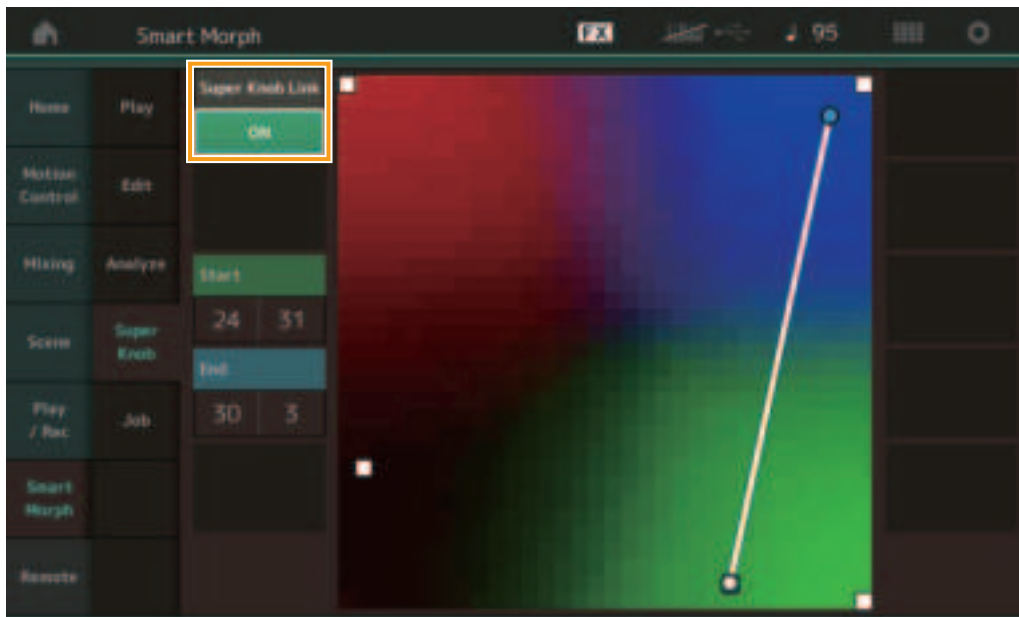
Parameter Name	Display Name
Filter Cutoff Key Follow Sensitivity	Fit Cutoff/Key
Filter Cutoff Scaling Break Point 1	Fit Break Point 1
Filter Cutoff Scaling Break Point 2	Fit Break Point 2
Filter Cutoff Scaling Break Point 3	Fit Break Point 3
Filter Cutoff Scaling Break Point 4	Fit Break Point 4
Filter Cutoff Scaling Offset 1	Fit Cutoff Offset 1
Filter Cutoff Scaling Offset 2	Fit Cutoff Offset 2
Filter Cutoff Scaling Offset 3	Fit Cutoff Offset 3
Filter Cutoff Scaling Offset 4	Fit Cutoff Offset 4
HPF Cutoff Key Follow Sensitivity	HPF Cutoff/Key
PEG Attack Time	PEG Attack Tm
PEG Decay 1 Time	PEG Decay 1 Tm
PEG Decay 2 Time	PEG Decay 2 Tm
PEG Release Time	PEG Release Tm
PEG Initial Level	PEG Initial Lvl
PEG Attack Level	PEG Attack Lvl
PEG Decay 1 Level	PEG Decay 1 Lvl
PEG Decay 2 Level	PEG Decay 2 Lvl
PEG Release Level	PEG Release Lvl
PEG Depth Velocity Sensitivity	PEG Depth/Vel
PEG Depth	PEG Depth
PEG Time Key Follow Sensitivity	PEG Time/Key
2nd LFO Wave	LFO Wave
2nd LFO Speed	LFO Speed
2nd LFO Phase	LFO Phase
2nd LFO Delay Time	LFO Delay
2nd LFO Key On Reset	LFO Key On Reset
2nd LFO Pitch Modulation Depth	LFO Pitch Mod
2nd LFO Amplitude Modulation Depth	LFO Amp Mod
2nd LFO Filter Modulation Depth	LFO Filter Mod
Algorithm Number	Algorithm
Feedback Level	Feedback
LFO Speed Range	Extended LFO
LFO Extended Speed	LFO Ex Speed

FM Operator (op1 – op8)

Parameter Name	Display Name
Oscillator Key On Reset	Key On Reset
Oscillator Frequency Mode	Freq Mode
Tune Coarse	Coarse
Tune Fine	Fine
Detune	Detune
Pitch Key Follow Sensitivity	Pitch/Key
Pitch Velocity Sensitivity	Pitch/Vel
Spectral Form	Spectral
Spectral Skirt	Skirt
Spectral Resonance	Resonance
PEG Initial Level	PEG Initial Lvl
PEG Attack Level	PEG Attack Lvl
PEG Attack Time	PEG Attack Tm
PEG Decay Time	PEG Decay Tm
AEG Hold Time	AEG Hold Tm
AEG Attack Time	AEG Attack Tm
AEG Decay 1 Time	AEG Decay 1 Tm
AEG Decay 2 Time	AEG Decay 2 Tm
AEG Release Time	AEG Release Tm
AEG Attack Level	AEG Attack Lvl
AEG Decay 1 Level	AEG Decay 1 Lvl
AEG Decay 2 Level	AEG Decay 2 Lvl
AEG Release(Hold) Level	AEG Release Lvl
AEG Time Key Follow Sensitivity	AEG Time/Key
Operator Level	Level
Level Scaling Break Point	Lvl Break Point
Level Scaling Low Depth	Lvl/Key Lo
Level Scaling High Depth	Lvl/Key Hi
Level Scaling Low Curve	Curve Lo
Level Scaling High Curve	Curve Hi
Level Velocity Sensitivity	Level/Vel
2nd LFO Pitch Modulation Depth Offset	LFO PM Depth
2nd LFO Amplitude Modulation Depth Offset	LFO AM Depth
Pitch Controller Sensitivity	Pitch/Ctrl
Level Controller Sensitivity	Level/Ctrl

Super Knob

Operation [PERFORMANCE] → [Smart Morph] → [Super Knob]



Super Knob Link

Adds an effect to the Super Knob from start to end when this is set to ON.

Settings: On, Off

Start

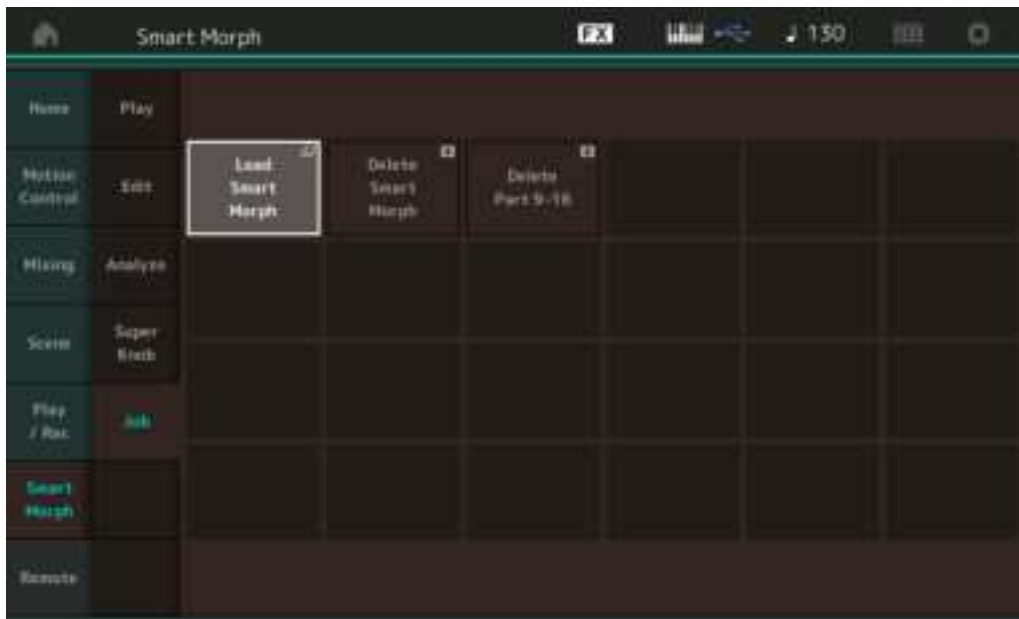
Determines the position on the map corresponding to the minimum value of the Super Knob. With the cursor on Start, touch the map to set the start position.

End

Determines the position on the map corresponding to the maximum value of the Super Knob. With the cursor on End, touch the map to set the end position.

Job

Operation [PERFORMANCE] → [Smart Morph] → [Job]



Load Smart Morph

Opens the Load display. Select another Performance on the Load display to load the Smart Morph data contained in that Performance to the current Performance.

Delete Smart Morph

Deletes the Smart Morph data contained in the current Performance.

Delete Part 9 – 16

Sets Part 9 to Part 16 to unused status all at once.

When Parts 5 –16 are set to unused status, SSS is enabled.

Smart Morph uses Parts 9 –16 for making a map. However, deleting Parts 9 –16 has no effect on the sound of Part 1, making it unnecessary to edit the map again.

Additional Pattern functions

Play/Rec

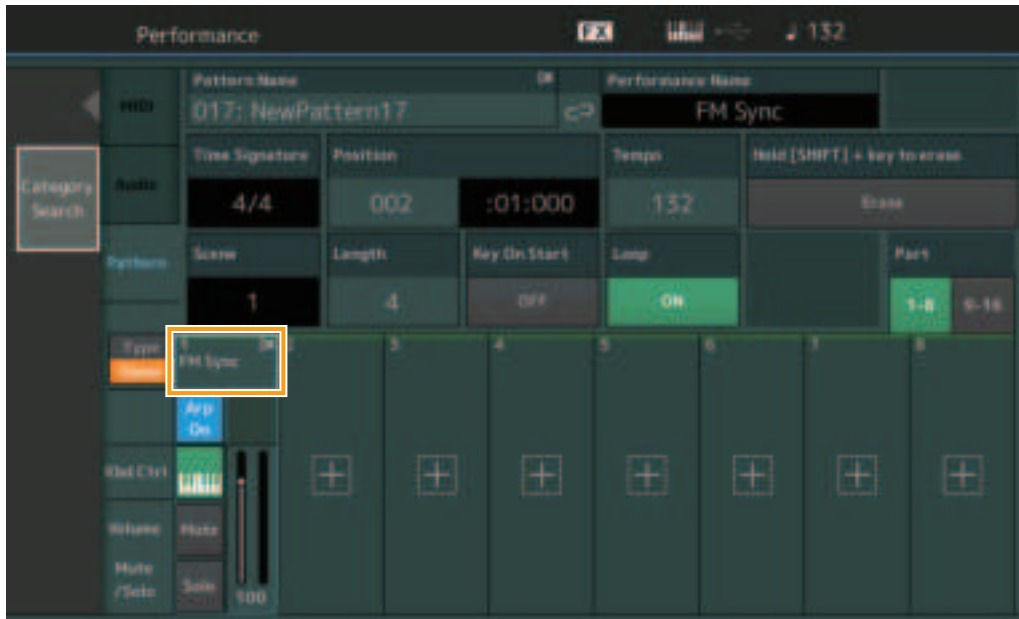
Pattern

■ Recording, Playing

You can now select a sound on the Part Category Search display while recording Patterns.

Operation

[PERFORMANCE] → [Play/Rec] → [Pattern] → [●] (Record) button → [▶] (Play) button → Touch the Part name → Select [Category Search] from the displayed menu



■ Overdubbing

You can now use real-time overdubbing to record your Controller actions while deleting previous Controller events. This makes it easier to perform overdubbing using the Controller.

Operation

[PERFORMANCE] → [Play/Rec] → [Pattern] → (indicated Pattern has been recorded already) → [●] (Record) button → Touch [Record Type] → Select [Overdub] from the displayed menu → [▶] (Play) button



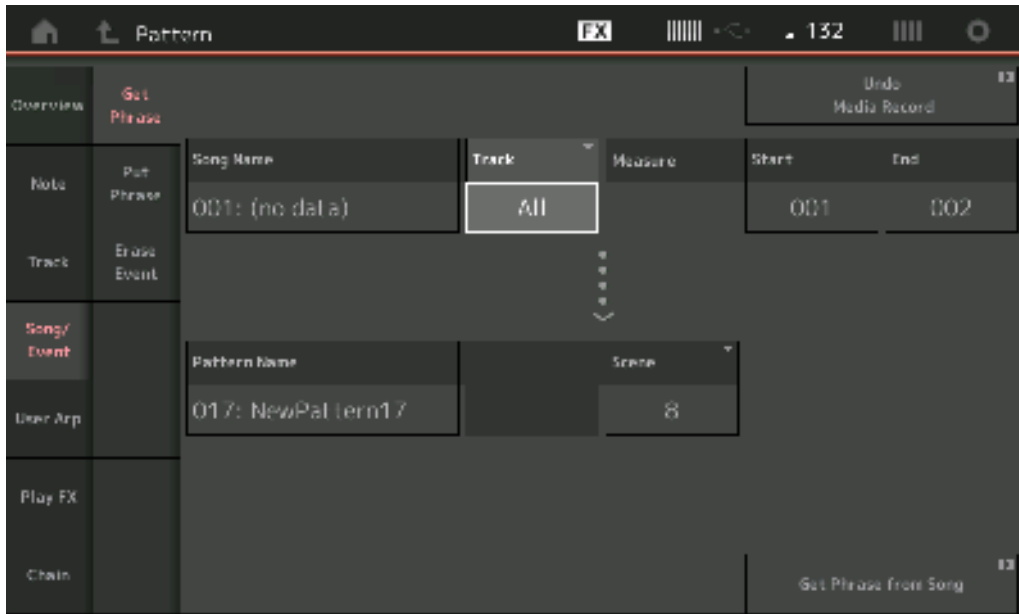
NOTE You can now perform the same operation for overdubbing MIDI songs as well.

Song/Event

Get Phrase

On the Get Phrase display, you can now specify "All" for the source and destination Tracks.

Operation [▶] (Play) button or [PERFORMANCE] → [Play/Rec] → [Pattern] → [Edit/Job] → [Song/Event] → [Get Phrase]



Track *1 Source

Determines the Track to get (copy).

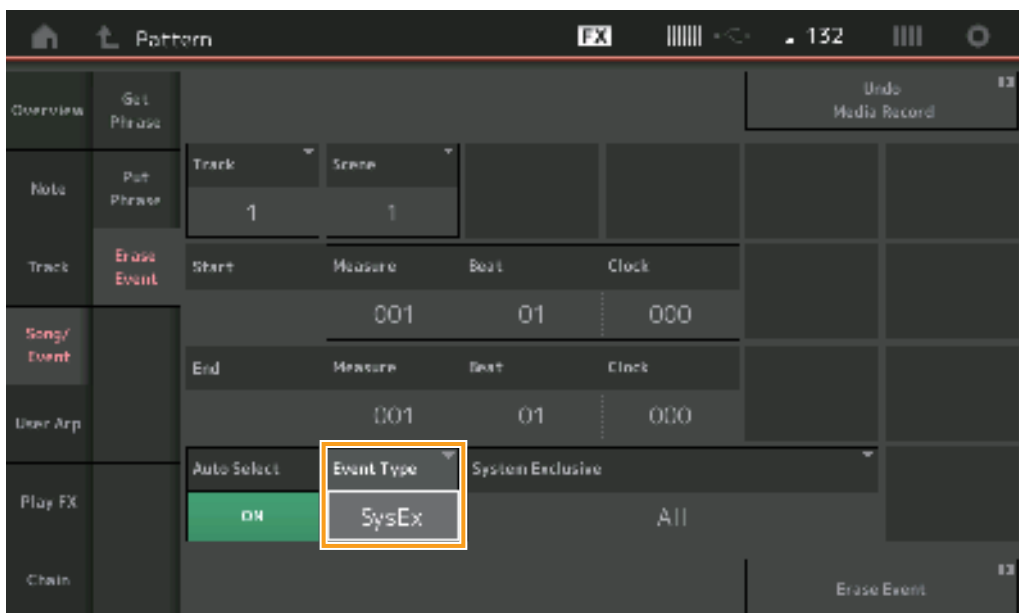
Track *2 Destination

Determines the copy destination Track.

Erase Event

You can now delete MIDI events in a Pattern according to event type along with specifying the range (Measure, Beat and Clock).

Operation [▶] (Play) button or [PERFORMANCE] → [Play/Rec] → [Pattern] → [Edit/Job] → [Song/Event] → [Erase Event]



Track

Determines the Track to be erased.

Scene

Determines the Scene to be erased.

Start Measure

Determines the starting measure position at which the Job is applied.

Range: 001 – 257

Start Beat

Determines the starting beat position at which the Job is applied.

Settings: Depends on selected Time Signature

Start Clock

Determines the starting clock position at which the Job is applied.

Settings: Depends on selected Time Signature

End Measure

Determines the ending measure position at which the Job is applied.

Range: 001 – 257

End Beat

Determines the ending beat position at which the Job is applied.

Settings: Depends on selected Time Signature

End Clock

Determines the ending clock position at which the Job is applied.

Settings: Depends on selected Time Signature

Auto Select

When turned on, this enables you to determine the type of Event to be erased using panel controls, such as the Pitch Bend wheel or Knob.

Settings: Off, On

Event Type

Determines the type of Event to be erased.

Settings: Note, Poly, CC, NRPN, RPN, PC, AfterTouch, PitchBend, SysEx, All

CC Number (Control Change Number)

Displayed when the Event type is set to CC. Determines the Control Change Number to be erased.

Range: Range: All, 1 – 127

System Exclusive

Displayed when the Event type is set to SysEx. Determines the System Exclusive to be erased.

Settings: All, Common Cutoff, Common Resonance, Common FEG Depth, Common Portamento, Common Attack Time, Common Decay Time, Common Sustain Level, Common Release Time, Common EQ Low Gain, Common EQ Lo Mid Gain, Common EQ Mid Gain, Common EQ Mid Freq, Common EQ Hi Mid Gain, Common EQ High Gain, Common Pan, Common Var Return, Common Rev Return, Common Swing, Common Unit Multiply, Common Gate Time, Common Velocity, Common MS Amplitude, Common MS Shape, Common MS Smooth, Common MS Random, Common Assign Knob 1, Common Assign Knob 2, Common Assign Knob 3, Common Assign Knob 4, Common Assign Knob 5, Common Assign Knob 6, Common Assign Knob 7, Common Assign Knob 8, Common Super Knob, Part FEG Depth, Part Sustain Level, Part EQ Low Gain, Part EQ Mid Freq, Part EQ Mid Gain, Part EQ Mid Q, Part EQ High Gain, Part Swing, Part Unit Multiply, Part Gate Time, Part Velocity, Part MS Amplitude, Part MS Shape, Part MS Smooth, Part MS Random, Element 1 Level, Element 2 Level, Element 3 Level, Element 4 Level, Element 5 Level, Element 6 Level, Element 7 Level, Element 8 Level, Operator 1 Level, Operator 2 Level, Operator 3 Level, Operator 4 Level, Operator 5 Level, Operator 6 Level, Operator 7 Level, Operator 8 Level, Drum BD Level, Drum SD Level, Drum HH Close Level, Drum HH Pedal Level, Drum HH Open Level, Drum Low Tom Level, Drum High Tom Level, Drum Crash Level

NOTE When Common parameters and Super Knob are specified, the System Exclusive is deleted irrespective of the Track settings.

