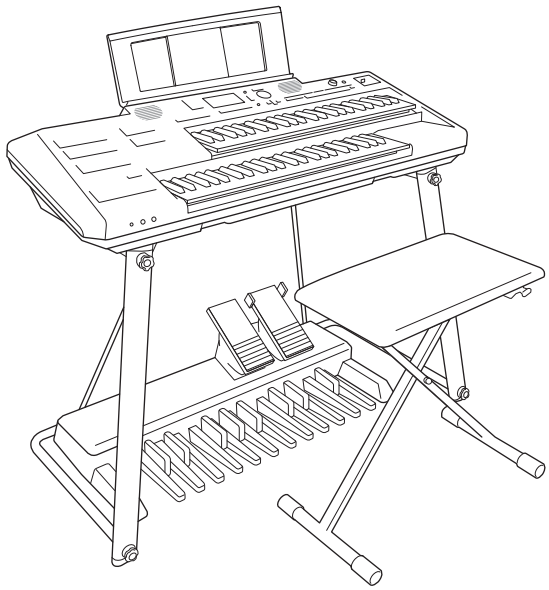
YAMAHA

Electone®

ELA-1

Reference Manual

This Reference Manual explains advanced features of the ELA-1. Please read the Owner's Manual first, before reading this Reference Manual.



Manual Development Group
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Each chapter in this Reference Manual corresponds to the relevant chapters in the Owner's Manual.

Using the PDF manual

- To quickly jump to items and topics of interest, click on the desired items in the "Bookmarks" index to the left of the main display window. (Click the "Bookmarks" tab to open the index if it is not displayed.)
- Click the page numbers that appear in this manual to go directly to the corresponding page.
- Select "Find" or "Search" from the Adobe Reader "Edit" menu and enter a keyword to locate related information anywhere in the document.

NOTE The names and positions of menu items may vary according to the version of Adobe Reader being used.

- The illustrations and displays as shown in this manual are for instructional purposes only, and may appear somewhat different from those on your instrument.
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1 Voices

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Voice Types

The preset Voices are categorized into the types listed below. Refer to the "Voice List" in the Data List (separate PDF) to see the type of each Voice. Only the types marked by "*" in the list below have an indication above the Voice name in the Voice Selection display.

S.Art * (Super Articulation)	See the Owner's Manual, Chapter 1.
Live!	Live! Voices feature stereo sampling, to reproduce accurately the stereo image of an acoustic instrument, as well as the ambience of the room it was recorded in.
Cool!	Cool! Voices reproduce the complex characteristics of Electric Instruments, by utilizing sophisticated programming techniques in both voicing, and the use of DSP effects.
Sweet!	Sweet! Voices are acoustic instruments which feature the sampled vibrato of the original player, creating a far more realistic and emotional performance than synthesized vibrato.
Drums *	Drum & Percussion instruments are mapped across the keyboard so you can play them directly, or use in music production.
Live! Drums *	Stereo sampling is used for these high definition Drum and Percussion instruments, which are mapped across the keyboard so you can play them directly, or use in music production.
SFX	Special percussion and sound effects are mapped across the keyboard, so you can play them directly, or use in music production.

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Live! SFX	Stereo sampling is used for these high definition special percussion and sound effects, which are mapped across the keyboard so you can play them directly, or use in music production.
Organ Flutes *	See the Owner's Manual, Chapter 1.
MegaVoice *	These Voices make special use of velocity switching. Each velocity range (the measure of your playing strength) has a completely different sound. For example, a guitar MegaVoice includes the sounds of various performance techniques. In conventional instruments, different Voices having those sounds would be called up via MIDI and played in combination to achieve the desired effect. However, now with MegaVoices, a convincing guitar part can be played with just a single Voice, using specific velocity values to play the desired sounds. Because of the complex nature of these Voices and the precise velocities need to play the sounds, they're not intended for playing from the keyboard. They are, however, very useful and convenient when creating MIDI data—especially when you want to avoid using several different Voices just for a single instrument part.
Regular	Other Voices including GM and XG Voices.

NOTE S.Art and MegaVoices are not compatible with other instrument models. For this reason, any Song or Style you've created on this instrument using these Voices will not sound properly when played back on the instruments which do not have these types of Voices.

NOTE S.Art and MegaVoices sound differently depending on keyboard range, velocity, touch, etc. Hence, if you apply Harmony/Arpeggio (page 6), change the transpose setting or change the Voice Set parameters, unexpected or undesired sounds may result.

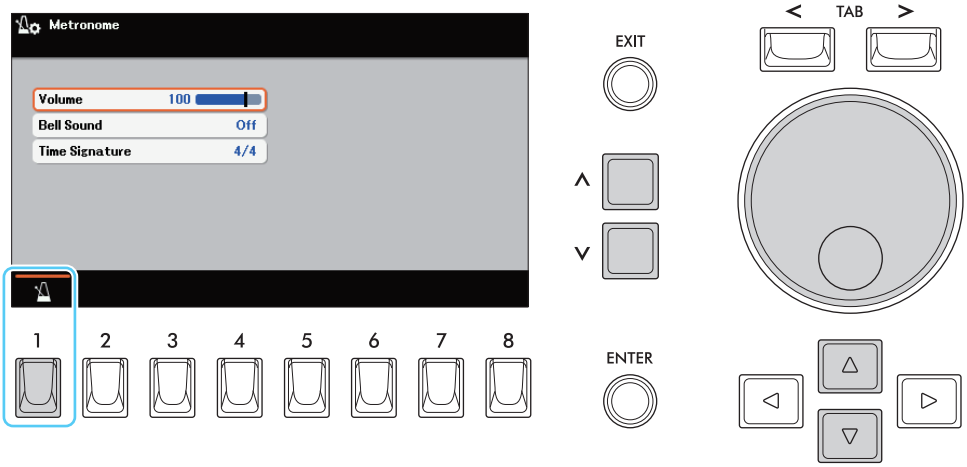
Metronome Settings

You can set the time signature, volume and sound of the metronome.

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Metronome***, [ENTER]

2 Make necessary settings.



Volume	Determines the volume of the metronome sound.
Bell Sound	Determines whether a bell accent is sounded or not at the first beat of each measure.
Time Signature	Determines the time signature of the metronome sound.

The [1] button lets you start or stop the metronome.

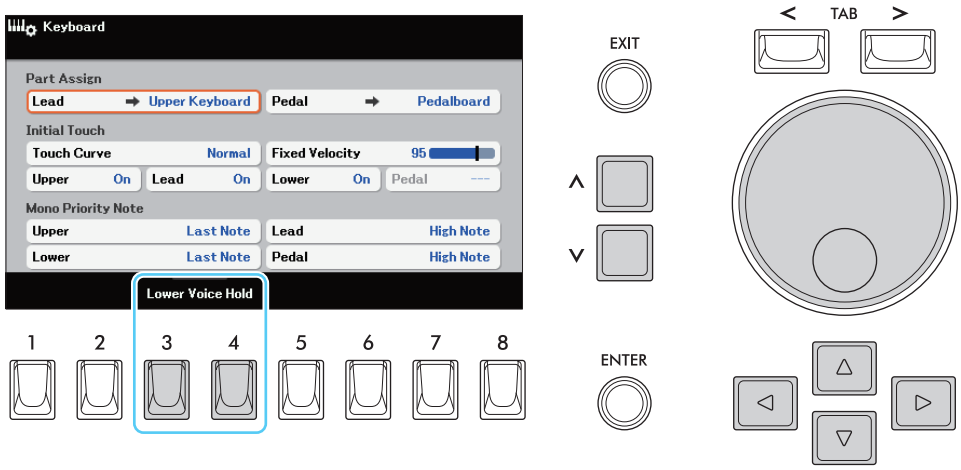
Keyboard Part Related Settings

This section explains the settings related to each keyboard part (Upper Keyboard, Lower Keyboard and Pedalboard).

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Keyboard***, [ENTER]

2 Make necessary settings.



Part Assign	***Lead***	Selects the keyboard or Pedalboard to play the Lead Voice and Pedal Voice. When the setting is changed from the default, the icon is shown on the Main display indicating the assigned keyboard part (UK: Upper Keyboard, LK: Lower Keyboard, PK: Pedalboard).
	Pedal	
Initial Touch	***Touch Curve***	Determines how the sound responds to your playing strength. • ***Normal***: Standard Touch Response. • ***Soft1***: Produces high volume with moderate playing strength. • ***Soft2***: Produces relatively high volume even with light playing strength. Best for players with a light touch. • ***Hard1***: Requires moderately strong playing for high volume. • ***Hard2***: Requires strong playing to produce high volume. Best for players with a heavy touch.
	Fixed Velocity	Determines the velocity level when "***Initial Touch***" for any part is set to "***Off***." In other words, the volume is fixed to this level regardless of your playing strength.
	Upper, Lead, Lower, Pedal	Set Initial Touch on or off for each keyboard part assigned to the Upper Keyboard, Lower Keyboard and Pedalboard. Initial Touch for "***Lead***" or "***Pedal***" cannot be set when "Pedalboard" is assigned to that part via "***Part Assign***" located at the upper part of this display.
Mono Priority Note	***Upper, Lead, Lower, Pedal***	Determines which note to play (the highest note or the last pressed note) when two or more keys are pressed simultaneously, if the Voice is set to "***Mono***" (page 13).

The [3]/[4] (***Lower Voice Hold***) buttons can be used to turn on/off the Lower Voice Hold function. For details, refer to the Owner's Manual.

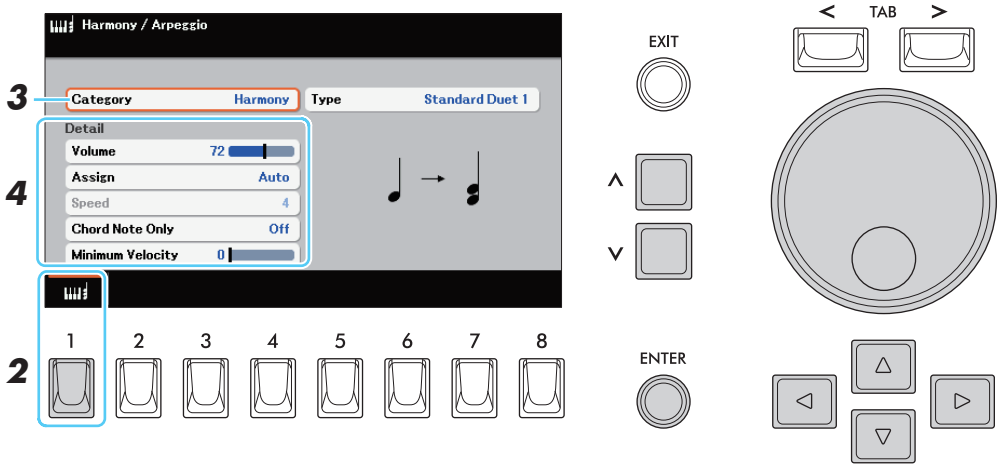
Applying Harmony/Arpeggio

Performance effects such as harmony (duet, trio, etc.), echo, tremolo, trill and arpeggio can be applied to enhance or change the sound. These effects are sorted by three categories: Harmony, Echo, and Arpeggio. Harmony or Echo can be applied to the notes played on the Upper Keyboard, while Arpeggio can be applied to the notes played on Upper Keyboard, Lower Keyboard and Pedalboard.

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Harmony/Arpeggio***, [ENTER]

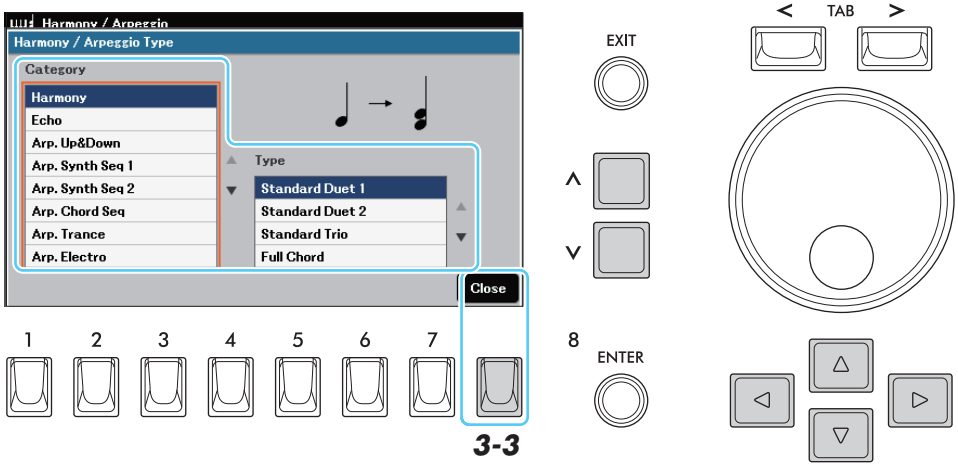
2 Press the [1] button to turn the Harmony/Arpeggio function on.



3 Select the desired Harmony, Echo or Arpeggio type.

3-1 Move the cursor to "*Category*" or "*Type*" (either is okay), and then press the [ENTER] button to call up the "*Harmony/Arpeggio Type*" window.

3-2 Select the desired "*Category*," and then select the desired "*Type*."



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Category	Type	Description
Harmony	***Standard Duet 1 — Strum***	When the STYLE [ACMP] button is on, the Harmony effect is applied to the note played on the Upper Keyboard according to the chord specified on the Chord section (Lower Keyboard). Note that the "***1+5***" and "***Octave***" settings are not affected by the chord.
	Multi Assign	This effect automatically assigns notes played simultaneously on the Upper Keyboard to separate parts (Voices). Each of the Voices for the Upper Keyboard are alternately assigned to the notes in the order you play. Please note that two Voices should be turned on when using this type.
Echo	***Echo***, ***Tremolo***, ***Trill***	The echo, tremolo or trill effect is applied to the note played on the Upper Keyboard in time with the currently set tempo. Keep in mind that the trill only works when you hold down two notes on the keyboard simultaneously (or the last two notes, if more than two notes are held), and it plays those notes alternately.
Arp. UP&Down — Arp. Strings	(any types)	These types let you play arpeggios (broken chords) by simply pressing the notes of the chord. For example, you could play the notes C, E and G to trigger interesting and rhythmically dynamic phrases.

NOTE When you select another Voice, the type is automatically set to the default which is memorized to the selected Voice. For details, refer to the Voice Edit section (page 11)

3-3 Press the [8] (*Close*) button to close the window.

4 If necessary, make the detailed settings.

When any one of the categories that contain "***Arp.***" in the name is selected, only the parameters indicated by "*" in the list below can be set. None of the parameters in the list below are available when the Harmony category "***Multi Assign***" type is selected.

Volume *	Determines the volume level of the Harmony/Arpeggio notes generated by the Harmony/Arpeggio function. **NOTE** When you are using certain Voices, such as Organ Voices, in which the "***Touch Sensitivity Depth***" is set to 0 in the "***Voice Edit***" display (page 12), the volume does not change.
Assign *	Determines the Voice part to which the effect is assigned. • ***Auto***: Applies the effect to the part for which the [ON/OFF] button is on. If the "***Harmony***" or "***Echo***" category is selected, the Upper Keyboard Voice is given priority over the Lead Voice. • ***Multi***: This parameter is available when the "***Harmony***" or "***Echo***" category is selected. When multiple parts are on, the note played on the keyboard is sounded by the Upper Keyboard Voice and the harmony sounds (effect) are divided to Upper Keyboard Voice and the other parts. When only one part is on, the note played on the keyboard and effect are sounded by that part. • ***Upper***, ***Lead***, ***Lower***, ***Pedal***: Applies the effect to the selected part. **NOTE** "***Lower***" and "***Pedal***" are shown when any one of the categories that contain "***Arp.***" in the name is selected.
Speed	This parameter is only available when the "***Echo***" category is selected. It determines the speed of the Echo, Tremolo, and Trill effects.
Chord Note Only	This parameter is only available when the "***Harmony***" category is selected. When this is set to "***On***," the Harmony effect is applied only to the note (played in the Upper Keyboard) that belongs to a chord played in the Chord section (Lower Keyboard).

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Minimum Velocity	Determines the lowest velocity value at which the Harmony, Echo, Tremolo, or Trill note will sound. This allows you to selectively apply the harmony by your playing strength, letting you create harmony accents in the melody. The harmony effect is applied when you play the key strongly (above the set value).

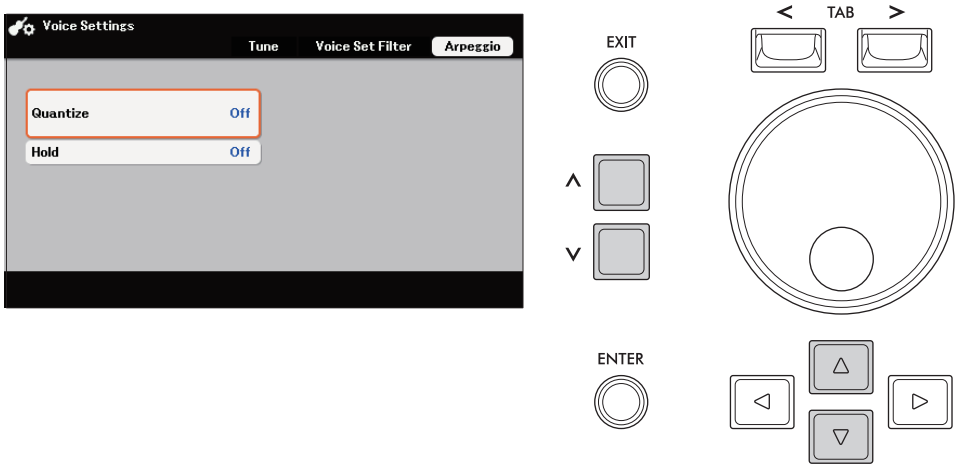
5 **Play the keyboards in the proper way for the selected effect as described in step 3.**

Using the Arpeggio Quantize/Arpeggio Hold function

The Arpeggio related settings can also be made as described below.

1 **Call up the operation display.**

Voice Selection display → [6] (***Settings***) → TAB [>] ***Arpeggio***



Quantize	Determines the timing of the Arpeggio Quantize function. Arpeggio playback is synchronized with Song or Style playback, and any slight imperfections are corrected in this timing. To disable synchronization, select "***Off***."
Hold	Turns the Arpeggio Hold function on or off. When this is set to "***On***," turning on the [1] button in the "***Harmony/Arpeggio***" display results in Arpeggio playback continuing even after the note has been released. To stop playback, press the [1] button again.

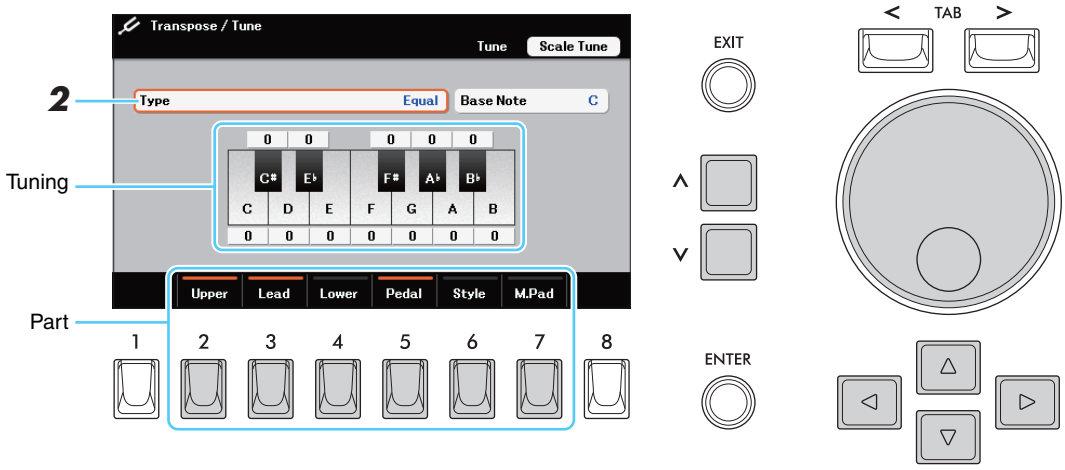
Scale Tuning

You can select various scales for playing in custom tunings for specific historical periods or music genres.

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Transpose/Tune***, [ENTER] → TAB [>] ***Scale Tune***

2 Select the desired scale (*Type*).



■ **Preset Scale types**

Equal	The pitch range of each octave is divided equally into twelve parts, with each half-step evenly spaced in pitch. This is the most commonly used tuning in music today.
Pure Major, ***Pure Minor***	These tunings preserve the pure mathematical intervals of each scale, especially for triad chords (root, third, fifth). You can hear this best in actual vocal harmonies—such as choirs and a cappella singing.
Pythagorean	This scale was devised by the famous Greek philosopher and is created from a series of perfect fifths, which are collapsed into a single octave. The 3rd in this tuning is slightly unstable, but the 4th and 5th are beautiful and suitable for some leads.
Mean-Tone	This scale was created as an improvement on the Pythagorean scale, by making the major third interval more "in tune." It was especially popular from the 16th century to the 18th century. Handel, among others, used this scale.
Werckmeister, ***Kirnberger***	This composite scale combines the Werckmeister and Kirnberger systems, which were themselves improvements on the mean-tone and Pythagorean scales. The main feature of this scale is that each key has its own unique character. The scale was used extensively during the time of Bach and Beethoven, and even now it is often used when performing period music on the harpsichord.
Arabic1, ***Arabic2***	Use these tunings when playing Arabic music.

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3 Change the following settings as necessary.

Base Note	Determines the base note for each scale. When the base note is changed, the pitch of the keyboard is transposed, yet maintains the original pitch relationship between the notes.
Tuning	This indicates the tuning of each note for the currently selected scale. Select the desired note to be tuned by using the Cursor buttons and tune it in cents. **NOTE** In musical terms a "cent" is 1/100th of a semitone. (100 cents equal one semitone.)
Part	Use the [2]–[7] buttons to turn on the part to which the Scale Tune settings are applied.

NOTE If you want to store the Scale Tune settings to Registration Memory, be sure to checkmark "***Scale Tune***" in the "***Registration Memory***" display called up via the [MEMORY] button.

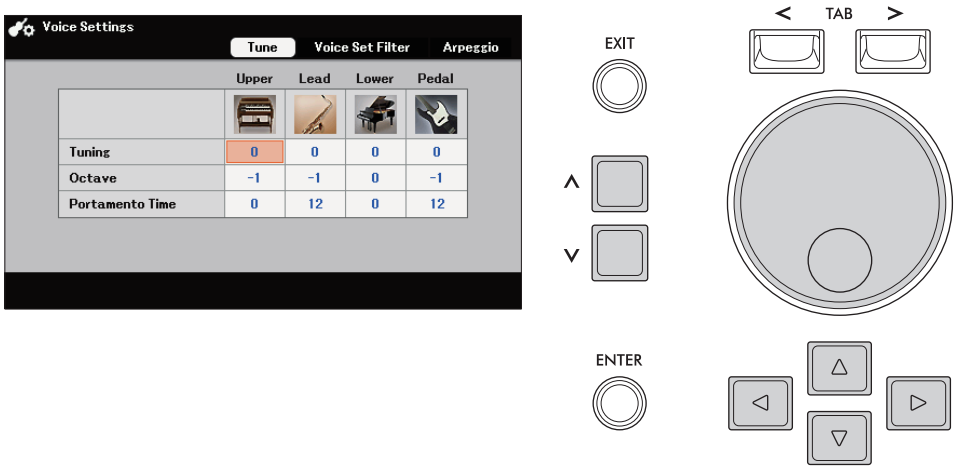
Pitch Settings for Each Keyboard Part

You can set the pitch independently for each keyboard part.

1 Call up the operation display.

Voice Selection display → [6] (***Settings***) → TAB [<] ***Tune***

2 Move the cursor to the desired item, and then adjust the value for the corresponding part.



Tuning	Determines the pitch of each keyboard part.
Octave	Determines the range of the pitch change in octaves, over two octaves up or down for each keyboard part.
Portamento Time	Portamento is a function that creates a smooth transition in pitch from the first note played on the keyboard to the next. The Portamento Time determines the pitch transition time. Higher values result in a longer pitch change time. Setting this to "0" results in no effect. This parameter is available when the selected keyboard part is set to "***Mono***" (page 13).

Editing Voices (Voice Set)

The Voice Edit function allows you to create your own Voices by editing some parameters (called Voice Set) of the existing Voices. Once you've created a Voice, you can save it as a file to internal memory (User drive) or a USB flash drive for future recall.

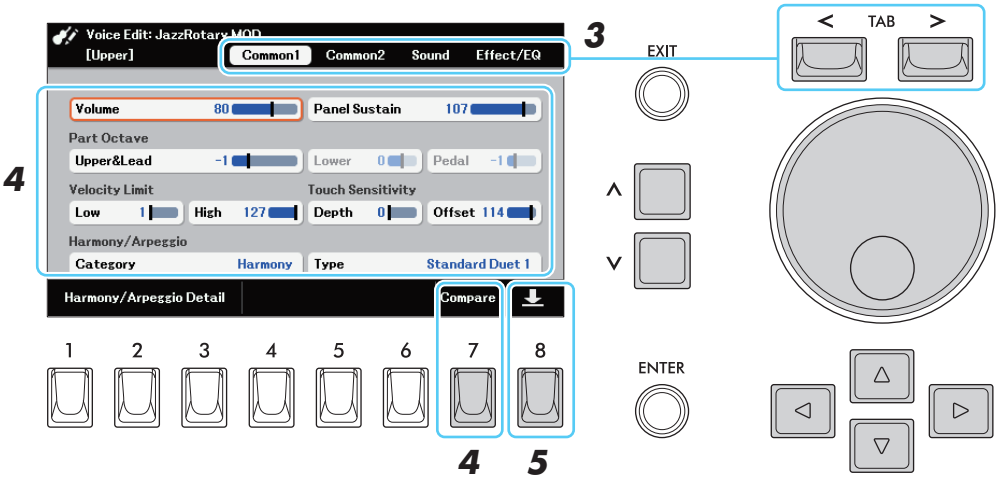
1 Select the desired Voice.

2 In the Voice Selection display, press the [7] (*Voice Edit*) button to call up the "*Voice Edit*" display.

NOTE If the button is not shown, press the [8] (***Close***) button to call it up.

3 Use the TAB [<][>] buttons to call up the relevant setting page.

For information on the available parameters in each page, see page 12. If you select an Organ Flutes Voice, only the "*Volume*" and "*Effect/EQ*" pages are available. For information on the "*Volume*" page, refer to the Owner's Manual.



4 As necessary, select the item (parameter) to be edited and edit it.

Pressing the [7] (***Compare***) button toggles the sound between the edited Voice and original (unedited) Voice to let you compare the sound as you play on the keyboard.

5 Press the [8] button to save your edited Voice.

For details on the Save operation, refer to "Basic Operations" in the Owner's Manual.

NOTICE

The settings will be lost if you select another Voice or turn off the power to the instrument without carrying out the Save operation.

Editable Parameters in the "*Voice Edit*" Displays

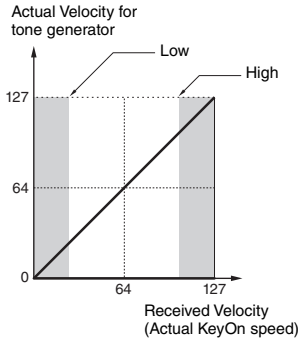
The Voice Set parameters are organized into five different pages. The parameters in each page are described separately, below. If you select an Organ Flutes Voice, there only exists the "***Volume***" and "***Effect/EQ***" pages. For information on the "***Volume***" page, refer to the Owner's Manual.

NOTE The available parameters differ depending on the Voice.

■ *Common1* page

Volume		Adjusts the volume of the current edited Voice.
Panel Sustain		Determines the sustain level applied to the edited Voice when the "***Sustain***" for the Voice part is turned on in the display called up via the [VOICE EFFECT] button.
Part Octave	***Upper&Lead***	Shifts the octave range of the edited Voice up or down in octaves. When the edited Voice is used as any of the Upper Keyboard Voice and Lead Voice, the "***Upper&Lead***" parameter is available; when the edited Voice is used as the Lower Keyboard Voice, the "***Lower***" parameter is available; when the edited Voice is used as the Pedal Voice, the "***Pedal***" parameter is available.
	Lower	
	Pedal	
Velocity Limit	***Low***	Determines the lowest/highest velocity value for your performance. When a value played on the keyboard is lower/higher than the value set here, the value input to the tone generator is converted to the value set. This does not affect the velocities of transmitting MIDI notes.
	High	

Velocity Limit Low/High



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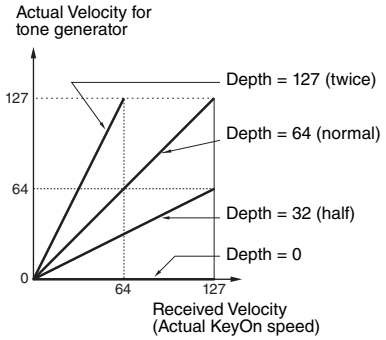
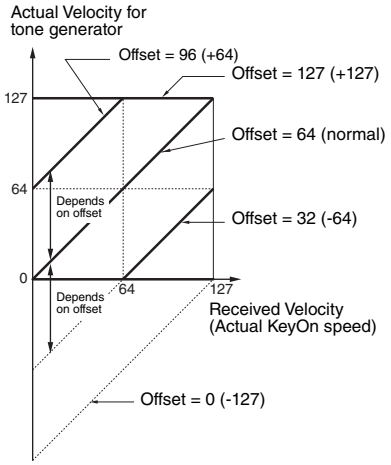
Touch Sensitivity	***Depth***	Adjusts the touch sensitivity (velocity sensitivity), or how greatly the volume responds to your playing strength. **Touch Sensitivity Depth** Changes to velocity curve according to VelDepth (with Offset set to 64)  **Touch Sensitivity Offset** Changes to velocity curve according to VelOffset (with Depth set to 64)  • ***Depth***: Determines the velocity sensitivity, or how much the level of the Voice changes in response to your playing strength (velocity). • ***Offset***: Determines the amount by which received velocities are adjusted for the actual velocity effect.
	Offset	
Harmony/ Arpeggio	***Category***	Basically the same as the "***Harmony/Arpeggio***" display (page 6), except that details can be set from the [1]–[3] (***Harmony/Arpeggio Detail***) button.
	Type	

• ***Harmony/Arpeggio Detail*** **window (called up via the [1]–[3] buttons)**
The parameters in this window are the same as the details on the "***Harmony/Arpeggio***" display (page 6).

■ *Common2* page

Mono/Poly	Determines whether the edited Voice is played monophonically or polyphonically. When selecting "***Mono***," you can play single, lead sounds such as brass instruments more realistically. Depending on the Voice, Portamento may be produced when notes are played with legato.
Portamento	Turns the Portamento function on or off. **NOTE** Portamento is a function that creates a smooth transition in pitch from the first note played on the keyboard to the next.
Portamento Type (Mono Only)	Determines the behavior of the notes of decaying sounds, such as a guitar, when they are played with legato with the edited Voice set to "***Mono***" above. • ***Normal***: The next note sounds after the previous note is stopped. • ***Legato***: The sound of the previously played note is maintained and only the pitch changes to that of the next note. • ***Crossfade***: The sound smoothly transitions from the previously played note to the next note. **NOTE** When "***Legato***" or "***Crossfade***" is selected, the behavior (other than what is described here) may be different from "***Normal***," depending on the panel settings.