Play FX

You can now specify applicable Scenes when Normalize Play FX is executed.

Operation [▶] (Play) button or [PERFORMANCE] → [Play/Rec] → [Pattern] → [Edit/Job] → [Play FX]



Scene

Determines the Scene to which the Job is to be applied.

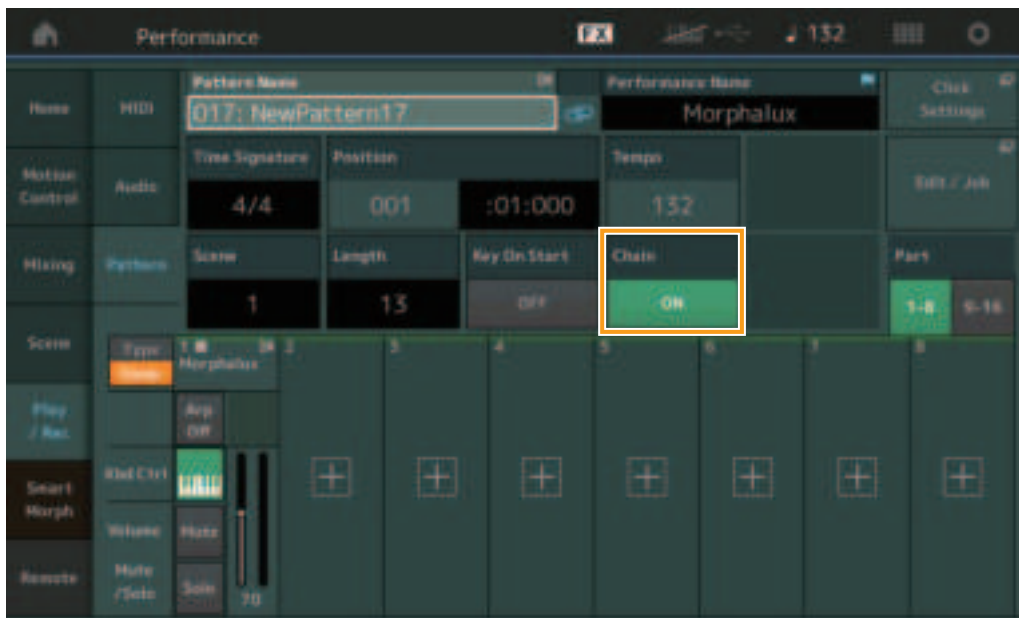
Range: All, 1 – 8

User interface enhancements for Patterns

■ Addition of the Pattern Chain Switch

You can now store Chain playback settings for each pattern on the Pattern display and Chain display.

Operation [▶] (Play) button or [PERFORMANCE] → [Play/Rec] → [Pattern]



Chain

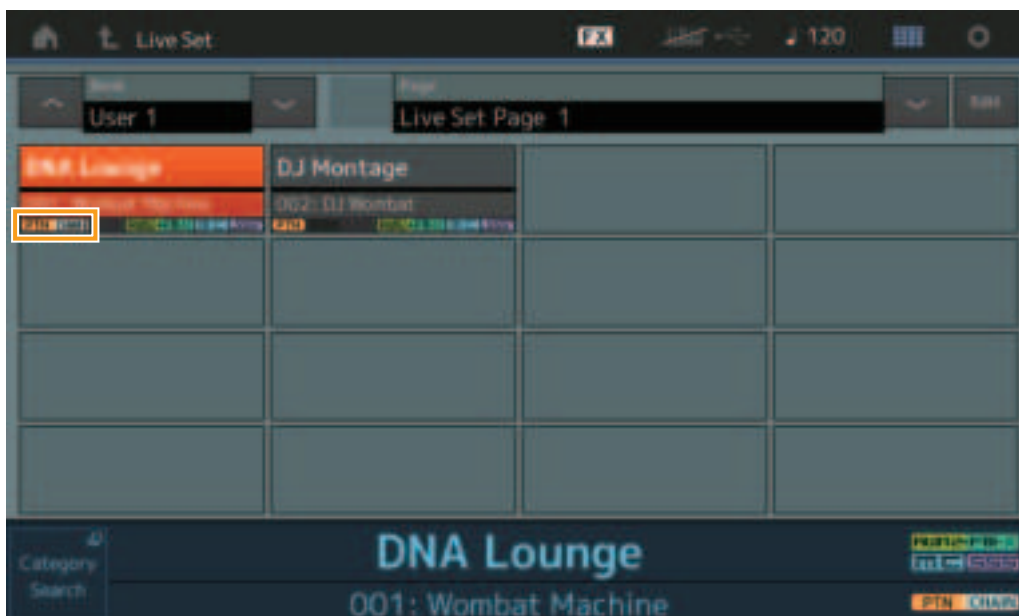
Determines whether Chain playback can be used outside the Chain display or not.

Settings: Off, On

NOTE If a Pattern for which Chain is set to on is assigned to a Slot on the Live Set display, the PTN icon changes to PTN CHAIN.

PTN : Displayed for slots having a Pattern.

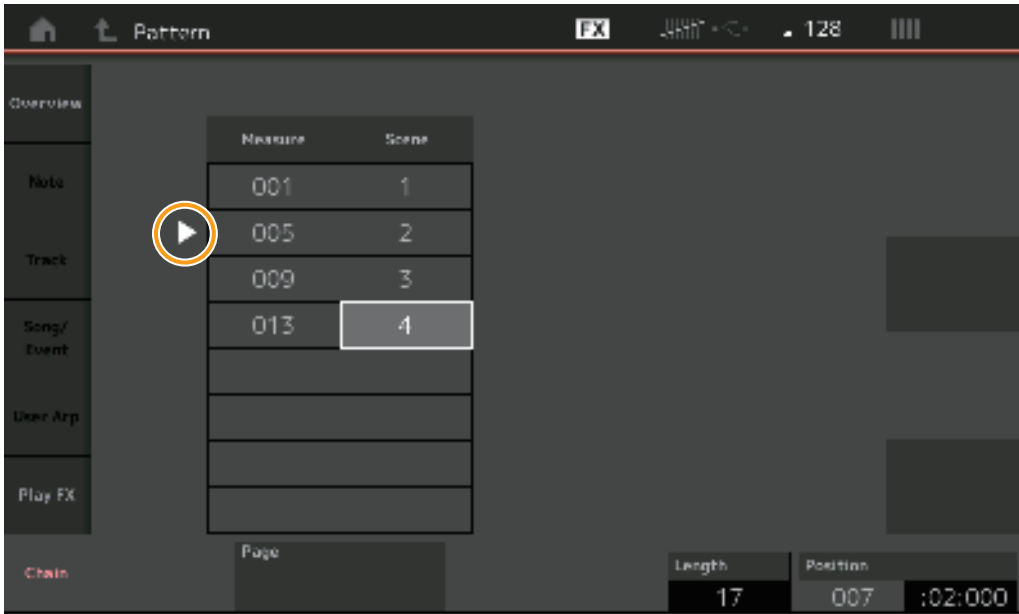
PTN CHAIN : Displayed for slots having a Pattern for which Chain is ON.



■ Icon display in Chain Playback Position

An icon is now shown beside the Scene in playback on the Chain display.

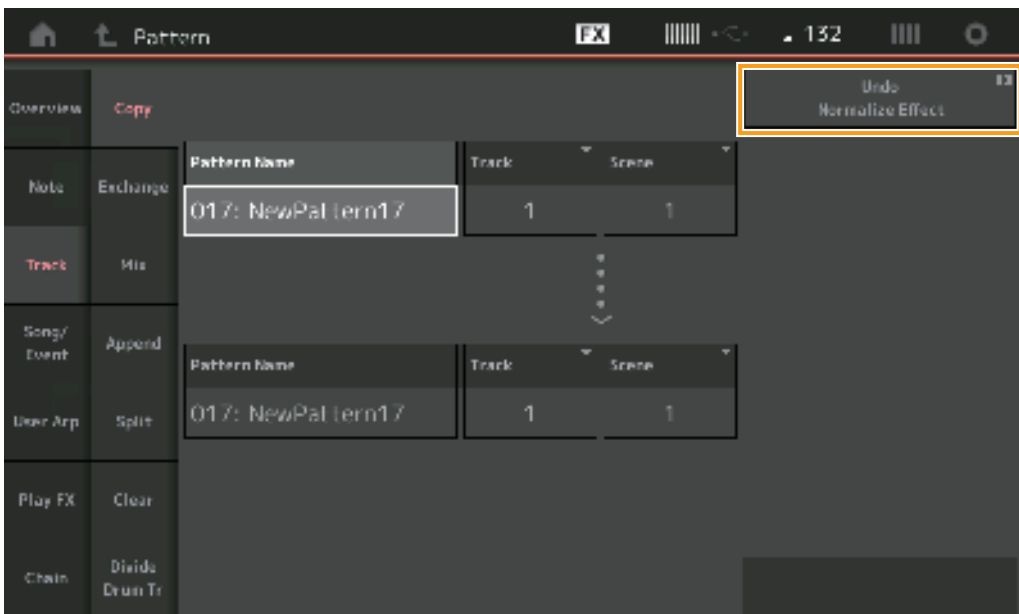
Operation [PERFORMANCE] → [Play/Rec] → [Pattern] or [PERFORMANCE] → [Play/Rec] → [Pattern] → [Edit/Job] → [Chain]



■ Addition of Undo/Redo

You can now use Undo/Redo for Jobs on each display.

Operation [PERFORMANCE] → [Play/Rec] → [Pattern] or [PERFORMANCE] → [Play/Rec] → [Pattern] → [Edit/Job] → respective displays



* This function operates over several displays. The Copy display is used here as an example.

Undo

Cancels the most recently made change and restores the state prior to the most recent change. This is available only when a sequence already exists and you have performed some operation.

Redo

Restores the change canceled by Undo. Redo is available only after using Undo.

New DAW Remote function

You can now control DAW software on your computer from MODX.

The DAW Remote function can be used only when the computer is connected via USB cable. MIDI cables cannot be used.

Setting up the DAW Remote function

Settings on MODX

Refer to the Owner's Manual for use with a computer.

Select [Remote] → [Settings] to call up the DAW Remote function setting display, then set the DAW type to your particular DAW software.

Setting up the DAW software

This section explains the specific operations for each DAW software type.

NOTE Once the connection between the computer and the MODX is lost, the DAW software may occasionally fail to recognize MODX, even when reconnecting while power is on. If this happens, reconnect the computer and the MODX, then reboot the DAW software.

IMPORTANT

Depending on the version of your DAW software, the setting procedure may differ from the following instructions, or the setup may not be successful. For details, refer to the Owner's Manual of the DAW software.

■ Cubase

- 1 Select [Studio] → [Studio Setup...] to call up the dialog.
- 2 Select [MIDI] → [MIDI Port Setup], and uncheck the [In All MIDI Inputs] field of MODX-2 or MODX Port 2.
- 3 Press the [+] button on the top left of the dialog, and then select [Mackie Control] from the list.
- 4 Select [Remote Devices] → select [Mackie Control].
- 5 Set [MIDI Input] and the [MIDI Output] to MODX-2 or MODX Port2.
- 6 (Optional) Assign desired functions to [F1] – [F8] of [User Commands].

■ Logic Pro

- 1 Select [Logic Pro X] → [Preferences] → [Advanced Tools...].
- 2 On the shown [Preferences] display, check [Show Advanced Tools].
- 3 On the [Additional Options] indication, check [Control Surfaces].
- 4 Select the [Control Surfaces] tab at the top of the [Preferences] display.
- 5 Click [Setup...] at the bottom right of the shown display.
- 6 Select [New] → [Install...] at the top left of the displayed [Control Surface Setup] dialog.
- 7 On the displayed [Install] dialog, select [Mackie Control] for [Mackie Designs] and click [Add].
- 8 Close the [Install] dialog.
- 9 On the [Control Surface Setup] dialog, set the output port and the input port of Mackie Control to [MODX Port2].
- 10 (Optional) Click [Controller Assignments...] at the bottom right of the display shown after procedures 1 – 4.
- 11 (Optional) On the shown [Controller Assignments] display, set [Zone] to Control Surface: Mackie Control.
- 12 (Optional) Assign functions to [F1] – [F8] of [Control].

■ Ableton Live

- 1 Select [Live] → [Preferences...].
- 2 On the shown [Preferences] display, select the [Link MIDI] tab.
- 3 On the displayed tab, set [Control Surface] to [MackieControl].
- 4 Set [Input] and [Output] to [MODX (Port2)].
- 5 (Optional) Turn on [Remote] in [Input: MackieControl Input (MODX (Port2))] of [MIDI Ports].
- 6 (Optional) Switch to [Options] → [Edit MIDI Map], and click the Ableton Live function you want to assign.
- 7 (Optional) Change the DAW Remote function mode on MODX to Track, and then press the SCENE button.

■ Pro Tools

- 1 Select [Setup] → [Peripherals...] to open the dialog.
- 2 Select the [MIDI Controllers] tab.
- 3 Set the Type to [HUI], and set the [Receive From] and [Send To] to MODX-2 or MODX Port2 of [Predefined].

Controlling DAW Software from MODX

In the Remote display, the DAW Remote Function will apply and the panel operations will be changed.

Operation [PERFORMANCE] → [Remote]



Mode

Select a behavior of the DAW Remote function from three Modes.

Settings: Track, Plugin, Transport

Track: Mode for operating multiple tracks on DAW software at the same time.

Assignable Knob	Track Pan will be output from Port 2. The display will change according to the selected option for the slider select button.
Slider	Track Volume will be output from Port 2. The display will change according to the selected option for the slider select button.
SCENE button	Assigned functions for F1 – F8 will be output from Port 2.
Other controllers	CC numbers assigned in Remote Mode will be output.
Select	This is displayed in the pop-up list when you press the [PART SELECT MUTE/SOLO] button. Track Select will be output from Port 2.
Mute	This is displayed in the pop-up list when you press the [PART SELECT MUTE/SOLO] button. Mute will be output from Port 2.
Solo	This is displayed in the pop-up list when you press the [PART SELECT MUTE/SOLO] button. Solo will be output from Port 2.
Rec	This is displayed in the pop-up list when you press the [PART SELECT MUTE/SOLO] button. Rec Enable will be output from Port 2.

Track Group	This is displayed in the pop-up list when you press the [PART SELECT MUTE/SOLO] button. Track Group Select will be output (by track) from Port 2.
-------------	---

Plugin: Mode for detailed control of a specific plug-in in DAW software.

Knob, Slider, SCENE button, Other controllers	CC numbers assigned in Remote Mode will be output.
---	--

Transport: This mode is for performing on the MODX while playing back DAW software, and recording your keyboard performance on the MODX to DAW software. Using the Transport panel controls, you can control playback, stop, etc. on the DAW software. Operations other than the Transport panel controls will be the same as normal.

Local

Determines whether Local Control is set to on or off. This can also be set from the MIDI I/O display in Utility.

Use for Remote

Determines whether to use the Dial and the Cursor buttons on the MODX panel for controlling DAW software or not.

- On: Use for DAW operation.
- Off: Use for MODX display operation.

Track

Track Group Select will be output (by eight tracks) from Port 2.

Edit

Determines the control number of CC output from Port 1, and the operation mode of the controllers.

[MS ON/OFF] button

Track Group Select will be output (normally by eight tracks, by track when pressing [SHIFT]) from Port 2.

[ARP ON/OFF] button

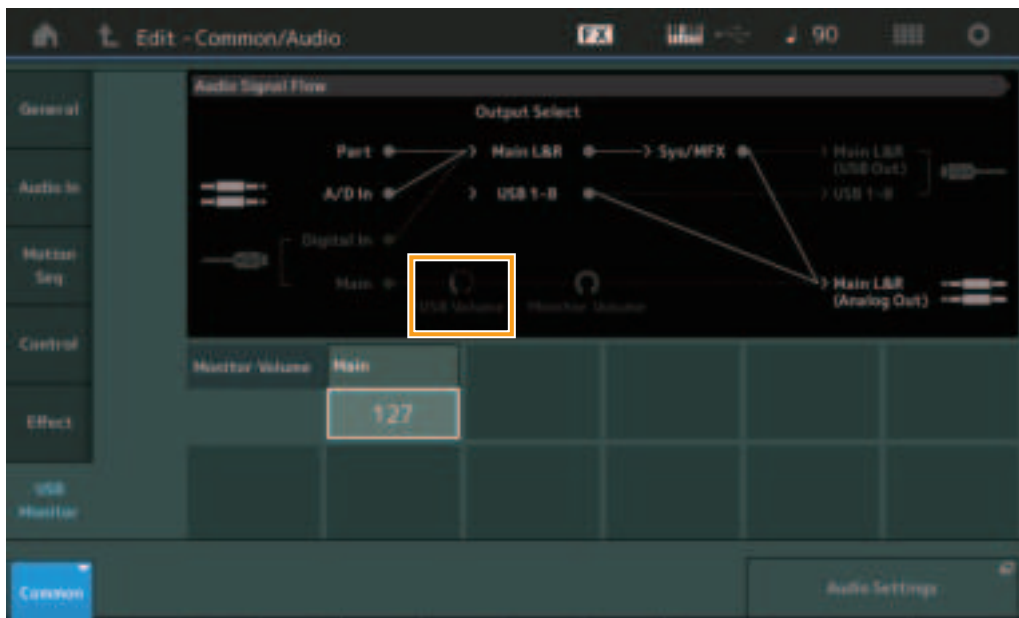
Track Group Select will be output (normally by eight tracks, by track when pressing [SHIFT]) from Port 2.

Improved Controllability

■ Signal Flow shortcuts

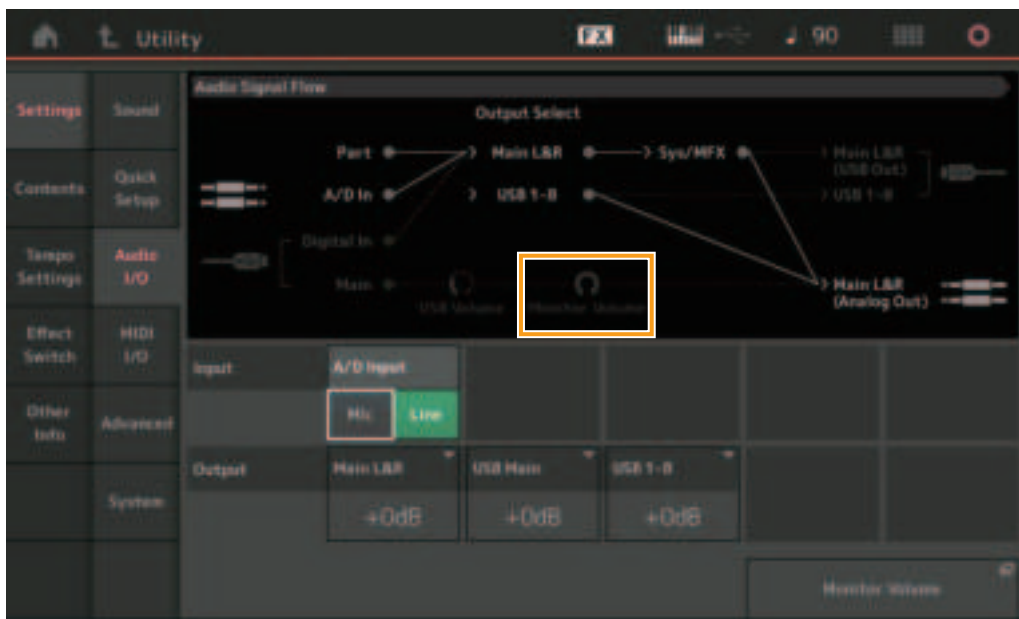
You can now call up the Audio I/O display by tapping near USB Volume in the Audio Signal Flow. The cursor jumps automatically to USB Volume on the Audio I/O display.

Operation [PERFORMANCE] → [EDIT] → [COMMON] → [USB Monitor]



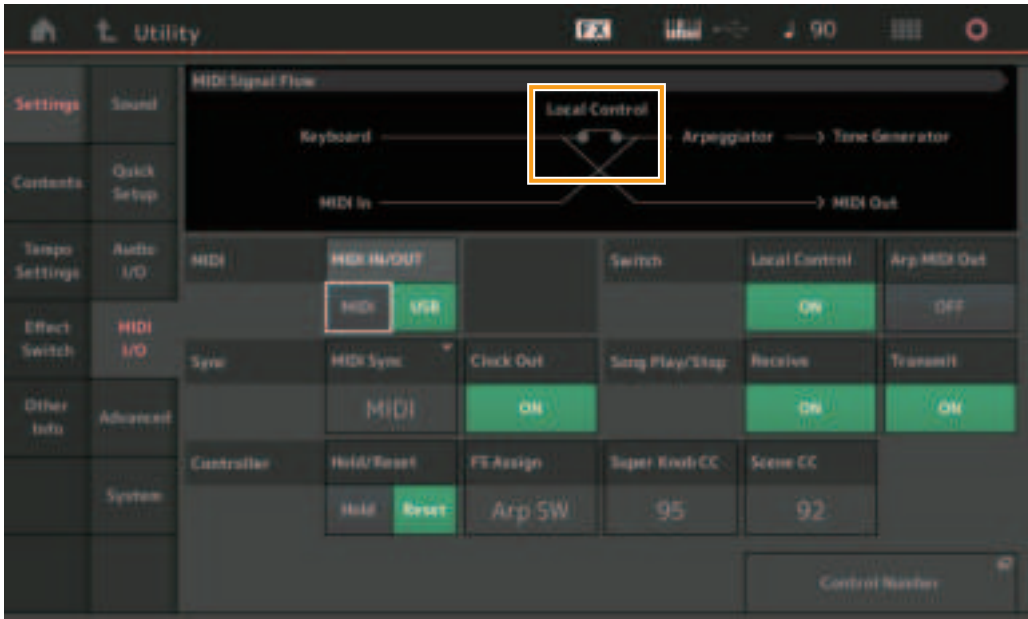
You can now call up the USB Monitor display by tapping near Monitor Volume in the Audio Signal Flow. The cursor jumps automatically to Main on the USB Monitor display.

Operation [Utility] → [Settings] → [Audio I/O]



You can now turn Local Control on and off by tapping near the Local Control switch in the MIDI Signal Flow.

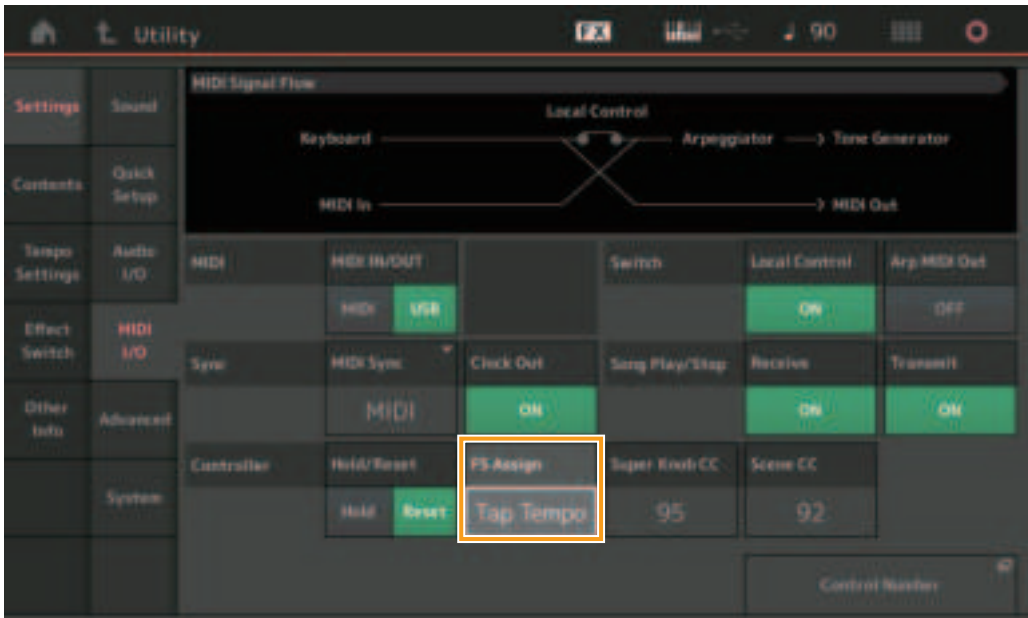
Operation [Utility] → [Settings] → [MIDI I/O]



■ Using the footswitch to set the Tempo

Tap Tempo was added to the Footswitch Assign Control Number setting, allowing you to conveniently set the tempo by using the footswitch.

Operation [Utility] → [Settings] → [MIDI I/O]



FS Assign (Footswitch Assign Control Number)

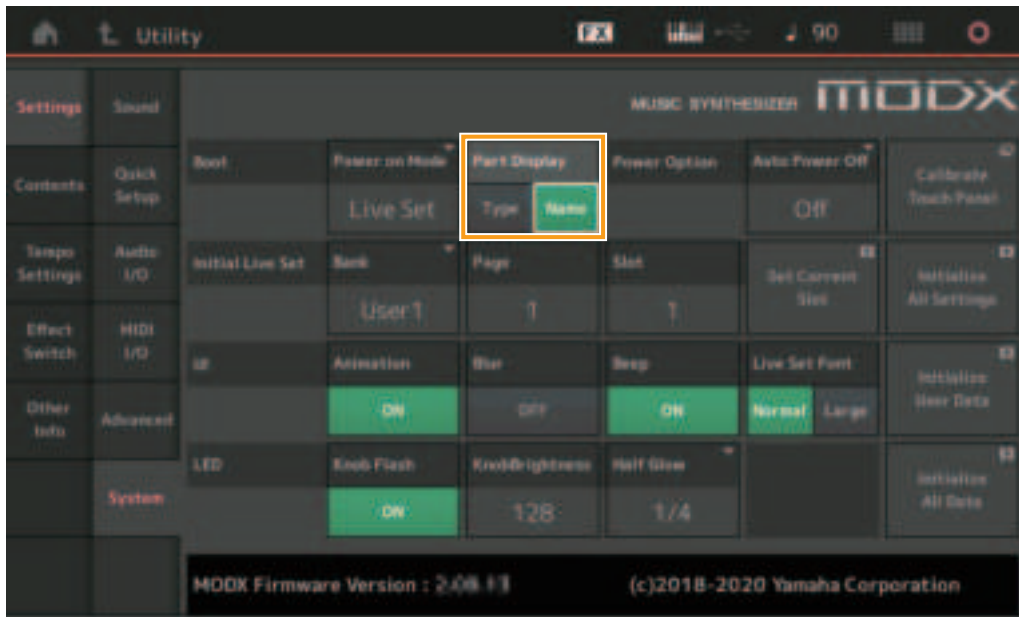
This sets the Control Change Number used by a foot switch connected to the FOOT SWITCH [ASSIGNABLE] jack. Even when the instrument receives MIDI messages with the same Control Change Number specified here from external MIDI equipment, the MODX assumes that the message was generated by using the footswitch.

Settings: Off, 1 – 95, Arp SW, MS SW, Play/Stop, Live Set+, Live Set-, Oct Reset, Tap Tempo

■ Setting for Part Name display after startup

You can now set the display status of the Type and Name switches that are shown after the MODX is started up.

Operation [Utility] → [Settings] → [System]



Part Display

Determines what is automatically shown in the Part Display when the MODX is started up: Category and Part Types (Type) or Part names (Name).

Settings: Type, Name

■ Specification changes for Note Limit when a WAVE file or AIFF file is loaded with Key assignment

Specifications have been changed so that the initial value for the note limit range is C-2 to G8 when a WAVE file or AIFF file is loaded with Drum Part Key or AWM2 Part Element set to Key.

■ MODX Connect supports Patterns

MODX Connect can now handle Patterns. For details, refer to the MODX Connect Owner's Manual.

Other

■ Improved Pitch Bend Resolution

The Pitch Bend Resolution has been improved so that you can now control the pitch in even greater detail.

New Functions in MODX Version 2.00

Yamaha has upgraded the MODX firmware, adding the following new functions.

This manual describes additions and changes with respect to the Reference Manual that came with your instrument.

- New effect types have been added.
- New Performances have been added.
- The Pattern Sequencer function has been added.
- You can now play songs, patterns and audio files from the Live Set display.
- Super Knob Link has been added to the data that is recorded in the Scene function.
- Keyboard Control has been added to the data that is recorded in the Scene function.
- Increased the range of the LFO Speed parameter.
- You can now connect MIDI equipment via the USB TO DEVICE terminal.
- The Global Micro Tuning settings have been added.
- The Audition Loop setting has been added.
- Improvements have been made to the user interface.
- The sequencer storage capacity (total User Memory) has been increased from about 130,000 to about 520,000 (for Songs) and about 520,000 (for Patterns).

Additional New Effect types

The following new Effect types have been added in the Misc Category.

Effect type	Description	Parameter	Description
VCM Mini Filter	Makes the sound “fatter” and tighter. This effect emulates the characteristics of analog synthesizers.	Cutoff	Determines the Cutoff Frequency of the Filter.
		Resonance	Determines the Resonance of the filter.
		Type	Determines the type of the filter.
		Texture	Adds various changes to the texture of the sound effect.
		Input Level	Determines the input level of the signal.
		Dry/Wet	Determines the balance of the dry sound and the effect sound.
		Output Level	Determines the level of the signal output from the effect block.

Effect type	Description	Parameter	Description
VCM Mini Booster	Creates a unique sonic texture. This effect emulates the characteristics of analog synthesizers.	EQ Frequency	Determines the Frequency of the EQ.
		Resonance	Determines the Resonance of the EQ.
		EQ Gain	Determines the level gain of the EQ.
		Type	Determines the type of the booster effect.
		Texture	Adds various changes to the texture of the sound effect.
		Input Level	Determines the input level of the signal.
		Output Level	Determines the level of the signal output from the effect block.

Effect type	Description	Parameter	Description
Wave Folder	Makes various changes to the sound over time by varying and controlling the harmonic content.	Fold	Determines the degree of the distortion effect.
		Fold Type	Determines the sonic texture of the distortion.
		LFO Depth	Determines the depth of the modulation.
		LFO Speed	Determines the frequency of the modulation.
		LFO Shape	Alters the wave shape for modulation.
		Input Level	Determines the input level of the signal.
		Dry/Wet	Determines the balance of the dry sound and the effect sound.
		Output Level	Determines the level of the signal output from the effect block.
		SEQ Depth	Determines the depth of the built-in sequencer in the effect.
		SEQ Clock	Determines the speed of the built-in sequencer in the effect.
		SEQ Pattern	Selects the pattern of the built-in sequencer in the effect.
		SEQ Variation	Changes the motion of the built-in sequencer in the effect.
		SEQ Ph Reset	Sets the mode for resetting the pattern of the built-in sequencer in the effect.

Additional New Performances

The MODX offers 52 new Performances.
For information on the added Performances, refer to the Data List.

New Pattern Sequencer function

This new function lets you record pattern sequences to each Scene.

Play/Rec

Pattern

■ Playback/Waiting for Playback

Operation [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern]



Pattern Name

Indicates the selected pattern name. Touching the parameter calls up the menu to Load, Rename and create a New Pattern.

Link icon

Indicates that the Pattern data and Performance data contained in the Pattern data match.

When the Pattern data and Performance data contained in the Pattern data do not match, a broken Link icon is shown.

Performance Name

Indicates the selected performance name.

NOTE When you change the parameters in Performance, a blue flag indication appears at the right side of the Performance Name.

Time Signature

Indicates the meter of the Pattern.

Position

Determines the starting position of Recording/Playback. The indicator also shows the current position during playback. The measure number is in the left cell and the beat number and clock value are in the right cell.

Tempo

Determines the tempo to playback the Pattern.

Range: 5 – 300

Click Settings

Opens the Tempo Settings display.

Scene

Indicates the selected scene number.

Length

Determines the length of the entire sequence in the selected Scene.

Range: 1 – 256

Key On Start

Determines whether or not recording or playback of the Pattern starts when you play the keyboard.

Settings: Off, On

Store Pattern & Perf Settings

Stores the edited pattern data and the link to the selected Performance.

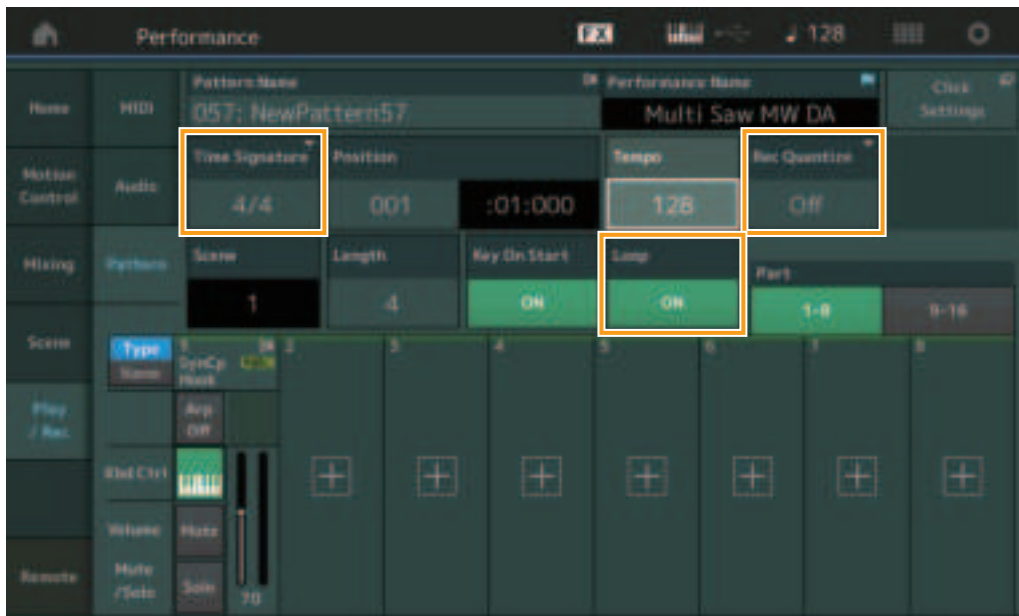
NOTE After you've edited parameters in the Performance, you will need to Store the Performance data.

Edit/Job

Opens the display for editing the pattern and related jobs.

■ Waiting for New Recording

Operation [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [●] (Record) button



Time Signature

Determines the meter/time signature of the Scene.

Settings: 1/16 – 16/16, 1/8 – 16/8, 1/4 – 8/4

Rec Quantize

Quantization is the process of adjusting the timing of note events by moving them closer to the nearest exact beat. You can use this feature, for example, to improve the timing of a performance recorded in real time. Record quantize aligns the timing of notes automatically, as you record.

Settings: Off, 60 (32nd note), 80 (16th note triplet), 120 (16th note), 160 (8th note triplet), 240 (8th note), 320 (1/4 note triplet), 480 (1/4 note)

Loop

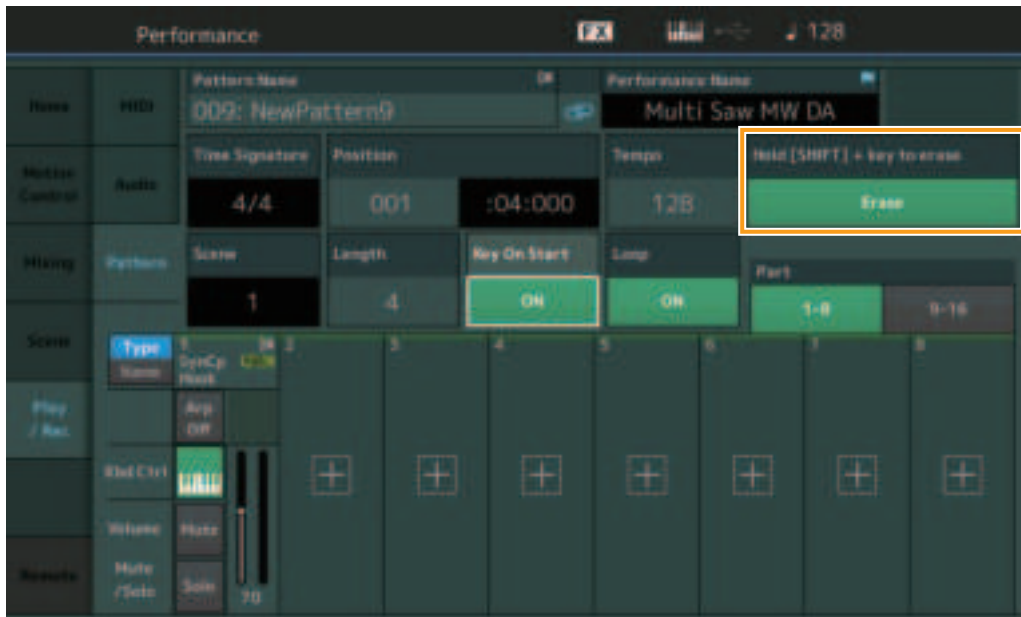
When Loop is set to On, recording does not stop at the end of the Pattern, but continues in a “loop” by returning to the top of the pattern.