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Velocity used for Crossfade Portamento	Determines which velocity takes priority for the 2nd and later notes (when one note is held and others are played) while Crossfade Portamento is in effect. • ***First Note***: The velocity of the first note played takes priority. In other words, the overall velocity of the sound is determined by the first note, and is maintained even when subsequent notes are played. • ***Latest Note***: The velocity of the most recently played note takes priority. In other words, the overall velocity of the sound is determined by the most recently played note.
Portamento Time Type	Determines how the actual pitch transition time is calculated from the "***Portamento Time***" value below. • ***Fixed Rate***: Determines the pitch change rate over a range of 0: max. to 127: min. The actual pitch transition time varies according to the interval between the two notes. • ***Fixed Time***: Determines the actual pitch transition time over a range of 0: min. to 127: max. The pitch change rate varies according to the interval between the two notes. **NOTE** The basic rule of Portamento Time is unchanged even if this setting is changed. When the value of Portamento Time is smaller, the actual time is shorter; when the value is larger, the actual time is longer. **NOTE** The greater the value of Portamento Time, the clearer the effect of this setting will be.
Portamento Time	Determines the portamento time (pitch transition time).

• ***Portamento Detail*** **window (called up via the [1]–[3] buttons)**

Fast Playing Portamento	***Time Threshold***	When the time between one note and the next is shorter than this Time Threshold, the Portamento Time parameter below is used instead of the original Portamento Time. This helps you play fast passages like trills or glissando with a specialized Portamento Time for the purpose.
	Portamento Time	Determines the Portamento Time for when the time between one note and the next is shorter than the "***Time Threshold***" parameter above. **NOTE** The Portamento Time is not affected by the following. • Intervals between a note and the next note • Portamento Time • Portamento Time Type • Velocity to Portamento Time • Min. Portamento Time
Velocity to Portamento Time	***Velocity Sensitivity***	Adjusts the Portamento Time by velocity. With a positive value, the Portamento Time gets shorter/longer when a velocity is greater/less than the Reference Velocity below. With a negative value, the behavior is the opposite. When the value is "0," the Portamento Time is fixed.
	Reference Velocity	This is the base value against which the Portamento Time is changed. When a played velocity is equal to the value set here, the original Portamento Time is maintained. The greater the difference between the played velocity and the Reference Velocity, the greater the altered Portamento Time becomes.
	Min. Portamento Time	Even if the Portamento Time is set to "0," the Portamento Time never becomes shorter than the Time set here, except while the "***Fast Playing Portamento***" is working.

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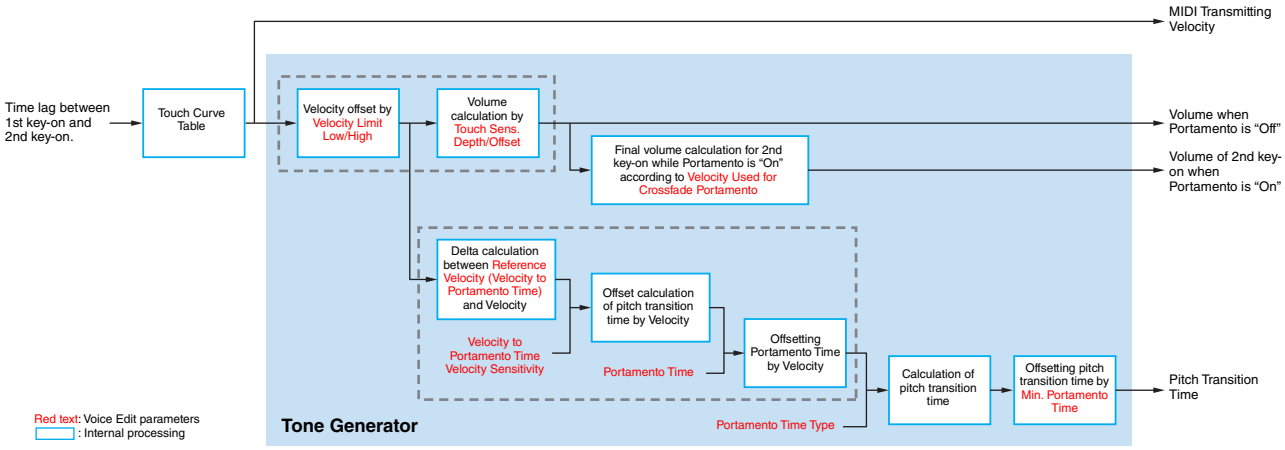
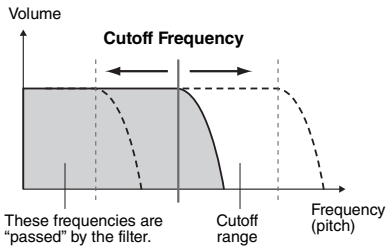
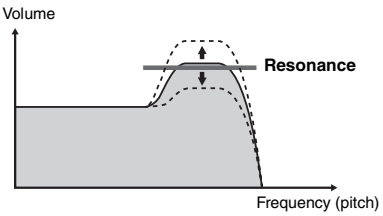
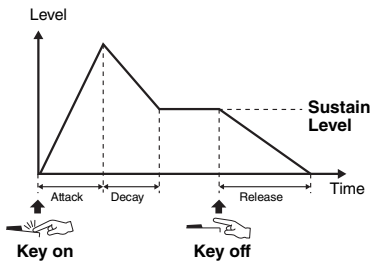


■ *Sound* page

Filter	Filter is a processor that changes the timbre or tone of a sound by either blocking or passing a specific frequency range. The parameters below determine the overall timbre of the sound by boosting or cutting a certain frequency range. In addition to making the sound either brighter or mellower, Filter can be used to produce electronic, synthesizer-like effects.	
	Cutoff	Determines the cutoff frequency or effective frequency range of the filter (see diagram). Higher values result in a brighter sound. 
	Resonance	Determines the emphasis given to the cutoff frequency (resonance), set in "***Cutoff***" above (see diagram). Higher values result in a more pronounced effect. 
EG	The EG (Envelope Generator) settings determine how the level of the sound changes in time. This lets you reproduce many sound characteristics of natural acoustic instruments—such as the quick attack and decay of percussion sounds, or the long release of a sustained piano tone. 	
	Attack	Determines how quickly the sound reaches its maximum level after the key is played. The lower the value, the quicker the attack.
	Decay	Determines how quickly the sound reaches its sustain level (a slightly lower level than maximum). The lower the value, the quicker the decay.
	Release	Determines how quickly the sound decays to silence after the key is released. The lower the value, the quicker the decay.

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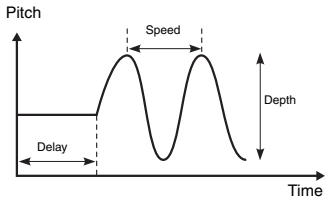
Vibrato	Vibrato is a quavering, vibrating sound effect that is produced by regularly modulating the pitch of the Voice. 	
	Depth	Determines the intensity of the Vibrato effect. Higher settings result in a more pronounced Vibrato.
	Speed	Determines the speed of the Vibrato effect.
	Delay	Determines the amount of time that elapses between the playing of a key and the start of the Vibrato effect. Higher settings increase the delay of the Vibrato onset.

• *Modulation Detail* window (called up via the [1]–[3] buttons)

Modulation (+)	The controller to which this function is assigned can be used to modulate the parameters below as well as the pitch (vibrato). Here, you can set the degree to which the controller modulates each of the following parameters.	
	Filter	Determines the degree to which the joystick modulates the Filter Cutoff Frequency. For details about the filter, see below.
	Amplitude	Determines the degree to which the joystick modulates the amplitude (volume).
	LFO Pitch	Determines the degree to which the joystick modulates the pitch, or the vibrato effect.
	LFO Filter	Determines the degree to which the joystick modulates the Filter modulation, or the wah effect.
	LFO Amplitude	Determines the degree to which the joystick modulates the amplitude, or the tremolo effect.

NOTE LFO (Low Frequency Oscillator) is a device which periodically varies (oscillates) a signal by using a low frequency wave. For example, a vibrato effect can be produced by applying LFO to the pitch, a wah effect can be produced by applying it to the filter, and a tremolo effect can be produced by applying it to the volume of a Voice.

■ *Effect/EQ* page

Reverb Depth		Adjusts the reverb depth.
Chorus Depth		Adjusts the chorus depth.
DSP	***Type***	Selects the DSP type which is applied when the DSP effect is turned on by the [1] button.
	Depth	Adjusts the DSP depth.
EQ High		Determines the "***Frequency***" and "***Gain***" of the EQ bands. For information about EQ, refer to page 82.
EQ Low		

• *Effect Detail* widow (called up via the [3]/[4] buttons)
The detailed settings for the selected DSP type can be made in this window. Select the desired parameter, and then adjust the value.

Disabling Automatic Selection of Voice Settings (Voice Set Filter)

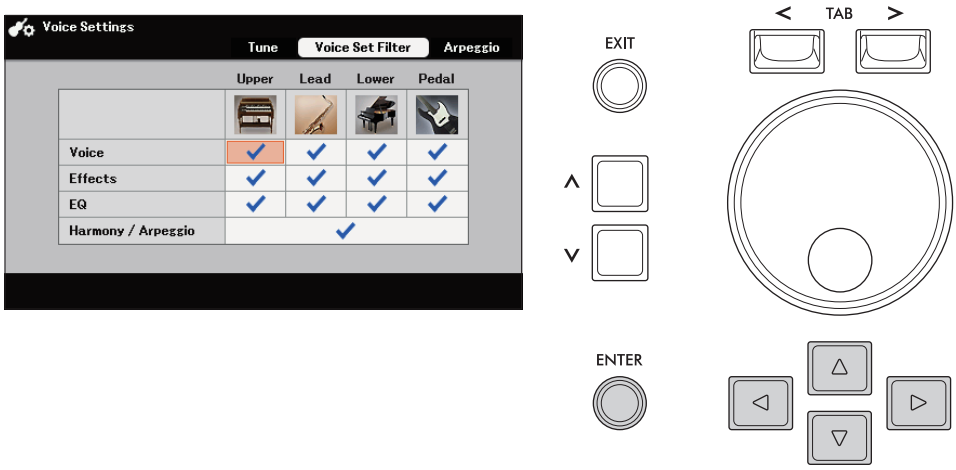
Each Voice is linked to its default Voice Set parameter settings, equivalent to those in the "***Voice Edit***" display (page 11). Although usually these settings are automatically called up by selecting a Voice, you can also disable this feature. For example, if you want to change the Voice yet keep the same effects, remove the checkmark of the "***Effects***" parameter for the desired part.

1 Call up the operation display.

Voice Selection display → [6] (***Settings***) → TAB [<][>] ***Voice Set Filter***

2 Move the cursor to the desired position, and then press the [ENTER] button to enter (or remove) checkmarks to determine whether the parameter group is called up or not for each Voice part.

For each part, only the parameter settings with checkmarks are called up automatically together with the Voice selection. Refer to "***Parameter Chart***" in the Data List (separate PDF) for details on which settings belong to the parameter group.



Adding New Contents—Expansion Packs

Installing Expansion Packs lets you add a variety of optional Voices and Styles to the "***Expansion***" folder in the User drive.

Installing the Expansion Pack data from the USB Flash Drive

The file which contains the bundled Expansion Packs ("***.ppi," "***.cpi," "***.pqi," or "***.cqi") to be installed to the instrument is referred to as the "Pack Installation file." Only one Pack Installation file can be installed to the instrument. If you want to install multiple Expansion Packs, bundle the packs together on your computer by using the "Yamaha Expansion Manager" software. For information on how to use the software, refer to the accompanying manual.

NOTICE

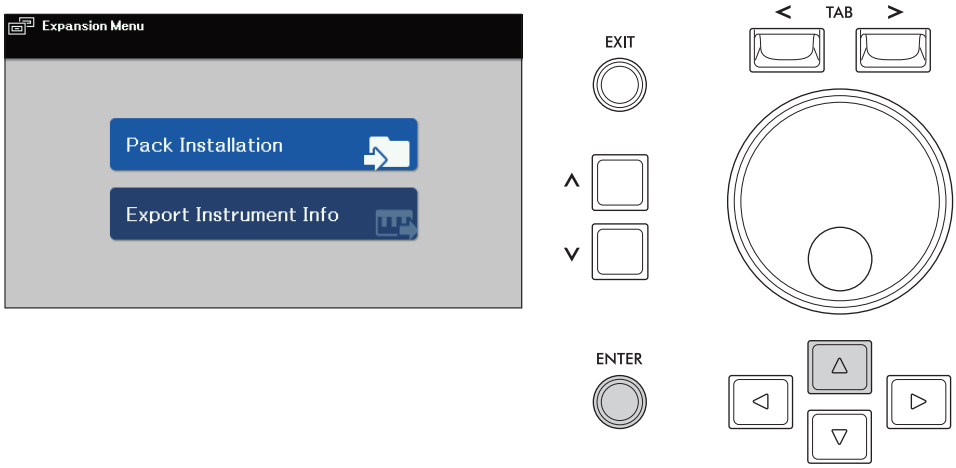
You will need to restart the instrument after installation has been completed. Make sure to save all data currently being edited beforehand, otherwise it will be lost.

NOTE To obtain the Yamaha Expansion Manager software and its manuals, access the Yamaha Downloads website: https://download.yamaha.com/

1 Connect the USB flash drive containing the desired Pack Installation file to the [USB TO DEVICE] terminal.

2 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◄][►] ***Expansion***, [ENTER] → Cursor button [▲] ***Pack Installation,*** [ENTER]



3 In the File Selection display, select the desired Pack Installation file, and then press the [6] (*Install*) button.

4 Follow the onscreen instructions.

This installs the selected Pack data to the "***Expansion***" folder in the User drive.

NOTE When a message appears saying the User drive has no space available, move the file from User drive to USB flash drive, then install the file again. For instructions on moving files, refer to "Basic Operations" in the Owner's Manual.

Song, Style or Registration Memory containing Expansion Voices or Styles

If the Expansion Pack data does not exist in the instrument, Song, Style or Registration Memory containing any Expansion Voices or Styles will not sound properly or cannot be called up. We recommend that you write down the name of the Expansion Pack when you create the data (Song, Style or Registration Memory) using Expansion Voices or Styles, so that you can easily find and install the Expansion Pack when necessary.

Uninstalling the Expansion Pack data

You can uninstall Expansion Pack data by carrying out the Reset operation for "***Files & Folders***" (see page 97).

NOTICE

When you reset "*Files & Folders*," not only the Expansion Pack data, but all other files and folders in the User drive are deleted.

Saving the Instrument Info File to the USB Flash Drive

If you use the "Yamaha Expansion Manager" software to manage the Pack data, you need to register the Instrument Info file from the instrument as described below. For information on how to use the software, refer to the accompanying manual.

1 Connect the USB flash drive to the [USB TO DEVICE] terminal.

NOTE Before using a USB flash drive, be sure to read "Connecting USB Devices" in the Owner's Manual, Chapter 10.

2 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◄][►] ***Expansion***, [ENTER] → Cursor button [▼] ***Export Instrument Info***, [ENTER]

3 Follow the onscreen instructions.

The Instrument Info file will be saved to the root directory in the USB flash drive. The saved file is named "***ELA-1_InstrumentInfo.n27***."

2 Styles

Contents

Style Types (Characteristics)

The particular type of Style is indicated above the Style name on the Style Selection display or the Main display. The defining characteristics of these Styles and their performance advantages are described below.

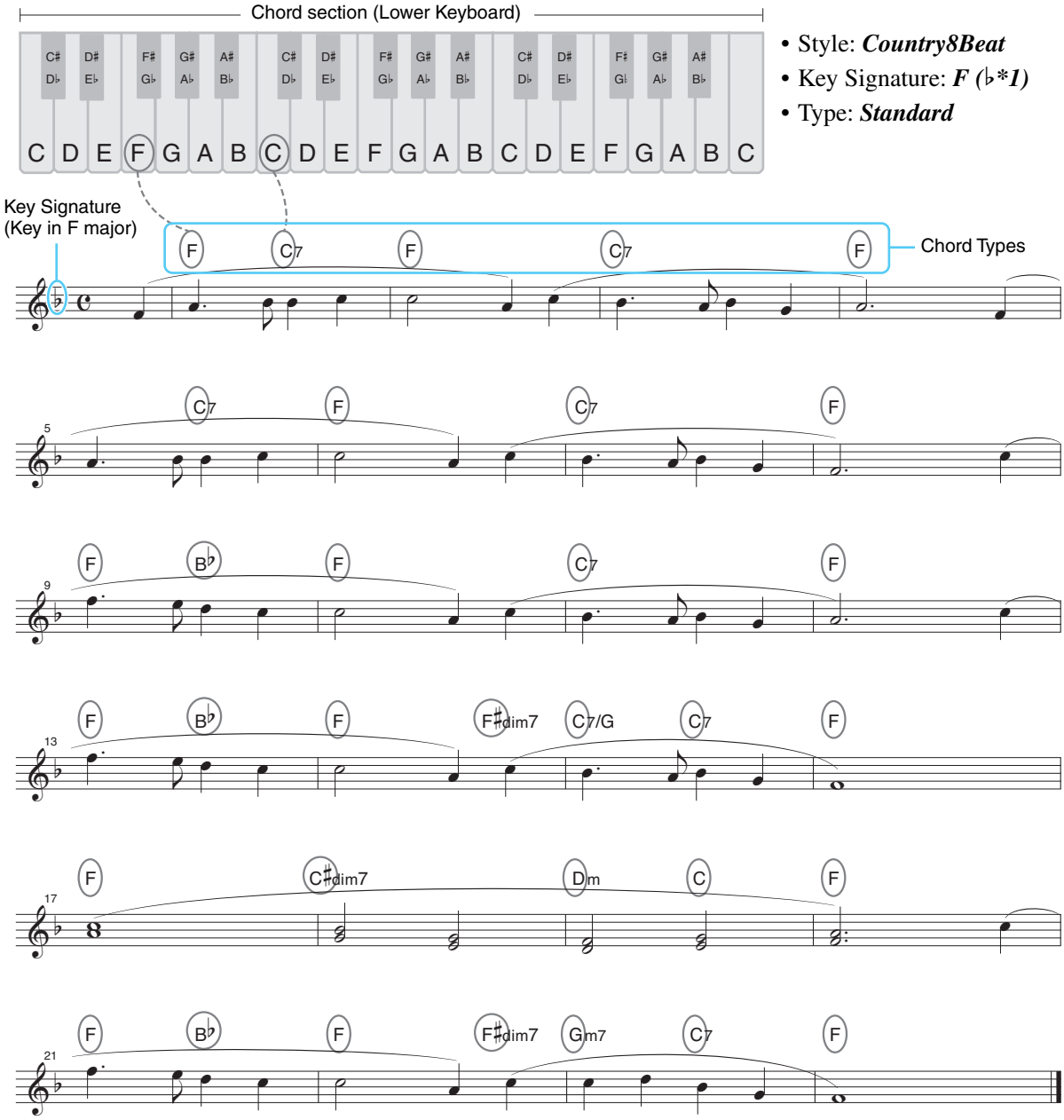
- ***Adaptive***: These Styles can be used with the Adaptive Style function in which the Main variation changes automatically depending on how dynamically you play the keyboard—without your needing to press the MAIN VARIATION buttons. For details, refer to the Owner's Manual.
- ***Unison***: These Styles can be used with the Unison & Accent function, which lets you play in unison and/or add accents during Style playback. For details, refer to the Owner's Manual.
- ***Session***: These Styles provide even greater realism and authentic backing by mixing in original chord types and changes, as well as special riffs with chord changes, with the Main sections. These have been programmed to add "spice" and a professional touch to your performances of certain songs and in certain genres. Keep in mind, however, that the Styles may not necessarily be appropriate—or even harmonically correct—for all songs and for all chord playing. In some cases for example, playing a simple major triad for a country song may result in a "jazzy" seventh chord, or playing an on-bass chord may result in inappropriate or unexpected accompaniment.
- ***Free Play***: These Styles are characterized by rubato performance. You can perform freely with remarkably expressive accompaniment, without being constrained by a strict tempo.
- ***DJ***: These Styles contain their own special chord progressions, so you can add chord changes to your performance simply by changing the root key. The Multi Pad data in the "***DJ Phrase***" category are specially created for these Styles. You can call up the suitable Multi Pads by using the OTS Link function.

Playing Style with the Smart Chord feature

If you want to fully enjoy playing in various Styles but don't know how to play the appropriate chords, set the Chord Fingering type to "***Smart Chord***." This lets you control Styles with just a single finger, as long as you know the key of the music you're playing—even if you don't know any chord fingering such as major, minor, diminished and so on. Appropriate chords suited for the music genre will sound whenever you press a single note, as if you were playing the "right" chords.

Try out the Smart Chord feature with the following sample score. Simply play the root notes of the chords indicated in this score with your left hand as you play the melody with your right hand, and listen to how the chords with their notes and voicings match the music genre you've set.

■ "Home Sweet Home"



Try also selecting Style "***EasyListening***" (via the [LATIN & JAZZ] button) by using this score. The Smart Chord type changes to "***Jazz***," letting you experience a different feel in the Song.

NEXT PAGE

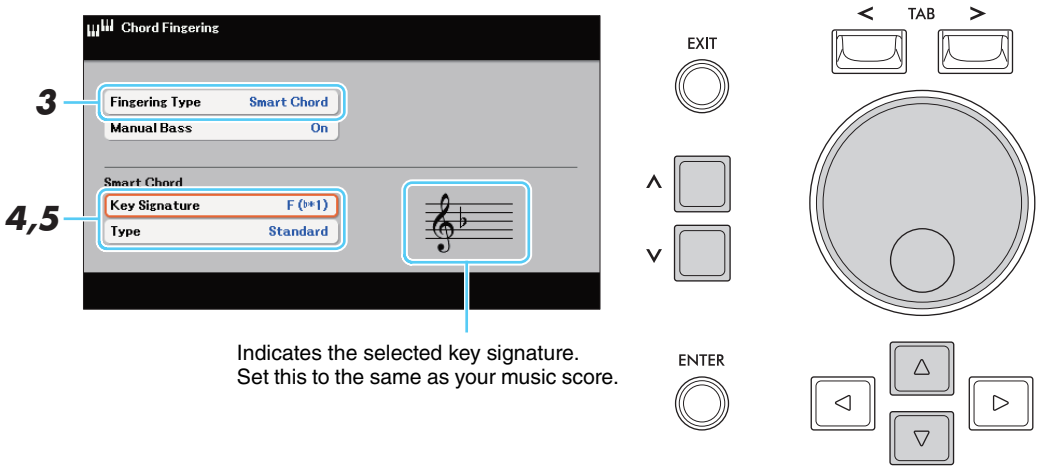
1 **Select the desired Style and make sure that the STYLE [ACMP] button is on (the lamp is lit).**

For the example score, press the [COUNTRY & BALLROOM] button, and then select "***Country8Beat***."

2 **Call up the operation display.**

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Chord Fingering***, [ENTER]

3 **Move the cursor to "*Fingering Type*," and then select "*Smart Chord*."**



4 **Move the cursor to "*Key Signature*," and then select the key signature.**

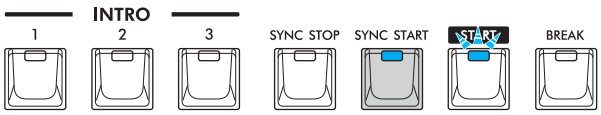
Make sure to select the key signature which is same as that on your music score, or your desired key for playing.
For the example score, select "***F (♭*1)***."

5 **Move the cursor to "*Type*," and then select the type of music genre.**

The type selected here determines the specific chord assignment for each scale note in the Chord section. Although selecting a Style in step 1 will automatically set the optimum type, you can select a different type here for more appropriate results, if necessary.
For the example score, select "***Standard***."

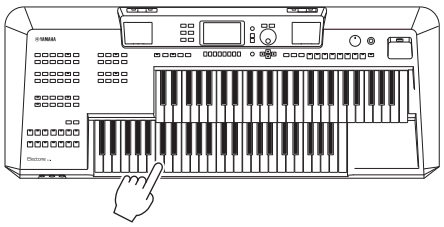
NOTE Each music type assumes only typical or conventional chord changes for the Style.
NOTE Examples of the chord assignments are provided in the Smart Chord Chart on page 23.

6 **Press the [SYNC START] button to enable synchronized start.**



7 **According to the music score or the chord progression of your performance, play only the root key on the Lower Keyboard (chord section).**

Pressing a key will start playback of the Style.



Smart Chord Chart

This chart shows how the chord is played when you simply press the root note of chord in C major or A minor for each "***Type***." The chord changes depending on the selected "***Type***" and "***Key Signature***." Examples of F major for Pop and E minor for Jazz are also shown below.

Smart Chord setting		Root Note											
Type	Key Signature	C ⇩	C♯ ⇩	D ⇩	D♯ ⇩	E ⇩	F ⇩	F♯ ⇩	G ⇩	G♯ ⇩	A ⇩	A♯ ⇩	B ⇩
Standard	C major	C	C♯dim	Dm	E♭	Em	F	F♯dim	G7	G♯dim	Am	B♭	G/B
	A minor	C	C♯dim	Dm	D♯dim7	E7	F	F♯dim	G7	E7/G♯	Am	B♭	$Bm7^{♭5}$
Pop	C major	Cadd9	C♯dim7	Dm7	E♭dim7	Em7	FM7	F♯dim	G7	G♯dim	Am7	B♭	G/B
	A minor	C	C♯dim7	Dm7	D♯dim7	E7	FM7	F♯dim	G7	E7/G♯	Am7	B♭	G/B
Jazz	C major	$CM7^{9}$	C♯dim7	$Dm7^{9}$	E♭dim7	Em7	$F6^{9}$	F♯dim7	$G7^{9}$	G♯dim	$Am7^{11}$	B♭7	$Bm7^{♭5}$
	A minor	$CM7^{9}$	C♯dim7	$Dm7^{9}$	D♯dim7	E7	$FM7^{9}$	$F♯m7^{♭5}$	$G7^{9}$	G♯7	Am^{add9}	B♭7	$Bm7^{♭5}$
Dance	C major	C	C♯dim	Dm	E♭	Em	F	F♯dim	G	G♯dim	Am	B♭	G/B
	A minor	Cm	C♯m	Dm	D♯m	Em	Fm	F♯m	Gm	G♯	Am	B♭	Bm
Simple	C major	C	C♯dim	Dm	E♭	E1+5	F1+5	F♯dim	G7	G♯dim	Am	B♭	G/B
	A minor	C	C♯dim	Dm	D♯dim7	E1+5	F	F♯dim	G7	E7/G♯	Am	B♭	$Bm7^{♭5}$

Example chords for key of F major, Pop Type setting.

Pop	F major	C7	C♯dim	Dm7	E♭	C/E	Fadd9	F♯dim7	Gm7	A♭dim7	Am7	B♭M7	Bdim

Example chords for key of E minor, Jazz Type setting.

Jazz	E minor	$CM7^{9}$	$C♯m7^{♭5}$	$D7^{9}$	D♯7	Em^{add9}	F7	$F♯m7^{♭5}$	$GM7^{9}$	G♯dim7	$Am7^{9}$	A♯dim7	B7

Learning How To Play Specific Chords (Chord Tutor)

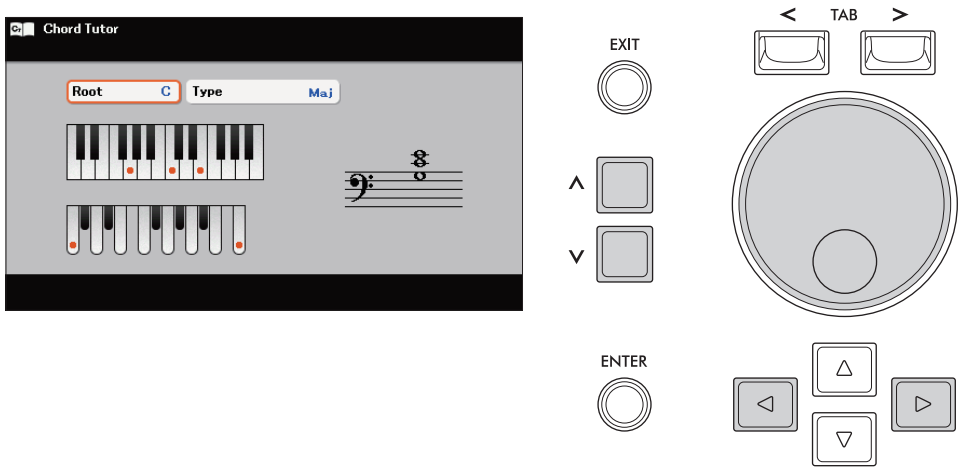
If you know the name of a chord but don't know how to play it, the Chord Tutor function conveniently shows you which notes to play.

1 Call up the operation display.

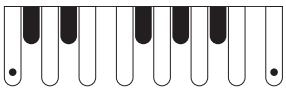
[MENU] → Cursor buttons [▲][▼][◀][▶] ***Chord Tutor***, [ENTER]

2 Specify the desired chord type ("*Root*" and "*Type*") to see which notes you should play for that chord.

NOTE Depending on the chord, some notes may be omitted.

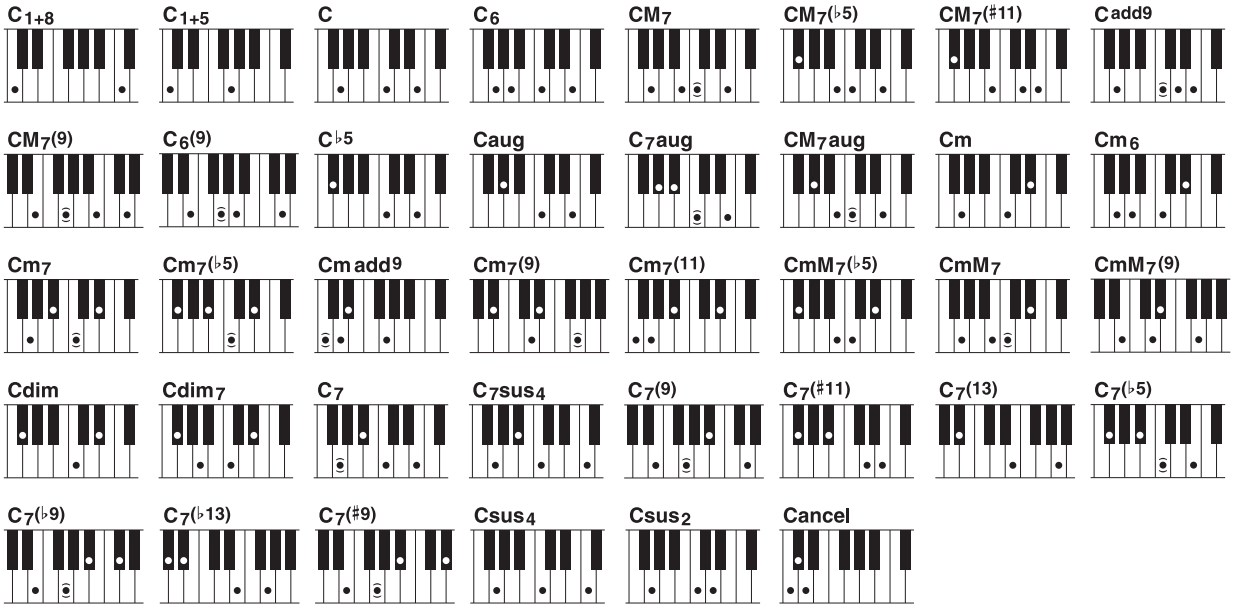


Chord Types for Style playback



Fingering Type = ***Fingered On Bass***

Manual Bass= ***On***



Chord Name [Abbreviation]	Normal Voicing*	Display for root "C"
1+8	1+8	C1+8
1+5	1+5	C1+5
Major [M]	1+3+5	C
Sixth [6]	1+(3)+5+6	C6
Major seventh [M7]	1+3+(5)+7	CM7
Major seventh flatted fifth [M7♭5]	1+3+♭5+7	CM7(♭5)
Major seventh add sharp eleventh [M7(♯11)]	1+(2)+3+♯4+5+7	CM7(♯11)
Add ninth [add9]	1+2+3+5	Cadd9
Major seventh ninth [M7_9]	1+2+3+(5)+7	CM7(9)
Sixth ninth [6_9]	1+2+3+(5)+6	C6(9)
Flatted fifth [(♭5)]	1+3+♭5	C♭5
Augmented [aug]	1+3+♯5	Caug
Seventh augmented [7aug]	1+3+♯5+♭7	C7aug
Major seventh augmented [M7aug]	1+(3)+♯5+7	CM7aug
Minor [m]	1+♭3+5	Cm
Minor sixth [m6]	1+♭3+5+6	Cm6
Minor seventh [m7]	1+♭3+(5)+♭7	Cm7
Minor seventh flatted fifth [m7♭5]	1+♭3+♭5+♭7	Cm7(♭5)
Minor add ninth [m(9)]	1+2+♭3+5	Cm add9
Minor seventh ninth [m7(9)]	1+2+♭3+(5)+♭7	Cm7(9)
Minor seventh eleventh [m7(11)]	1+(2)+♭3+4+5+(♭7)	Cm7(11)
Minor major seventh flatted fifth [mM7♭5]	1+♭3+♭5+7	CmM7(♭5)
Minor major seventh [mM7]	1+♭3+(5)+7	CmM7
Minor major seventh ninth [mM7(9)]	1+2+♭3+(5)+7	CmM7(9)
Diminished [dim]	1+♭3+♭5	Cdim
Diminished seventh [dim7]	1+♭3+♭5+6	Cdim7
Seventh [7]	1+3+(5)+♭7	C7
Seventh suspended fourth [7sus4]	1+4+5+♭7	C7sus4
Seventh ninth [7(9)]	1+2+3+(5)+♭7	C7(9)
Seventh add sharp eleventh [7(♯11)]	1+(2)+3+♯4+5+♭7	C7(♯11)
Seventh add thirteenth [7(13)]	1+3+(5)+6+♭7	C7(13)
Seventh flatted fifth [7♭5]	1+3+♭5+♭7	C7(♭5)
Seventh flatted ninth [7(♭9)]	1+♭2+3+(5)+♭7	C7(♭9)
Seventh add flatted thirteenth [7(♭13)]	1+3+5+♭6+♭7	C7(♭13)
Seventh sharp ninth [7(♯9)]	1+♯2+3+(5)+♭7	C7(♯9)
Suspended fourth [sus4]	1+4+5	Csus4
One plus two plus five [sus2]	1+2+5	Csus2
cancel	1+♭2+2	Cancel

NOTE Notes in parentheses can be omitted.

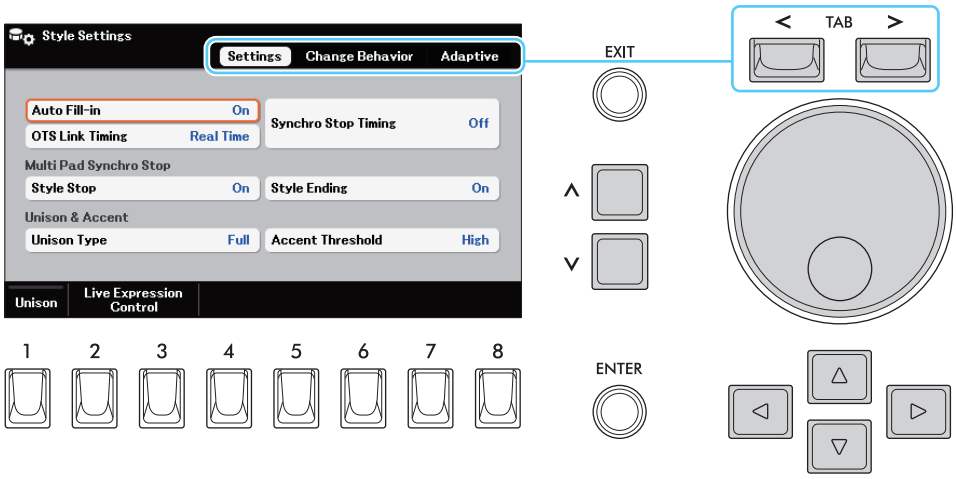
NOTE The "cancel" indication refers to Chord Cancel, which stops the last selected chord from playing and leaves only the drums/rhythm.

Style Playback Related Settings

The instrument has a variety of settings for Style playback which can be accessed in the display below.

1 **In the Style Selection display, press the [6] (*Settings*) button to call up the "*Style Settings*" display.**

2 **Use the TAB [<][>] buttons to select the page, and then make the desired settings.**



■ ***Settings* page**

Auto Fill-in		When this is set to "***On***," pressing any of the MAIN VARIATION [A] – [D] buttons as you play automatically plays a fill-in section.
OTS Link Timing		This applies to the OTS Link function. This parameter determines the timing in which the One Touch Settings change with the MAIN VARIATION [A]–[D] change. (The [OTS LINK] button must be on.) • ***Real Time***: One Touch Setting is immediately called up when you press one of the MAIN VARIATION [A]–[D] buttons. • ***Next Bar***: One Touch Setting is called up at the next measure, after you press one of the MAIN VARIATION [A]–[D] buttons.
Synchro Stop Timing		This determines how long you can hold a chord before the Synchro Stop function is automatically canceled. When the [SYNC STOP] button is turned on, and this is set to a value other than "***Off***," this automatically cancels the Synchro Stop function if you hold a chord for longer than the time set here. This conveniently resets Style playback control to normal, letting you release the keys and still have the Style play. In other words, if you release the keys sooner than the time set here, the Synchro Stop function works.
Multi Pad Synchro Stop	***Style Stop***	Determines whether or not repeat playback of a Multi Pad stops when Style playback is stopped.
	Style Ending	Determines whether or not repeat playback of a Multi Pad stops when the Ending section of Style is played back.
Unison & Accent		For these parameters and the [1] (***Unison***) and [2]/[3] (***Live Expression Control***) buttons, refer to the "Unison & Accent" section in the Owner's Manual.

NEXT PAGE

■ ***Change Behavior*** **page**

Section Set	Determines the default section that is automatically called up when selecting different Styles (when Style playback is stopped). When set to "***Off***" and Style playback is stopped, the active section is maintained even if a different Style is selected. When any of the Main A–D sections is not included in the Style data, the nearest section is automatically selected. For example, when Main D is not contained in the selected Style, Main C will be called up.
Tempo	This determines whether the tempo setting of the Style changes or not when you change Styles. • ***Reset***: The tempo always changes to that of the initial default tempo for the selected Style. • ***Hold***: During Style playback, the previous tempo setting is maintained. When Style playback is stopped, the tempo changes to that of the initial default tempo for the selected Style. • ***Lock***: The previous tempo setting is always maintained. When the Style tempo is locked to the previous setting, a padlock icon appears above the Style name on the Main display.
Part On/Off	This determines whether the Style Channel On/Off status changes or not when you change Styles. • ***Reset***: All Style Channels are set to on. • ***Hold***: During Style playback, the Channel On/Off status of the previous Style is maintained. When Style playback is stopped, all Style Channels are set to on. • ***Lock***: The Channel On/Off status of the previous Style is always maintained.

■ ***Adaptive*** **page**

This function is fully explained in the Owner's Manual. Refer to the "Adaptive Style" section in the Owner's Manual.

Creating/Editing Styles (Style Creator)

A Style is made up of the different Sections (Intro, Main, Ending, etc.) and each Section has separate channels (rhythm pattern, bass line, chord backing, pad, or phrase, each of which is referred to as a "Source Pattern"). With the Style Creator function, you can create an original Style by separately recording the channels, or by copying pattern data from other existing Styles.

Basic Procedure for Creating a Style

1 Select the desired Style to be used as the basis for the new Style.

If you want to create a Style from scratch, skip this step.

2 Call up the Style Creator display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Style Creator***, [ENTER]

A message appears asking if you want to edit the selected style or create a new one.

3 Press one of the [5]/[6] (*Current Style*) buttons to edit the selected Style, or press one of the [7]/[8] (*New Style*) buttons to create a new Style.

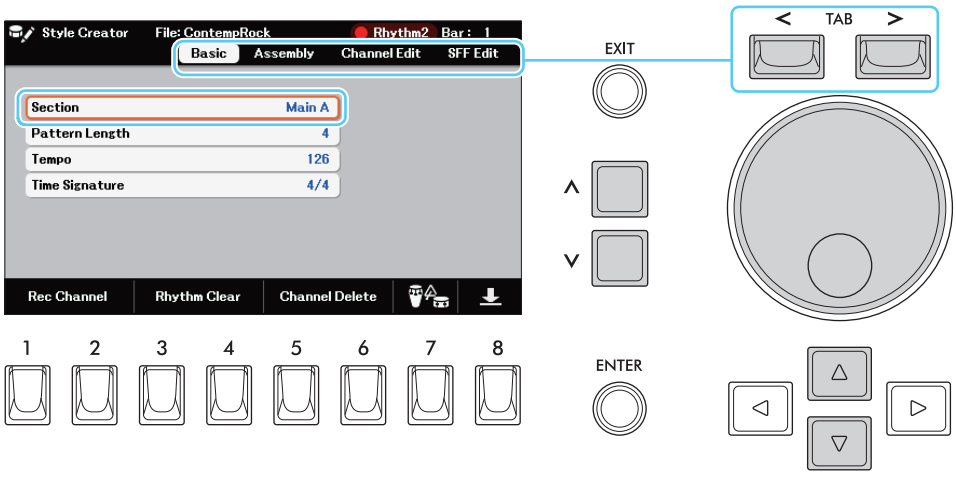
When one of the [7]/[8] buttons is pressed, a blank Style (named "***New Style***") for recording is automatically created.

4 On the "*Basic*" page, move the cursor to "*Section*," and then select the Section to create.

(If the "***Rec Channel***" window is shown, press the [EXIT] button.)
As necessary, make the following settings.

- For the current Section, set the "***Pattern Length***."
- For the entire current Style, set the "***Tempo***" and "***Time Signature***."

NOTE Keep in mind that changing the Time Signature clears the data from all sections, and you will need to create the Style from scratch.
NOTE When editing a Style that contains time signature data for a particular section (Styles with irregular time signatures), the time signature for this section will be maintained even after editing or recording. Keep in mind that changing the Time Signature here clears the data for that section.



5 Create the Source Pattern for each channel.

- **Realtime Recording on the "*Basic*" page (page 29)**
  Lets you record the Style by simply playing the keyboard.
- **Style Assembly on the "*Assembly*" page (page 33)**
  Lets you copy various patterns from other preset Styles or Styles you have already created.

NEXT PAGE

6 Edit the already recorded channel data.

- **Editing the channel data on the "*Channel Edit*" page (page 34)**
  Lets you change the rhythmic feel, quantizing and velocity, etc.
- **Editing the SFF parameters on the "*SFF Edit*" page (page 37)**
  Lets you edit the SFF (Style File Format) related parameters of the already recorded channels.
- **Editing the rhythm part on the "*Basic*" page by using the Drum Setup function (page 42)**
  Lets you edit the rhythm part of the Style, such as changing the sounds of the individual instruments.

7 Repeat steps 4–6 as desired.

8 Press the [8] button on any of the pages to save the created Style.

For instructions, refer to "Basic Operations" in the Owner's Manual.

NOTICE

The created Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation.

In the "***Basic***" page, you can record your original rhythm pattern from the keyboard.

Realtime Recording Characteristics in the Style Creator

- **Loop Recording**
  Style playback repeats the rhythm patterns of several measures in a "loop," and Style recording is also done using loops. For example, if you start recording with a two-measure Main section, the two measures are repeatedly recorded. Notes that you record will play back from the next repetition (loop), letting you record while hearing previously recorded material.
- **Overdub Recording**
  This method records new material to a channel already containing recorded data, without deleting the original data. In Style recording, the recorded data is not deleted, except when using functions such as "***Rhythm Clear***" (page 30) and "***Channel Delete***" (pages 30, 32). For example, if you start recording with a two-measure Main section, the two measures are repeated many times. Notes that you record will play back from the next repetition, letting you overdub new material to the loop while hearing previously recorded material. When creating a Style based on an existing internal Style, overdub recording is applied only to the rhythm channels. For all other channels (except rhythm), you need to delete the original data before recording.

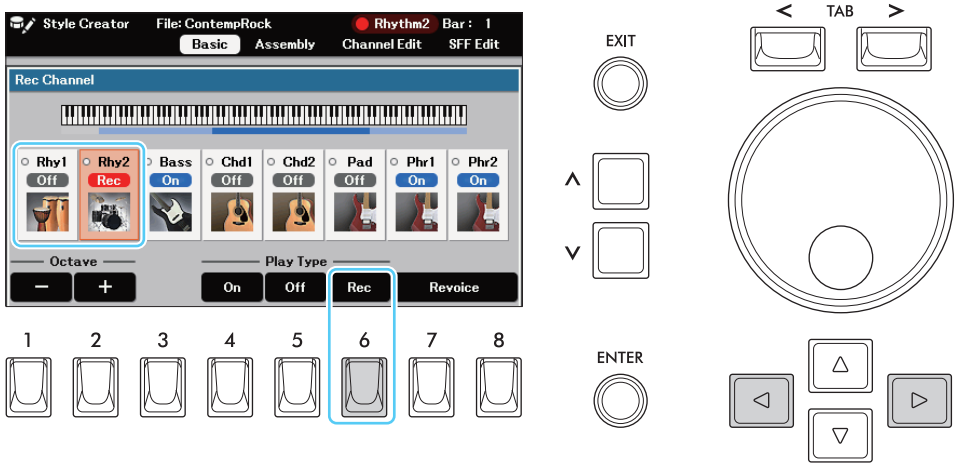
■ Recording Rhythm Channels 1–2

The procedure below applies to step 5 in the Basic Procedure on page 27.

1 **In the "*Basic*" page, press one of the [1]/[2] (*Rec Channel*) buttons to call up the "*Rec Channel*" window.**

2 **Move the cursor to the "*Rhy1*" or "*Rhy2*" channel, and then press the [6] (*Rec*) button to set the channel as the recording target.**

A Rhythm channel can be selected as the recording target no matter whether already recorded data is included or not. If already recorded data is included in the selected channel, you can record notes additionally to the existing data.



3 **If necessary, select a Voice, and then practice the rhythm pattern to be recorded.**

Press one of the [7]/[8] (***Revoice***) buttons to call up the Voice Selection display for the selected channel, and then select the desired Voice—in this case, a Drum Kit, since we'll be creating a rhythm. After selecting, press the [EXIT] button to return to the original Style Creator display. With the selected Voice, practice the rhythm pattern to be recorded.

- **Available Voices for recording**
  For the "***Rhy1***" channel, all Voices can be used for recording.
  For the "***Rhy2***" channel, only Drum/SFX Kits can be used for recording.

NOTE For information on which key to play for each Drum/SFX sound, refer to the "Drum/Key Assignment List" in the Data List on the website.

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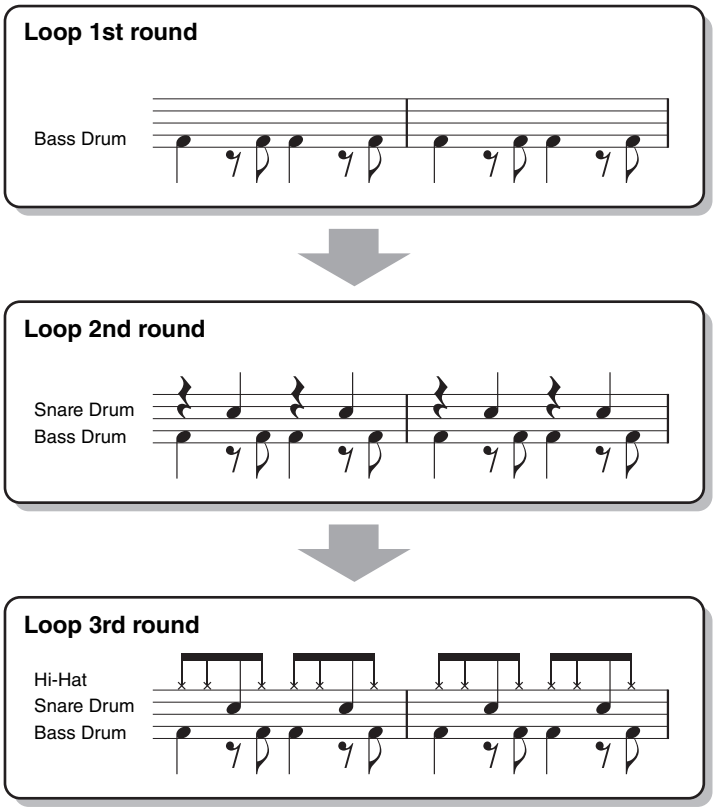
4 Press the STYLE [START] button to start recording.

As the already recorded data plays back, press the [4] (***On***) or [5] (***Off***) button on the "***Rec Channel***" window to turn each channel on or off as desired.
If necessary, you can delete channel data. On the "***Basic***" page, press one of the [5]/[6] (***Channel Delete***) buttons to call up the operation window. In the window, select the desired channel and press one of the [1]/[2] (***Delete***) buttons to set the channel as the delete target. After selecting all channels to delete, press the [8] (***Execute***) button to actually delete the channel data.

5 As soon as loop playback returns to the first beat in the first measure, start playing the rhythm pattern to be recorded.

If the rhythm is difficult to play in real time, break it up into individual parts and play each separately as the playback loops, as shown in the example below.



Deleting mistakenly recorded notes (Rhythm Clear)
If you make a mistake or play any wrong notes, you can delete those specific notes. While holding down one of the [3]/[4] (***Rhythm Clear***) buttons on the "***Basic***" page, press the corresponding key on the keyboard.

6 Press the [START] button to stop playback.

If you want to add more notes, press the [START] button again to continue recording.

7 Move the cursor to the "*Rhy1*" or "*Rhy2*" channel on the "*Rec Channel*" window, and then press the [4] (*On*) button to disable recording.

If the "***Rec Channel***" window is not shown, press one of the [1]/[2] (***Rec Channel***) buttons.

NOTICE

The created Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation (step 8 on page 28).

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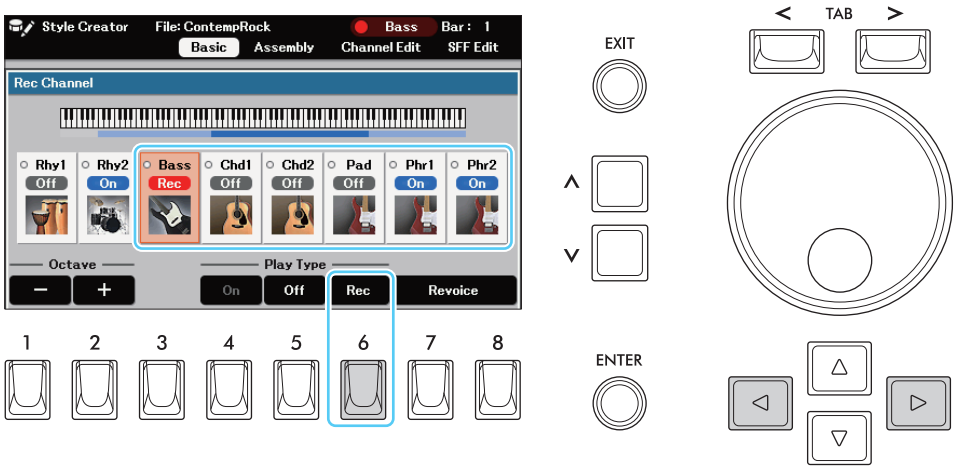
■ Recording to the Bass, Chord 1–2, Pad and Phrase 1–2 Channels

The procedure below applies to step 5 in the Basic Procedure on page 27.

1 **In the "*Basic*" page, press one of the [1]/[2] (*Rec Channel*) buttons to call up the "*Rec Channel*" window.**

2 **Move the cursor to the desired channel (other than "*Rhy1*" and "*Rhy2*"), and then press the [6] (*Rec*) button to set the channel as the recording target.**

If a preset Style is selected, a confirmation message appears, prompting you whether or not to delete the already recorded data of the selected channel. Press the [7] (***OK***) button to delete data and the selected channel is specified as the recording target. Note that channel data other than the Rhythm channels of the preset Style cannot be overdubbed.



3 **If necessary, select a Voice, and then practice the bass line, chord backing, or phrase to be recorded.**

Press one of the [7]/[8] (***Revoice***) buttons to call up the Voice Selection display for the selected channel, and then select the desired Voice. After selecting, press the [EXIT] button to return to the original display. With the selected Voice, practice the phrase or chord backing to be recorded.

- **Available Voices for recording**
  Any except for the Drum Kit/SFX kit Voices can be used for recording.
- **Record a phrase in CM7 (for playing appropriate notes while chords change during performance)**

  Guidelines for recording a Main or Fill-in
  With the default initial settings, the "***Source Root/Source Chord***" (page 38) is set to CM7. This means that you should record a Source Pattern which is to be triggered by specifying CM7 during normal performance. Record a bass line, phrase or chord backing which you want to hear when CM7 is specified. Specifically, see the guidelines below.
  - Use the notes from the C Ionian scale, which is the primary chord scale of CM7 in the key of C Major—excepting the following notes, which should be avoided:
    - "F" (4th)
    - "D" (tension 9th, which doesn't work with chords with "♭9th" or "♯9th" in the Style engine)

    In other words, use only the notes C, E, G, A, and B (Root, 3rd, 5th, 6th or 13th and Maj7th).
  - Use only the chord tones when recording the Chord and Pad channels (i.e., C, E, G, and B).

C = Chord tones
R = Recommended notes

* When recording the Source Pattern, you should use the "C" and "R" notes based on the above, and avoid the others.

If you observe these guidelines, Style playback notes are appropriately converted for most chords depending on the chord changes you make during your performance.

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Guidelines for recording an Intro or Ending

These Sections are designed assuming that the chord is not changed during playback. This is why you need not observe the guidelines for Main and Fill-in Sections described above, and you can create special a special chord progression in recording. However, you should follow the guidelines below to ensure that your phrases work well in common situations, since the "***Source Root/Source Chord***" (page 38) is set to CM7 by default.

- When recording the Intro, make sure that the phrase with the chord progression you record leads properly into the its tonic chord at the end of the Intro. For example, in the key of C Major, the G7 chord is commonly used, since it strongly leads back into the tonic chord of the key of C Major.
- When recording the Ending, make sure that the phrase with the chord progression you record resolves to the original key at the beginning of the Ending. Recommended chords, which resolve to the key smoothly, are the diatonic chords (i.e., CM7, Dm7, Em7, FM7, G7, Am7, and Bm7(♭5) in the key of C Major).

- **Set the Source Root/Chord if necessary**

  Although the default Source Root/Chord is set to CM7 as described above, you can change this to any desired one in which you can play easily. Call up the "***SFF Edit***" page, set the Source Root and Chord to the favorite or desired Root and Chord type. Keep in mind that when you change the Source Chord from the default CM7 to another chord, the chord notes and recommended notes will also change. For details, refer to page 37.

4 Press the STYLE [START] button to start recording.

As the already recorded data plays back, press the [4] (***On***) or [5] (***Off***) button on the "***Rec Channel***" window to turn on or off each channel as desired.

If necessary, you can delete channel data. On the "***Basic***" page, press one of the [5]/[6] (***Channel Delete***) buttons to call up the operation window. In the window, select the desired channel and press one of the [1]/[2] (***Delete***) buttons to set the channel as the delete target. After selecting all channels to delete, press the [8] (***Execute***) button to actually delete the channel data.

5 As soon as loop playback returns to the first beat in the first measure, start playing the bass line, chord backing or phrase to be recorded.

6 Press the [START] button to stop playback.

If you want to add more notes, press the [START] button again to continue recording.

- **To hear the playback sound of the already recorded channels with another Source Root/Chord:**

  1) Call up the "***SFF Edit***" page, and then use the [3]/[4] (***Target Channel***) buttons to set the target channel to "***Rhythm1***" or "***Rhythm2***."

  2) Press the [START] button to start playback.

  3) On the "***SFF Edit***" page, set the "***Source Root***" and "***Source Chord***" to the desired Chord root and Chord type.

This operation lets you hear how the Source Pattern is played back via chord changes during normal performance.

7 On the "*Rec Channel*" window called up via the "*Basic*" page, press the [4] (*On*) button to disable recording of the selected channel.

If the "***Rec Channel***" window is not shown, press one of the [1]/[2] (***Rec Channel***) buttons.

NOTICE

The created Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation (step 8 on page 28).

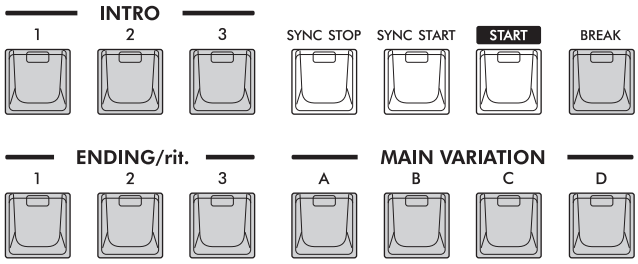
Assigning the Source Pattern to Each Channel (*Assembly*)

The instructions below apply to step 5 of the Basic Procedure on page 27. On the "***Assembly***" page, you can copy channel data as a Source Pattern from another Style to the currently edited Style. Use this page if you find a favorite rhythm pattern, bass line, chord backing or phrase from another Style.

1 If necessary, press one of the Style section buttons to select the Section to be edited.

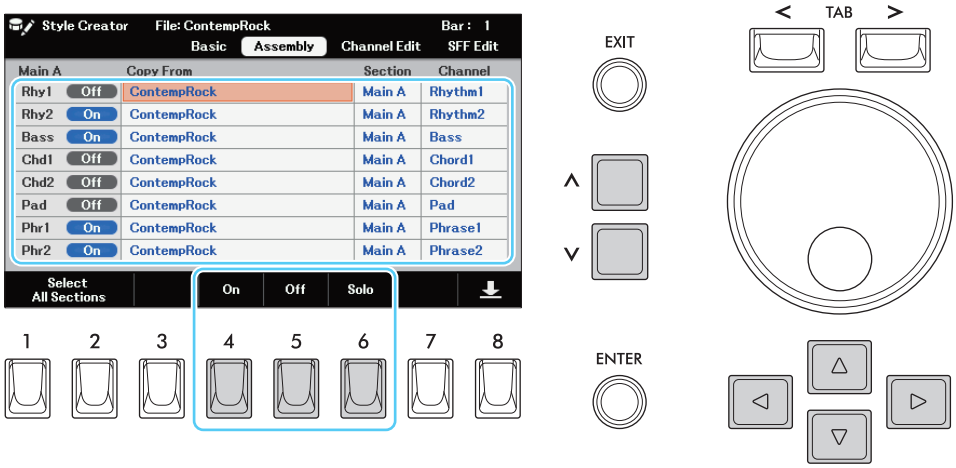
Even if the Section to be edited has already been selected on the "***Basic***" page, you can change the Section also on the "***Assembly***" page. Pressing one of the [1]/[2] (***Select All Sections***) buttons lets you select all sections.

The selected section is shown at the upper left of the "***Assembly***" page.



2 If necessary, play back the Style by pressing the [START] button to listen to it while assembling.

In the "***Assembly***" page, use the [4] (***On***)/ [5] (***Off***) buttons to turn on/off playback of each channel. Pressing the [6] (***Solo***) button lets you play back only the selected channel.



3 For each channel, select the Style (*Copy From*), Section and Channel as desired to be copied to the currently editing Style.

NOTICE

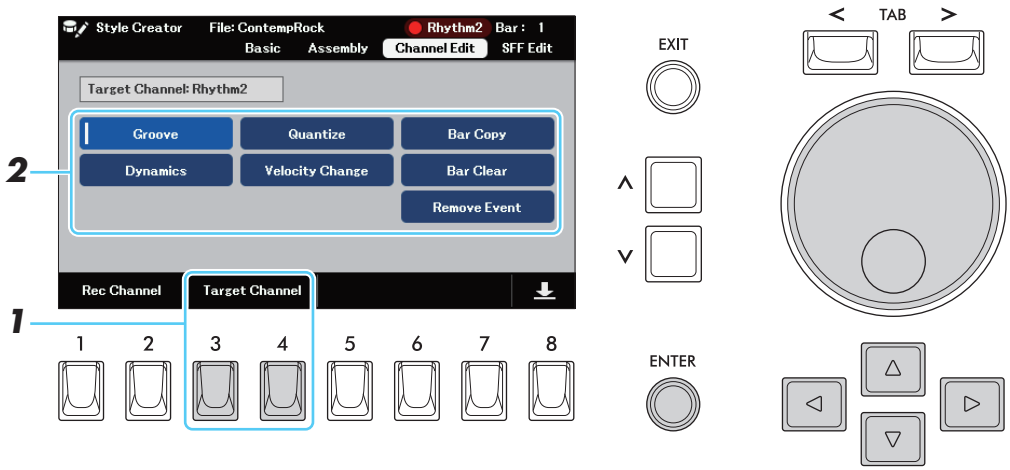
The created Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation (step 8 on page 28).

Editing Data for Each Channel (*Channel Edit*)

The instructions below apply to step 6 of the Basic Procedure on page 28. On the "***Channel Edit***" page, you can edit recorded data for each channel of the current Section selected on the "***Basic***" page or via the panel buttons.

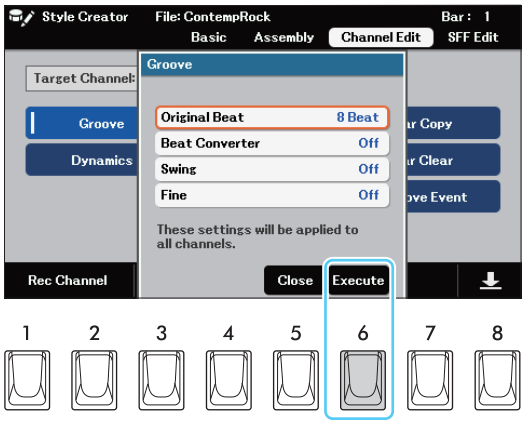
1 Select the channel to be edited via the [3]/[4] (*Target Channel*) buttons.

The selected channel is shown at the upper left of the display.



2 Use the Cursor buttons to select the item to be edited, and then press the [ENTER] button to call up the Edit display.

3 Edit the desired parameter, and then press the [6] (*Execute*) button to actually enter the edits for each setup window.



When execution is completed, this button changes to "***Undo***," letting you restore the original data if you are not satisfied with the results. The Undo function only has one level; only the immediately previous operation can be undone.

Groove	This lets you add swing to the music or change the "feel" of the beat by making subtle shifts in the timing (clock) of the Style. The Groove settings are applied to all channels of the selected Section.	
	Original Beat	Specifies the beats to which Groove timing is to be applied. In other words, if "***8 Beat***" is selected, Groove timing is applied to the 8th notes; if "***12 Beat***" is selected, Groove timing is applied to 8th-note triplets.