Settings: Off, On

NOTE To temporarily disengage the record mode and enter the Rehearsal mode, simply press the [●] (Record) button during realtime recording. The [●] (Record) indicator flashes and playback will continue uninterrupted, but no data will be recorded. This convenient Rehearsal mode feature lets you easily and temporarily disable recording in order to practice a Part or try out various ideas (while listening to the other tracks) without actually recording. To return to the record mode press the [●] (Record) button again so that the [●] (Record) indicator lights continuously.

■ Recording

Operation [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [●] (Record) button → [▶] (Play) button



Hold [SHIFT] + key to erase

You can delete specific note events by pressing the [SHIFT] button and playing the keys corresponding to the notes you want to delete.

■ Re-recording

Operation [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → (indicated Pattern has been recorded already) → [●] (Record) button → [▶] (Play) button



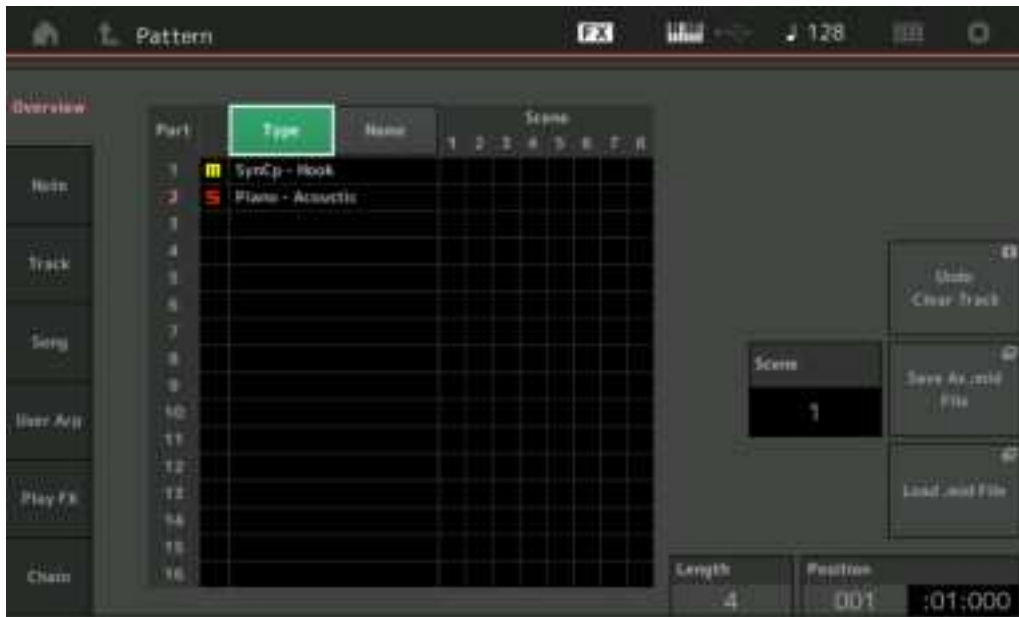
Record Type

Determines whether a pattern will be replaced or overdubbed when recording.

Settings: Replace, Overdub

Overview

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job]



Type

Touching this button changes the Part's displayed text to Main Category and Sub Category. This button is synchronized with the corresponding button on the Play/Rec display. Changing one changes the other.

Name

Touching this button changes the Part's displayed text to Part Name. This button is synchronized with the corresponding button on the Play/Rec display. Changing one changes the other.

Scene

Indicates the selected scene number.

Undo

Cancels the most recently made changes and restores to the state prior to the last changes. This job is available only when a recorded sequence already exists and you have performed some job on the sequence data.

Redo

Restores the changes performed by Undo. Redo is available only after using Undo.

Save As .mid File

Opens the Store/Save display. You can save the selected Scene's sequence as a MIDI file.

Load .mid File

Opens the Load display for loading MIDI files. You can select the Pattern and Scene to load after you have selected a MIDI file.

Length

Indicates the length of the entire sequence in the selected Scene.

Position

Shows the current position during Scene playback, and lets you set the starting position of playback.

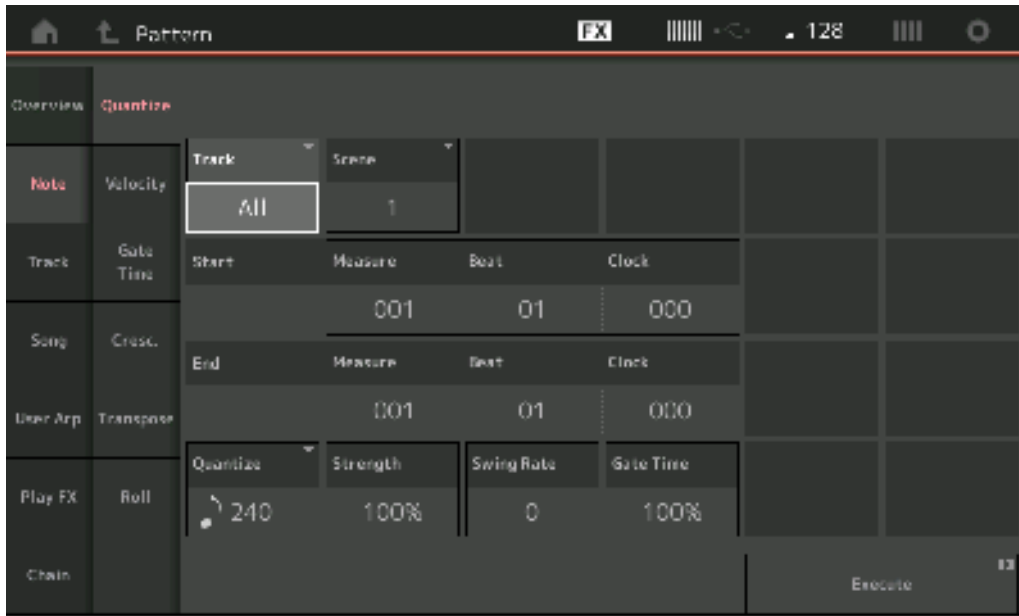
Range: 001 – 256

Note

Quantize

Quantization is the process of adjusting the timing of note events by moving them closer to the nearest exact beat. You can use this feature, for example, to improve the timing of a performance recorded in real time.

Operation [▶](Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Note] → [Quantize]



Track

Determines the track to which the Job is applied.

Scene

Determines the scene to which the Job is applied.

Start Measure

Determines the starting measure position at which the Job is applied.

Range: 001 – 257

Start Beat

Determines the starting beat position at which the Job is applied.

Settings: Depends on selected Time Signature

Start Clock

Determines the starting Clock position at which the Job is applied.

Settings: Depends on selected Time Signature

End Measure

Determines the ending measure position at which the Job is applied.

Range: 001 – 257

End Beat

Determines the ending beat position at which the Job is applied.

Settings: Depends on selected Time Signature

End Clock

Determines the ending Clock position at which the Job is applied.

Settings: Depends on selected Time Signature

Quantize (Resolution)

Determines to what beats the note data in the specified track will be aligned.

Settings: 32nd note, 16th note triplet, 16th note, 8th note triplet, 8th note, 1/4 note triplet, 1/4 note, 16th note + 16th note triplet, 8th note + 8th note triplet

Strength

Sets the degree or “magnetic strength” to which Quantize is applied. A setting of 100% produces exact timing. A setting of 0% results in no quantization.

Range: 0% – 100%

Swing Rate

This selectively delays the notes on even-numbered beats (backbeats) to produce a swing feel. For example, if the meter is 4/4 and the Quantize value is quarter notes, the 2nd and 4th beats of the measure will be delayed.

Settings: Depends on specified Quantize value

If the Quantize value is 1/4 note, 8th note, 16th note, 32nd note: 0 – half of the triplet grid

If the Quantize value is 1/4 note triplet, 8th note triplet, 16th note triplet: 0 – half of the triplet grid

If the Quantize value is 8th note + 8th note triplet, 16th note + 16th note triplet: 0 – half of the triplet grid

Gate Time

Determines the gate time (the length of time a note sounds) of the even-numbered backbeat notes for enhancing the swing feel.

Range: 0% – 200%

Execute

Executes the Job on the MIDI sequence data.

Velocity

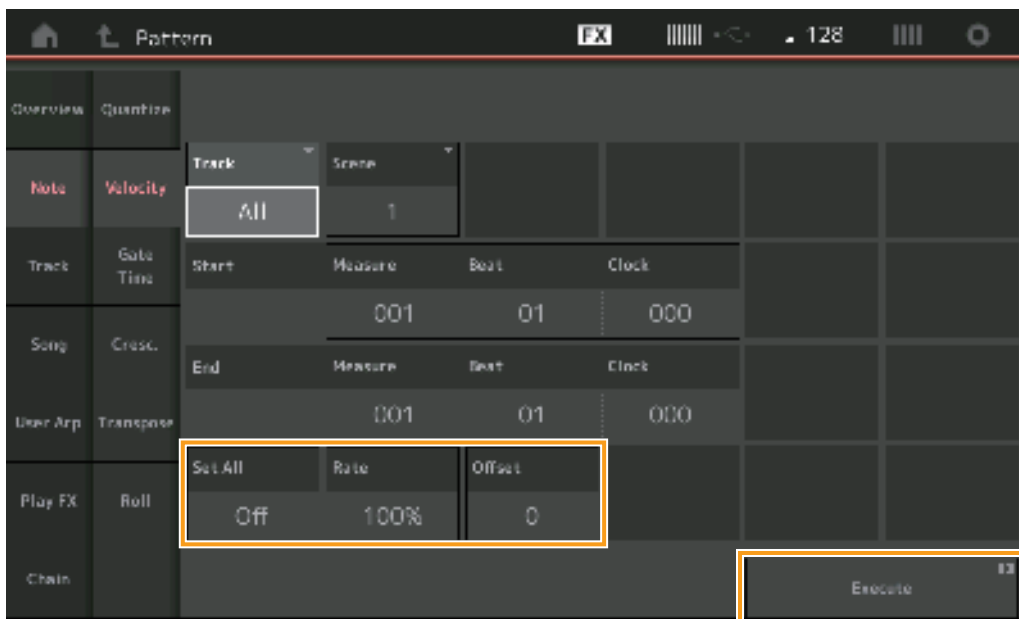
This Job alters the velocity values of a specified range of notes, letting you selectively boost or cut the volume of those notes.

NOTE Velocity changes are calculated as follows

Adjusted Velocity = (Original Velocity x Rate) + Offset

If the result is 0 or less, the value is set to 1. If the result is higher than 127, the value is set to 127.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Note] → [Velocity]



Set All

Sets the velocities of all target notes to the same fixed value. When set to “Off,” the Set All parameter has no effect. When set to a value other than “Off,” the Rate and Offset parameters are unavailable.

Range: Off, 001 – 127

Rate

Determines the percentage by which the target notes will be shifted from their original velocities. Range below 100% reduce the velocities, and Range above 100% increase the velocities proportionately. When the Set All parameter is set to something other than “Off,” this parameter cannot be changed.

Range: 0% – 200%

Offset

Adds a fixed value to the Rate-adjusted velocity values. A setting of 0 produces no change. Range below 0 reduce the velocities, and Range above 0 increase the velocities. When the Set All parameter is set to something other than “Off,” this parameter cannot be changed.

Range: -127 – +127

Execute

Executes the Job to the MIDI sequence data.

Gate Time

This Job alters the gate times of a specified range of notes.

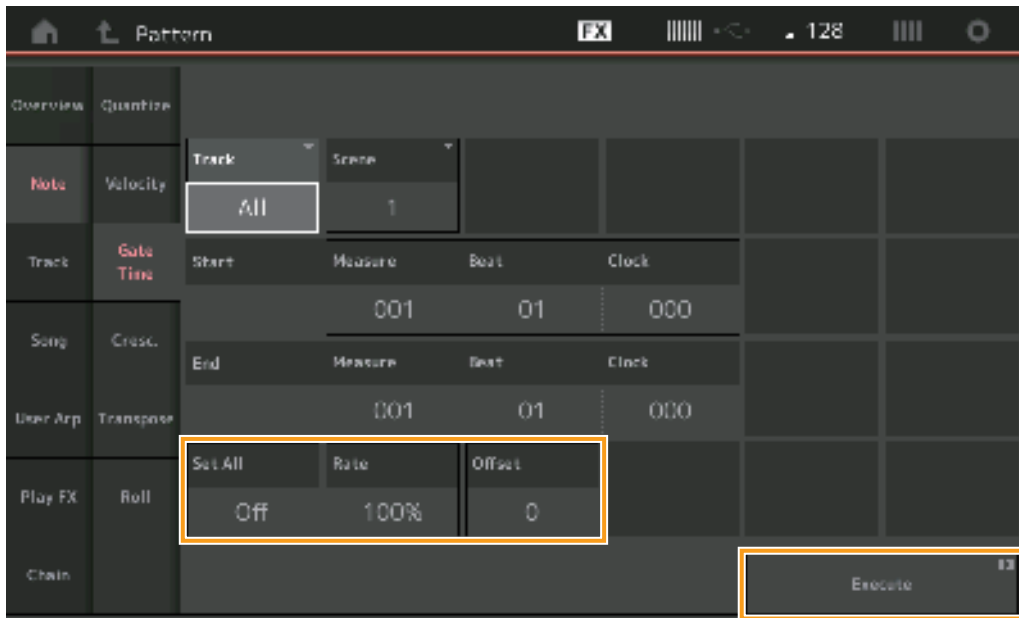
NOTE Gate time changes are calculated as follows:

$$\text{Adjusted Gate Time} = (\text{Original Gate Time} \times \text{Rate}) + \text{Offset}$$

If the result is 0 or less, the value is rounded off to 1.

Operation

[▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Note] → [Gate Time]



Set All

Sets the gate times of all target notes to the same fixed value. When set to “Off,” the Set All parameter has no effect. When set to a value other than “Off,” the Rate and Offset parameters are unavailable.

Range: Off (0), 001 – 9999

Rate

Determines the percentage by which the gate time of the target notes will be changed. Range below 100% shorten the notes, and Range above 100% lengthen the notes proportionately. When the Set All parameter is set to something other than “Off,” this parameter cannot be changed.

Range: 0% – 200%

Offset

Adds a fixed value to the Rate-adjusted gate time values. A setting of 0 produces no change. Range below 0 shorten the gate time, and Range above 0 lengthen the gate time. When the Set All parameter is set to something other than “Off,” this parameter cannot be changed.

Range: -9999 – +9999

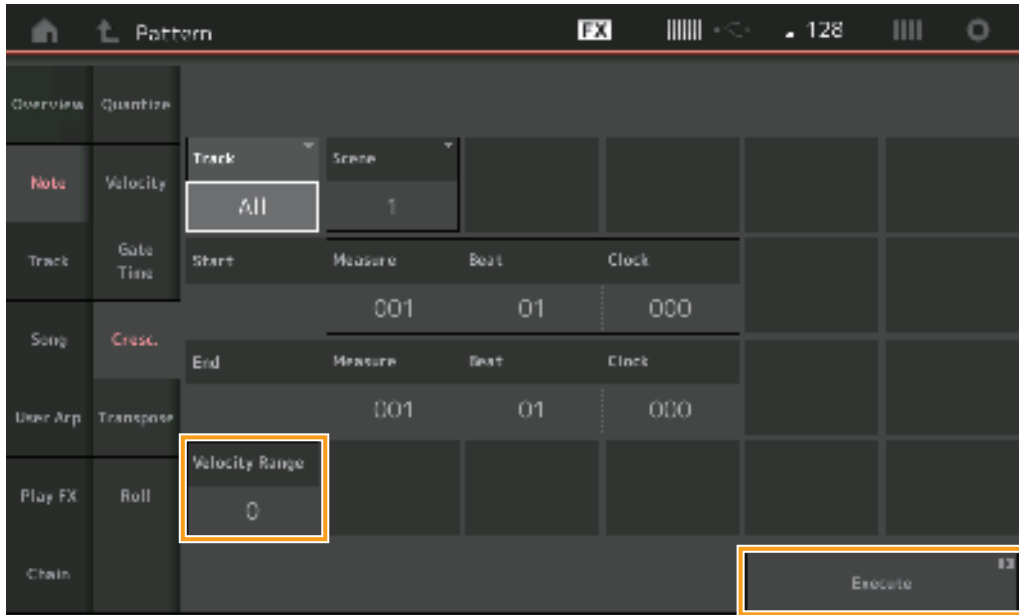
Execute

Executes the Job to the MIDI sequence data.

Cresc. (Crescendo)

This Job lets you create a crescendo or decrescendo over a specified range of notes. (Crescendo is a gradual increase in volume, and decrescendo is a gradual decrease.)

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Note] → [Cresc.]



Velocity Range

Determines the intensity of the crescendo or decrescendo. The velocity values of the notes in the specified range are gradually increased or decreased starting at the first note in the range. The velocity of the last note in the range becomes the original velocity of the note plus the Velocity Range value. If the resultant velocity is outside the 1 – 127 range, it is set to 1 or 127 accordingly. Range greater than 0 produce a crescendo, and Range less than 0 produce a decrescendo. A setting of 0 produces no effect.