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Groove	***Beat Converter***	Actually changes the timing of the beats (specified in the "***Original Beat***" parameter above) to the selected value. For example, when "***Original Beat***" is set to "***8 Beat***" and "***Beat Converter***" is set to "12," all 8th notes in the section are shifted to 8th-note triplet timing. The "16A" and "16B" Beat Converter which appear when "***Original Beat***" is set to "***12 Beat***" are variations on a basic 16th-note setting.
	Swing	Produces a "swing" feel by shifting the timing of the back beats, depending on the "***Original Beat***" parameter above. For example, if the specified "***Original Beat***" value is "***8 Beat***," the Swing parameter will selectively delay the 2nd, 4th, 6th, and 8th beats of each measure to create a swing feel. The settings "A" through "E" produce different degrees of swing, with "A" being the most subtle and "E" being the most pronounced.
	Fine	Selects a variety of Groove "templates" to be applied to the selected section. The "***Push***" settings cause certain beats to be played early, while "***Heavy***" settings delay the timing of certain beats. The numbered settings (2, 3, 4, 5) determine which beats are to be affected. All beats up to the specified beat—but not including the first beat—will be played early or delayed (for example, the 2nd and 3rd beats, if "3" is selected). In all cases, "A" types produce minimum effect, "B" types produce medium effect, and "C" types produce maximum effect.
Dynamics	This changes the velocity/volume (or accent) of certain notes in the Style playback. The Dynamics settings can be applied to each channel individually or all channels of the selected Style.	
	Accent Type	Determines the type of accent applied—in other words, which notes are emphasized.
	Strength	Determines how strongly the selected "***Accent Type***" (above) will be applied. The higher the value, the stronger the effect.
	Expand/ Compress	Expands or compresses the range of velocity values. Values higher than 100% expand the dynamic range, while values lower than 100% compress it.
	Boost/Cut	Boosts or cuts all velocity values. Values above 100% boost the overall velocity, while values below 100% reduce it.
	Apply To All Channel	When set to "***On***," the settings in this display will be applied to all the channels of the current Section. When set to "***Off***," the settings in this display will be applied to the channel specified at the "***Target Channel***" in the "***Channel Edit***" page.
Quantize	Same as in the Song Creator (page 66), with the exception of the two additional available parameters below.  Eighth notes with swing  Sixteenth notes with swing	
Velocity Change	Boosts or cuts the velocity of all notes in the specified channel, according to the percentage specified here.	
Bar Copy	This function allows data to be copied from one measure or group of measures to another location within the specified channel.	
	Source Top	Specifies the first (***Source Top***) and last (***Source Last***) measures in the region to be copied.
	Source Last	
	Destination	Specifies the first measure of the destination location, to which the data is to be copied.

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Bar Clear	This function clears all data from the specified range of measures (from "***Source Top***" to "***Source Last***") within the selected channel.
Remove Event	This function lets you remove specific events from the selected channel.

NOTICE

The edited Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation (step 8 on page 28).

Making Style File Format Settings (*SFF Edit*)

The instructions below apply to step 6 of the Basic Procedure on page 28. The Style File Format (SFF) combines all of Yamaha's Style playback know-how into a single unified format. Setting the SFF related parameters determines how the original notes are converted to the actual sounded notes based on the chords you specify in the Chord section of the keyboard. The conversion flow is shown below.

Source Pattern settings
- Source Root/Play Root
- Source Chord/Play Chord

Determines what key and what chord type are used for playing.

Set these parameters before recording.

Chord changes during normal performance

Note Conversion from the Source Pattern
- NTR (Conversion via Chord Root change) … page 38
- NTT (Conversion via Chord Type change) … page 38

Octave Setting of the Converted Notes
- High Key (Upper octave limit of Note Transposition)
- Note Limit (Note range between the highest and lowest notes)

Others
- RTR (How the note pitch changes in response to chord changes)

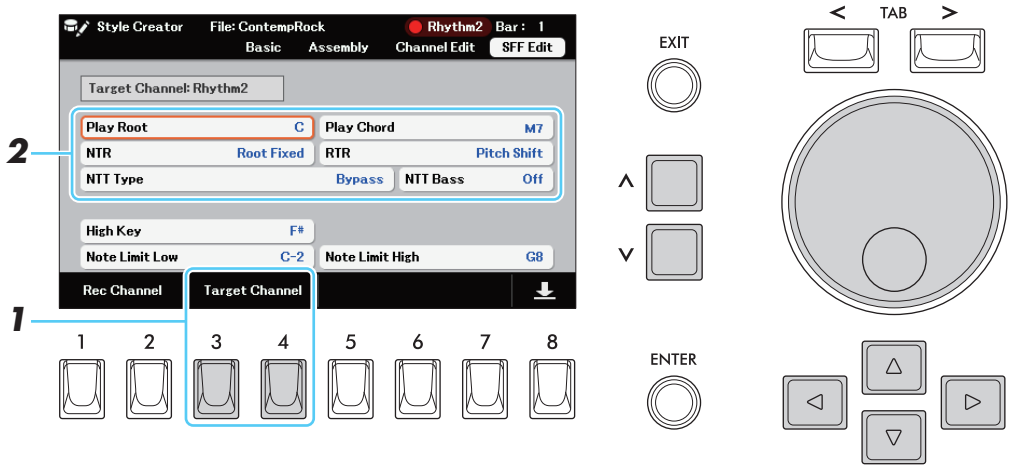
Set these parameters after recording.

Actual Sounded Notes

The parameters shown above can be set in the "***SFF Edit***" page.

1 In the "*SFF Edit*" page, use the [3]/[4] (*Target Channel*) buttons to select the target channel to be edited.

The selected channel is shown at the upper left of the display.



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2 Edit the desired parameter.

Source Root (Play Root)

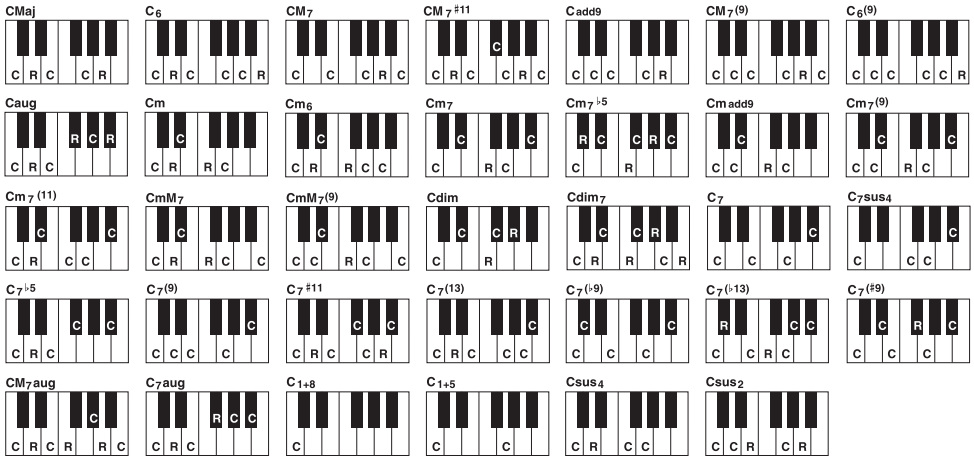
These settings determine the original key of the Source Pattern (i.e., the key used when recording the pattern to a channel other than the Rhythm channels). If you set "Fm7" here, specifying "Fm7" in the Chord section of the keyboard will play back the originally recorded data (Source Pattern). The default setting is "CM7" (Source Root = C and Source Chord = M7). Depending on the selected chord type specified here, the playable notes (scale tones and chord tones) differ.

IMPORTANT

Make sure to set the parameters here before recording. If you change the settings after recording, the recorded Source Pattern cannot be converted to the appropriate notes when changing the chord during your keyboard performance.

Playable notes when Source Root is C:

Source Chord (Play Chord)



C = Chord notes
C, R = Recommended notes

* When recording the Source Pattern, you should create it using the C and R notes.

NOTE When the parameters for the selected Target Channel are set to ***NTR***: ***Root Fixed***, ***NTT Type***: ***Bypass***, or ***NTT Bass***: ***Off***, the parameters here are changed to "Play Root" and "Play Chord," respectively. In this case, you can change chords and hear the resulting sound for all channels.

NOTE The settings here are not applied when ***NTR*** is set to "***Guitar***."

NTR/NTT (Note Transposition Rule/ Note Transposition Table)

The parameters here determine how the notes in the Source Pattern are converted according to the chord changes during your keyboard performance.

NTR/NTT Settings for the Rhythm Channels

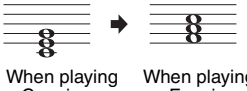
Since the Rhythm channels should not be affected by Chord change, be sure to make the following settings.

- ***NTR = Root Fixed***
- ***NTT Type = Bypass***
- ***NTT Bass = Off***

With the above settings, the "***Source Root***" and "***Source Chord***" parameters are changed to "***Play Root***" and "***Play Chord***," respectively.

NTR — Selects the Note Transposition Rule which determines how the notes in the Source Pattern are transposed according to the Chord Root change.

Root Transpose — When the root note is transposed, the intervals between notes is maintained. For example, the notes C3, E3 and G3 become F3, A3 and C4 when the root note is transposed to F. Use this setting for channels with melodic arranging.



When playing a C major chord — When playing an F major chord

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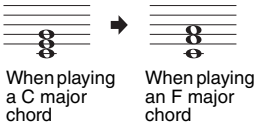
NTR/NTT (Note Transposition Rule/ Note Transposition Table)	***NTR***	***Root Fixed***	The note is kept as close as possible to the original note range. For example, the notes C3, E3 and G3 become C3, F3 and A3 when the root note is transposed to F. Use this setting for channels with chordal arranging.  When playing a C major chord When playing an F major chord
		Guitar	This is exclusively for transposing guitar accompaniment. Notes are transposed to approximate voicings played with natural guitar fingering.
	NTT Type	Selects the Note Transposition Table which determines how the notes in the Source Pattern are transposed according to the Chord Type change.	
		When NTR is set to "*Root Transpose*" or "*Root Fixed*":	
		Bypass	When NTR is set to Root Fixed, the transposition table used does not perform any note conversion. When NTR is set to Root Trans, the table used only converts the notes by maintaining the intervals between notes.
		Melody	Suitable to transpose most melody lines. Use this for channels with melodic arranging such as "Bass," "Phrase1," and "Phrase2."
		Chord	Suitable for transposing most melody lines. Use this for the "Chord1" and "Chord2" channels, that assume harmony on arranging.
		Melodic Minor	When the played chord changes from a major to a minor chord, this table lowers the major third note above the "Source Root" by a semitone. When the chord changes from a minor to a major chord, the minor third note above the "Source Root" is raised by a semitone. Other notes are not changed. Use this for Sections which respond only to major/minor chords, such as Intros and Endings, according to the notes in the Source Pattern, the minor key type (natural, harmonic or melodic minor) and/or the mode you intend.
		Melodic Minor 5th	In addition to the Melodic Minor transposition above, this table transposes the perfect fifth note above the "Source Root" with augmented and diminished chord types.
		Harmonic Minor	When the played chord changes from a major to a minor chord, this table lowers the major third and sixth notes above the "Source Root" by a semitone. When the chord changes from a minor to a major chord, the minor third and sixth notes above the "Source Root" are raised by a semitone. Other notes are not changed. Use this for Sections which respond only to major/minor chords, such as Intros and Endings, according to the notes in the Source Pattern, the minor key type (natural, harmonic or melodic minor) and/or the mode you intend.

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NTR/NTT (Note Transposition Rule/ Note Transposition Table)	***NTT Type***	***Harmonic Minor 5th***	In addition to the Harmonic Minor transposition above, this table transposes the perfect fifth note above the "Source Root" with augmented and diminished chord types.
		Natural Minor	When the played chord changes from a major to a minor chord, this table lowers the major third, sixth and seventh notes above the "Source Root" by a semitone. When the chord changes from a minor to a major chord, the minor third, sixth and seventh notes above the "Source Root" are raised by a semitone. Other notes are not changed. Use this for Sections which respond only to major/minor chords, such as Intros and Endings, according to the notes in the Source Pattern, the minor key type (natural, harmonic or melodic minor) and/or the mode you intend.
		Natural Minor 5th	In addition to the Natural Minor transposition above, this table transposes the perfect fifth note above the "Source Root" with augmented and diminished chord types.
		Dorian	When the played chord changes from a major to a minor chord, this table lowers the major third and seventh notes above the "Source Root" by a semitone. When the chord changes from a minor to a major chord, the minor third and seventh notes above the "Source Root" are raised by a semitone. Other notes are not changed. Use this for Sections which respond only to major/minor chords, such as Intros and Endings, according to the notes in the Source Pattern, the minor key type (natural, harmonic or melodic minor) and/or the mode you intend.
		Dorian 5th	In addition to the Dorian transposition above, this table transposes the perfect fifth note above the "Source Root" with augmented and diminished chord types.
		When NTR is set to "*Guitar*":	
		All Purpose	This table works both for strumming and arpeggios.
		Stroke	This table is specialized for strumming. Some notes may sound as if they are muted—this is to simulate actual guitar strumming voicings for a more authentic sound.
		Arpeggio	This table is specialized for arpeggios, resulting in beautiful four-note arpeggio sounds.
	NTT Bass	The channels for which this parameter is set to "***On***" respond to slashed (on-bass) chords. For example, when Dm7/G is selected, the notes for Bass are transposed to "G" instead of "D" which is the root of the chord. When NTR is set to "***Guitar***" and this parameter is set to "***On***," only the bottom note as Bass inside the Guitar voicings automatically respond to slashed chords as well.	

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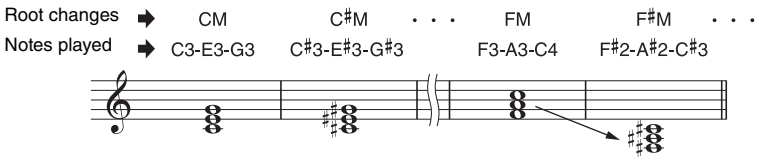
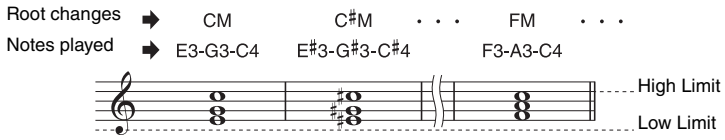
RTR	These settings determine how to control sounding notes to change their pitches to adapt to chord changes.	
	Stop	The notes stop sounding.
	Pitch Shift	The pitch of the note bends without a new attack to match the new chord.
	Pitch Shift to Root	The pitch of the note bends without a new attack to the root pitch of the new chord. The octave of the new pitch remains the same.
	Retrigger	The note of the new pitch corresponding to the new chord is retriggered with a new attack.
	Retrigger to Root	The note of the new pitch corresponding to the root of the new chord is retriggered with a new attack. The octave of the new note remains the same.
High Key/ Note Limit	The settings here adjust the Octave (pitch range) of the notes converted via the NTT and NTR.	
	High Key	This sets the highest key (upper octave limit) of the note transposition for the chord root change. A root note of a selected chord is transposed up as long as the root note is equal to or less than the highest key. When the root note is higher than the highest key, the root note is transposed down. This setting is available only when the NTR parameter (page 38) is set to "***Root Transpose***." **Example—When the highest key is F.** 
	Note Limit Low	These set the pitch range (highest and lowest notes) to transpose. By judicious setting of this range, you can ensure that natural pitch ranges result for each Voice set on each channel—in other words, this prevents unnatural pitched notes for each Voice that is played (e.g., high bass sounds or low piccolo sounds).
	Note Limit High	**Example—When the lowest note is C3 and the highest is D4.** 

NOTICE

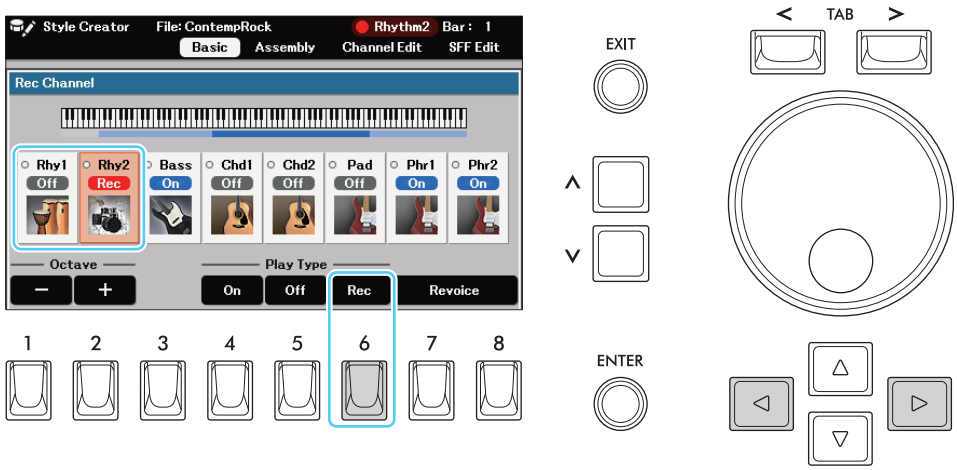
The edited Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation (step 8 on page 28).

Editing the Rhythm Part of a Style (*Drum Setup*)

The procedure below applies to step 6 in the Basic Procedure on page 28. The Drum Setup function allows you to edit the rhythm part of the current Style, such as changing the drum instruments and making various settings.

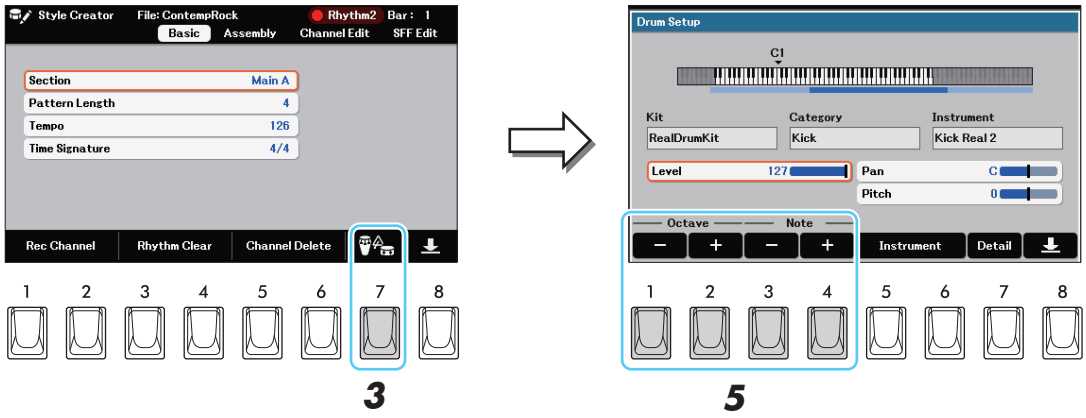
1 **In the "*Basic*" page, press one of the [1]/[2] (*Rec Channel*) buttons to call up the "*Rec Channel*" window.**

2 **Move the cursor to the "*Rhy1*" or "*Rhy2*" channel, and then press the [6] (*Rec*) button to set the channel as the editing target.**



NOTE If the different drum sounds are assigned to each section of the selected channel, the sounds are set to that of the current section in order to use the Drum Setup function.

3 **In the "*Basic*" page, press the [7] button to call up the "*Drum Setup*" window.**



4 **If necessary, press the [START] button to start playback of the rhythm part.**

The sounds played back are indicated on the display keyboard, letting you to check the note to edit.

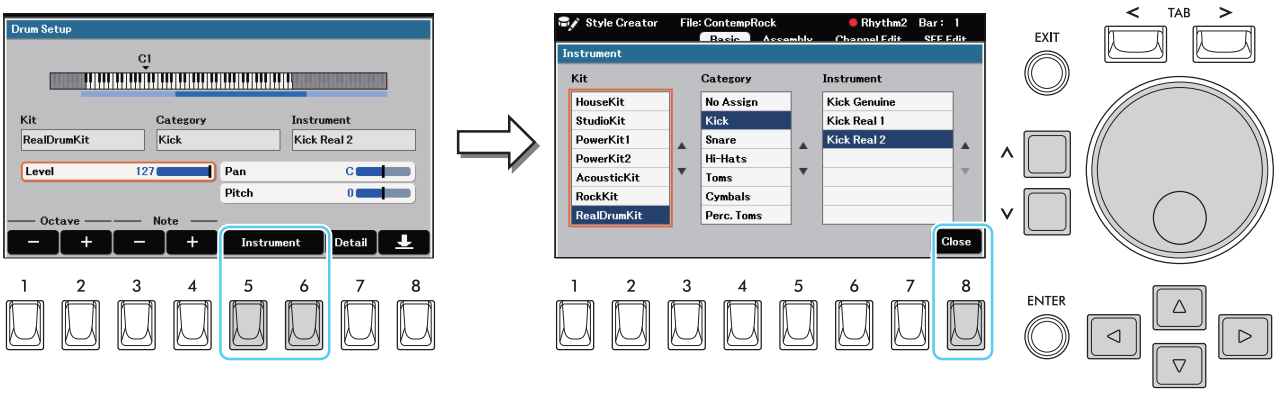
5 **Select the note to be edited by using the [3]/[4] (*Note*) buttons or by pressing the note on the Upper Keyboard.**

When using the Upper Keyboard, shift the keyboard range up or down over an octave by using the [1]/[2] (***Octave***) buttons to select the desired note.
The selected note is shown above the display keyboard.

NEXT PAGE

6 Select the desired instrument to be used.

6-1 Press one of the [5]/[6] (*Instrument*) buttons to call up the window to select the instrument.



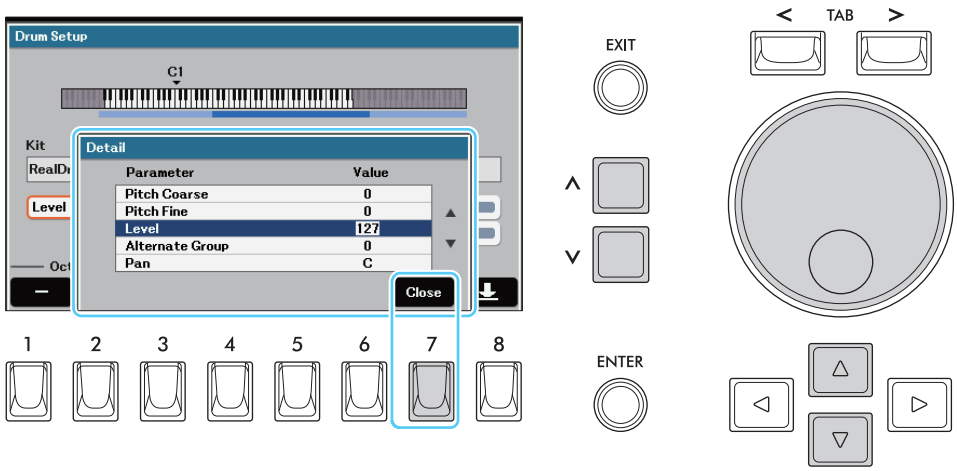
6-2 Select the desired "*Kit*," "*Category*" and "*Instrument*" in that order, and then close the window.

7 If necessary, set the "*Level*," "*Pan*" and "*Pitch*."

8 If necessary, make more detailed settings.

8-1 Press the [7] (*Detail*) button to call up the detailed settings window.

8-2 Make desired settings, and then close the window.



Parameters indicated by an asterisk (*) in the list below are settings relevant to step 7 above.

Pitch Coarse*	For coarse tuning of the pitch in semitone increments.
Pitch Fine*	For fine tuning of the pitch in cent increments. **NOTE** In musical terms a "cent" is 1/100th of a semitone. (100 cents equal one semitone.)
Level*	For adjusting the volume level.
Alternate Group	Determines the Alternate Group. Any instruments in the same group number cannot sound at the same time. Playing any instrument within a numbered group will immediately stop the sound of any other instrument in the same group of the same number. If this is set to 0, the instruments in the group can sound at the same time.
Pan*	Determines the stereo position.
Reverb Send	For adjusting the reverb depth.
Chorus Send	For adjusting the chorus depth

NEXT PAGE

Variation Send	For adjusting the variation effect (DSP1) depth. When the "***Connection***" parameter is set to "***Insertion***" on the Mixer display and this rhythm channel is selected as the assign part, this parameter behaves in the following ways. • **When Variation Send is set to 0:** No effects are applied to the instrument (Insertion Off). • **When Variation Send is set to 1–127:** Effects are applied to the instrument (Insertion On).
Key Assign	Determines the Key Assign mode. This parameter is effective only when the kit's XG parameter "SAME NOTE NUMBER KEY ON ASSIGN" (see the Data List on the website) is set to "INST." • ***Single*****:** Each successive playing of the same sound results in the previous being cut off or muted. • ***Multi*****:** Each sound continues to its full decay, even when played successively multiple times.
Rcv Note Off	Determines whether note-off messages are received or not.
Rcv Note On	Determines whether note-on messages are received or not.
Filter Cutoff	Determines the cutoff frequency or effective frequency range of the filter. Higher values result in a brighter sound.
Filter Resonance	Determines the emphasis given to the cutoff frequency (resonance), set in Filter Cutoff above. Higher values result in a more pronounced effect.
EG Attack	Determines how quickly the sound reaches its maximum level after the key is played. The higher the value, the quicker the attack.
EG Decay 1	Determines how quickly the sound reaches its sustain level (a slightly lower level than maximum). The higher the value, the quicker the decay.
EG Decay 2	Determines how quickly the sound decays to silence after the key is released. The higher the value, the quicker the decay.

NOTICE

The edited Style will be lost if you change to another Style or turn off the power to the instrument without carrying out the Save operation (step 8 on page 28).

3 Live Expression Control

Contents

Functions that can be assigned to the Expression Pedals and Footswitches

The Functions of the Expression Pedals and Footswitches can be changed individually from the default settings. This section covers only detailed descriptions of each function. For instructions on changing the functions, refer to the Owner's Manual.

Expression Pedal Functions

(*1) The function can only be assigned to the Expression Pedal.
(*2) The function can only be assigned to the Second Expression Pedal.

Category	Function	Description
Mixer	***Expression***	Adjusts the volume of the selected parts.
	Volume Ratio	Adjusts the volume of the selected parts or channels while keeping the volume ratio of each part/channel. The parts and channels can be selected in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons.
	Keyboard Volume	Adjusts the volume of all keyboard parts. This is convenient for adjusting the volume of all keyboard parts together for optimum balance with the others (Song, Style, Multi Pads, etc.).
	Balance	Adjusts the volume balance between parts A and B. Pressing the pedal forward with your toe increases the volume of A, while pressing backward with your heel increases the volume of B. You can select which parts belong to A or B in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons.
	MIDI/Audio Song Balance	Adjusts the volume balance between Song (MIDI) playback and Audio playback.
	Pan	Determines the stereo position of the selected parts. Pressing the pedal forward with your toe increases the right side level, while pressing backward with your heel increases the left side level.
	Reverb	Adjusts the Reverb depth of the selected parts.
	Chorus	Adjusts the Chorus depth of the selected parts.
	Reverb & Chorus	Adjusts both Reverb and Chorus depth of the selected parts.

NEXT PAGE

Category	Function	Description
Mixer	***Insertion Effect Depth***	Adjusts the Insertion Effect depth of the selected parts.
	EQ High Gain	Boosts or attenuates the high EQ band for the selected parts.
	EQ Low Gain	Boosts or attenuates the low EQ band for the selected parts.
	Cutoff	Adjusts the cutoff frequency of the filter for the selected parts.
	Resonance	Adjusts the resonance of the filter for the selected parts.
	Cutoff & Resonance	Adjusts the cutoff frequency and resonance of the filter for the selected parts.
	Filter	Adjusts the parameters such as the cutoff frequency and resonance of the filter for the selected parts. However, the parameters do not change uniformly, but are specially programmed to change individually for optimum sound, letting you filter the sound for the best musical results.
Voice	***Attack***	Adjusts the length of time until the selected parts reach their maximum level after the key is played. **NOTE** Some Voices may not be affected by the setting here.
	Release	Adjusts the length of time until the selected parts decay to silence after the key is released.
	Attack & Release	Adjusts both the Attack and Release time of the selected parts.
	Modulation *1	Applies vibrato and other effects to notes played on the selected parts.
	Tuning	Determines the pitch of the selected parts.
	Octave	Determines the range of the pitch change in octave for the selected parts.
	Pitch Bend *2	Allows you to bend the pitch of notes up or down by using the Second Expression Pedal. You can set the pitch bend range for each part in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons. The range is from "0" to "12," with each step corresponding to one semitone.
	Pitch Bend Up *1	Allows you to bend the pitch of notes up by using the Expression Pedal. You can set the pitch bend range for each part in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons. The range is from "0" to "12," with each step corresponding to one semitone.
	Pitch Bend Down *1	Allows you to bend the pitch of notes down by using the Expression Pedal. You can set the pitch bend range for each part in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons. The range is from "0" to "12," with each step corresponding to one semitone.
	Pitch Bend Range	Determines the pitch bend range for the selected parts.
	Portamento Time	Controls the portamento time (page 14) parameter of each part.
	Pedal Control (Wah)	Applies a wah effect to notes played on the selected parts. **NOTE** This is effective only when an effect whose category is "Modulation" and whose type is "PedalWah" or "PWah+Dist" is applied.

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Category	Function	Description
Harmony/ Arpeggio	***Harmony/Arpeggio Volume***	Adjusts the volume of the Harmony/Arpeggio function.
	Arpeggio Velocity	Adjusts the velocity of each note of Arpeggio. The value shown in the Main display is indicated as a percentage of the default value for each Arpeggio type.
	Arpeggio Gate Time	Adjusts the length of each note of Arpeggio. The value shown in the Main display is indicated as a percentage of the default value for each Arpeggio type.
	Arpeggio Unit Multiply	Adjusts the Arpeggio speed. The value shown in the Main display is indicated as a percentage of the default value for each Arpeggio type.
Style	***Style Retrigger Rate***	Adjusts the Style Retrigger length. This is shown as 1, 2, 4, 8, 16 or 32 in the Main display, indicating the note lengths. The first part of the current Style is repeated in the specified length.
	Style Retrigger On/Off & Rate	Turns the Style Retrigger function on/off and adjusts its length. Pressing the Expression Pedal forward with your toe to the bottom turns the function off; pressing it backward with your heel turns the function on and decreases the length.
	Style Track Mute A	Turns playback of the Style channels on/off. Pressing the Expression Pedal forward with your toe to the bottom turns on only the Rhythm 2 channel, and the other channels are turned off. By pressing the Expression Pedal backward with your heel from that position, channels are turned on in the order of Rhythm 1, Bass, Chord 1, Chord 2, Pad, Phrase 1, Phrase 2, and all channels are turned on when the Expression Pedal reaches to the end position.
	Style Track Mute B	Turns playback of the Style channels on/off. Pressing the Expression Pedal forward with your toe to the bottom turns on only the Chord 1 channel, and the other channels are turned off. By pressing the Expression Pedal backward with your heel from that position, channels are turned on in the order of Chord 2, Pad, Bass, Phrase 1, Phrase 2, Rhythm 1, Rhythm 2, and all channels are turned on when the Expression Pedal reaches to the end position.
Overall	***Master Tempo***	Changes the tempo of the currently selected Style or Song. The available tempo range differs depending on the selected Style/Song.
	No Assign	No function is assigned.

Category	Function	Description
Voice	***Articulation1***	When you use a Super Articulation Voice that has an effect assigned to the Footswitch for the selected part, you can enable the effect by pressing the Footswitch.
	Articulation2	
	Sustain	Controls the sustain. When you press and hold the Footswitch, all notes played on the selected parts have a longer sustain. Releasing the Footswitch immediately stops (damps) any sustained notes. The sustain level can be set in the "***Common1***" page of the "***Voice Edit***" display (page 12), and you can confirm the level for each part in the display called up via the [VOICE EFFECT] button.
	Pedal Sustain	Controls the sustain. When you press and hold the Footswitch, all notes played on the selected parts have a longer sustain determined by how strongly you press the Footswitch. Releasing the Footswitch immediately stops (damps) any sustained notes.
	Sostenuto	Controls the Sostenuto effect. If you play a note or chord on the selected part and press the Footswitch while holding the note(s), the notes will sustain as long as the Footswitch is held. However, all subsequent notes will not sustain. This makes it possible to sustain a chord, for example, while other notes are played staccato. **NOTE** This function does not affect any of the Organ Flutes Voices nor some of the Super Articulation Voices.
	Soft	Controls the Soft effect. Pressing the Footswitch reduces the volume and changes the timbre of the notes you play on the selected part. This is effective only for certain appropriate Voices.
	Glide Up	When the Footswitch is pressed, the pitch changes (up or down), and then returns to normal pitch when the Footswitch is released. You can set the range for each part in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons. The range is from "0" to "12," with each step corresponding to one semitone. The speed of the pitch change when the controller is pressed (***On Speed***), and when the controller is released (***Off Speed***) can also be set in the window.
	Glide Down	
	Portamento	The portamento effect (a smooth slide between notes) can be produced while the Footswitch is pressed. Portamento is produced when notes are played legato style (i.e., a note is played while the preceding note is still held) on the selected part. The portamento time can also be adjusted from the "***Common2***" page of the "***Voice Edit***" display (page 13). **NOTE** This function affects only certain Voices, especially synth lead and some bass Voices. It will not affect any of the Organ Flutes, and only some of the Super Articulation Voices, even if the function has been assigned to the Footswitch.
	Modulation Sw	Applies vibrato and other effects to notes played with the selected part.
	Modulation Alt	This is a slight variation on "***Modulation Sw***" above, in which the effects (waveform) can be alternately turned on/off.
	Organ Rotary Slow/ Fast	Switches the Rotary Speaker speed between "Slow" and "Fast." This can be used only when a DSP type (page 80) which contains "***Rotary***" or "***Rot***" is applied to the selected part. **NOTE** Since the Super Articulation Voices contain the effect as part of the wave data, you need to assign Articulation 1 or 2 (not Organ Rotary Slow/Fast) to control the effect.

NEXT PAGE

Category	Function	Description
Harmony/ Arpeggio	***Harmony/Arpeggio On/Off***	Turns Harmony/Arpeggio (page 6) on and off.
	Arpeggio Hold	While the Footswitch is pressed, Arpeggio playback continues even after you release the keyboard, and then Arpeggio stops when the Footswitch is released. Make sure that any one of the Arpeggio type is selected and the [1] (***Harmony/Arpeggio***) button is turned on in the "***Harmony/Arpeggio***" display (page 6).
Style	***Style Retrigger***	Turns the Style Retrigger function on/off. When set to on, a specific length of the first part of the current Style is repeated. **NOTE** The Style Retrigger function is applied only to the Main section of the Style.
	Unison	Turns the Unison function on/off.
	Style Start/Stop	Same as the [START] button.
	Synchro Start On/Off	Same as the [SYNC START] button.
	Synchro Stop On/Off	Same as the [SYNC STOP] button.
	Intro1, ***2***, ***3***	Same as the INTRO [1] – [3] buttons.
	Main A, ***B***, ***C***, ***D***	Same as the MAIN VARIATION [A] – [D] buttons.
	Fill Down	Plays a fill-in, which is automatically followed by the Main section of the button on the immediate left.
	Fill Self	Plays a fill-in.
	Fill Break	Plays a break.
	Fill Up	Plays a fill-in, which is automatically followed by the Main section of the button on the immediate right.
	Ending1, ***2***, ***3***	Same as the ENDING/rit. [1] – [3] buttons.
	Half Bar Fill-in	While the Footswitch is pressed, the "Half bar fill-in" function is turned on and changing sections of a Style at the first beat of the current section starts the next section from the middle with an automatic fill-in.
	Fade In/Out	Turns the Fade In /Fade Out function on/off, such as for Style playback. The following parameters can be set in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons. • ***Fade In Time***: Determines the time it takes for the playback volume to fade in, or go from minimum to maximum (range of 0–20.0 seconds). • ***Fade Out Time***: Determines the time it takes for the playback volume to fade out, or go from maximum to minimum (range of 0–20.0 seconds). • ***Fade Out Hold Time***: Determines the time the volume is held at 0 following the fade out (range of 0–5.0 seconds).
	Bass Hold	While the Footswitch is pressed, the Style bass note will be held even if the chord is changed during Style playback. If the fingering is set to "***AI Full Keyboard***," the function does not work.
Multi Pad	***Multi Pad1***, ***2***, ***3***, ***4***	Plays back the Multi Pad 1, 2, 3 or 4.
	Multi Pad Stop	Stops playback of the Multi Pad(s).

NEXT PAGE

Category	Function	Description
Song	***Song Play/Pause***	Same as the SONG CONTROL [▶/❚❚] (Play/Pause) button.
	***Score Page* +, –**	While the Song is stopped, you can turn to the next/previous score page (one page at a time).
	***Lyrics Page* +, –**	While the Song is stopped, you can turn to the next/previous lyrics page (one page at a time).
	***Text Viewer Page* +, –**	You can turn to the next/previous text page (one page at a time).
Mic	***Talk On/Off***	Turns on/off the Talk settings (page 68) of the microphone.
Overall	***Part On/Off***	Turns the selected parts on/off at once.
	***Registration Sequence* +, –**	Advances/reverses through the Registration Sequence (page 73).
	Percussion	The Footswitch plays a percussion instrument selected in the pop-up window called up via the [1]/[2] (***Detail Settings***) buttons. In the window, you can also use the keyboard to select an instrument. **NOTE** When you select the percussion instrument by pressing a key on the keyboard, the velocity with which you press the key determines the percussion volume.
	Live Control Reset Value	Resets all values for the functions assigned to each of the Expression Pedals to their default. Same as pressing the Cursor buttons [<] and [>] simultaneously in the "***Live Expression Control***" display.

4 Multi Pads

Contents

Creating a Multi Pad via MIDI (Multi Pad Creator)

This feature lets you create your original Multi Pad phrases by recording your performance on the keyboard. The recorded phrases are registered to each of the Multi Pad 1–4 settings and can be saved as a bank. You can also replace some of the Pads in the existing Bank with your recorded phrases and save as a separate Bank.

Before starting operation, note the following points:

- Since recording can be done along with and be synchronized to Style playback, you should select the desired Style beforehand. However, keep in mind that the Style is not recorded.
- Only the Upper Keyboard Voice can be recorded as Multi Pad phrases.
- The Super Articulation Voices and the Organ Flutes Voices cannot be used for Multi Pad recording.

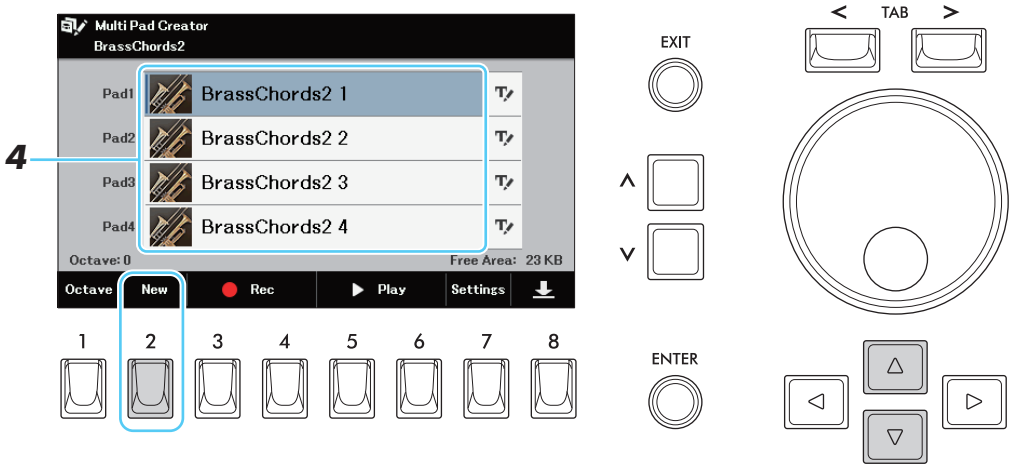
1 If you want to create a new Multi Pad in the existing Bank, select the desired Multi Pad Bank.

On the Main display, press the [8] (***Files***) button in the Quick Access area "***Multi Pad***" to call up the Multi Pad Bank Selection display, and then select the desired Multi Pad Bank.
If you want to create a new Multi Pad in an empty new Bank, this step is unnecessary.

2 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◄][►] ***Multi Pad Creator***, [ENTER]

3 If you want to create a new Multi Pad in a new Bank, press the [2] (*New*) button.



4 Select a particular Multi Pad for recording by using the Cursor buttons.

NEXT PAGE

5 **If necessary, select the desired Voice via the Voice category buttons for the Upper Keyboard Voice.**

After selecting the Voice, press the [EXIT] button to return to the previous display.

6 **Press one of the [3]/[4] (*Rec*) buttons to enter recording standby status for the Multi Pad selected in step 4.**

7 **Play the keyboard to start recording.**

To ensure that your recording will be in sync with the tempo, press the [METRONOME] button to turn on the metronome before playing the keyboard.
If you want to insert silence before the actual phrase, press the STYLE [START] button to start both the Recording and rhythm playback (of the current Style). Keep in mind that the rhythm part of the current Style plays back during recording although it is not recorded.

Recommended notes for phrases to match basic chords

If you intend to create a phrase to match basic chords, use the notes C, E, G, A and B; in other words, make sure to play the phrase with a chord scale of CM7, avoiding the 4th and tension 9th, which conflict with altered 9th tensions (♭9th, ♯9th). This makes the phrase work harmonically and match most basic chords used in tonal music that are covered by the ELA-1's Style engine.

C = Chord tones
R = Recommended notes
* When recording the Source Pattern, you should create it using the C and R notes, as described above, and avoid the others.

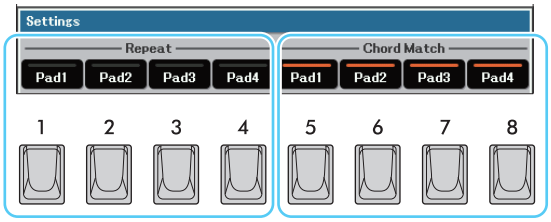
8 **Stop recording.**

Press one of the [5]/[6] (***Stop***) buttons or the STYLE [START] button to stop recording when you've finished playing the phrase.

9 **Listen back to your newly recorded phrase by pressing one of the [5]/[6] (*Play*) buttons. To re-record the phrase, repeat steps 6–8.**

10 **Press the [7] (*Settings*) button to call up the "*Settings*" window.**

11 **Turn "*Repeat*" and "*Chord Match*" for each pad on or off by using the [1]–[4] and [5]–[8] buttons.**



- ***Repeat***
  If this is on for the selected pad, playback of the corresponding pad will continue until you stop the Multi Pad playback. When you press a Multi Pad for which Repeat is turned on during Song or Style playback, playback will start and repeat in sync with the beat.
  If this is off for the selected pad, playback will end automatically as soon as the end of the phrase is reached.
- ***Chord Match***
  If this is on for the selected pad, the corresponding pad is played back according to the chord specified in the chord section (Lower Keyboard) generated by turning the [ACMP] button on.

NEXT PAGE

12 **Press the [EXIT] button to return to the previous display.**

13 **Move the cursor to the rename icon ( ) for the pad you've recorded, and then press the [ENTER] button to name the Multi Pad.**

14 **If you want to record other Multi Pads, repeat steps 4–13.**

15 **Press the [8] button to save the Multi Pad data as a Bank containing a set of four Pads.**

NOTICE

The recorded data will be lost if you turn off the power to the instrument without carrying out the Save operation.

Creating a Multi Pad with Audio Files (Audio Link Multi Pad)

You can create a new Multi Pad by making links with audio files (WAV format: 44.1 kHz, 16-bit, stereo) in the USB flash drive to each of the Multi Pad. The audio files (WAV) can be data you've recorded on this instrument as well as commercially available ones. Multi Pads to which Audio Files have been linked are called Audio Link Multi Pads. The new Audio Link Multi Pads can be saved to the User drive or USB flash drive.

NOTE Audio Link Multi Pads can neither be created nor played back during playback, recording standby or recording of audio files.

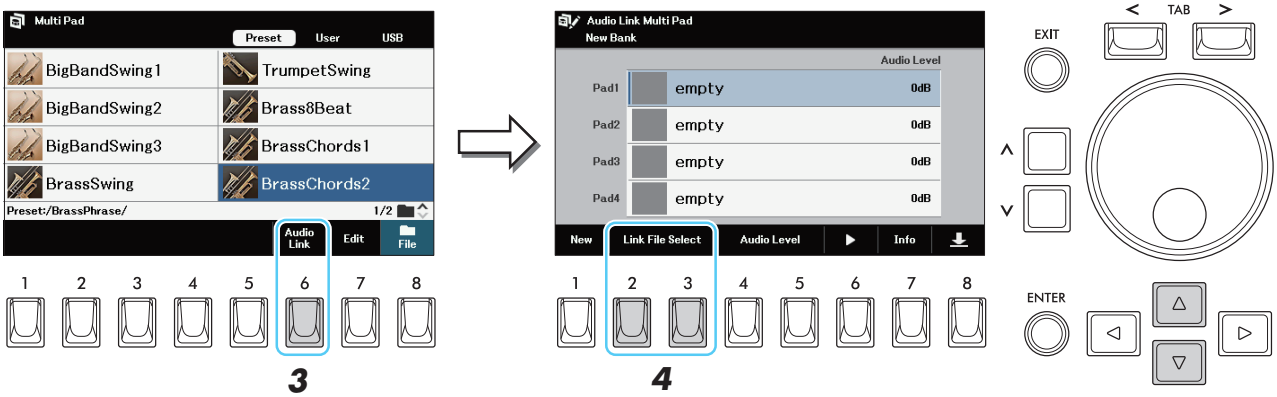
1 **Connect the USB flash drive containing the Audio Files (WAV) to the [USB TO DEVICE] terminal.**

NOTE Before using a USB flash drive, be sure to read "Connecting USB Devices" in the Owner's Manual, Chapter 10.

2 **Call up the Multi Pad Bank Selection display by pressing the [8] (*Files*) button in the Quick Access area "*Multi Pad*" of the Main display.**

3 **Press the [6] (*Audio Link*) button to call up the "*Audio Link Multi Pad*" display.**

A confirmation message appears here.



4 **Select the desired Pad, and then press one of the [2]/[3] (*Link File Select*) buttons to call up the Wave File Selection display.**

NOTE If an Audio Link Multi Pad has been selected when you press the [6] (***Audio Link***) button in step 3, the links made for the selected Pad appear. In order to create a new Pad, make sure to press the [1] (***New***) button. Otherwise, you are simply re-selecting the link in the selected Pad.

NEXT PAGE

5 **Select the desired audio file.**

NOTE By pressing the [5] (***Info***) button in the File Selection display, you can confirm the audio file information (title name, bit rate and sample rate, etc.).

6 **Press the [EXIT] button to return to the "*Audio Link Multi Pad*" display.**

NOTE By pressing the [7] (***Info***) button, you can confirm the file path of the selected Pad.

7 **If you want to link other audio files to other pads, repeat steps 4 to 6.**

8 **If desired, adjust the volume level of each audio file by using the [4]/[5] (*Audio Level*) buttons.**

You can adjust the volume while playing back the Multi Pad phrase by pressing the [6] (▶) button.

9 **Press the [8] buttons to save the Audio Link Multi Pad settings as a Multi Pad Bank.**

NOTICE

The setting will be lost if you select another Audio Link Multi Pad or turn the power to the instrument off without carrying out the Save operation.

10 **Press the [EXIT] button to check the new Audio Link Multi Pad in the Multi Pad Bank Selection display.**

The newly created Audio Link Multi Pad is marked with an "***Audio Link***" indication at the upper left of the file name.

To change the Link setting:
Select the desired Audio Link Multi Pad, and then carry out the same operations as in steps 3 to 10.

Playing the Audio Link Multi Pads

You can play the Multi Pad to which the audio file is assigned by selecting them in the User or USB tab of the Multi Pad Bank Selection display. Although you can play them via the same operations as the Multi Pad which has no links with audio files, note the following limitations.

- Make sure to connect the USB flash drive including the corresponding audio files.
- Automatic repeat playback is not available.
- Only one Pad can be played back at once.
- Chord Match cannot be applied.
- The USB Audio function cannot be used while playing Audio Link Multi Pads.

NOTE Audio files (WAV) take a slightly longer time than MIDI files to load.

NOTE When the link to the audio file is cut (for example, when the USB flash drive which includes the corresponding audio file is not connected, etc.), a "?" icon is shown for that Pad in the "***Audio Link Multi Pad***" display.

Editing Multi Pads

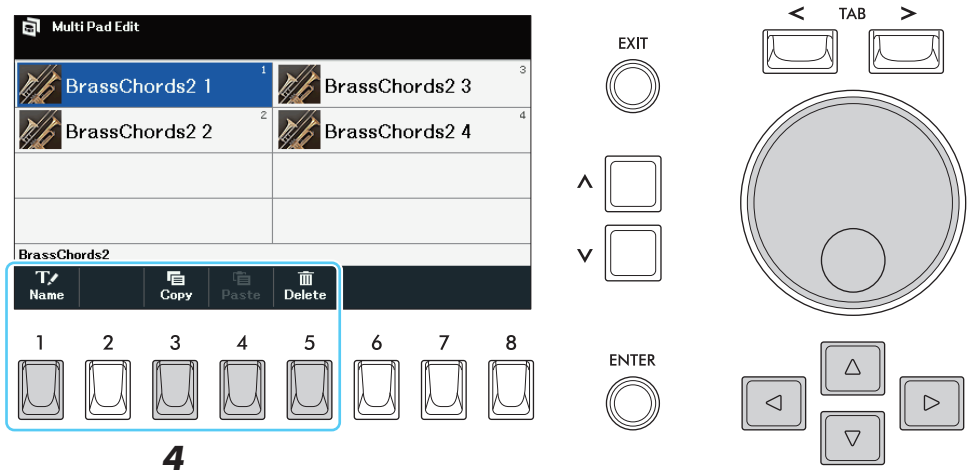
You can manage (rename, copy, paste and delete) your created Multi Pad Bank and each of the Multi Pads belonging to the Bank. For instructions on managing the Multi Pad Bank file, refer to "Basic Operations" in the Owner's Manual. This section covers how to manage each Multi Pad.

1 Select the Multi Pad Bank containing the Multi Pad to be edited.

On the Main display, press the [8] (***Files***) button in the Quick Access area "***Multi Pad***" to call up the Multi Pad Bank Selection display, and then select the desired Multi Pad Bank.

2 On the Multi Pad Bank Selection display, press the [7] (*Edit*) button to call up the Multi Pad Edit display.

3 Select a particular Multi Pad to be edited.



4 Edit the selected Pad.

[1]	***Name***	Changes the name of each Multi Pad.
[3]	***Copy***	Copies the Multi Pad(s). See below.
[4]	***Paste***	Pastes the Multi Pad(s) copied by the [3] button.
[5]	***Delete***	Deletes the selected Multi Pad(s).

Copying the Multi Pad

1. Press the [3] (***Copy***) button in step 4 above.
2. Select the Multi Pads to be copied, and then press the [ENTER] button.
   The selected Multi Pad(s) is copied to the clipboard.
3. Press the [7] (***OK***) button.
4. Select the destination location. If you want to copy the selected Pad(s) to another bank, press the [EXIT] button to call up the Multi Pad Bank Selection display, select the desired bank, press the [7] (***Edit***) button, and then select the destination.
5. Press the [4] (***Paste***) button to carry out the Copy operation.

5 Save the current Bank containing the edited Multi Pads.

Press the [EXIT] button to call up the confirmation window, press the [7] (***Yes***) button, and then press the [6] (***Save***) button on the "***User***" or "***USB***" tab to carry out the Save operation.

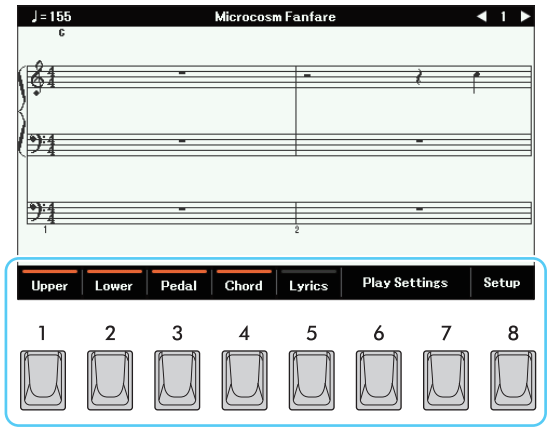
5 Songs

Contents

Editing Music Notation (Score) Settings

In the “***Song Function***” window called up by the [SONG FUNCTION] button, pressing the [3] (***Score***) button lets you call up the music notation of the current Song. You can change the notation indication as desired to suit your personal preferences.

NOTE You can save the settings here as a part of a Song by accessing [MENU] → Cursor buttons [▲][▼][◀][▶] ***Song Creator***, [ENTER] → TAB [<][>] ***Setup***. See page 62.

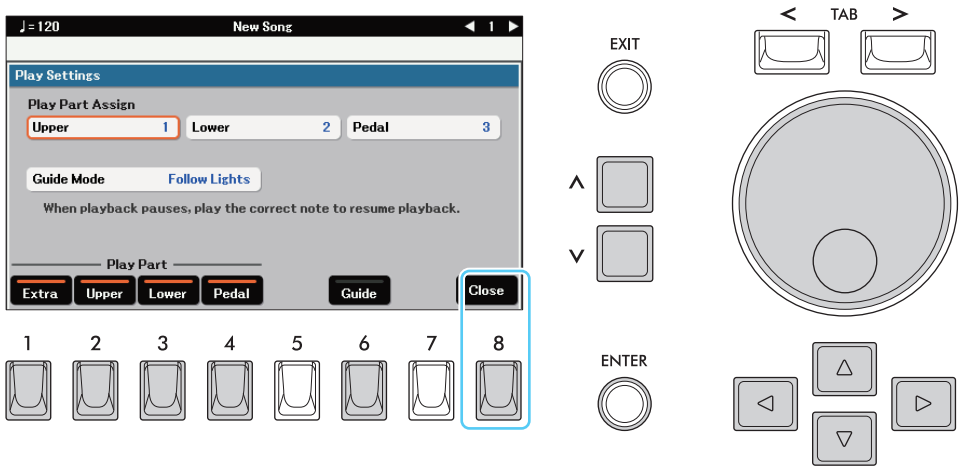


[1]	***Upper***	Turns indication of the corresponding part notation on or off. The MIDI channel assigned to each part can be changed in the “***Setup***” window (page 58). **NOTE** All parts cannot be turned off at the same time. **NOTE** When “***Lower***” or “***Pedal***” is set to “***Off***” in the “***Setup***” window (page 58), the corresponding part here appears grayed out and is unavailable.
[2]	***Lower***	
[3]	***Pedal***	
[4]	***Chord***	Turns indication of the chords on or off. If the selected Song does not contain chord data, chords are not displayed.
[5]	***Lyrics***	Turns indication of the Lyrics on or off. If the selected Song does not contain lyric data, lyrics are not displayed.
[6]/[7]	***Play Settings***	Calls up the “***Play Settings***” window in which details can be set (page 57).
[8]	***Setup***	Calls up the “***Setup***” window in which details can be set (page 58).

NEXT PAGE

■ *Play Settings* window

This window is called up by pressing one of the [6]/[7] (***Play Settings***) buttons on the "***Score***" display. After making settings, press the [8] (***Close***) button.



Play Part Assign	***Upper***, ***Lower***, ***Pedal***	Determines which MIDI channel in the Song data is assigned to the part (Upper Keyboard, Lower Keyboard or Pedalboard) of the Guide function and the Song Score function. These settings are the same as those in the "***Song Settings***" display.
Guide Mode		Determines the Guide mode. **Guide modes for keyboard practice:** • ***Follow Lights*** When this is selected, Song playback pauses, waiting for you to play the notes correctly. When you play the correct notes, Song playback continues. Follow Lights was developed for the Yamaha Clavinova series. This function is used for practicing purposes, with built-in lamps on the keyboard indicating the notes to be played. Even though the ELA-1 does not have these lamps, you can use the same function by following the indications in the Score display. • ***Any Key*** With this function, you can play the melody of a Song just by pressing a single key (any key is OK) in time with the rhythm. Song playback pauses and waits for you to play any key. Simply play a key on the keyboard in time with the music and Song playback continues. • ***Your Tempo*** The same as Follow Lights, except that Song playback matches the speed at which you play. **Guide mode for singing:** • ***Karao-Key*** This function lets you control the Song playback timing with just one finger, while you sing along. This is useful for singing to your own performance. Song playback pauses, waiting for you to sing. Simply play any key on the keyboard (playing the keyboard produces no sound) and Song playback continues.
[1]–[4]	***Play Part***	Turns playback for the desired part on or off. • ***Upper, Lower, Pedal***: Turns playback on or off for the corresponding part (Upper Keyboard, Lower Keyboard or Pedalboard), to which you can assign the desired channel by on "Settings" page of the "Song Settings" display (page 60). • ***Extra***: Turns playback of all channels on or off, except for those assigned to the Upper Keyboard, Lower Keyboard and Pedal parts described above.

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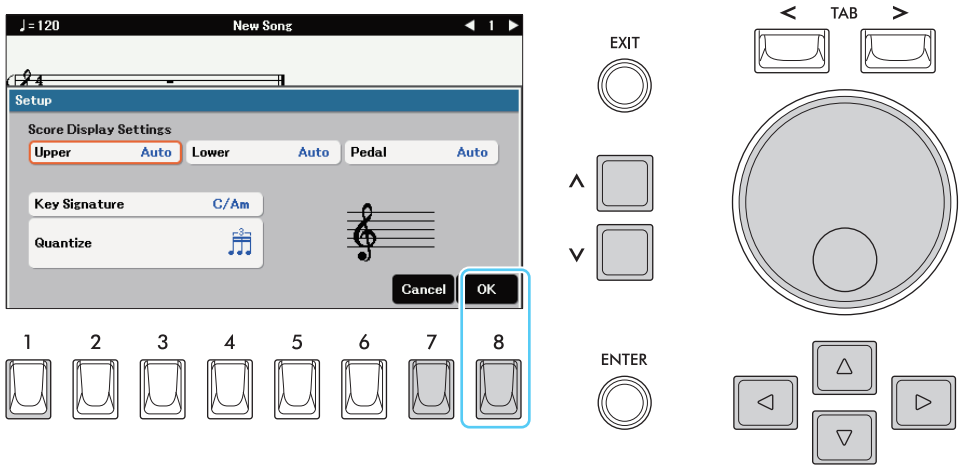
[6]	***Guide***	Turns the Guide function on/off. For details on the Guide function, refer to the Owner's Manual.

■ *Setup* window

This window is called up by pressing the [8] (***Setup***) button on the "***Score***" display. After making settings, press the [8] (***OK***) button.



Score Display Settings	***Upper***	Determines which MIDI channel in the Song data is assigned to the corresponding part. Selecting a different Song resets the settings here. • ***Auto***: The MIDI channel for the corresponding part is assigned automatically—setting each part to the channel which has been specified at the "Play Part Assign" on the "Settings" page of the "Song Settings" display (page 60). • ***1–16***: Assigns the specified MIDI channel (1–16) to the corresponding part. • ***Off*** ("***Lower***" and "***Pedal***" only): Assigns no channel to the Lower Keyboard or Pedal part. This disables display of the Lower Keyboard or Pedal part key range.
	Lower	
	Pedal	
Key Signature		This lets you enter key signature changes in the middle of a Song, at the stopped position. This menu is useful when the selected Song contains no key signature settings for displaying notation.
Quantize		This gives you control over the note resolution in the notation, letting you shift or correct the timing of all displayed notes so that they line up to a particular note value. Make sure to select the smallest note value used in the Song.

Using the Auto Accompaniment Features with Song Playback

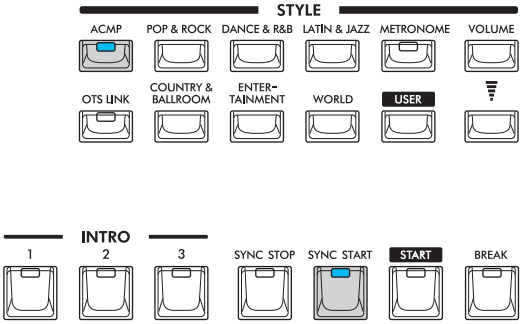
When playing back a Song and a Style at the same time, channels 9–16 in the Song data are replaced with Style channels—allowing you to play the accompaniment parts of the Song yourself. Try playing chords along with the Song playback as shown in the instructions below.

1 **Select a Song.**

2 **Select a Style.**

3 **Press the SONG CONTROL [■] (Stop) button and the [▶/❚❚] (Play/Pause) button simultaneously.**

4 **Press the STYLE [ACMP] button to turn on the auto accompaniment function, and then press the [SYNC START] button to enable synchronized start of the accompaniment.**



5 **Press the STYLE [START] button or play the keyboard.**

Both the Song and Style start playing together. You can see the chord information on the Score display (page 56) while you play.

NOTE When playing back a Song and a Style at the same time, the tempo value set in the Song is automatically used.
NOTE The Style Retrigger function (page 49) cannot be used during Song playback.

When the Song playback is stopped, Style playback is also stopped at the same time.

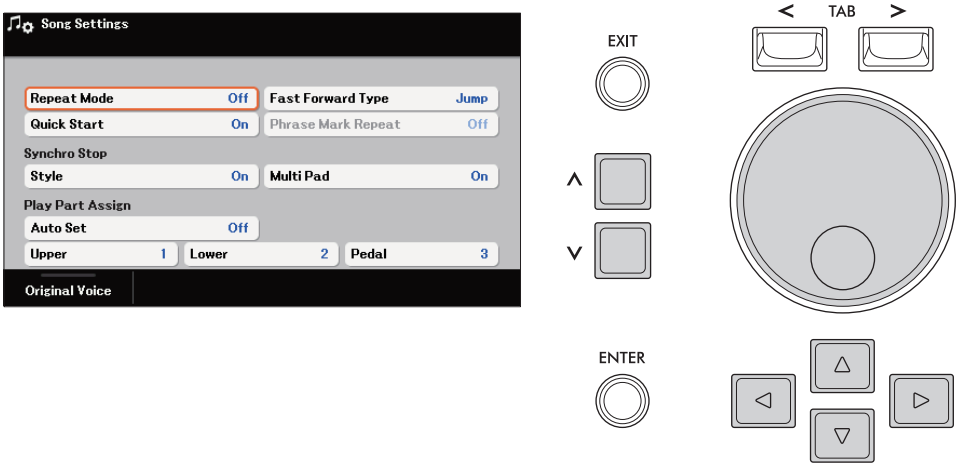
Song Playback Related Settings (Channel settings, Repeat settings, etc.)

The instrument has a variety of Song playback functions—repeat playback, various guide settings, etc.—which can be accessed in the display below.

1 Call up the operation display.

[SONG FUNCTION] → [1]/[2] (***Files***) → [6] (***Settings***)

2 Make necessary settings.



Repeat Mode	Determines the method of repeat playback. • ***Off***: Plays through the selected Song, then stops. • ***Single***: Plays through the selected Song repeatedly. • ***All***: Continues playback through all the Songs in the selected folder repeatedly. • ***Random***: Continues playback at random through all the Songs in the selected folder repeatedly.
Fast Forward Type	Determines the fast forward type of when pressing the [▶▶] (Fast forward) button during Song playback. • ***Jump***: Pressing the [▶▶] (Fast forward) button once instantly sets the playback position to the next measure without sounding. Holding the [▶▶] (Fast forward) button scrolls forward continuously. • ***Scrub***: Pressing and holding the [▶▶] (Fast forward) plays and sounds the Song at high speed.
Quick Start	On some commercially available Song data, certain settings related to the Song (such as Voice selection, volume, etc.) are recorded to the first measure, before the actual note data. When "***Quick Start***" is set to "***On***," the instrument reads all initial non-note data of the Song at the highest possible speed, then automatically slows down to the appropriate tempo at the first note. This allows you to start playback as quickly as possible, with a minimum pause for reading of data.
Phrase Mark Repeat	Phrase Mark is a pre-programmed part of some Song data, which specifies a certain location (set of measures) in the Song. When this is "***On***," the section corresponding to the specified Phrase Mark number is repeatedly played back. This parameter is available only when the Song containing Phrase Mark settings is selected.