Range: -127 – +127

Execute

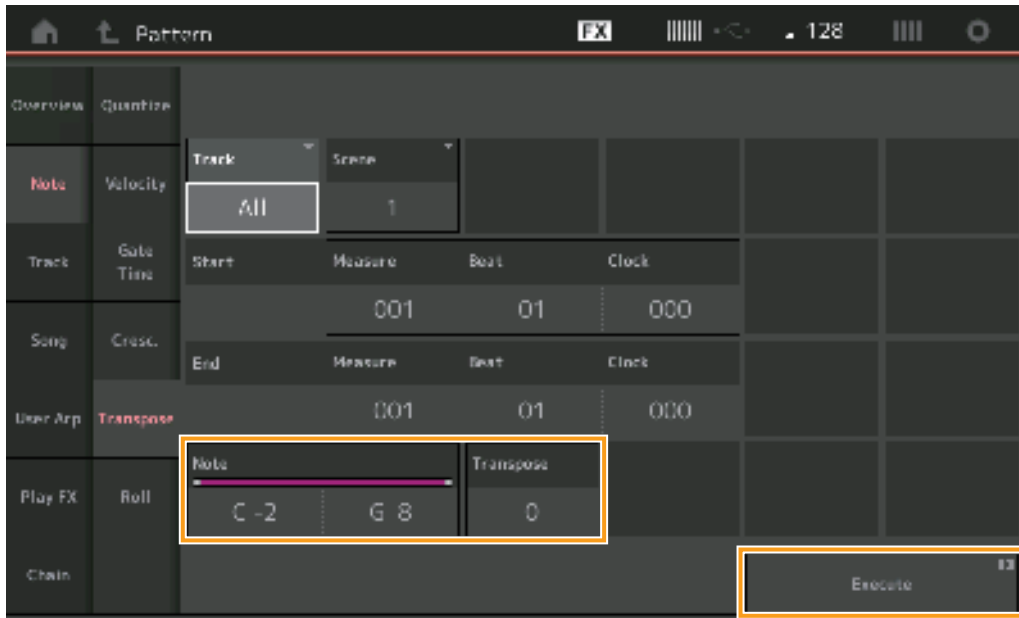
Executes the Job to the MIDI sequence data.

Transpose

This Job lets you change the key or pitch of the notes in the specified range.

NOTE When you execute this Job and change notes outside the allowed range of C-2 – G8, the notes are automatically set to the octave below (or above).

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Note] → [Transpose]



Note

Determines the range of notes over which the Job is applied. You can set the Note directly from the Keyboard by touching the [Keyboard] button.

Range: C -2 – G8

Transpose

Transposes notes in the specified range (in semitones). A setting of +12 transposes up one octave, while a setting of -12 transposes down an octave. A setting of 0 produces no change.

Range: -127 – +127

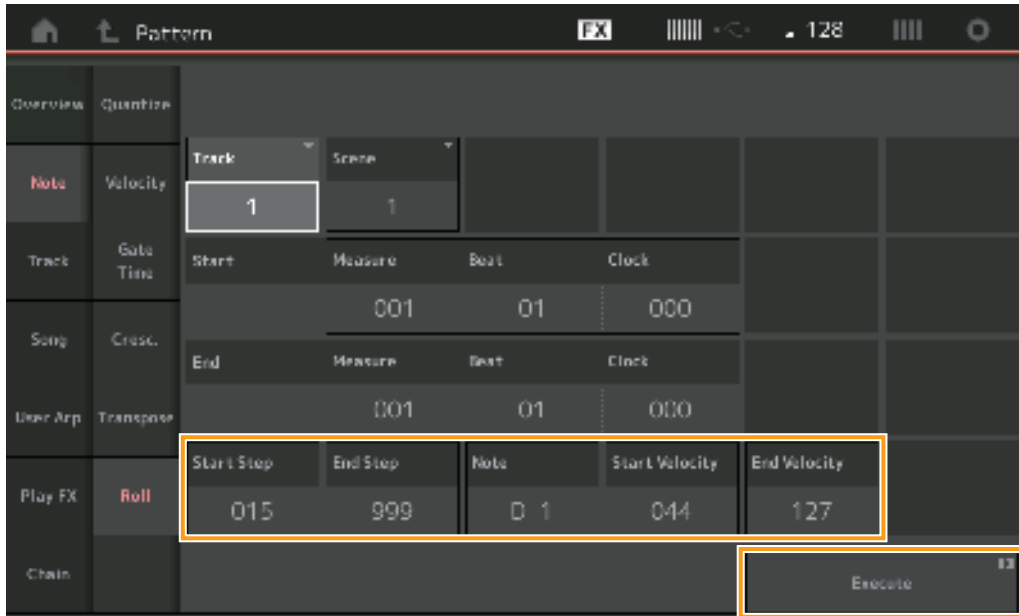
Execute

Executes the Job on the MIDI sequence data.

Roll

This Job creates a series of repeated notes (like a drum roll) over the specified range.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Note] → [Roll]



Start Step

Determines the size of the step (i.e., the number of clocks) between each note in the roll. You can create subdivided rolls by setting small values between Start Step and End Step. This corresponds to the first clock value in the range that you specified.

Range: 015 – 999

End Step

Determines the size of the step (i.e. the number of clocks) between each note in the roll. You can create subdivided rolls by setting small values between Start Step and End Step. This corresponds to the last clock value in the range that you specified.

Range: 015 – 999

Note

Determines the notes for which the Job is applied. You can set the Note directly from the Keyboard by touching the [Keyboard] button.

Range: C -2 – G8

Start Velocity

Determines the velocity of the notes in the roll. This is the first Velocity value in the range that you specified.

Range: 001 – 127

End Velocity

Determines the velocity of the notes in the roll. This is the last Velocity value in the range that you specified.

Settings: 001 – 127

NOTE Determining the Start Velocity and End Velocity lets you create rolls that gradually increase or decrease in volume (crescendo/decrescendo).

Execute

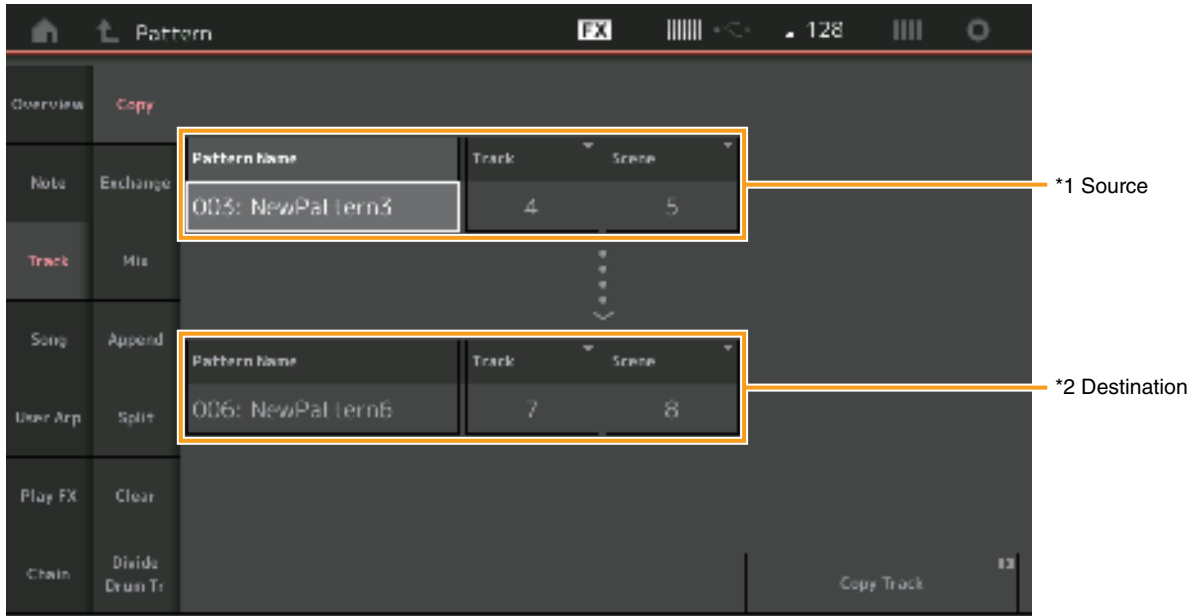
Executes the Job on the MIDI sequence data.

Track

Copy

This Job copies all data from a specified source track to the specified destination track.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Copy]



Pattern Name *1 Source

Determines the source Pattern.

Track *1 Source

Determines the source Track.

Scene *1 Source

Determines the source Scene.

Pattern Name *2 Destination

Determines the destination Pattern.

Track *2 Destination

Determines the destination Track.

Scene *2 Destination

Determines the destination Scene.

Copy Track

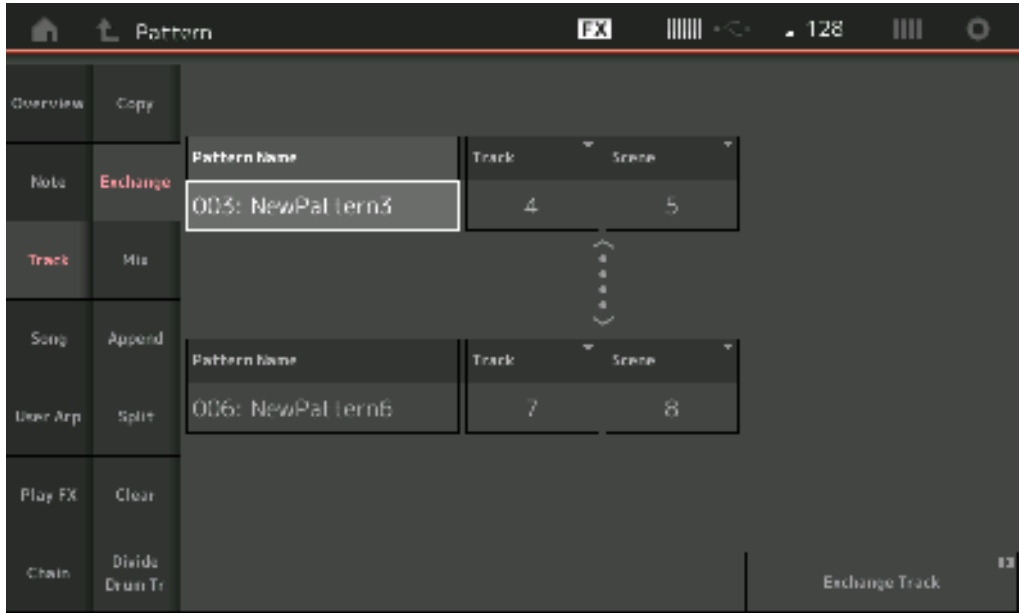
Executes the Copy Job.

NOTE When you execute Copy Track with Track set to All and Scene set to All, Chain data ([page 49](#)) is copied automatically.

Exchange

This Job swaps all data from specified track to another.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Exchange]



Pattern Name

Determines one of the Patterns for data exchange.

Track

Determines the Track to exchange.

Scene

Determines the Scene to exchange.

Pattern Name

Determines the other Pattern for data exchange.

Track

Determines the Track to exchange.

Scene

Determines the Scene to exchange.

Exchange Track

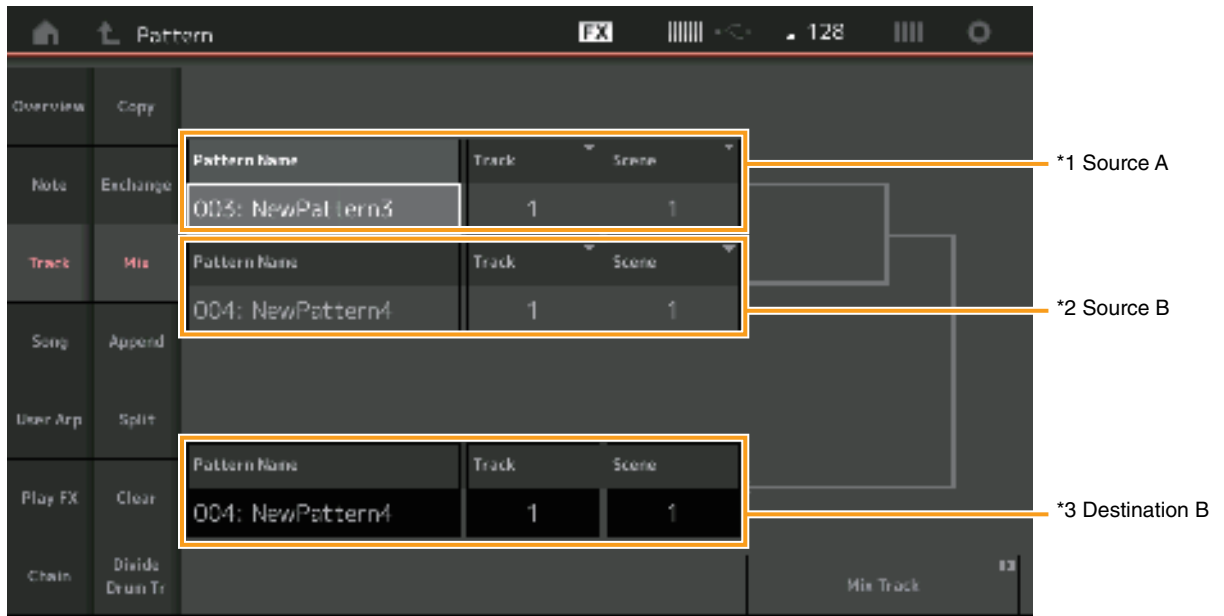
Executes the exchange job.

NOTE When you execute Exchange Track with Track set to All and Scene set to All, Chain data ([page 49](#)) is copied automatically.

Mix

This Job mixes all data from two selected tracks (“A” and “B”), and places the result in track B.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Mix]



Pattern Name *1 Source A

Determines the source for Pattern A.

Track *1 Source A

Determines the Track to mix.

Scene *1 Source A

Determines the Scene to mix.

Pattern Name *2 Source B

Determines the source for Pattern B.

Track *2 Source B

Determines the Track to mix.

Scene *2 Source B

Determines the Scene to mix.

Pattern Name *3 Destination B

Indicates the destination Pattern.

Track *3 Destination B

Indicates the destination Track.

Scene *3 Destination B

Indicates the destination Scene.

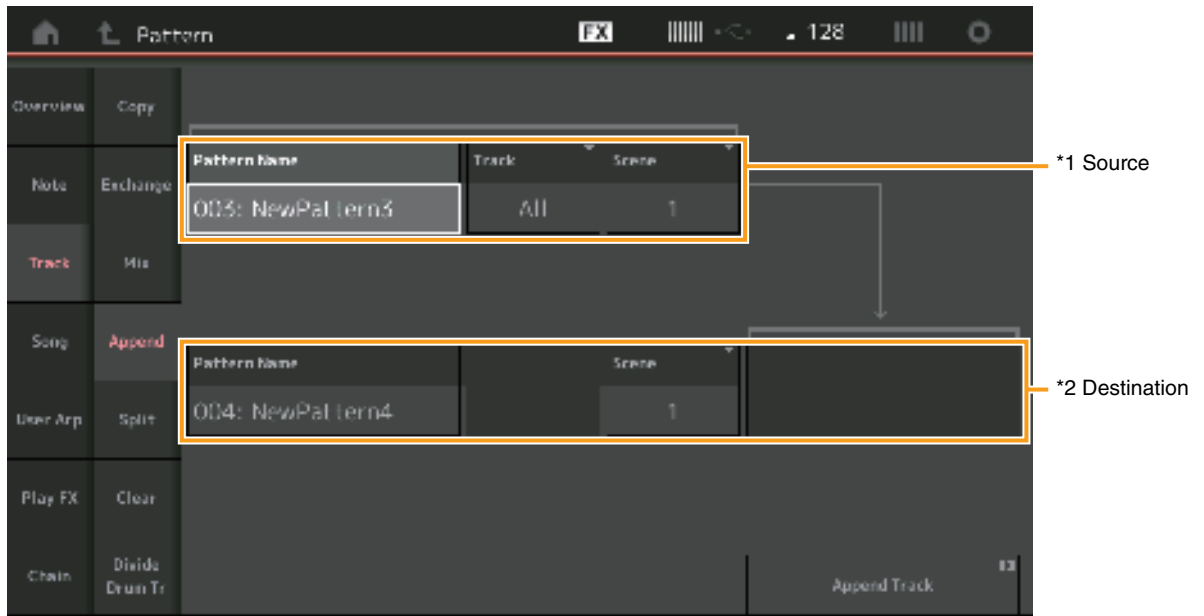
Mix Track

Executes the mix job.

Append

This Job adds all data from a specified source track to the end of a specified destination track.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Append]



Pattern Name *1 Source

Determines the source Pattern.

Track *1 Source

Determines the source Track.

Scene *1 Source

Determines the source Scene.

Pattern Name *2 Destination

Determines the destination Pattern.

Track *2 Destination

Determines the destination Track.

Scene *2 Destination

Determines the destination Scene.

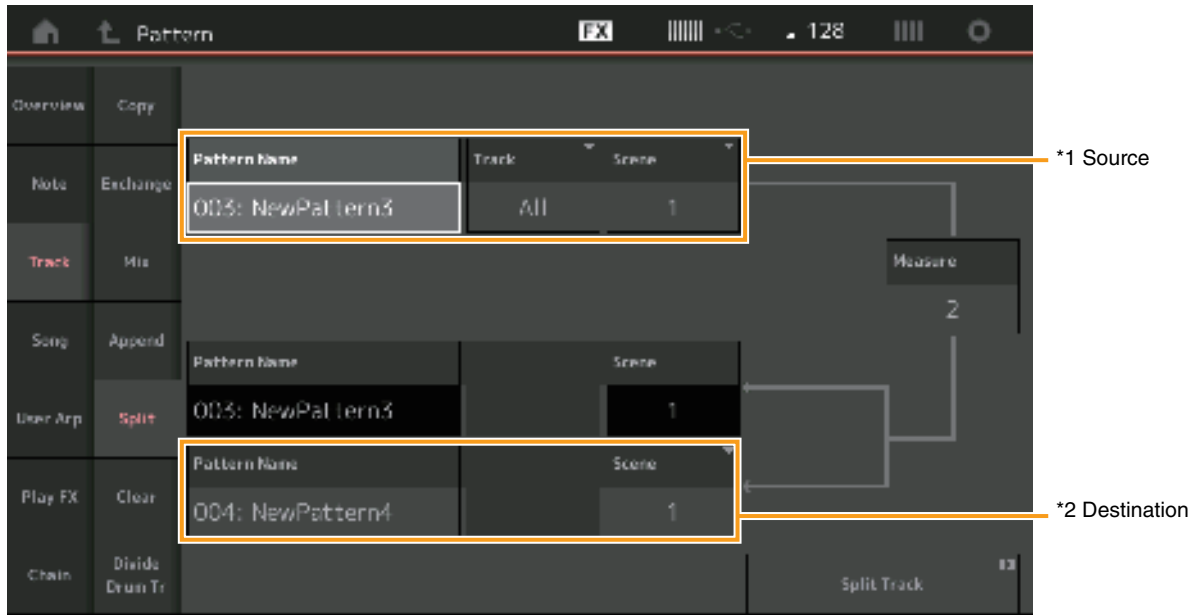
Append Track

Executes the append job.

Split

This Job moves the latter half of data divided at a specified measure from a specified source track to the specified destination track.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Split]



Pattern Name *1 Source

Determines the source Pattern.

Track *1 Source

Determines the source Track.

Scene *1 Source

Determines the source Scene.

Measure *1 Source

Determines the measure at which the data is divided.