NEXT PAGE

Synchro Stop	***Style***	Determines whether or not playback of a Style stops when Song playback is stopped.
	Multi Pad	Determines whether or not the repeat playback of a Multi Pad stops when Song playback is stopped.
Play Part Assign	***Auto Set***	When set to "***On***," this automatically sets the proper MIDI channels for the right- and left-hand parts pre-programmed in the commercially available Song data. Normally, this should be set to "***On***."
	Upper, ***Lower***, ***Pedal***	Determines which MIDI channel in the Song data is assigned to the part (Upper Keyboard, Lower Keyboard or Pedalboard) of the Guide function and the Song Score function.
[1]/[2]	***Original Voice***	When this function is on, you can play the original Voice of the selected Song from the keyboard.

Creating/Editing Songs (Song Creator)

The Owner's Manual covers how to create an original Song by recording your keyboard performance (called "Realtime Recording"). This Reference Manual shows how to edit a recorded Song.

Selecting the Setup Data to be Recorded to the Top Position of the Song ("*Setup*" page)

The current settings of the "***Mixer***" display and other panel settings you made can be recorded to the top position of the Song as Setup data. The panel settings recorded here are automatically recalled when the Song starts.

1 **Select the Song to which you want to record the Setup data.**

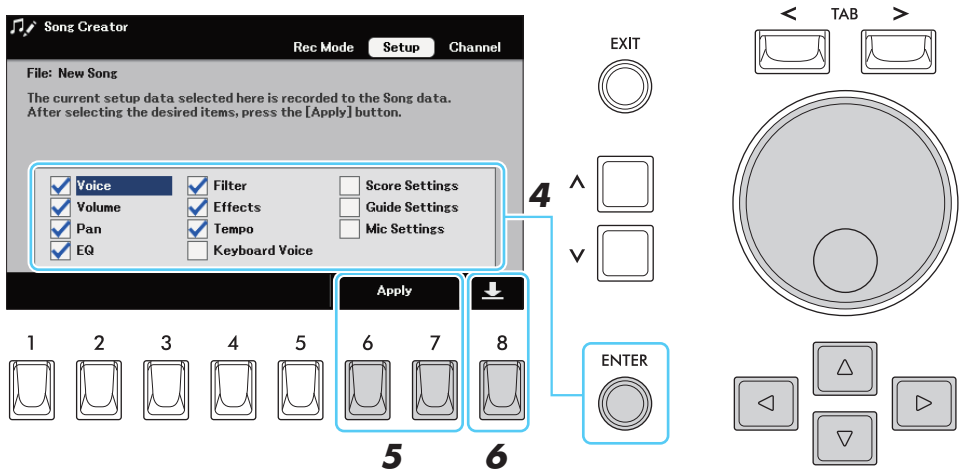
2 **Press the SONG CONTROL [■] (Stop) button to move the Song position to the top of the Song.**

3 **Call up the operation display.**

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Song Creator***, [ENTER] → TAB [<][>] ***Setup***

4 **Enter (or remove) checkmarks by pressing the [ENTER] button for the desired groups of playback features and functions that you wish to automatically be called up along with the selected Song.**

The data selected here can be recorded only to the top position of the Song, except for the "***Keyboard Voice***."



- ***Voice***, ***Volume***, ***Pan***, ***EQ***, ***Filter***, ***Effects***, ***Tempo***: Records the tempo setting and all settings made from the "***Mixer***" display (page 77).
- ***Keyboard Voice***: Records the panel settings, including the Voice selection of the keyboard parts (Upper, Lead, Lower and Pedalboard) and their on/off status. Panel settings recorded here are same as the ones memorized to the One Touch Setting. This can be recorded at any point in a Song, letting you change Voices in the middle of a Song.
- ***Score Settings***: Records the settings in the Score display.
- ***Guide Settings***: Records the settings of the Guide functions including the Guide on/off setting.
- ***Mic Settings***: Records the microphone settings in the "***Mic***" display (page 70).

For detailed parameters that can be recorded as the Setup data, refer to "***Parameter Chart***" in the Data List (separate PDF).

5 **Press one of the [6]/[7] (*Apply*) buttons to actually record the data.**

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6 Press the [8] button to carry out the Save operation.

For details, refer to “Basic Operations” in the Owner’s Manual.

NOTICE

The edited Song data will be lost if you select another Song or turn off the power to the instrument without carrying out the Save operation.

Re-recording a Specific Section—Punch In/Out (“*Rec Mode*” page)

When re-recording a specific section of an already-recorded Song, use the Punch In/Out function. In this method, only the data between the Punch In point and the Punch Out point is overwritten with the newly recorded data. Keep in mind that the notes before and after the Punch In/Out points are not recorded over, although you will hear them play back normally to guide you in the Punch In/Out timing.

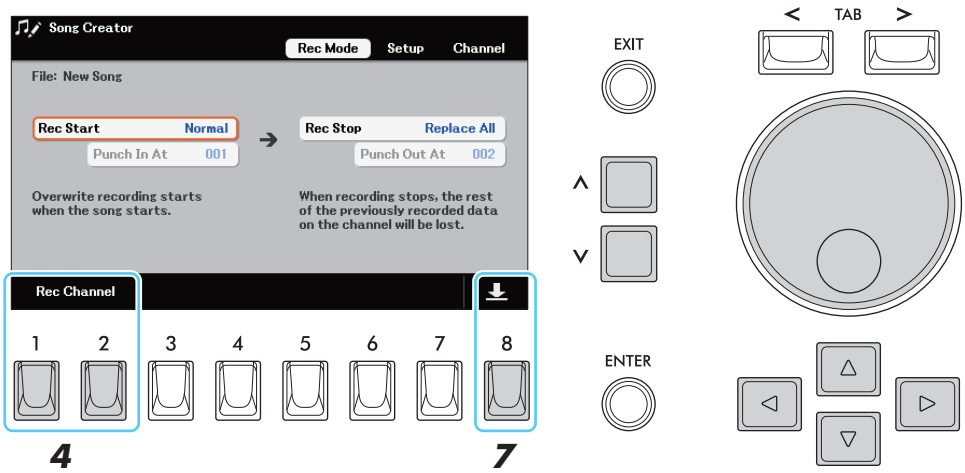
NOTE The Style Retrigger function (page 49) cannot be used when recording over existing data (overdubbing).

1 Select the desired Song for re-recording.

2 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Song Creator***, [ENTER] → TAB [<] ***Rec Mode***

3 Determine the settings for recording.

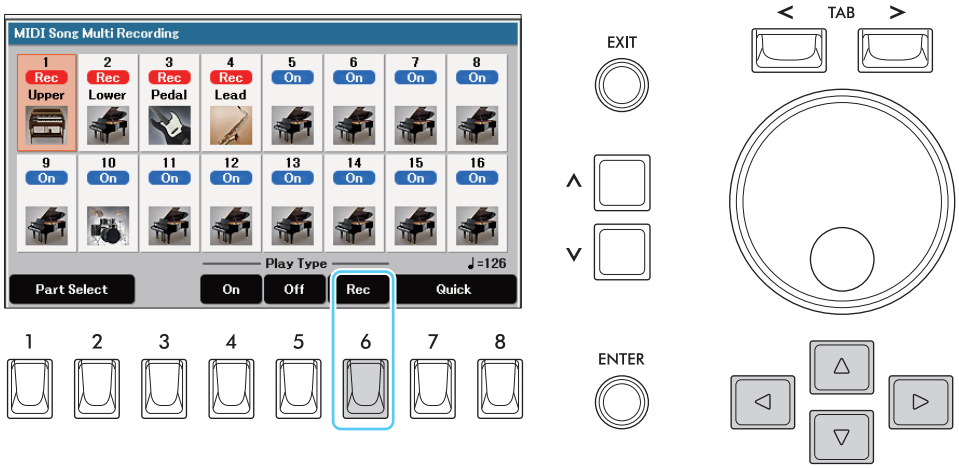


Rec Start (Punch In)		Determines the recording start behavior. • ***Normal***: Overwrite recording starts when the Song playback is started via the SONG CONTROL [▶/❚❚]] (Play/Pause) button or when you play the keyboard in the Synchro Standby mode. • ***First Key On***: The Song plays back normally, and then starts overwrite recording as soon as you play the keyboard.
	Punch In At	The Song plays back normally up to the beginning of the indicated Punch In measure specified here, and then starts overwrite recording at that point.
Rec Stop (Punch Out)		Determines the recording end behavior, or how data is handled after recording is stopped. • ***Replace All***: This deletes all data after the point at which recording is stopped. • ***Punch Out***: The Song position at which recording is stopped is regarded as the Punch Out point. This setting maintains all data after the point at which recording is stopped.
	Punch Out At	Actual overwrite recording continues until the beginning of the specified Punch Out measure specified here, at which point recording stops and normal playback continues. This setting maintains all data after the point at which recording is stopped.

NEXT PAGE

4 **Press one of the [1]/[2] (*Rec Channel*) buttons to call up the "*Rec Channel*" window.**

5 **Set the desired channel to "*Rec*" by using the [6] (*Rec*) button.**



6 **Press the SONG CONTROL [▶/❚❚] (Play/Pause) button to start Punch In/Out recording.**

According to the settings in step 3, play the keyboard between the Punch In and Punch Out points. Refer to the examples of various settings illustrated on the next page.

7 **Press the [8] button to carry out the Save operation.**

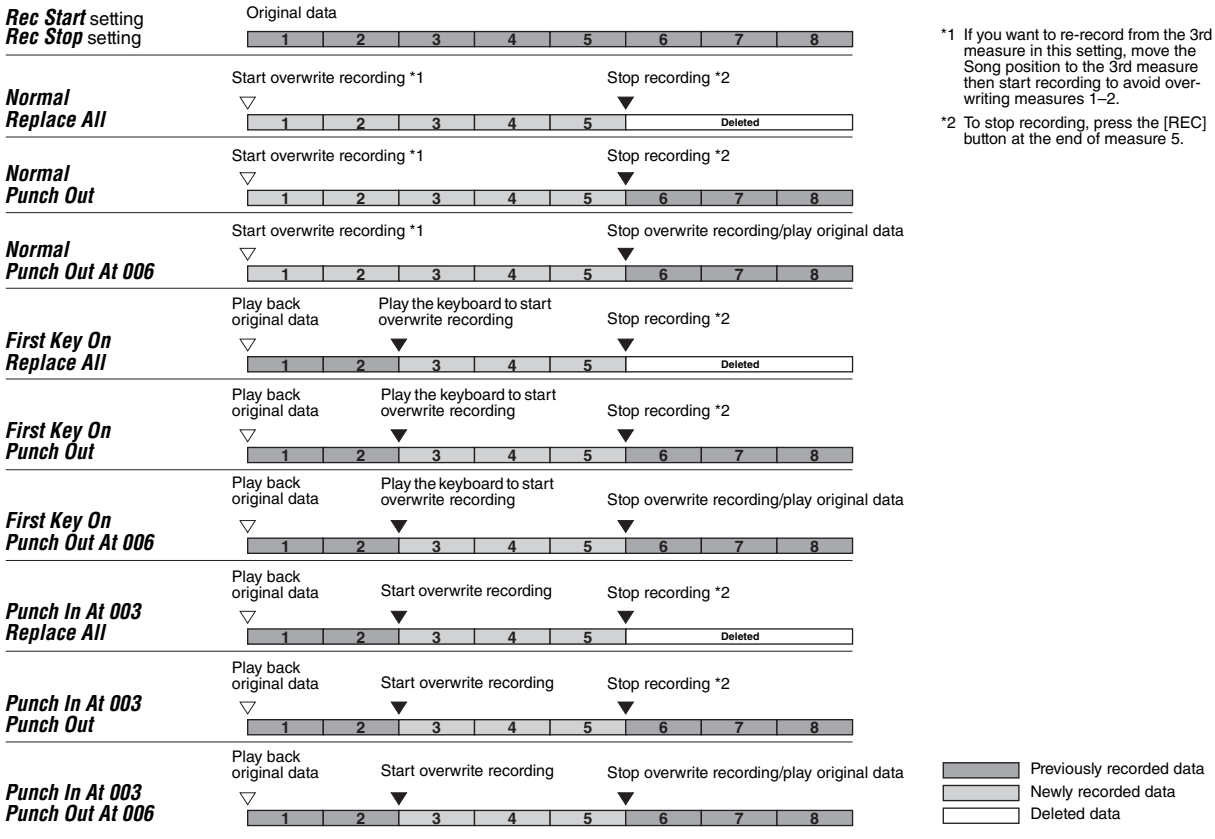
For details, refer to "Basic Operations" in the Owner's Manual.

NOTICE

The recorded Song data will be lost if you select another Song or turn off the power to the instrument without carrying out the Save operation.

■ Examples of re-recording with various Punch In/Out settings

This instrument features several different ways you use the Punch In/Out function. The illustrations below indicate a variety of situations in which selected measures in an eight-measure phrase are re-recorded.



*1 If you want to re-record from the 3rd measure in this setting, move the Song position to the 3rd measure then start recording to avoid overwriting measures 1–2.

*2 To stop recording, press the [REC] button at the end of measure 5.

Previously recorded data
Newly recorded data
Deleted data

Editing Channel Events of Existing Song Data (“*Channel*” page)

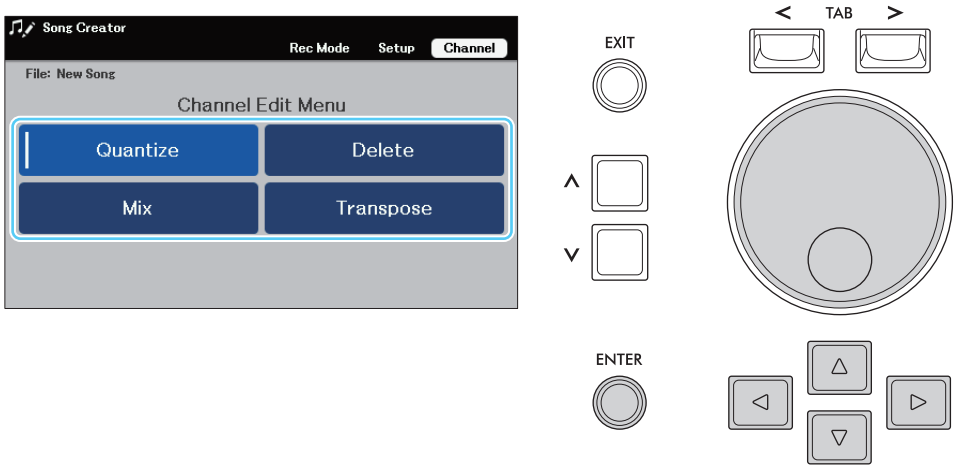
You can apply various useful functions to already recorded data, such as Quantize and Transpose, on the “***Channel***” page.

1 Select a Song to be edited.

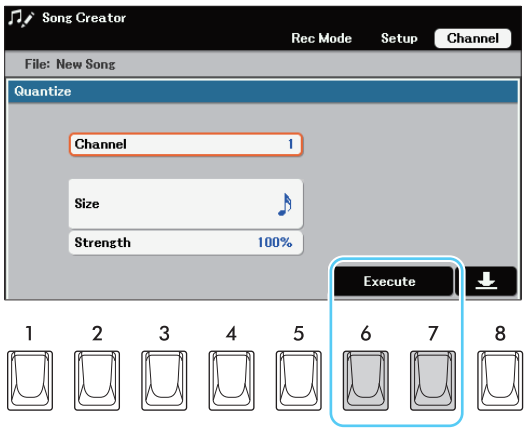
2 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Song Creator***, [ENTER] → TAB [>] ***Channel***

3 Use the Cursor buttons to select the item to be edited, and then press the [ENTER] button to call up the edit display.



4 Edit the desired parameter, and then press one of the [6]/[7] (*Execute*) buttons to actually enter the edits for each setup window.



When execution is completed, this button changes to “***Undo***,” letting you restore the original data if you are not satisfied with the results. The Undo function only has one level; only the immediately previous operation can be undone.

5 Press the [8] button to carry out the Save operation.

For details, refer to “Basic Operations” in the Owner’s Manual.

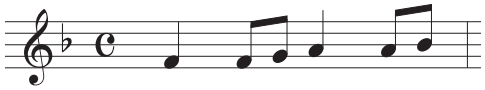
NOTICE

The edited Song data will be lost if you select another Song or turn off the power to the instrument without carrying out the Save operation.

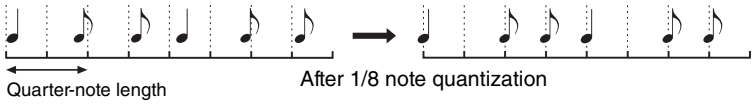
NEXT PAGE

■ *Quantize*

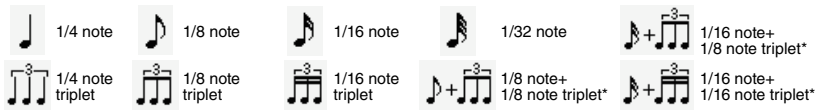
The Quantize function allows you to align the timing of all the notes in a channel. For example, if you record the musical phrase shown below, you may not play it with absolute precision, and your performance may have been slightly ahead of or behind the precise timing. Quantize is a convenient way of correcting for this.



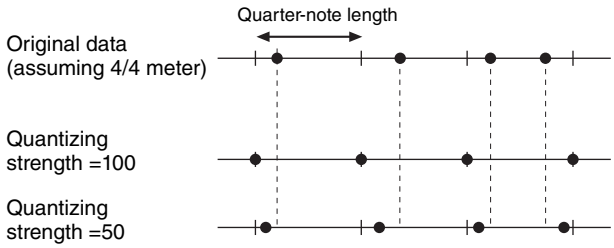
Channel	Determines which MIDI channel in the Song data is to be quantized.
Size	Selects the quantize size (resolution). For optimum results, you should set the Quantize size to the shortest note value in the channel. For example, if eighth notes are the shortest in the channel, you should use eighth note as the Quantize size.
Strength	Determines how strongly the notes will be quantized. A setting of 100% produces exact timing. If a value less than 100% is selected, notes will be moved toward the specified quantization beats according to the specified percentage. Applying less than 100% quantization lets you preserve some of the "human" feel in the recording.



Settings:



The three Quantize settings marked with asterisks (*) are exceptionally convenient, since they allow you to quantize two different note values at the same time. For example, when the straight eighth notes and eighth-note triplets are contained in the same channel, if you quantize by the straight eighth notes, all notes in the channel are quantized to straight eighth notes—completely eliminating any triplet feel. However, if you use the eighth note + eighth note triplet setting, both the straight and triplet notes will be quantized correctly.



■ *Delete*

You can delete the data of the specified channel in the Song. Enter (or remove) checkmarks for the channel(s) whose data is to be deleted by using the [ENTER] button.

NOTE You can enter or remove the checkmarks for all channels by using the [1]/[2] (***All Channels***) buttons.

■ *Mix*

This function lets you mix the data of two channels and place the results in a different channel. It also lets you copy the data from one channel to another.

Source 1	Determines the MIDI channel (1–16) to be mixed. All MIDI events of the channel specified here are copied to the destination channel.
Source 2	Determines the MIDI channel (1–16) to be mixed. Only note events of the channel specified here are copied to the destination channel. Besides the values 1–16, there is a ***Copy*** setting that allows you to copy the data from Source 1 to the destination channel.
Destination	Determines the channel into which the mix or copy results will be placed.

NEXT PAGE

■ ***Transpose***

This allows you to transpose the recorded data of individual channels up or down by a maximum of two octaves in semitone increments. Move the cursor to the desired channel to be transposed, and then edit the value by using the [∧]/[∨] buttons.

NOTE If you want to transpose all channels simultaneously, edit the value while holding down one of the [1]/[2] (***All Channels***) buttons.

NOTE Make sure not to transpose channels 9 and 10. In general, Drum Kits are assigned to these channels. If you transpose the channels of Drum Kits, the instruments assigned to each key will be changed.

6 USB Audio Player/Recorder

This function is fully explained in the Owner's Manual. Refer to the corresponding chapter in the Owner's Manual.

7 Microphone

Contents

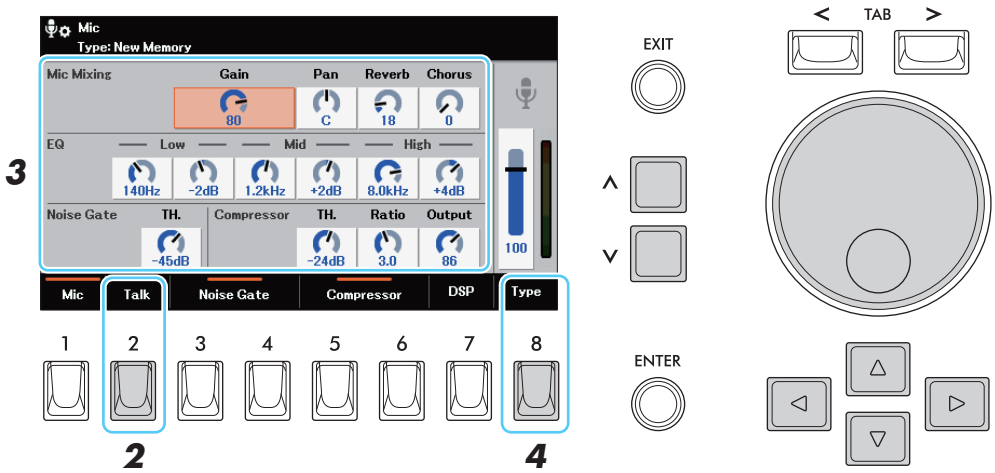
Making and Saving the Microphone Settings

This section lets you set parameters for various Effects that are applied to the microphone sound. You can make two types of settings—one is for your singing performance (when "***Talk***" is off), and the other is for making announcements between songs (when "***Talk***" is on), for example.

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Mic***, [ENTER]

2 When making settings for talking, press the [2] (*Talk*) button to turn it on. When making settings for singing, turn it off.



3 Select the desired parameter, and then adjust the value.

For details on each parameter, refer to page 69.

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4 After you have made desired settings, press the [8] (*Type*) button to save the settings as a file to the User drive.

The settings for singing and for talking are saved all together as a single file. Up to 60 files can be saved.

NOTE If you want to save the microphone setting file to the USB flash drive, save the User Effect file on the display called up via [MENU] → Cursor buttons [▲][▼][◀][▶] ***System***, [ENTER] → TAB [<][>] ***Setup Files.*** For details, refer to page 96.

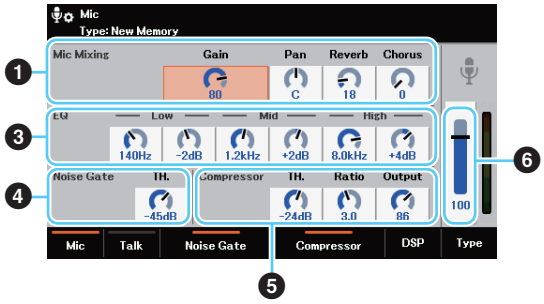
NOTE The "***Mic Mixing***" and "***DSP***" settings are not saved by this operation. To save "***Mic Mixing***" (with the exception of "***Gain***") and "***DSP***" settings, register them to Registration Memory. The "***Gain***" setting can be saved as a System Setup file (page 96).

Calling Up the Microphone Settings Saved to User drive

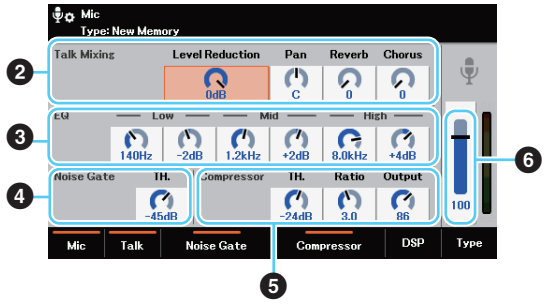
1. Call up the operation display by pressing the [8] (***Type***) button as in step 4 above.
2. Select the desired setting file.

Parameters that can be set in the "*Mic*" display

When the [2] (***Talk***) button is off:



When the [2] (***Talk***) button is on:



❶	***Mic Mixing***	Lets you make settings for singing.	
		Gain	Adjusts the input level of the microphone.
		Pan	Determines the stereo pan position of the microphone sound.
		Reverb	Determines the depth of the reverb or chorus effects applied to the microphone sound.
		Chorus	
❷	***Talk Mixing***	Lets you make settings for talking or making announcements between songs during a performance.	
		Level Reduction	Determines the amount of reduction to be applied to the overall sound (excepting the microphone input)—allowing you to effectively adjust the balance between your voice and the overall instrument sound.
		Pan	Determines the stereo pan position of the microphone sound.
		Reverb	Determines the depth of the reverb or chorus effects applied to the microphone sound.
		Chorus	
❸	***EQ***	EQ (Equalizer) is a processor that divides the frequency spectrum into multiple bands which can be boosted or cut as required to tailor the overall frequency response. The instrument features a three-band (Low, Mid and High) digital equalizer function for the microphone sound. For each of three bands, you can adjust the center frequency (Hz) and level (dB) via the corresponding knobs on the display.	

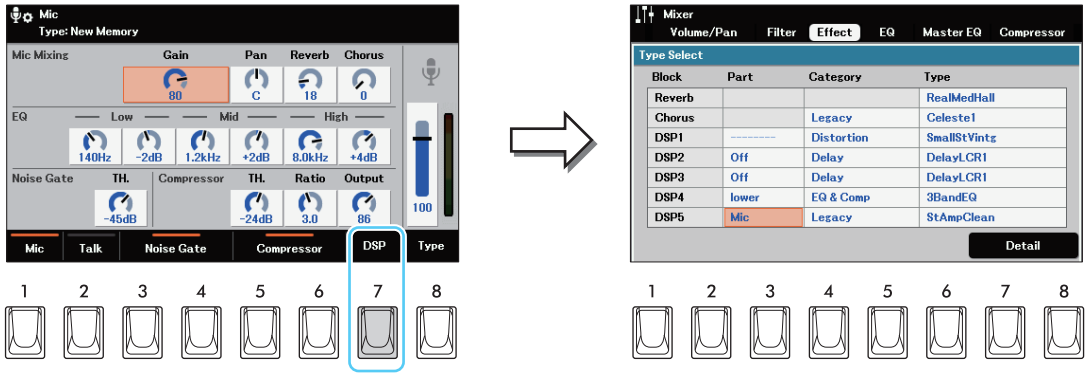
NEXT PAGE

❹	***Noise Gate***	This effect mutes the input signal when the input from the microphone falls below a specified level. This effectively cuts off extraneous noise, allowing the desired signal (vocal, etc.) to pass. Pressing one of the [3]/[4] (***Noise Gate***) buttons can turn the effect on or off.	
		TH. (Threshold)	Adjusts the input level above which the gate begins to open.
❺	***Compressor***	This effect holds down the output when the input signal from the microphone exceeds a specified level. This is especially useful for smoothing out vocals that have widely varying dynamics. It effectively "compresses" the signal, making soft parts louder and loud parts softer. Pressing one of the [5]/[6] (***Compressor***) buttons can turn the effect on or off.	
		TH. (Threshold)	Adjusts the input level above which compression begins to be applied.
		Ratio	Adjusts the compression ratio. Higher ratios result in a more compressed sound, with a reduced dynamic range.
		Output	Adjusts the final output level.
❻	Volume	Adjusts the output volume of the microphone sound.	

To save "***Mic Mixing***" and "***Talk Mixing***" settings, register them to Registration Memory. Other settings can be saved by the [8] (***Type***) button (step 4 on page 69).

Applying Desired Effects to the Microphone Sound

In addition to Reverb and Chorus, a wide variety of Effect Types are provided. You can select the desired effect type in the display called up by pressing the [7] (***DSP***) button in the "***Mic***" display.
The parameters and operations on this display are the same as those in the "***Mixer***" display called up via the [MIXER/EQ] button. For details, refer to page 80. If you want to apply the effect only to the microphone sound, make sure to select "***Mic***" as a part for "***DSP5***."
To save the DSP setting here, register them to Registration Memory.



8 Registration Memory/Playlist

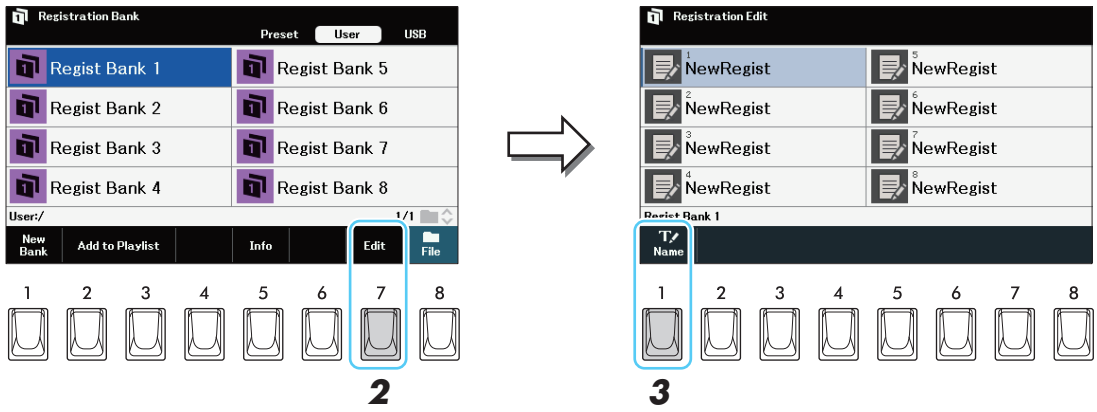
Contents

Renaming the Registration Memory

You can rename each Registration Memory number (1–8) contained in the Bank.

1 **Call up the Registration Bank Selection display by using the BANK [+]/[–] buttons, and then select the desired Bank file.**

2 **Press the [7] (*Edit*) button to call up the "*Registration Edit*" display.**



3 **Press the [1] (*Name*) button.**

4 **Select the desired Registration Memory, and then input the desired name.**

Press the [ENTER] button to actually rename it.

5 **Save the current Bank containing the edited Registration Memories.**

5-1 **Press the [EXIT] button to return to the Registration Bank Selection display.**

5-2 **Press the [8] (*File*) button, and then press the [6] (*Save*) button to save the Bank file.**

Disabling Recall of Specific Items (Disable)

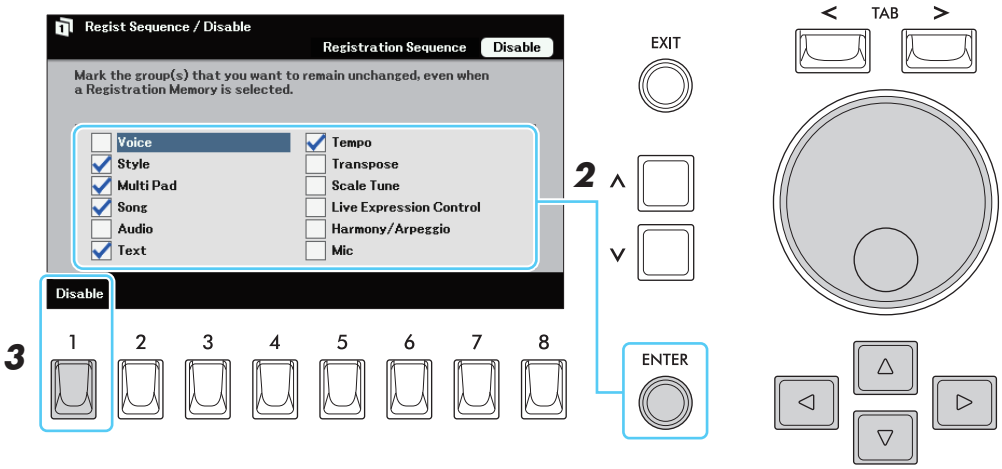
Registration Memory lets you recall all the panel setups you made with a single button press. However, there may be times that you want certain items to remain the same, even when switching Registration Memory setups. When you want to switch the Voice settings but still maintain the Style settings, for example, you can disable recall for only the Style settings and have those Style settings remain, even when you select another Registration Memory number.