Pattern Name

Indicates the destination Pattern.

Track

Indicates the destination Track.

Scene

Indicates the destination Scene.

Pattern Name *2 Destination

Determines the destination Pattern.

Track *2 Destination

Determines the destination Track.

Scene *2 Destination

Determines the destination Scene.

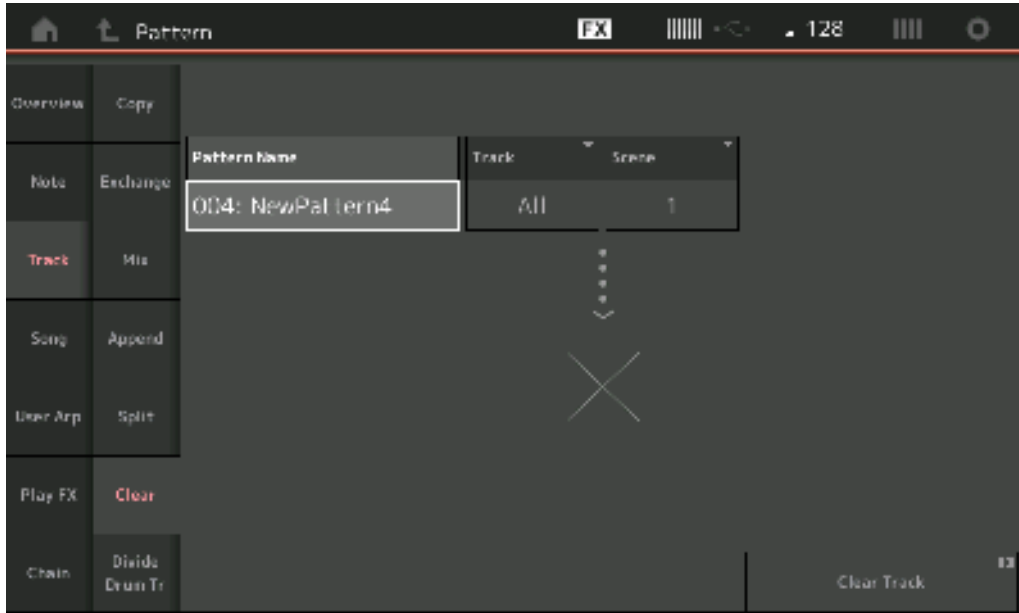
Spilt Track

Executes the split job.

Clear

This Job clears all data from a specified track.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Clear]



Pattern Name

Determines the Pattern to clear.

Track

Determines the Track to clear.

Scene

Determines the Scene to clear.

Clear Track

Executes the Clear job.

NOTE When you execute Clear Track with Track set to All and Scene set to All, Chain data ([page 49](#)) is deleted too.

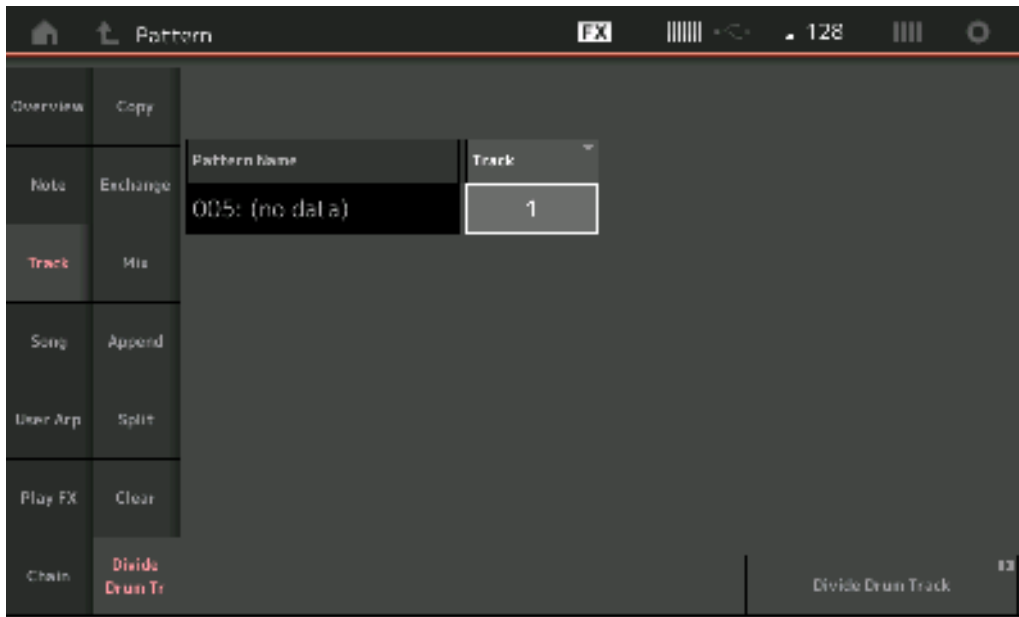
Divide Drum Tr (Divide Drum Track)

This Job allows you to separate drum note data from a specified track.

This separates the note events in a drum track assigned to a specified track, and places the notes corresponding to different drum instruments in separate tracks (Tracks 9 – 16).

NOTE The data previously existing on Tracks 9 – 16 and Parts 9 – 16 are replaced when you execute Divide Drum Tr. You cannot Undo this edit.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Track] → [Divide Drum Tr]



Pattern Name

Determines the Pattern containing the drum track to be divided.

Track

Determines the Track for which the drum note data will be separated.

Divide Drum Track

Executes the Divide Job.

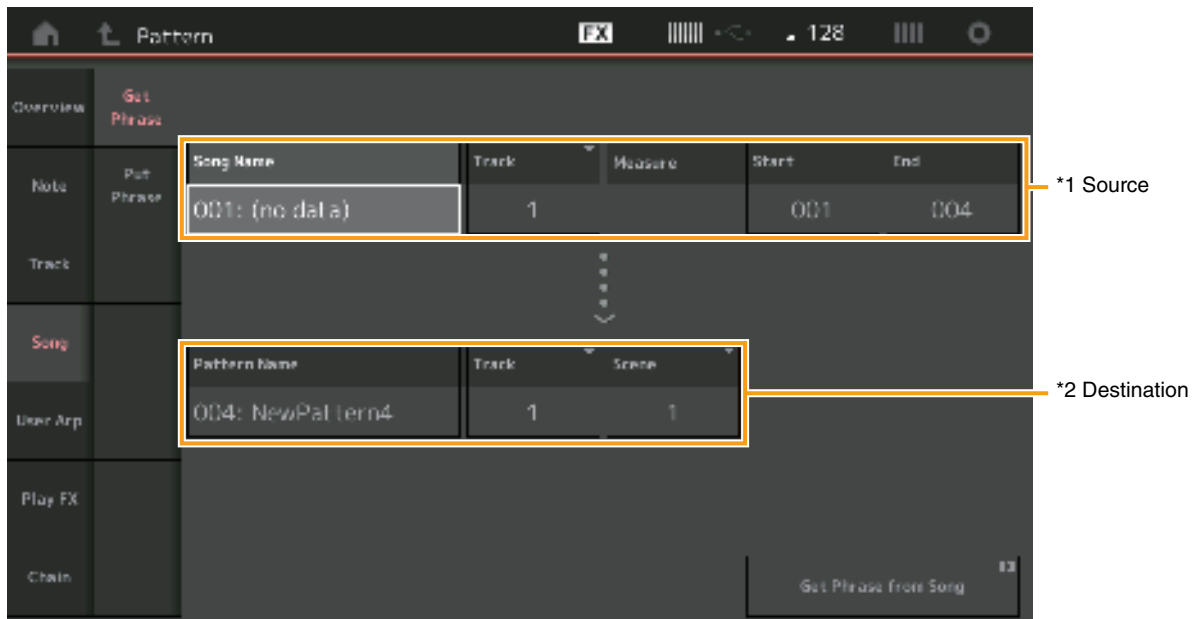
Song

Get Phrase

This Job copies specified data from a specified source Song to a specified destination track.

NOTE The data previously existing on the specified destination track is replaced when you execute Get Phrase.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Song] → [Get Phrase]



Song Name

Determines the source Song.

Track *1 Source

Determines the source track.

Start Measure

Determines the starting measure position at which the Job is applied.

Range: 001 – 998

End Measure

Determines the ending measure position at which the Job is applied.

Range: 002 – 999

Pattern Name

Determines the destination Pattern.

Track *2 Destination

Determines the destination Track.

Scene

Determines the destination Scene.

Get Phrase from Song

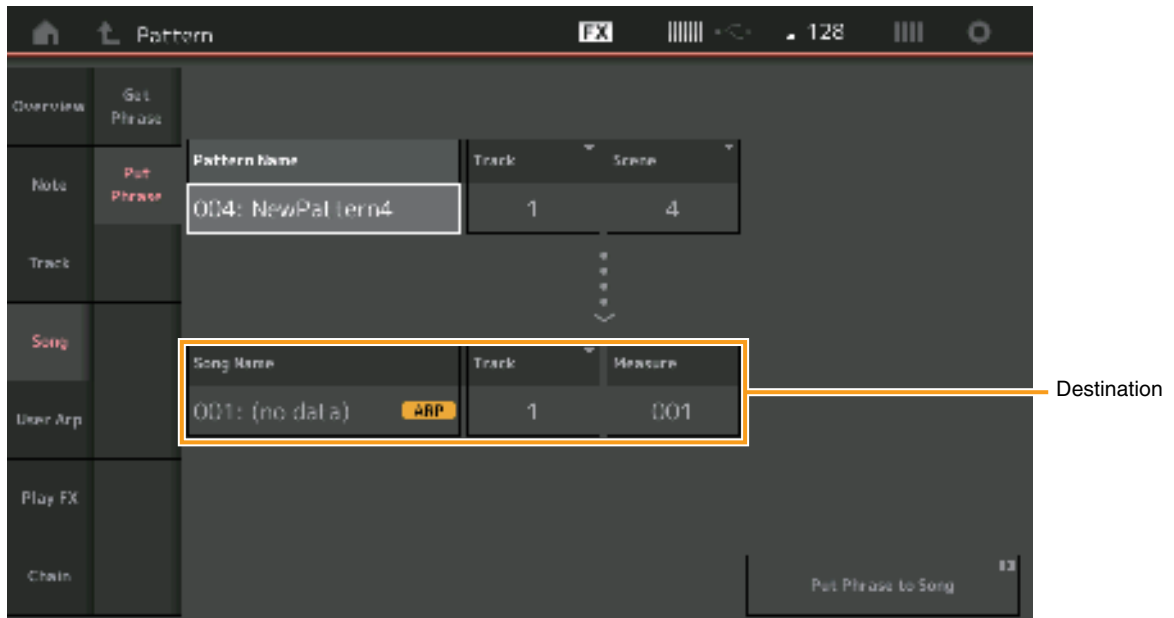
Executes the copy job.

Put Phrase

This Job copies all data from a specified source Pattern to a specified measure on the destination Song.

NOTE The specified source Pattern is merged into previously existing data on the specified destination Song when you execute Put Phrase.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Song] → [Put Phrase]



Pattern Name

Determines the source Pattern.

Track

Determines the source track.

Scene

Determines the source Scene.

Song Name

Determines the destination Pattern.

Track *Destination

Determines the destination track.

Measure

Determines the measure position at which the Job is applied.

Range: 001 – 999

Put Phrase to Song

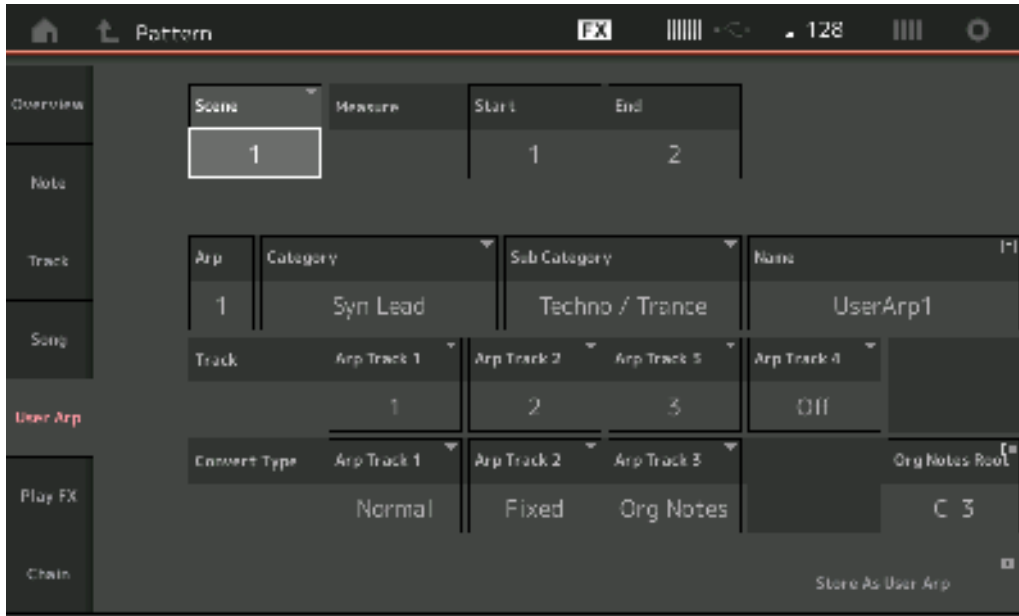
Executes the Copy Job.

User Arp (User Arpeggio)

This Job copies data in the specified measures of a track for creating Arpeggio data.

NOTE The previously existing data on the specified destination track is replaced when you execute User Arp.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [User Arp]



Scene

Determines the source Scene.

Range: 1 – 8

Start Measure

Determines the starting measure position at which the Job is applied.

Range: 1 – 256

End Measure

Determines the ending measure position at which the Job is applied.

Range: 2 – 257

Arp (Arpeggio Number)

Indicates the number of the Arpeggio Type.

Category

Indicates the Main Category that the selected Arpeggio Type will be assigned to.

Settings: For the Arpeggio Type Category list, refer to the Reference Manual.

Sub Category

Indicates the Sub Category that the selected Arpeggio Type will be assigned to.

Settings: For the Arpeggio Type Sub Category list, refer to the Reference Manual.

Name

Determines the Arpeggio Type name.

Track

Determines the source Track number for each Arpeggio Track.

Convert Type

Determines how the MIDI sequence data will be converted to Arpeggio data from one of the three ways below. This parameter can be set for each track.

Settings: Normal, Fixed, Org Notes

Normal: The Arpeggio is played back using only the played note and its octave notes.

Fixed: Playing any note(s) will trigger the same MIDI sequence data.

Org Notes (Original Notes): Basically same as “Fixed” with the exception that the Arpeggio playback notes differ according to the played chord.

Store As User Arp

Executes the Store Job.

Play FX (Play Effect)

This Job adds effects to the MIDI sequence data in a Pattern when it is played back. You can determine the range and strength for each parameter on the Track you've specified.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Play FX]



Play FX1

Operates the Qntz Value, Qntz Str, Swing Vel, Swing Gate and Swing Rate parameter.

Qntz Value (Quantize Value)

Determines to what beats the note data in the sequence data will be aligned.

Settings: Off, 60 (32nd note), 80 (16th note triplet), 120 (16th note), 160 (8th note triplet), 240 (8th note), 320 (1/4 note triplet), 480 (1/4 note)

Qntz Str (Quantize Strength)

Sets the degree or “magnetic strength” to which Quantize is applied. A setting of 100% produces exact timing. A setting of 0% results in no quantization.

Range: 0% – 100%

Swing Vel (Swing Velocity)

Adjusts the velocity of the corresponding notes to accentuate the swing rhythmic feel.

Range: 0% – 200%

Swing Gate

Adjusts the gate time of the corresponding notes to accentuate the swing rhythmic feel.

Range: 0% – 200%

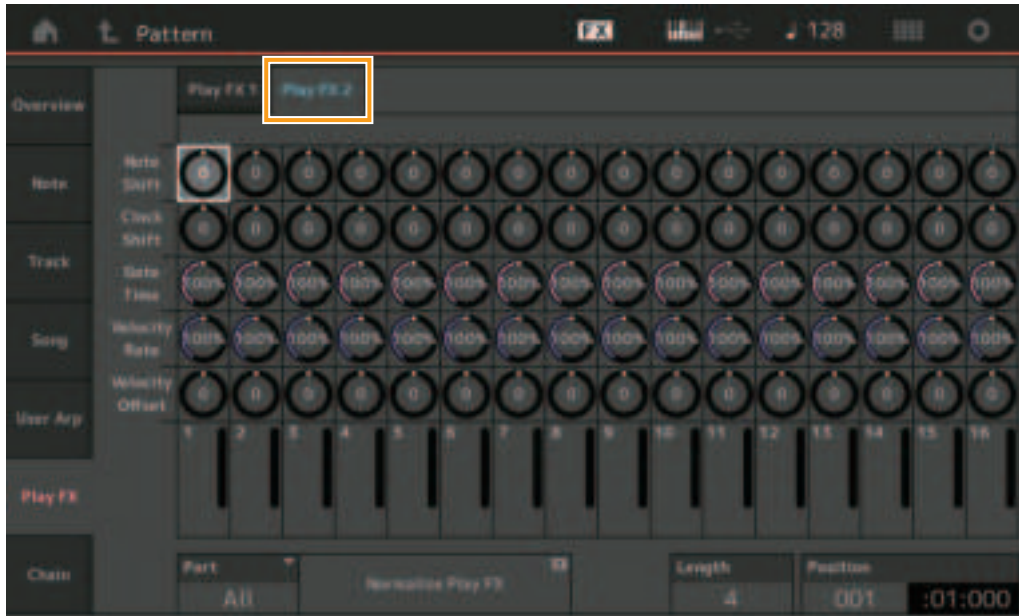
Swing Rate

This selectively delays the notes on even-numbered beats (backbeats) to produce a swing feel.

Settings: Depends on specified Qntz Value

If the Quantize value is 1/4 note, 8th note, 16th note, 32nd note: 0 – half of the grid

If the Quantize value is 1/4 note triplet, 8th note triplet, 16th note triplet: 0 – half of the grid



Play FX2

Operates the Note Shift, Clock Shift, Gate Time, Velocity Rate and Velocity Offset parameters.

Note Shift

Raises or lowers the pitch of all notes in the selected track in semitones.

Range: -99 – +99

Clock Shift

Shifts the timing of all notes in the selected track forward or backward in clock increments.

Range: -120 – +120

Gate Time

Raises the gate time of all notes in the selected track.

Range: 0% – 200%

Velocity Rate

Alters the velocity of notes by the specified percentage.

Range: 0% – 200%

Velocity Offset

Increases or decreases the velocity of notes by the specified offset value.

Range: -99 – +99

Part

Determines the destination Part to normalize.

Range: All, 1– 16

Normalize Play FX

Applies the effects set in Play FX to the MIDI data.

Length

Indicates the length of the entire sequence in the selected Scene.

Position

Shows the current position during Scene playback, and lets you set the starting position of playback.

Range: 001 – 256

Chain

This Job chains Scenes and playback chained Scenes.

Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [Pattern] → [Edit/Job] → [Chain]



Measure

Determines the measure position from which the Scene is played back.

Range: 001 – 999

Scene

Determines the Scene that is played back from the specified measure position.

Range: 1 – 8, End

Page

Indicated by the up and down buttons, when the Measure & Scene exceed 8 lines. Touching this button calls up the next/previous page.

Convert to Song

Stores the Chain as a Song.

Length

Indicates the length of the entire sequence.

Position

Shows the current position during Chain playback, and lets you set the starting position of playback.

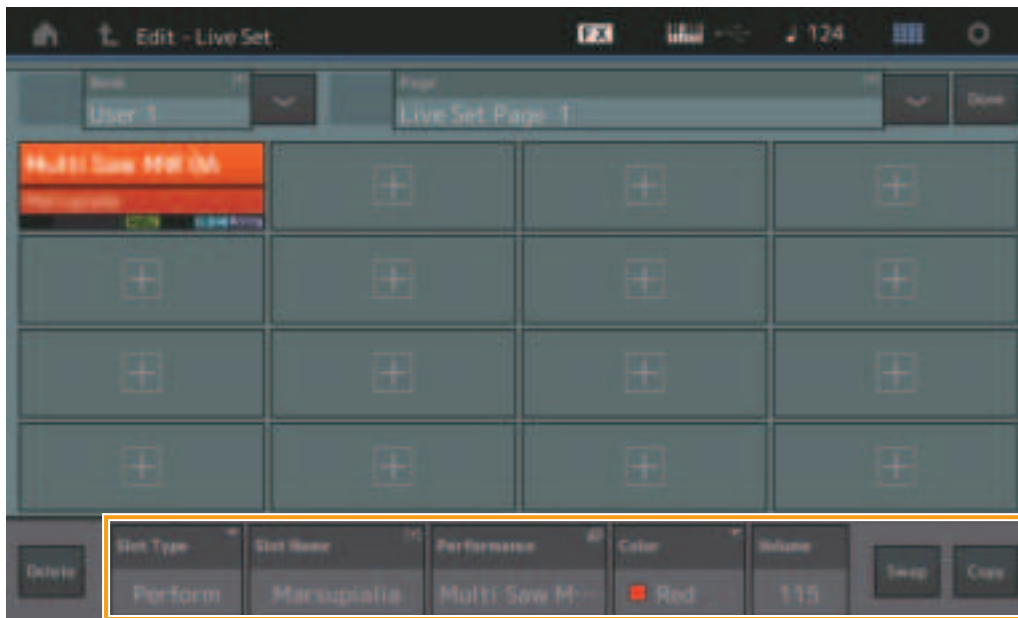
Range: 001 – 999

Live Set

The Live Set function now lets you combine Songs, Patterns and Audio files, and play them back from the Live Set display.

■ Combine Songs, Patterns and Audio files within the Live Set display

Operation Press the [LIVE SET] button, or touch the LIVE SET icon → Select the User Bank → [EDIT]



Slot Type

Indicates the selected slot type.

Settings: Perform (Performance), Song, Audio, Pattern

NOTE The Audition function is available only when Perform is selected in the Slot Type.

Slot Name

Indicates the selected Slot name. Touching Slot Name (when is available and indicated) calls up the input character display. When the Slot Type is set to Song, Audio or Pattern, this indicates Song Name, Audio Name or Pattern Name, and touching it calls up the Load display.

NOTE You can change the Slot Name only when Perform is selected on Slot Type.

Performance

Indicates the Performance Name specified on the selected Slot. Touching the Performance calls up the Category Search display.

Color

Determines the color of the selected Slot.

Settings: Black, Red, Yellow, Green, Blue, Azure, Pink, Orange, Purple, Sakura, Cream, Lime, Aqua, Beige, Mint, Lilac

Volume

Determines the volume on the selected Slot.

Swap

Touching Swap when one Slot is selected and touching another Slot swaps the respective Slot contents with each other.

Copy

Touching Copy with the source Slot selected and then touching the destination Slot copies the Slot contents.

■ Playing back Songs, Patterns and Audio files from the Live Set display

Operation Press the [LIVE SET] button, or touch the LIVE SET icon → Select the User Bank → [▶] (Play) button



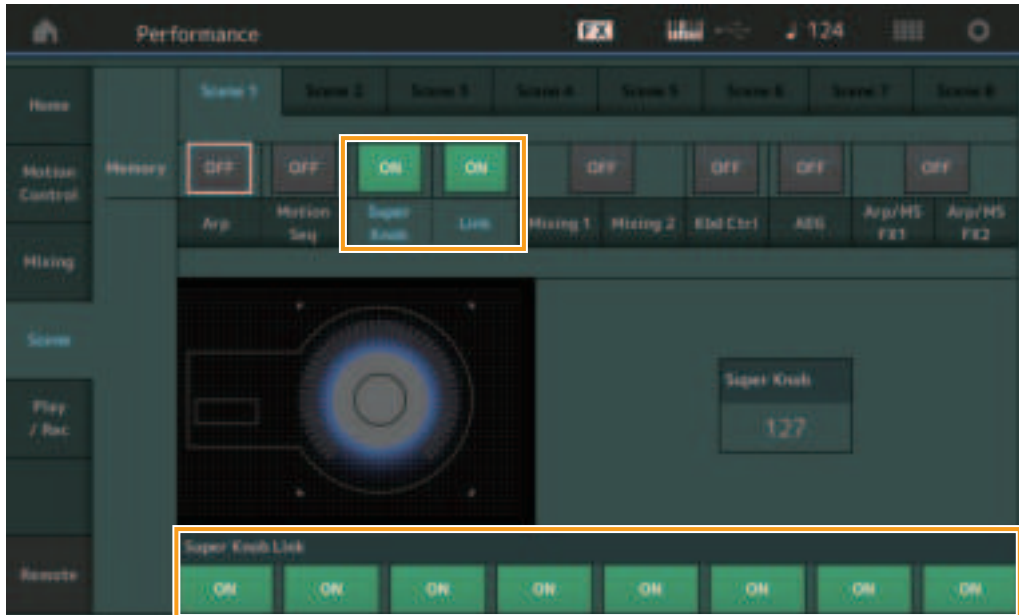
- NOTE** When a Song or Pattern is playing back, you cannot change the Performance or the Slot. An error message appears when you try to change it.
- NOTE** When a Song, Pattern or Audio file is playing back, you can open the corresponding playback display on the Performance by pressing the [▶] (Play) button.

Scene

Super Knob Link and Keyboard Control have been added to the data that is recorded in the Scene function.

Scene

Operation [PERFORMANCE (HOME)] → [Scene]



Super Knob (Super Knob Memorize Switch)

Determines whether Super Knob states are memorized in a Scene or not.

Settings: Off, On

Link (Link Memorize Switch)

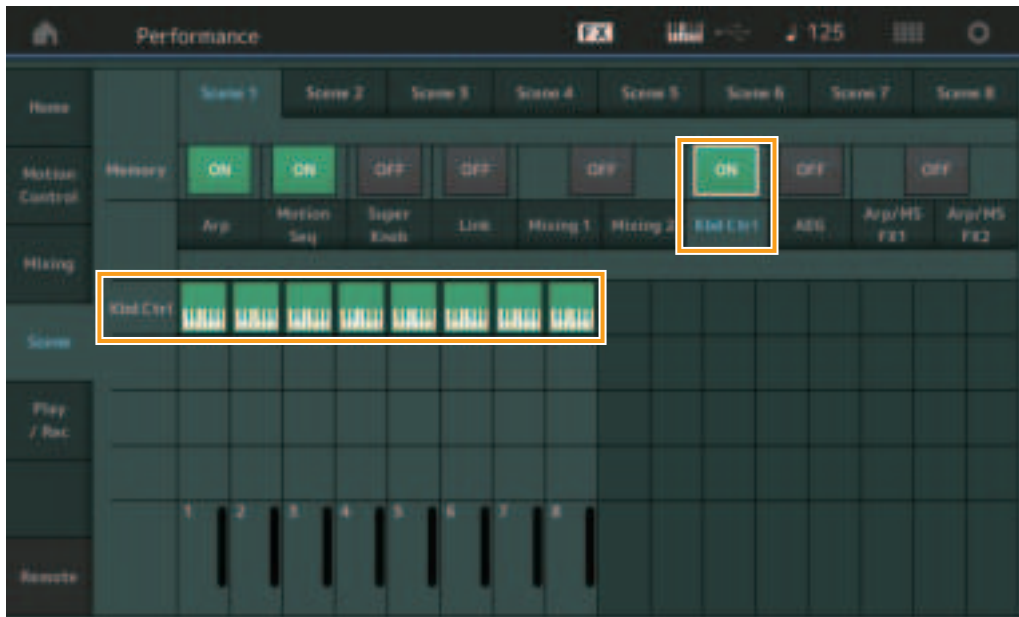
Determines whether Super Knob Link states are memorized in a Scene or not.

Settings: Off, On

Super Knob Link

Determines whether the Assignable Knobs 1-8 on the selected Scene are affected by Super Knob operations or not. Assignable Knobs set to Off are not affected by Super Knob operations.

Settings: Off, On



Kbd Ctrl (Keyboard Control Memorize Switch)

Determines whether Keyboard Control operations are memorized in a Scene or not.

Settings: Off, On

Kbd Ctrl (Keyboard Control)

Determines the Keyboard Control Switch on each Part on the selected Scene. Parts set to Off are not affected by playing the keyboard.

Settings: Off (gray), On (green)

Edit

Increased the parameter range of the Part LFO Speed.

■ Normal Part (AWM2)

Element LFO

Operation [EDIT] → [Common] → Select the Element → [Element LFO]



Speed

Adjusts the speed of LFO variation. The parameter range has been increased from 0 – 63 to 0 – 415.

Range: 0 – 415

Extended LFO

This lets you select between the old parameter range (Off: 0 – 63) or the new parameter range (On: 0 – 415). If you want to maintain compatibility with settings made in the old parameter, set this to Off.

Settings: Off, On

■ Normal Part (FM-X)

Mod/Control (Modulation/Control)

2nd LFO

Operation [EDIT] → Select the Part from [Common] → Operator [Common] → [Mod/Control] → [2nd LFO]



Speed (2nd LFO Speed)

Adjusts the speed of LFO variation. The parameter range has been increased from 0 – 99 to 0 – 415.

Range: 0 – 415

Extended LFO

This lets you select between the old parameter range (Off: 0 – 99) or the new parameter range (On: 0 – 415). If you want to maintain compatibility with settings made in the old parameter, set this to Off.

Settings: Off, On

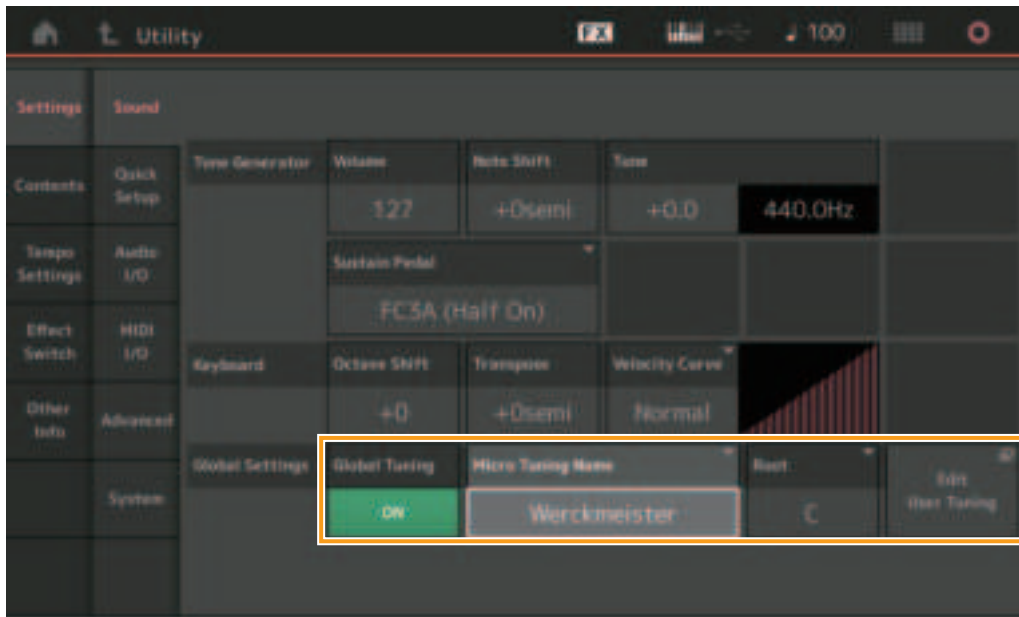
Utility

Settings

Sound

The Global Micro Tuning settings have been added.

Operation [UTILITY] → [Settings] → [Sound]



Global Tuning

When this function is on, Micro Tuning in the Global Settings has priority over the Micro Tuning settings that the Performance has on each Part. This function is applied to all parts except for the Drum Part.

Settings: Off, On

NOTE The Global Tuning Setting automatically returns to Off every time you reboot the instrument.

Micro Tuning Name

Indicates the selected Micro Tuning Name. Touching this button calls up the menu page for selecting Preset or User.

Settings: Preset → Equal Temperament, Pure Major, Pure Minor, Werckmeister, Kirnberger, Valloti & Young, 1/4 Shift, 1/4 tone, 1/8 tone, Indian, Arabic1, Arabic2, Arabic3
User → User1 – 8

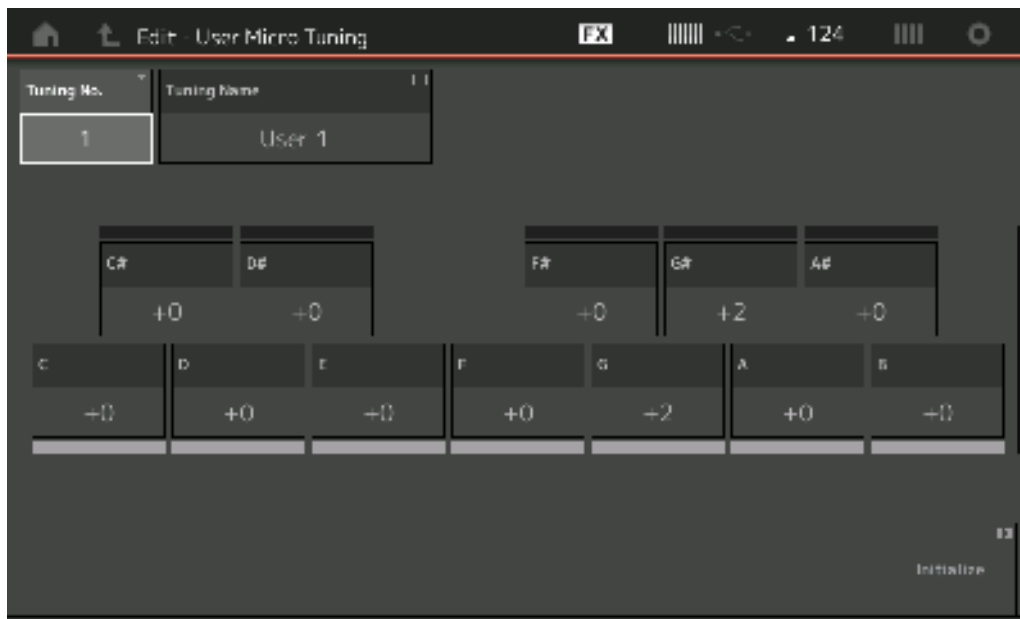
Micro Tuning Root

Determines the root note for the Micro Tuning function. Depending on the Micro Tuning Name, this setting may not be necessary, and therefore will not appear.

Range: C – B

Edit User Tuning

Calls up the User Micro Tuning Settings display.



Tuning No.

Indicates the selected User Micro Tuning Number.

Range: 1 – 8

Tuning Name

Determines the name of the selected User Micro Tuning. Touching the parameter calls up the input character display.

C, C#, D, D#, E, F, F#, G, G#, A, A#, B

Adjust the pitch of each note in 1-cent steps to determine the desired Micro Tuning.

Range: -99 – +99

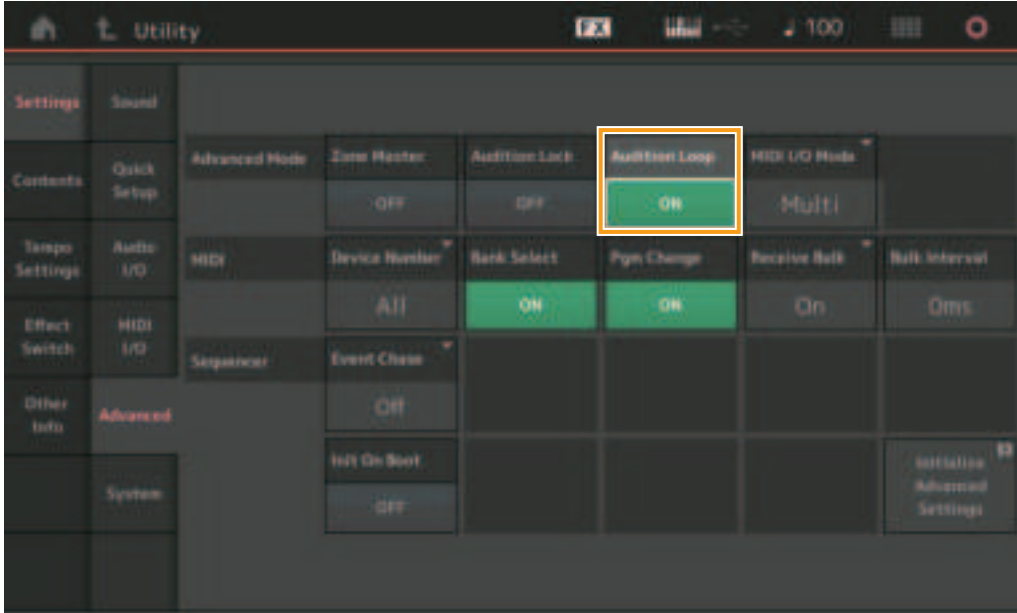
Initialize

Initializes the selected User Micro Tuning.

Advanced

You can cancel Audition Loop.