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Regist Sequence/Disable***, [ENTER] → TAB [▶] ***Disable***

2 Enter (or remove) checkmarks by pressing the [ENTER] button for the desired groups that will remain unchanged when the Disable function is turned on.

Refer to the "***Parameter Chart***" in the Data List on the website for details about which parameters belong to each group.



3 Press the [1] (*Disable*) to turn the Disable function on.

With this operation, you can disable recall of checkmarked items or maintain them, even when you select another Registration Memory number. To turn off the Disable function, press the [1] (***Disable***) button again.

4 Press the [EXIT] button to exit from the operation display.

NOTICE

Settings in the "*Disable*" display are automatically saved to the instrument when you exit from this display. However, if you turn the power off without exiting from this display, the settings will be lost.

Calling Up Registration Memory Numbers in Order (Registration Sequence)

As convenient as the Registration Memory buttons are, there may be times during a performance when you want to even more quickly switch between settings. The convenient Registration Sequence function lets you call up the eight setups in any order you specify, by simply pressing the buttons in the Main display or the Footswitches. Furthermore, it also allows you to switch the Registration Memory numbers automatically at your specified timing without having to press any buttons or Footswitches.

Program a Registration Sequence

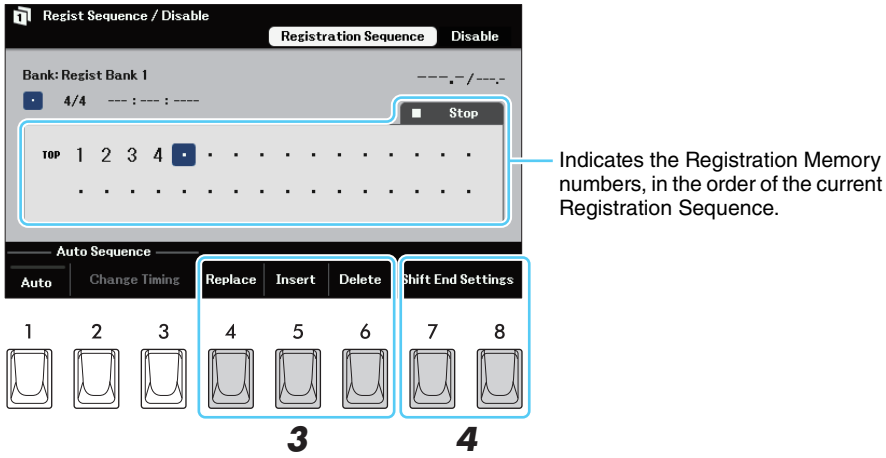
1 Call up the Registration Bank Selection display by using the BANK [+]/[–] buttons, and then select the desired Bank to be programmed.

2 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Regist Sequence/Disable***, [ENTER] → TAB [＜] ***Registration Sequence***.

3 Program the Sequence order, from left to right.

Press one of the REGISTRATION MEMORY [1]–[8] buttons on the panel, and then press the [5] (***Insert***) button to input the number. The Cursor position can be moved by using the Cursor buttons.
If you want to use the Auto Sequence function (page 75), set the switch timing for each Registration Memory number when inputting the number.



[4]	***Replace***	Replaces the number at the cursor position with the currently selected Registration Memory number.
[5]	***Insert***	Inserts the number of the currently selected Registration Memory number to the cursor position.
[6]	***Delete***	Deletes the number at the cursor position. Holding this button deletes all numbers you have input.

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4 **Press one of the [7]/[8] (*Shift End Settings*) buttons to set how Registration Sequence behaves when reaching the end of the sequence.**

Shift End	***Stop***	The sequence cannot be advanced. It stops at the end.
	Top	The sequence starts again at the beginning.
	Next Bank	The sequence automatically moves to the beginning of the next Registration Memory Bank in the same folder.
Position (***Bar***, ***Beat***)		If "***Top***" or "***Next Bank***" is selected above, the next sequence starts at the timing of the setting made here when the current sequence reaches to the end. **NOTE** It may be better to set Position to a point slightly earlier than you expect, because it may take some time to advance to the next sequence. When using the Auto Sequence function (page 76) and "***Next Bank***" is selected above, the next sequence (or next Style) starts from the bar in which the data is readied.

5 **Press the [8] (*OK*) button to close the window.**

6 **Call up the Registration Bank Selection display by using the BANK [+]/[–] buttons, and then save the Registration Sequence data to the current Bank file.**

NOTICE

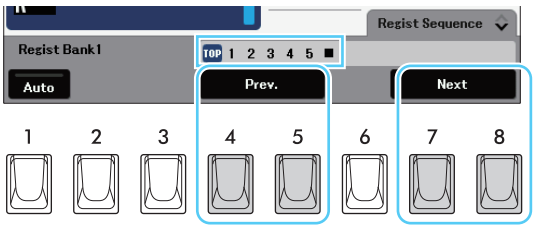
Settings in the "*Registration Sequence*" display will be lost if you select another Registration Bank without carrying out the Save operation.

Manually Using the Registration Sequence

You can switch the Registration Memory numbers in sequence by pressing one of the [4]/[5] (***Prev.***) or [7]/[8] (***Next***) buttons in the Quick Access area "***Regist Sequence***" or by using the Footswitches.

1 **Select the desired Registration Bank.**

2 **On the Quick Access area "*Regist Sequence*" of the Main display, confirm the Registration Sequence and make sure that [1] (*Auto*) is turned off.**



3 **If you intend to use a Footswitch or Footswitches to switch the Registration Memory number, assign "*Registration Sequence +*" and/or "*Registration Sequence –*" to the desired Footswitch (page 50).**

4 **Use the [4]/[5] (*Prev.*) and [7]/[8] (*Next*) buttons on the Main display, or press the Footswitches to select the first Registration Memory number.**

The selected number is highlighted.

5 **Use the [4]/[5] (*Prev.*) and [7]/[8] (*Next*) buttons or Footswitches during your keyboard performance.**

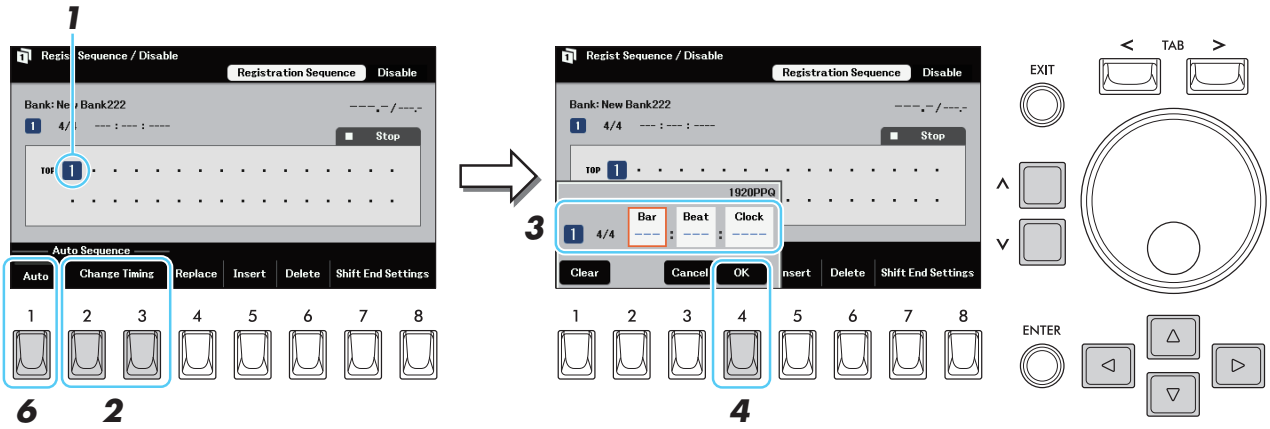
To return to the status in which no Registration Memory number is selected, press one of the [4]/[5] (***Prev.***) buttons repeatedly.

NOTE The Footswitch can be used for Registration Sequence even when the Main display is not shown.

Automatically Using the Registration Sequence (Auto Sequence)

The Auto Sequence function automatically switches Registration Memory numbers in sequence at your specified timing (bar/beat/clock) during Style playback without the need to press the buttons or Footswitches. The Auto Sequence settings can be saved as a part of the corresponding Registration Sequence.

1 On the "*Registration Sequence*" display, input a Registration Memory number and move the cursor to the number.



2 Press one of the [2]/[3] (*Change Timing*) buttons to call up the setting window.

3 Use the Cursor buttons and the [∧]/[∨] buttons to set the timing (*Bar*: *Beat*: *Clock*) to automatically call up the Registration Memory.

Since it could take a few seconds to load a Registration Memory depending on the type or size of the data, it may be better to set the timing slightly earlier than you expect.

NOTE 1 Beat (quarter note) is equivalent to 1920 clocks. The [∧]/[∨] buttons let you set the clock in 240 increments, while the Data dial lets you set in single increments.

NOTE If you set the same timing (***Bar***. ***Beat***. ***Clock***) to multiple Registration Memory numbers, the last entered one takes priority.

NOTE If the time signature of the current Registration Memory number differs from the previous sequence numbers, make sure to change the timing as soon as you input the Registration Memory number so that you can set the proper time signature and timing.

4 Press the [4] (*OK*) button to actually enter the edits and close the window.

5 Repeat steps 1–4 to program the Registration Sequence by inputting the Registration Memory numbers and setting each timing.

If necessary, make the Shift End settings (step 4 on page 74).

6 Press the [1] (*Auto*) button to turn on the Auto Sequence function.

This can also be turned on/off on the Main display by pressing the [1] (***Auto***) button in the Quick Access area "***Regist Sequence***."

7 Press the Registration Memory number button on the panel which is to be called up at the first of the Registration Sequence.

This operation loads the Style in advance allowing the sequence to start smoothly.

8 As soon as the Style playback starts, the programed Registration Sequence data is called up and Registration Memory numbers are switched at the timing you've set in step 3.

If you feel the switch timing is not as you expected or desired, repeat steps 1–4 to adjust the timing. If the first Registration Memory is mistakenly called up twice when the Style is played back, clear the timing by pressing the [1] (***Clear***) button from the window in step 3.

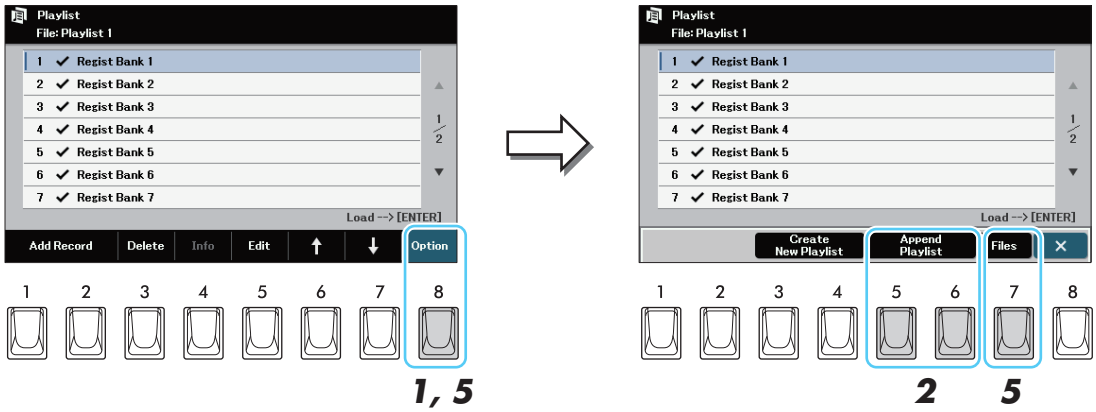
NOTICE

Settings in the "*Registration Sequence*" display will be lost if you select another Registration Bank without carrying out the Save operation.

Copying the Playlist Records from Another Playlist (Append Playlist)

"Append Playlist" allows you to copy the existing Playlist file and add it to the current Playlist file.

1 **On the Playlist display, press the [8] (*Option*) button to call up the operation window.**



2 **Press one of the [5]/[6] (*Append Playlist*) buttons to call up the Playlist File Selection display.**

3 **Select the desired Playlist file to append.**

A confirmation message appears. If you want to cancel the operation, press the [6] (***No***) button here.

4 **Press the [7] (*Yes*) button to add the Records.**

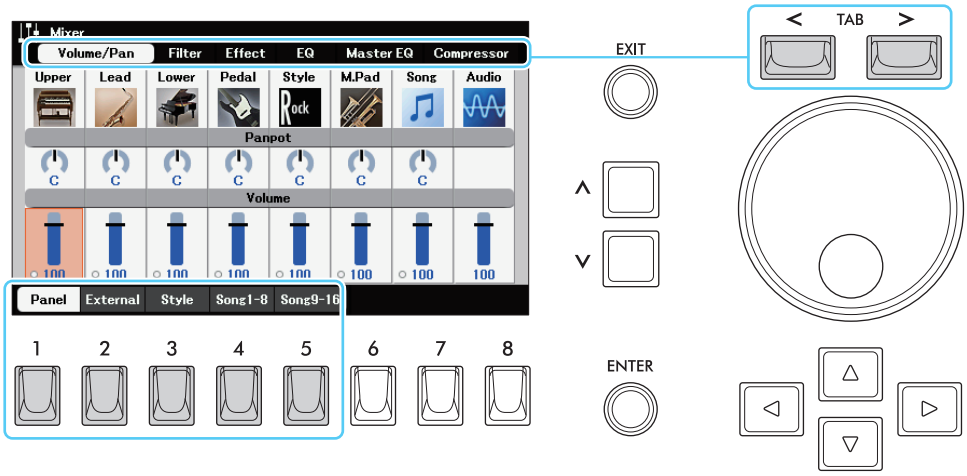
All Records in the selected Playlist file are added at the bottom of the current Playlist.

5 **Press the [8] (*Option*) button to call up the operation window, and then press the [7] (*Files*) button to save the appended Records to the current Playlist file.**

9 Mixer

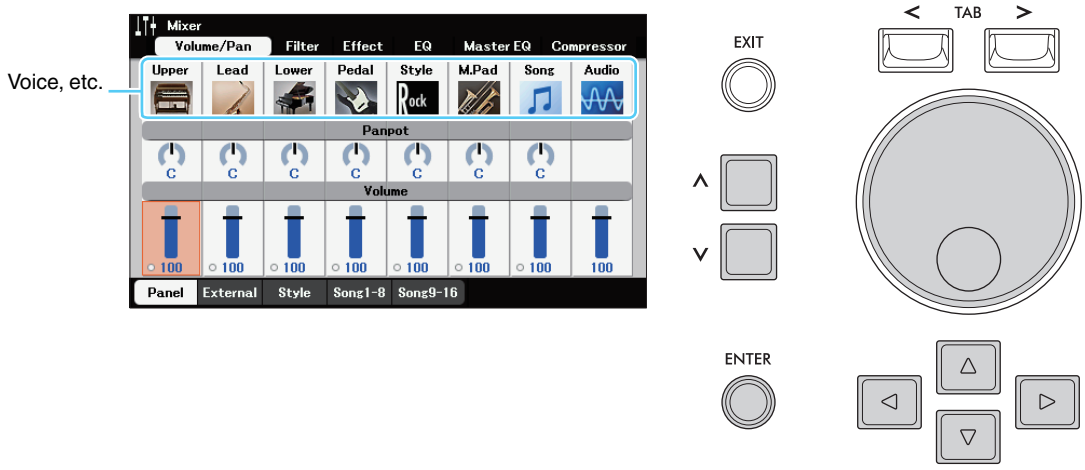
Contents

Regarding the Mixer, the Reference Manual covers detailed descriptions of each parameter while the Owner's Manual covers the basic instructions. After making settings described in this chapter, make sure to save the Mixer settings by following the instructions in the Owner's Manual.
Select the part to be edited by pressing one of the [1]–[5] buttons, and then select the page for the relevant parameters by using the TAB [<][>] buttons.



For a visual indication of the signal flow and configuration of the Mixer, refer to the Block Diagram on page 85.

Editing "Volume/Pan" Parameters

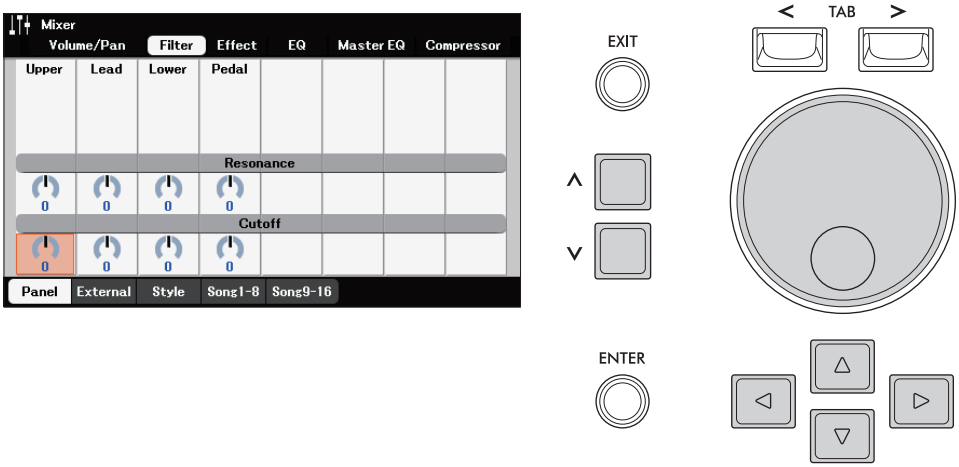


Move the cursor to the desired position by using the Cursor buttons, and then use the Data dial or the [∧]/[∨] buttons to edit parameters.

Voice, etc.	Allows you to re-select the Voices for each keyboard part or each part (channel) of the Style or Song. Press the [ENTER] button to call up the Voice selection page for the part. After selecting the desired Voice, press the [EXIT] button to return to the "***Mixer***" display. When the "***Panel***" part is selected, the same operation allows you to re-select the Style, Song or Audio file (instead of the Voice) for the corresponding part. ***NOTE*** When a GM Song is selected, only a Drum Kit Voice can be selected for channel 10 (in the "***Song 9-16***" page). ***NOTE*** For a Style or Song channel, calling up a rhythm/percussion Voice (Drum Kit, etc.) will replace the channel settings with those for the new Voice. In such a case, the original settings may not be restored even if you re-select the original Voice. To restore the original sound, select the same Style or Song again without carrying out the Save operation.
Panpot	Determines the stereo position of the selected part (channel).
Volume	Determines the volume of each part or channel, giving you fine control over the balance of all the parts.

Editing "Filter" Parameters

This function modifies the tonal characteristics (brightness, etc.) of the sound by cutting the output of a specific frequency portion of the sound.



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Move the cursor to the desired position by using the Cursor buttons, and then use the Data dial or the [∧]/[∨] buttons to edit parameters.

Resonance	Allows you to adjust the Resonance (page 15) for each part.
Cutoff	Determines the brightness of the sound for each part by adjusting the Cutoff Frequency (page 15).

Editing "Effect" Parameters

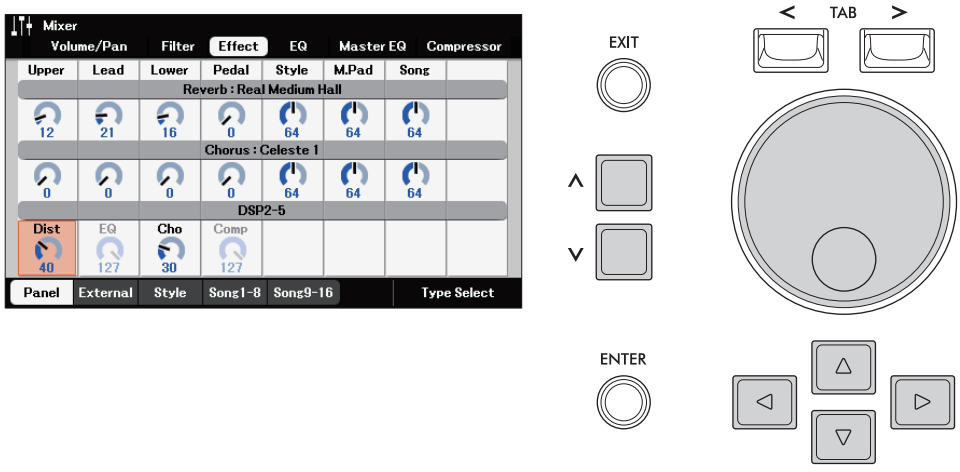
This instrument features seven Effect Blocks, giving you powerful tools to richly enhance the sounds of the instrument or completely transform them. The Effects are divided into the following groups:

■ **Reverb, Chorus:**
The Effects of these Blocks are applied to the overall sound or all Parts. In each of these Effect Blocks, you can select only one Effect Type at a time and adjust the Send Level (Depth) for each Part as well as the Return Level for all Parts.

■ **DSP1:**
When the "***Connection***" parameter selected in step 2 of page 81 is set to "***System***," the Effects of this Block are applied only to the Style and Song sounds. In this status, you can select only one Effect Type at a time and adjust the Send Level (Depth) for each Part as well as Return Level for all Parts. When the "***Connection***" parameter is set to "***Insertion***," the Effect of this Block is applied to a specific channel of the Style and Song.

■ **DSP2–5:**
The Effects of these Blocks are applied to a specific Part or Channel. Different Effect Types can be selected for each of the available Parts or Channels.

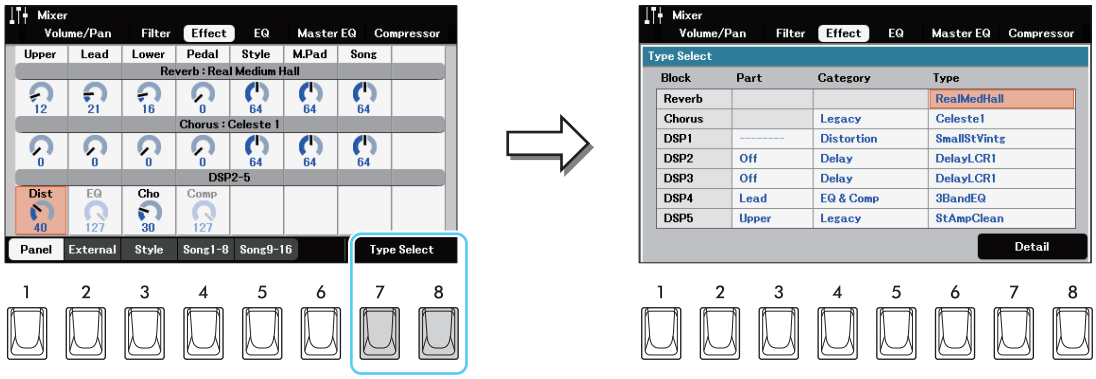
Adjusting the Effect Depth for Each Part



Move the cursor to the desired position by using the Cursor buttons, and then use the Data dial or the [∧]/[∨] buttons to adjust the Effect Depth for each Part.

Selecting an Effect Type for each Block

1 **In the "*Effect*" page, press one of the [7]/[8] (*Type Select*) buttons to call up the "*Type Select*" window.**

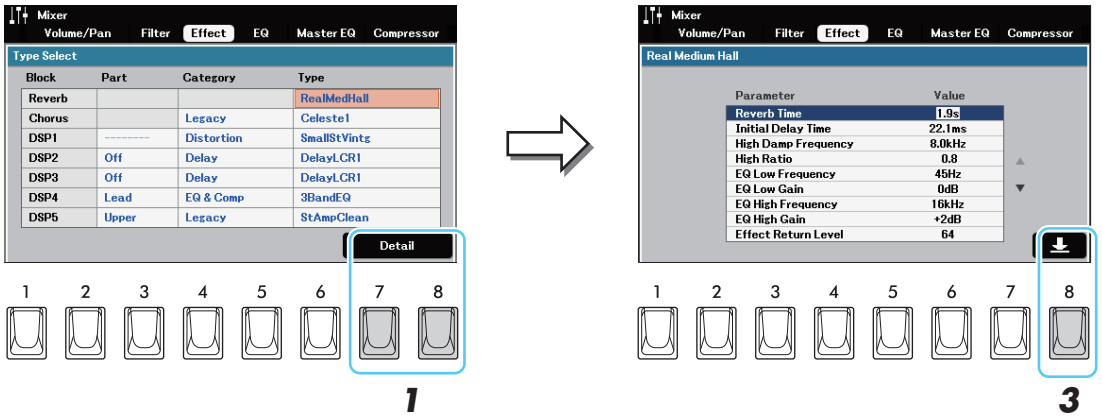


2 **Select part, category and type in order for the desired effect block to apply the effect to that part.**

Effect Block	Effect-applicable parts	Effect characteristics
Reverb	All parts	Recreates the warm ambience of playing in a concert hall or jazz club.
Chorus	All parts	Produces a richly textured sound as if several parts are being played simultaneously. In addition, other type effects (such as reverb, delay, etc.) can also be selected in this effect block.
DSP1	Style part, Song channel 1–16	In addition to Reverb and Chorus, a wide variety of Effect Types are provided, such as Distortion. This effect is applied only to Style/Song parts. When the "***Connection***" parameter selected in step 2 of page 81 is set to "***System***," the DSP1 effect will be applied overall to the Style and Song. When it is set to "***Insertion***," the DSP1 effect will be applied to a specific part of the Style or Song.
DSP2, ***DSP3***, ***DSP4***, ***DSP5***	Upper, Lead, Lower, Pedal, Song channel 1–16, Mic*	In addition to Reverb and Chorus, a wide variety of Effect Types are provided, such as Distortion. For each of DSP2–5, you can select one of the Parts or Channels listed at left. When you select "***Lead***" for DSP2, for example, the DSP2 Effect is applied only to the Lead part. Note that if you select a Song or Style which uses the DSP2–5 Blocks, the Part assignment of these three Blocks will be changed automatically with last priority according to the data. * The Mic part can only be processed with "***DSP5***." If you want to apply a certain Effect only to the microphone sound, use "***DSP5***" and select "***Mic***."

Note that the Reverb Block is not divided into any Categories.
If you want to edit detailed parameters of the selected Effect Type, press one of the [7]/[8] (***Detail***) buttons. For details, refer to the next section.

1 **Once you've selected an Effect Block and Effect Type in the previous section, press one of the [7]/[8] (*Detail*) buttons to call up the window for editing the effect parameters.**

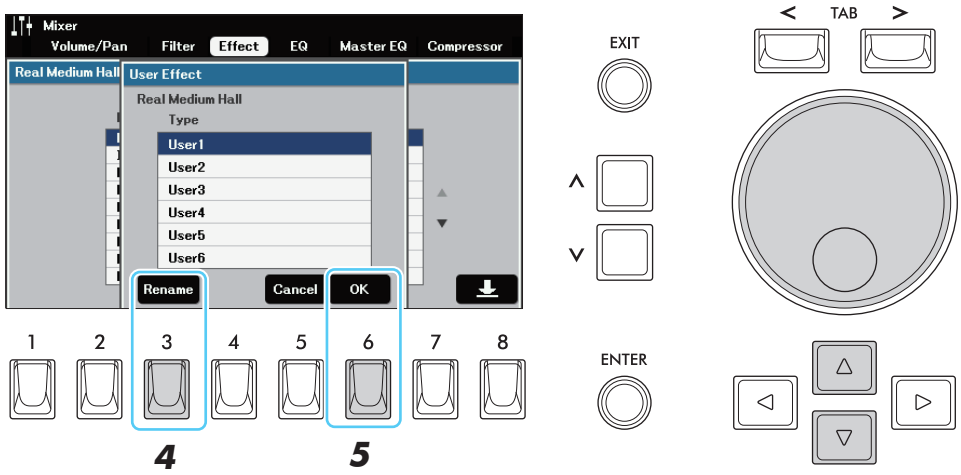


2 **Use the Cursor buttons to select a parameter, and then use the [∧]/[∨] buttons to edit the value.**

3 **Press the [8] button to call up the "*User Effect*" window for the Save operation.**

4 **Use the Cursor buttons to select the destination for saving the settings as a User Effect.**

If necessary, change the User Effect name. Press the [3] (***Rename***) button to call up the Character Entry window, enter the name, and then press the [ENTER] button.



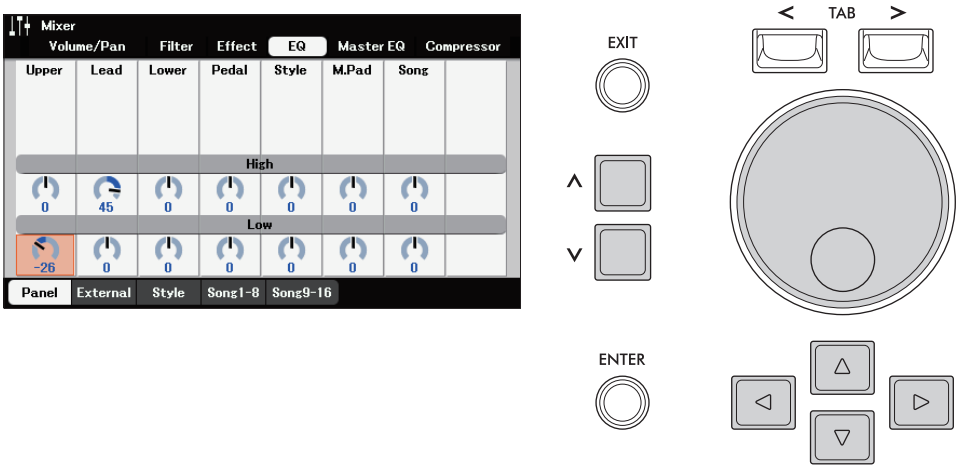
5 **Press the [6] (*OK*) button to carry out the Save operation.**

To call up the User Effect saved here, select the "***User***" category of the corresponding Effect Block in step 2 on page 80.

Editing “EQ”/“Master EQ” (Equalizer) Parameters

Equalizer (also called “EQ”) is a sound processor that divides the frequency spectrum into multiple bands that can be boosted or cut as required to tailor the overall frequency response.
The “***EQ***” page selected by using the TAB [<][>] buttons lets you adjust the EQ for each corresponding part, while the “***Master EQ***” page lets you make overall EQ adjustments for the entire instrument.

Editing Part EQ



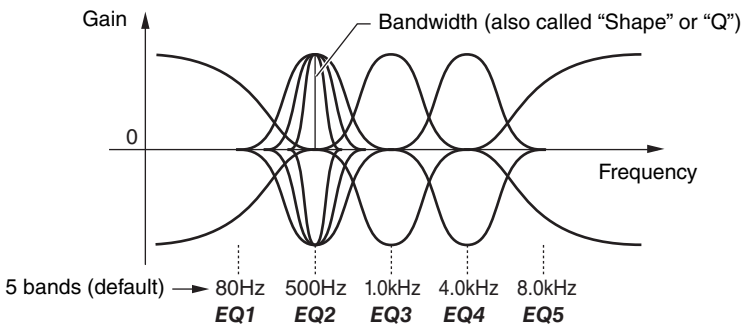
Move the cursor to the desired position by using the Cursor buttons, and then use the Data dial or the [∧]/[∨] buttons to edit parameters.

High	Boosts or attenuates the high EQ band for each part.
Low	Boosts or attenuates the low EQ band for each part.