Operation [UTILITY] → [Settings] → [Advanced]



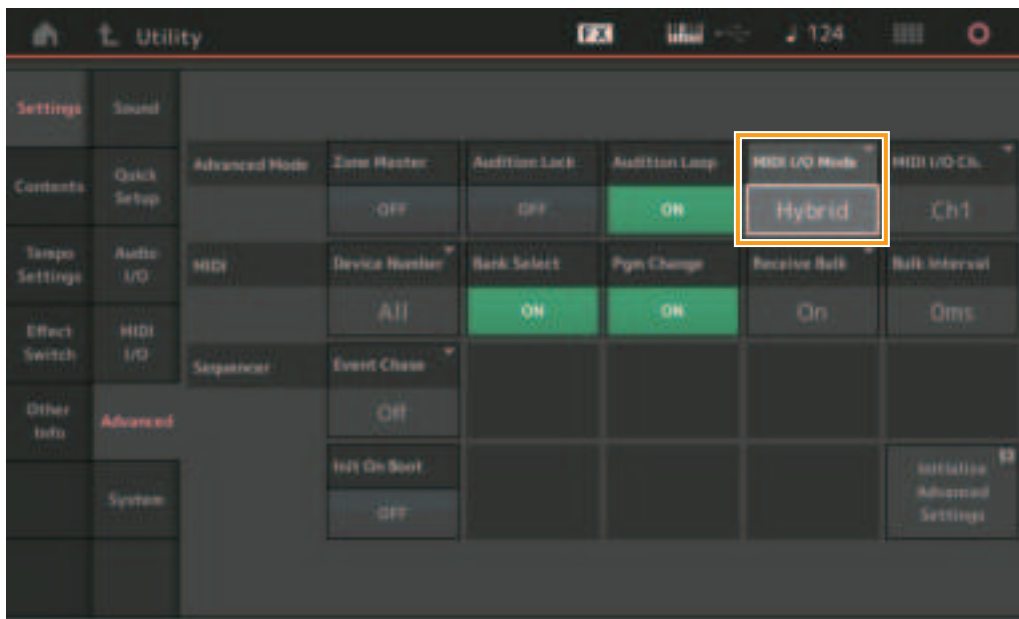
Audition Loop

When this function is set to On and the Audition Phrase is played back to the end, the Audition Phrase replays from the beginning of the Audition Phrase automatically. When this function is set to Off, Audition Phrase playback stops when the end is reached. You can switch between On and Off while playing back the Audition Phrase.

Settings: Off, On

■ Hybrid has been added to the Settings in the MIDI I/O Mode.

Operation [UTILITY] → [Settings] → [Advanced]



■ When MIDI I/O Mode is set to Hybrid:

Receiving MIDI Data

- MIDI data received via the channel that is set in the MIDI I/O Channel parameter is received on Parts with Keyboard Control Switch set to ON.
- MIDI data received via a channel other than that set in the MIDI I/O Channel parameter or on Parts with Keyboard Control Switch set to Off, is received via the corresponding Part.

Sending MIDI Data

- When Common/Audio is selected and the Part with Keyboard Control Switch set to ON is selected, MIDI data is sent from the channel that is set in the MIDI I/O Channel parameter.
- When a Part with Keyboard Control Switch set to Off is selected, MIDI data is sent from the channel corresponding to the Part.

MIDI Data Reception with USB TO DEVICE

This function now enables this instrument to receive MIDI data from an external MIDI keyboard / controller connected to the [USB TO DEVICE].

Supported MIDI equipment: MIDI devices that are USB MIDI class compliant and devices tested by Yamaha

* For a list of devices tested by Yamaha, refer to the link below

<https://www.yamaha.com/2/modx>

NOTE The maximum rated value of the [USB TO DEVICE] is 5V/500mA. Do not connect to USB devices that exceed the rated value, since such devices may cause damage to the instrument.

NOTE This function does not support MIDI data transmission to a connected device via the [USB TO DEVICE] on this instrument.

■ When MIDI I/O Mode is set to Multi

- Channel events, received through channels corresponding to Parts with Keyboard Control Switch set to On, are received in parallel by all Parts with Keyboard Control Switch set to On. After receiving, when this instrument transmits MIDI data, all note data of the channel corresponding to parts with Keyboard Control Switch set to On are transmitted.
- Channel events received via the channel that corresponds to the Part with Keyboard Control Switch set to Off affect the corresponding Part. After receiving, when this instrument transmits MIDI data, the same channels used for receiving are used to transmit the channel data.

■ When the MIDI I/O Mode is set to Single or Hybrid

- Channel events, received through channels corresponding to Parts with Keyboard Control Switch set to On, are received in parallel by all Parts with Keyboard Control Switch set to On. However, when this instrument receives Control Change messages regarded as Common parameters and the MIDI I/O mode is set to Single, this instrument does not send Control Change messages to the Part and instead treats them as Common parameters. After receiving, Sending of Control Change messages is done according to the MIDI I/O Channel setting.
- Channel events received via the channel that corresponds to the Part with Keyboard Control Switch set to Off are received by the corresponding Parts. The received MIDI data is not re-transmitted when the MIDI I/O mode is set to Single.

User Interface Enhancements

■ Selecting Songs with [INC/YES] and [DEC/NO] buttons

You can now select Songs with the [INC/YES] and [DEC/NO] buttons when the cursor is on the Song Name on MIDI display. The Song Number is now displayed in front of the Song name.

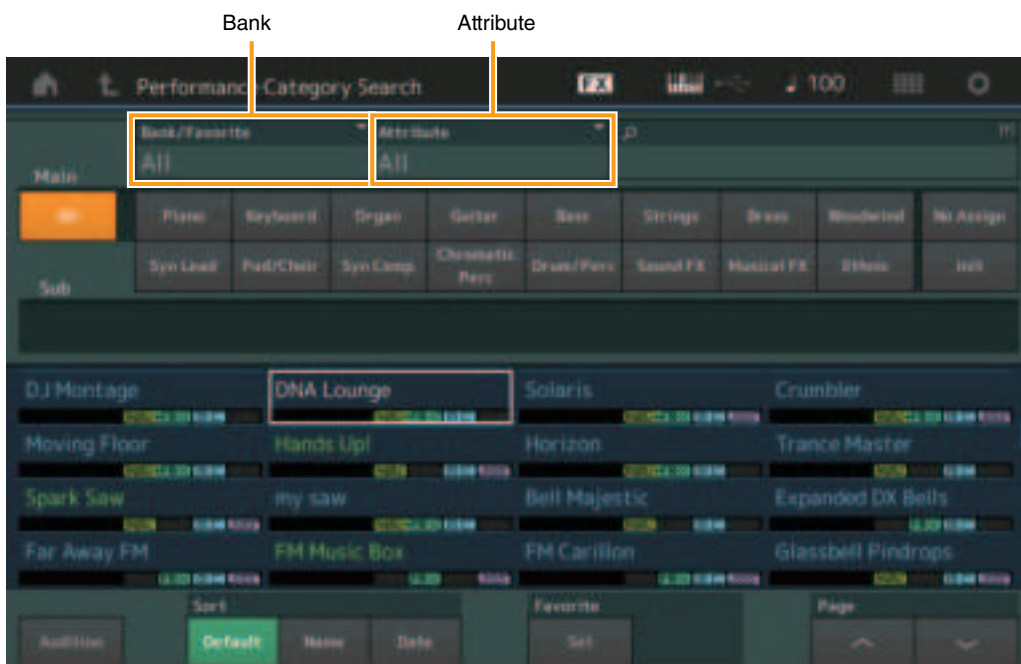
Operation [▶] (Play) button or [PERFORMANCE (HOME)] → [Play/Rec] → [MIDI]



■ Memorizing the Bank and Attribute selected in the Performance Category Search

This instrument can now memorize the last setting of Bank and Attribute on the Performance Category Search display even after moving to another display.

Operation [PERFORMANCE (HOME)] → [CATEGORY] or touch the [Performance Name] → Select the [Category Search] from the menu



■ Category Search with the buttons on the front panel

Operation [PERFORMANCE (HOME)] → [CATEGORY] or touch the [Performance Name] → Select [Category Search] from the menu

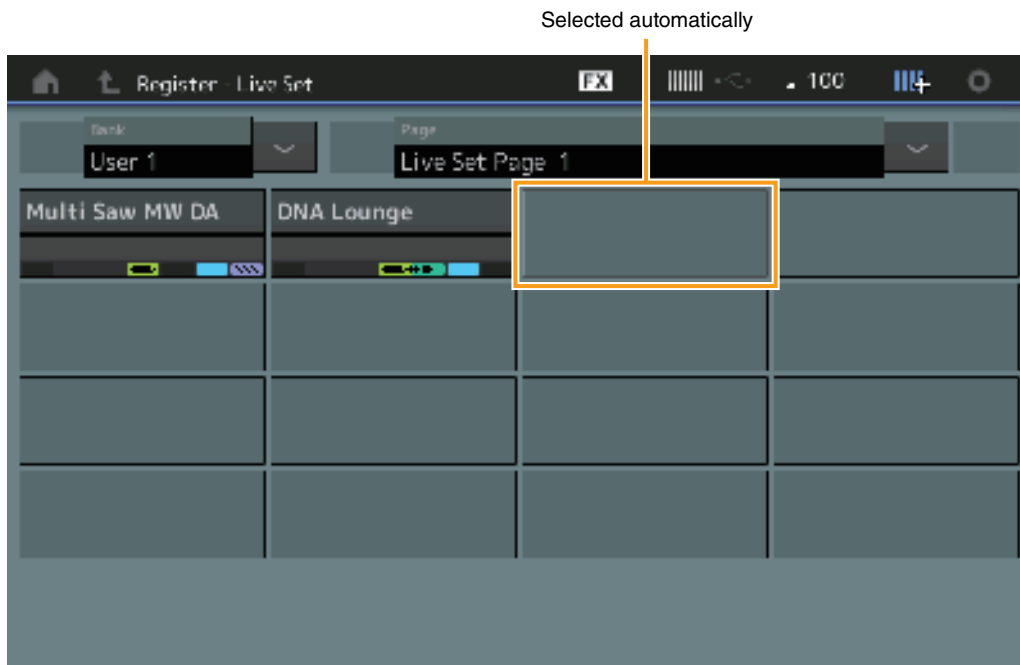
- Changes Main Category by pressing the [SHIFT] button + the Cursor buttons left and right.
- Changes Sub Category by pressing the [SHIFT] button + the Cursor buttons up and down.
- Sets Main Category and Sub Category to the ALL by pressing the [SHIFT] button + the Cursor buttons up and down (left and right) simultaneously.

■ Open the Home display with the [EXIT] button

You can now easily go back to the Home display with the [EXIT] button when a Performance display (excepting the Home display) is opened.

■ Easy method to select a target slot on the Register display

Operation [SHIFT] + [LIVE SET] (except when Live Set display is selected)



When Preset or Library is selected in Bank

The lowest numbered empty Slot in the grid is automatically selected from User Bank 1. When the User Bank has no empty Bank, no slot is selected when opening the User Bank 1 display.

When User is selected in Bank

The lowest numbered empty Slot in the grid on or after the current page is selected automatically. When the User Bank is not empty, the lowest numbered empty Slot in the lowest numbered available page is selected. When the User Bank has no empty Bank, no slot is selected.

Sequencer Block

The sequencer storage capacity (total User Memory) has been increased from about 130,000 to about 520,000 (for Songs) and about 520,000 (for Patterns).

New Functions in MODX Version 1.10

Yamaha has upgraded the MODX firmware, adding the following new functions.

This manual describes additions and changes with respect to the Reference Manual that came with your instrument.

- A new function has been added that allows you to selectively enable (or disable) recording of Arpeggio data, when recording MIDI songs.
- You can now set a Center Note in the Edit Waveform display.
- You can now set a key for assignment when loading WAV files or AIFF files as waveforms.
- You can now select the Assignable Knob for Common Parts, by pressing the [PART SELECT MUTE/SOLO] in the dialog displayed when selecting the Part parameter and pressing the [CONTROL ASSIGN] button.
- The Panel Lock function has been added to prevent inadvertent operations during your performance.

Play/Rec

Play/Rec

MIDI

When recording Songs, you can select whether to record only the keyboard performance, or to record the output of the Arpeggiator.

Operation

[▶] (Play) button
or
[PERFORMANCE] → [Play/Rec] → [MIDI]



Arp Rec

When this is set to on, the Arpeggiator output can be recorded. When this is set to off, only the keyboard performance is recorded. This can only be set when recording a new song. The setting cannot be changed after the recording. Also, when recording additional parts to previously recorded songs with this set to off, the Record Type can only be set to Replace.

Settings: Off, On

NOTE Songs recorded with this set to off, can be played back with a different Arpeggio from the recorded one by changing to another Arpeggio set in Performance.

Part Edit (Edit)

Element Edit (Element)

Osc/Tune (Oscillator/Tune)

Edit Waveform

Center Note setting has been added.

Operation [PERFORMANCE] → [EDIT] → Part selection → Select Element or Key → [Osc/Tune] → [Edit Waveform]



Center Note

Determines the key for playback to match the pitch of the original waveform data.

Settings: C-2 – G8

Utility

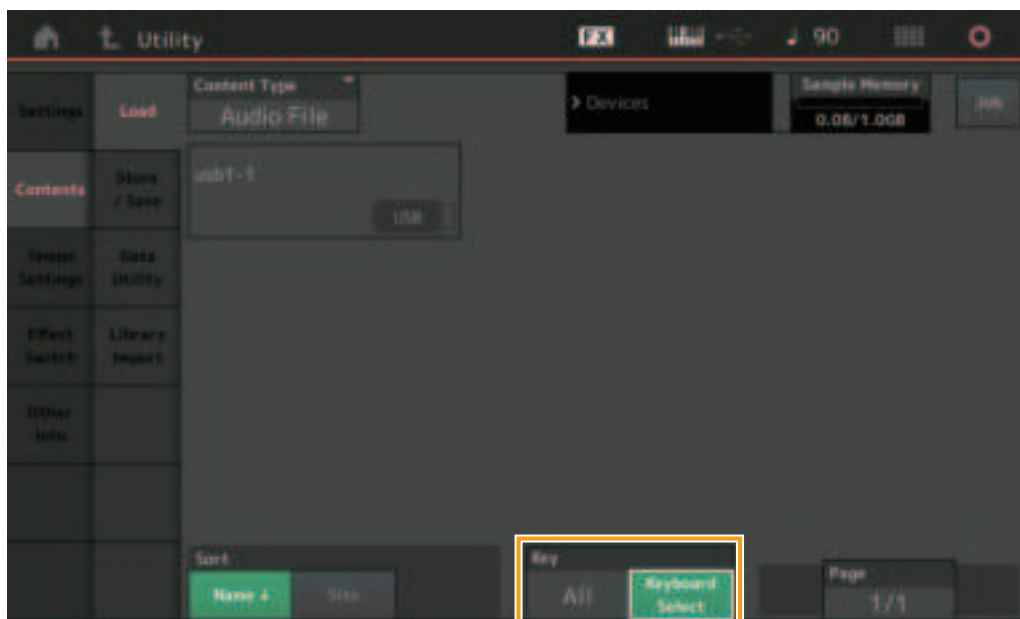
Contents

Load

Added a Key setting function when loading WAV files and AIFF files as waveforms.

Operation

[PERFORMANCE] → [EDIT] → Part selection (Normal Parts only) → Select Element → [Osc/Tune] → [New Waveform]
or
[PERFORMANCE] → [EDIT] → Part selection (Normal Parts only) → Select Element → [Osc/Tune] → [Edit Waveform] → [Add Keybank]



Key

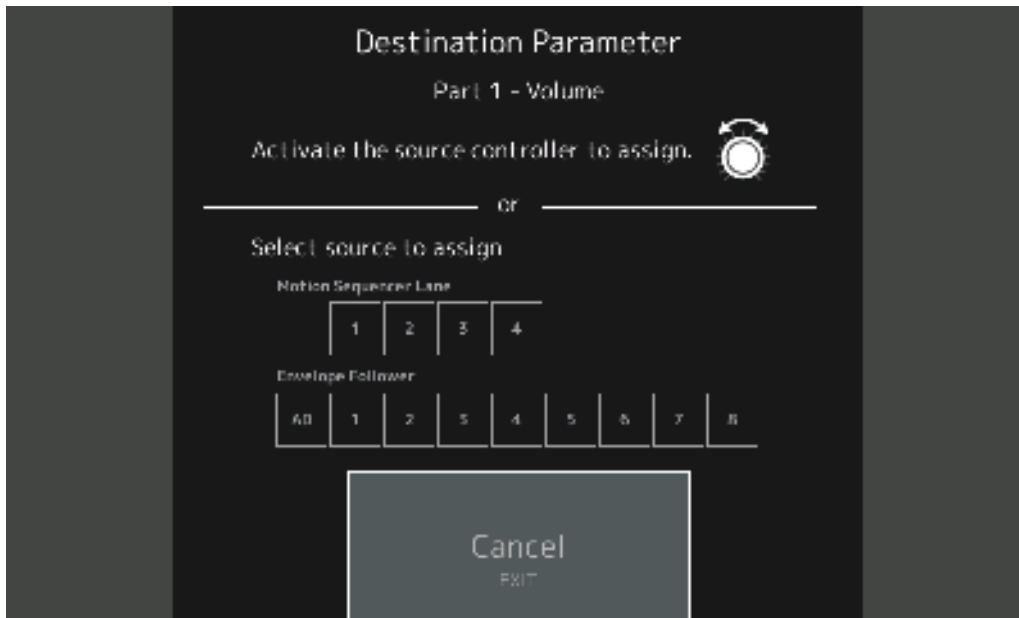
Select the key to which the loaded WAV file or AIFF file will be assigned.

Settings: Keyboard Select (C-2 – G8), All

Control Assign dialog

In the dialog displayed when the Part parameter is selected and the [CONTROL ASSIGN] button is pressed, while pressing [PART SELECT MUTE/SOLO], operating the Assignable Knob selects the Assignable Knob of Common.

Operation Point the cursor to the control destination parameter of the Part → Press the [CONTROL ASSIGN] button.



While pressing the [PART SELECT MUTE/SOLO] button, operate the Knob you wish to use when operating the target parameter.

NOTE An error message appears when you turn the Super Knob and there are no more Assignable Knobs or Control Assigns available for assigning a Source.

Panel Lock Function

The Panel Lock function has been added to prevent inadvertent operations during your performance.

Operation [SHIFT] + [AUDITION] in Home display or Live Set display.



To unlock the panel, press [SHIFT] + [AUDITION] again. When the Panel Lock Function is engaged, all operations will be unavailable, except the keyboard, pedals, Master Volume, Super Knob, Pitch Bend wheel, Modulation wheel, and the unlock operation. This lock also applies to touch panel operations.