Editing Master EQ

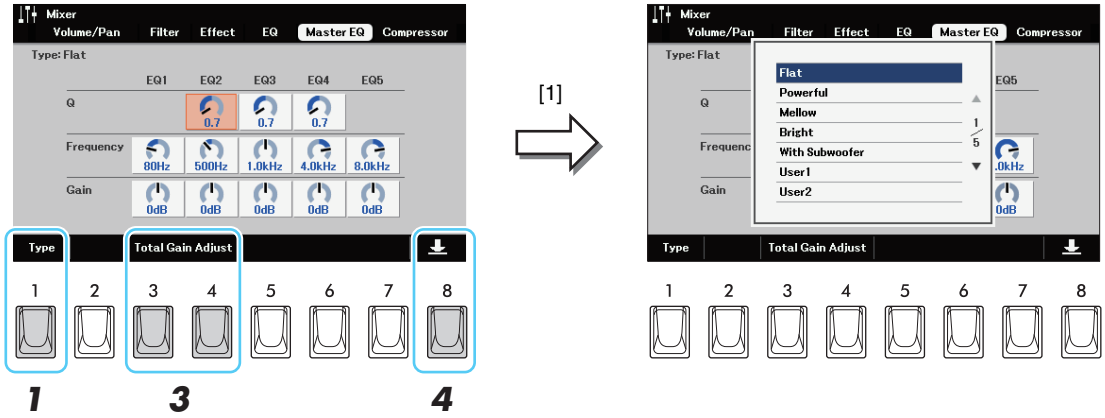
The instrument possesses a high-quality five-band digital EQ. With this function, a final effect—tone control—can be added to the output of your instrument. You can select one of the five preset EQ settings in the “***Master EQ***” page. You can even create your own custom EQ settings by adjusting the frequency bands, and save the settings as User Master EQ types.

NOTE Master EQ cannot be applied to playback of audio received via the USB Audio Player function or the Audio Input Sounds.



NEXT PAGE

1 Press the [1] (*Type*) button to call up the window for selecting a Master EQ type.



2 Use the Cursor buttons to select the desired Master EQ type.

- ***Flat***: Flat EQ settings. The gain of each frequency is set to 0dB.
- ***Powerful***: Powerful EQ settings in which all frequency sounds are emphasized. This can be used to boost the music for parties, etc.
- ***Mellow***: Soft and mellow EQ settings in which high-frequency bands are reduced slightly.
- ***Bright***: EQ setting for boosting the level of the high frequencies, making the sound brighter.
- ***With Subwoofer***: Custom EQ settings in which low-frequency bands are reduced. This is an optimum setting for using this instrument along with a subwoofer.
- ***User 1–30***: Your own custom EQ settings saved in step 5.

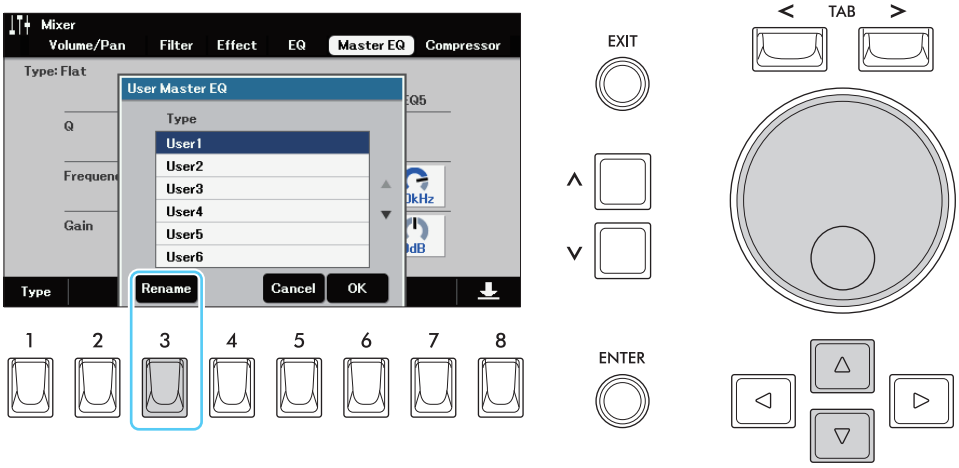
3 Move the cursor to the desired position by using the Cursor buttons, and then use the Data dial or the [∧]/[∨] buttons to adjust the "*Gain*" level of each band as well as the "*Q*" (bandwidth) and the "*Frequency*" (center frequency).

Adjusting the value while holding down one of the [3]/[4] (***Total Gain Adjust***) buttons can boost or cut all five bands at the same time.
The higher the value of Q, the narrower the bandwidth. The available Frequency range is different for each band.

4 Press the [8] button to call up the "*User Master EQ*" window for the Save operation.

5 Use the Cursor buttons to select the destination for saving the settings as a User Master EQ type.

If necessary, change the Master EQ name. Press the [3] (***Rename***) button to call up the Character Entry window, enter the name, and then press the [ENTER] button. The Master EQ setting saved here can be selected as described in steps 1–2.

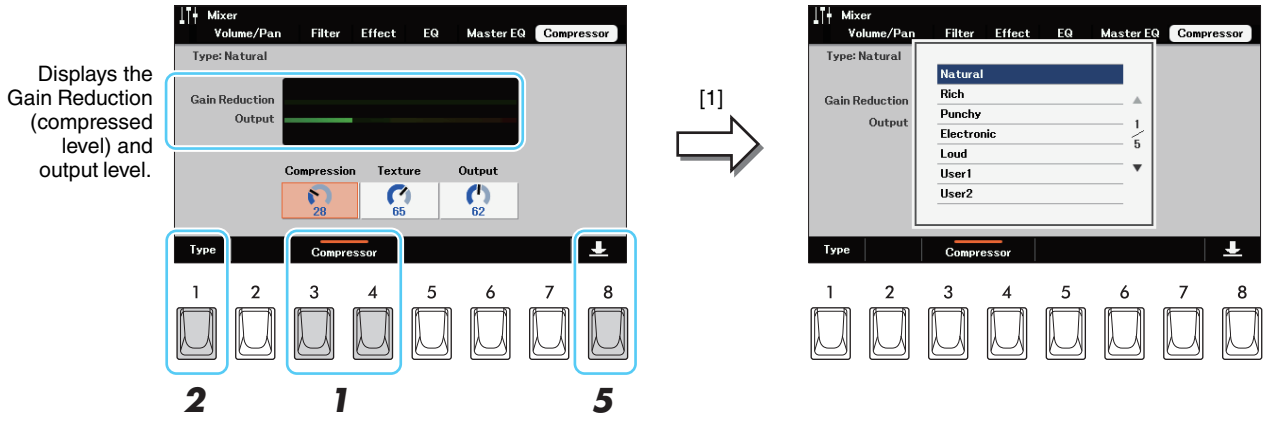


Editing "Compressor" (Master Compressor) Parameters

Compressor is an effect commonly used to limit and compress the dynamics (softness/loudness) of an audio signal. For signals that vary widely in dynamics, such as vocals and guitar parts, it "squeezes" the dynamic range, effectively making soft sounds louder and loud sounds softer. When used with gain to boost the overall level, this creates a more powerful, more consistently high-level sound.
This instrument features the Master Compressor applied to the entire sound of this instrument. Although the preset Master Compressor settings are provided, you can create and save your original Master Compressor settings by adjusting the related parameters.

NOTE Master Compressor cannot be applied to playback of audio received via the USB Audio Player function and the Audio Input Sounds.

1 Press one of the [3]/[4] (*Compressor*) buttons to turn the Master Compressor on.



2 Press the [1] (*Type*) to call up the window for selecting a Master Compressor type.

3 Use the Cursor buttons to select the Master Compressor type.

- ***Natural***: Natural Compressor settings in which the effect is moderately pronounced.
- ***Rich***: Rich Compressor settings in which an instrument's characteristics are optimally brought out. This is good for enhancing acoustic instruments, jazz music, etc.
- ***Punchy***: Highly exaggerated Compressor settings. This is good for enhancing rock music.
- ***Electronic***: Compressor settings in which the electronic characteristics in dance music are optimally brought out.
- ***Loud***: Powerful Compressor settings. This is good for enhancing energetic music such as rock or gospel music.
- ***User 1–30***: Your own custom Master Compressor settings saved in step 6.

4 Edit the Master Compressor.

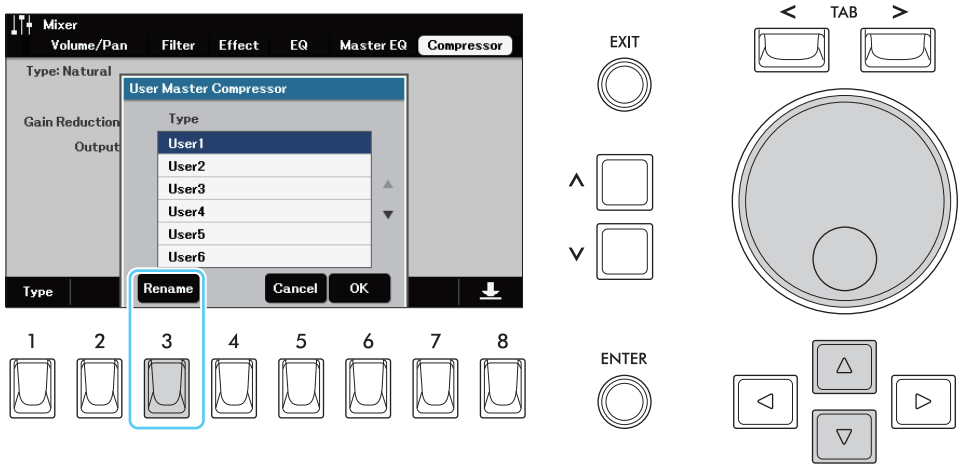
Compression	Determines the threshold (minimum level at which compression starts).
Texture	Determines the ratio of compression (how much the dynamic range is compressed).
Output	Determines the output level.

5 Press the [8] button to call up the "*User Master Compressor*" window for the Save operation.

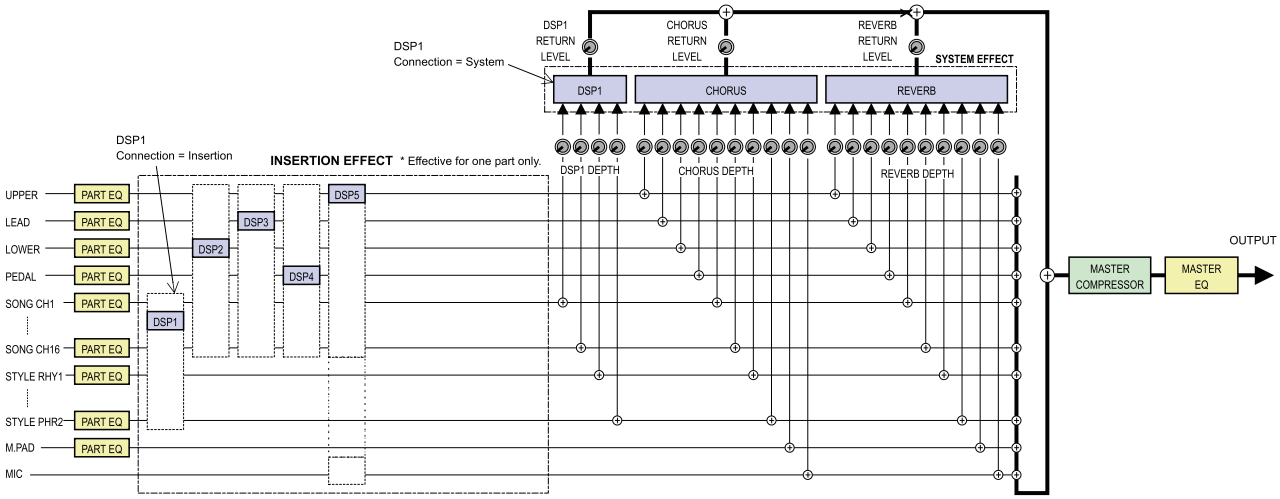
NEXT PAGE

6 Use the Cursor buttons to select the destination for saving the settings as a User Master Compressor type.

If necessary, change the Master Compressor name. Press the [3] (***Rename***) button to call up the Character Entry window, enter the name, and then press the [ENTER] button. The Master Compressor setting saved here can be selected as described in step 2–3.



Block Diagram



10 Connections

Contents

MIDI Settings

In this section, you can make MIDI-related settings for the instrument. This instrument gives you a set of ten pre-programmed templates that let you instantly and easily reconfigure the instrument to match your particular MIDI application or external device. Also, you can edit the pre-programmed templates and save up to ten of your original templates to the User drive.

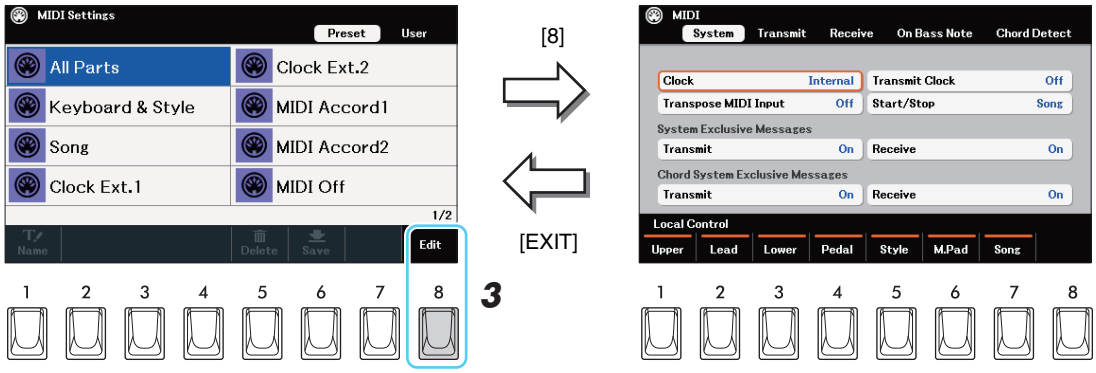
NOTE You can save all your original templates as a single file to internal memory (User drive) or a USB flash drive. See page 96.

1 Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***MIDI***, [ENTER]

2 Select a pre-programmed MIDI template from the "*Preset*" page.

For details on pre-programmed templates, see below.
If you have already created your original template and saved it to the "***User***" page, you can also select that template from the "***User***" page.



3 To edit the template, press the [8] (*Edit*) button to call up the setting display.

NEXT PAGE

4 **Use the TAB [<][>] buttons to call up the relevant page, and then set various parameters to edit the current MIDI template.**

- ***System***..... MIDI System Settings (page 88)
- ***Transmit***..... MIDI Transmit Settings (page 89)
- ***Receive*** ..... MIDI Receive Settings (page 90)
- ***On Bass Note*** ..... Bass Note Settings for Style Playback via MIDI Receive (page 91)
- ***Chord Detect*** ..... Chord Type Settings for Style Playback via MIDI Receive (page 91)

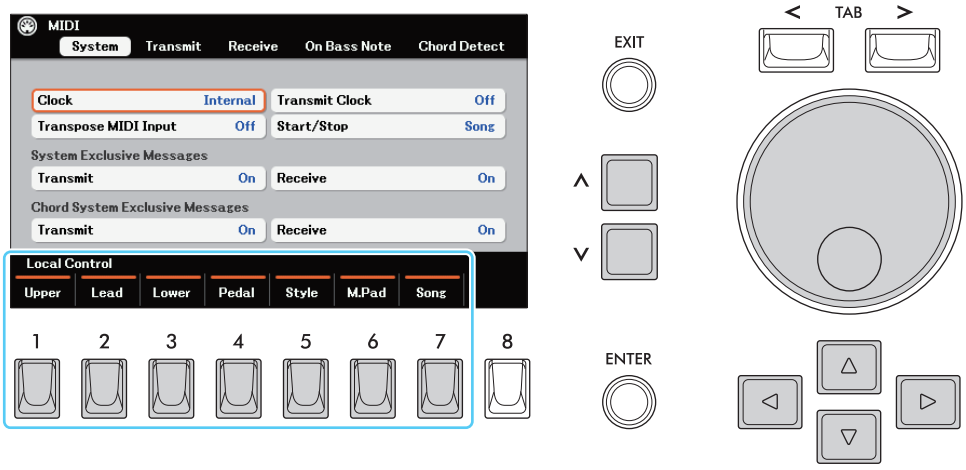
5 **When you've finished editing, press the [EXIT] button to return to the MIDI Template Selection display.**

6 **Press the TAB [>] button to select the "*User*" page, and then press the [6] (*Save*) button to save the MIDI settings as your original MIDI template.**

■ Pre-programmed MIDI Templates

All Parts	Transmits all parts including the Voice parts (Upper Keyboard, Lead, Lower Keyboard and Pedalboard), with the exception of Song parts.
Keyboard & Style	Basically the same as "***All Parts***" with the exception of how Voice parts are managed.
Song	All transmit channels are set to correspond to Song channels 1–16. This is used to play Song data with an external tone generator and to record Song data to an external sequencer.
Clock Ext.1	Playback or recording (Song, Style, etc.) synchronizes with an external MIDI clock instead of the instrument's internal clock. This template should be used when you wish to set the tempo on the MIDI device connected to the instrument.
Clock Ext.2	
MIDI Accord1	MIDI accordions allow you to transmit MIDI data and play connected tone generators from the keyboard and bass/chord buttons of the accordion. This template lets you play melodies from the accordion keyboard and control Style playback on the instrument with the left-hand buttons.
MIDI Accord2	Basically the same as "***MIDI Accord1***" above, with the exception that the chord/bass notes you play with your left hand on the MIDI Accordion are recognized also as MIDI note events.
MIDI Off	No MIDI signals are sent or received.
On Bass	MIDI pedal units allow you play connected tone generators with your feet (especially convenient for playing single note bass parts). This template lets you play/control the chord root in Style playback with a MIDI pedal unit.
Style Bass	This template lets you play the bass part for Style playback by using a MIDI pedal unit.

The explanations here apply to the "***System***" page in step 4 on page 87.



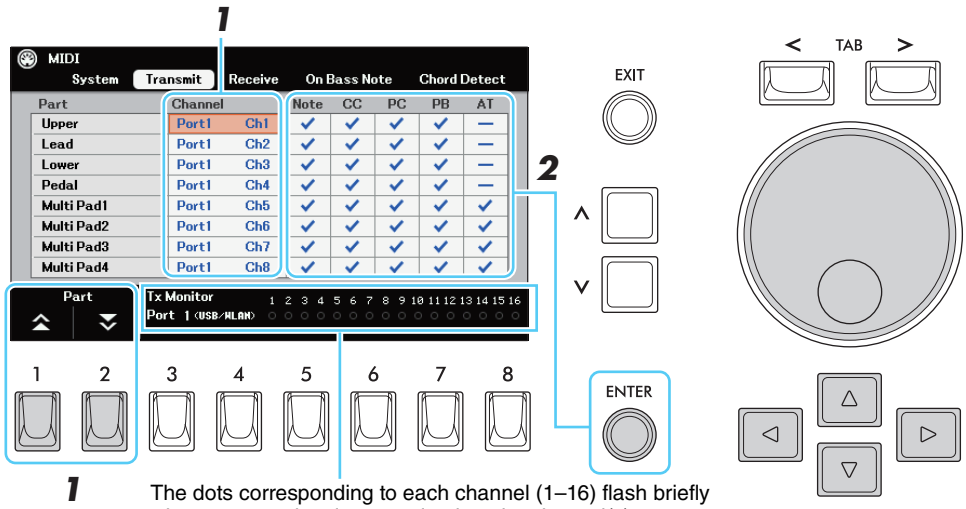
Clock		Determines whether the instrument is controlled by its own internal clock or a MIDI clock signal received from an external device. "***Internal***" is the normal Clock setting when the instrument is being used alone or as a master keyboard to control external devices. If you are using the instrument with an external sequencer, MIDI computer, or other MIDI device, and you want to synchronize it to that device, set this parameter to the appropriate setting: "***USB1***," "***USB2***," or "***Wireless LAN***." In this case, make sure that the external device is connected properly (e.g., to the instrument's [USB TO HOST] terminal), and that it is properly transmitting a MIDI clock signal. When this is set for control by an external device ("***USB1***," "***USB2***," or "***Wireless LAN***"), the tempo is indicated as "***Ext.***" in the Tempo pop-up display. ***NOTE*** If the Clock is set other than "***Internal***," the Style, Song, Metronome and Tempo cannot be controlled by the buttons on this instrument. ***NOTE*** "***Wireless LAN***" is shown only when the USB Wireless LAN adaptor (UD-WL01) is connected to this instrument.
Transmit Clock		Turns MIDI clock (F8) transmission on or off. When this is set to "***Off***," no MIDI clock or Start/Stop data is transmitted even if a Song or Style is played back.
Transpose MIDI Input		Determines whether or not the instrument's transpose setting is applied to the note events received from the external device via MIDI.
Start/Stop		Determines whether incoming FA (start) and FC (stop) messages affect Song or Style playback.
System Exclusive Messages	***Transmit***	Determines whether MIDI System Exclusive messages are transmitted (***On***) or not (***Off***) from this instrument.
	Receive	Determines whether MIDI System Exclusive messages are recognized (***On***) or not (***Off***) by this instrument.
Chord System Exclusive Messages	***Transmit***	Determines whether MIDI chord exclusive data (Chord Detect: root and type) are transmitted (***On***) or not (***Off***) from this instrument.
	Receive	Determines whether MIDI chord exclusive data (Chord Detect: root and type) are recognized (***On***) or not (***Off***) by this instrument.

NEXT PAGE

[1] – [7]	***Local Control***	Turns Local Control for each part on or off. When Local Control is set to on, the keyboard of the instrument controls its own (local) internal tone generator, allowing the internal Voices to be played directly from the keyboard. If you set Local Control to off, the keyboard and controllers are internally disconnected from the instrument's tone generator section so that no sound is output when you play the keyboard or use the controllers. For example, this allows you to use an external MIDI sequencer to play the instrument's internal Voices, and use the instrument keyboard to record notes to the external sequencer and/or play an external tone generator.

MIDI Transmit Settings

The explanations here apply to the "***Transmit***" page in step 4 on page 87. This determines which parts will be sent as MIDI data and over which MIDI channel the data will be sent.



The dots corresponding to each channel (1–16) flash briefly whenever any data is transmitted on the channel(s).

NOTE If "***WLAN***" is shown, this instrument can transmit MIDI messages via the USB wireless LAN adaptor connected to the [USB TO DEVICE] terminal. When "***WLAN***" is not shown although the USB wireless LAN adaptor is connected, turn the instrument off then on again.

1 Move the cursor to "*Channel*" section of the desired part, and then select the channel over which the MIDI data of the corresponding part is to be transmitted.

Pressing the [1] or [2] (***Part***) button skips up or down through the part type (keyboard part, Style and Song).

The configuration of the parts is the same as those already explained elsewhere in the Owner's Manual.

NOTE If the same transmit channel is assigned to several different parts, the transmitted MIDI messages are merged to a single channel—resulting in unexpected sounds and possible glitches in the connected MIDI device.

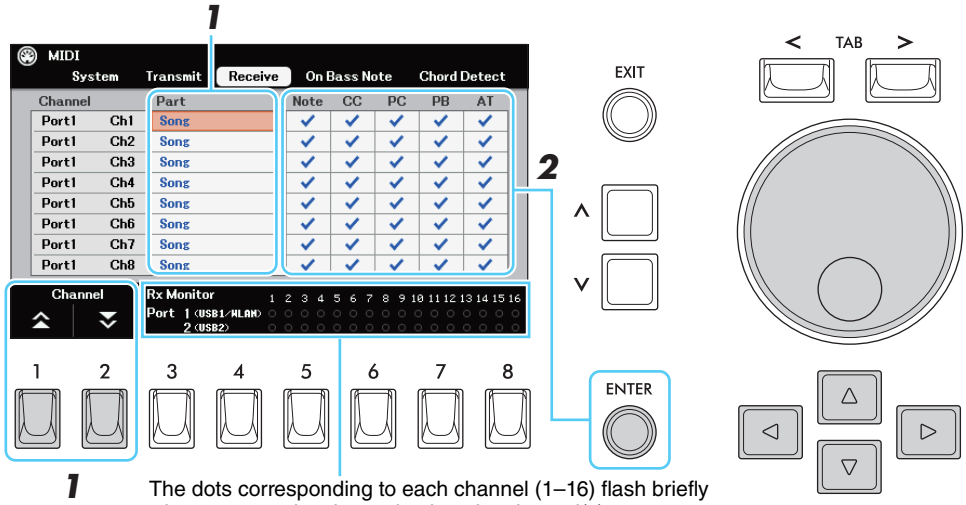
NOTE Protected Songs cannot be transmitted even if the proper Song channels 1–16 are set to be transmitted.

2 Enter (or remove) checkmarks for the MIDI messages (*Note*, *CC*, *PC*, *PB*, *AT*) to be transmitted for each part by pressing the [ENTER] button.

- ***Note*** (Note events): An individual note within a Song. Includes the note name which corresponds to the key which was played, plus a velocity value based on how hard the key is played, and the gate time value (the length of a note).
- ***CC*** (Control Change): Settings to control the Voice, such as volume, pan, filter and effect depth (edited via the Mixer), etc.
- ***PC*** (Program Change): MIDI program change number for selecting a Voice.
- ***PB*** (Pitch Bend): Data for changing the pitch of a Voice continuously.
- ***AT*** (After Touch): This event is generated when pressure is applied to a key after the note is played. Note that the keyboard of this instrument does not feature Aftertouch.

MIDI Receive Settings

The explanations here apply to the "***Receive***" page in step 4 on page 87. This determines which parts will receive MIDI data and over which MIDI channels the data will be received.



The dots corresponding to each channel (1–16) flash briefly whenever any data is received on the channel(s).

NOTE If "***WLAN***" is shown, this instrument can handle MIDI messages received via the USB wireless LAN adaptor connected to the [USB TO DEVICE] terminal. When "***WLAN***" is not shown although the USB wireless LAN adaptor is connected, turn the instrument off then on again.

1 Move the cursor to "Part" section of the desired channel, and then select the part which is to handle the MIDI data of the corresponding channel received from the external MIDI device.

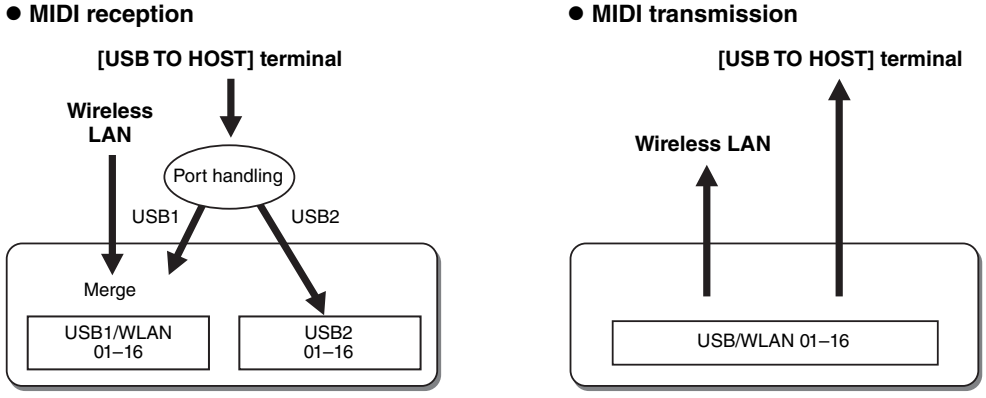
Pressing the [1] or [2] (***Channel***) button skips up or down through the next port.
The instrument can receive MIDI messages over 32 channels (16 channels × 2 ports) by USB connection. With the exception of the parts below, the configuration of the parts is the same as those already explained elsewhere in the Owner's Manual.

- ***Extra Part 1–4***: There are four parts specially reserved for receiving and playing MIDI data. Normally, these parts are not used by the instrument itself. The instrument can be used as a 32-channel multi-timbral tone generator by using these four parts in addition to the other parts of the instrument.

2 Enter (or remove) checkmarks for the MIDI messages (*Note*, *CC*, *PC*, *PB*, *AT*) to be received for each channel by pressing the [ENTER] button.

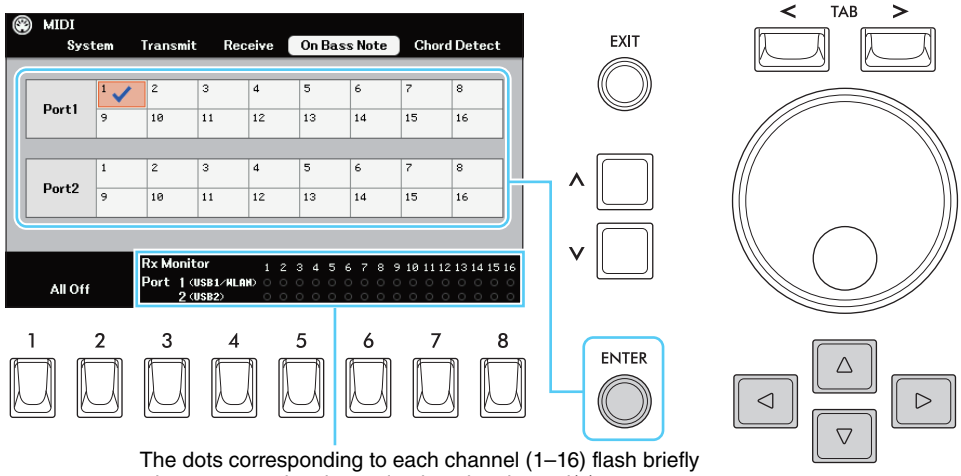
MIDI transmission/reception via the USB terminals

The relationship of the USB terminals and their handling of MIDI messages (transmitting/receiving 32 channels; 16 channels × 2 ports) is shown in the following diagram:



Bass Note Settings for Style Playback via MIDI Receive

The explanations here apply to the "***On Bass Note***" page in step 4 on page 87. These settings let you determine the bass note for Style playback, based on the note messages received via MIDI. The note on/off messages received at the channel(s) set to on are recognized as the bass note of the chord of Style playback. The bass note will be detected regardless of the [ACMP] button status. When several channels are simultaneously set to on, the bass note is detected from merged MIDI data received over the channels.



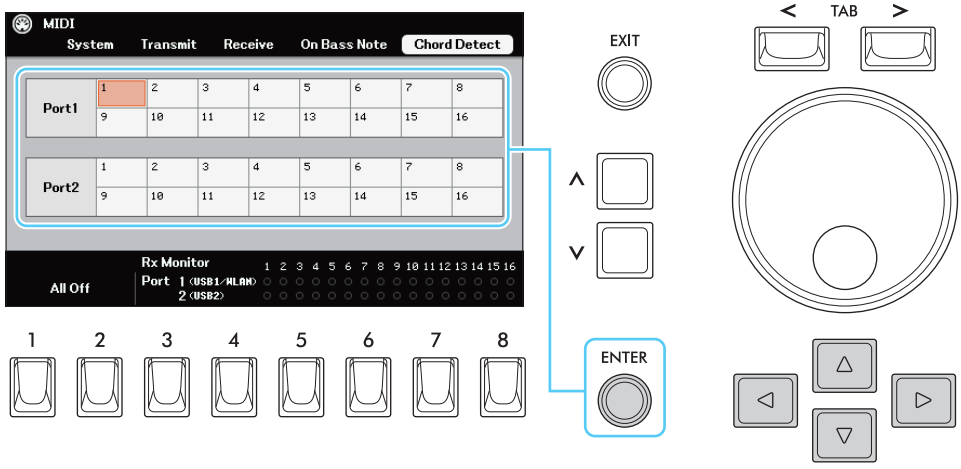
The dots corresponding to each channel (1–16) flash briefly whenever any data is received on the channel(s).

NOTE If "***WLAN***" is shown, this instrument can handle MIDI messages received via the USB wireless LAN adaptor connected to the [USB TO DEVICE] terminal. When "***WLAN***" is not shown although the USB wireless LAN adaptor is connected, turn the instrument off then on again.

Move the cursor to the desired channel number, and then enter (or remove) the checkmark by pressing the [ENTER] button.

Chord Type Settings for Style Playback via MIDI Receive

The explanations here apply to the "***Chord Detect***" page in step 4 on page 87. This page lets you select the MIDI channels over which the MIDI data from the external device will be used to detect the Chord Type for Style playback. The note on/off messages received at the channel(s) set to on are recognized as the notes for detecting chords in Style playback. The chords to be detected depend on the fingering type. The chord types will be detected regardless of the [ACMP] button status. When several channels are simultaneously set to on, the chord type is detected from merged MIDI data received over the channels.



Move the cursor to the desired channel number, and then enter (or remove) the checkmark by pressing the [ENTER] button.

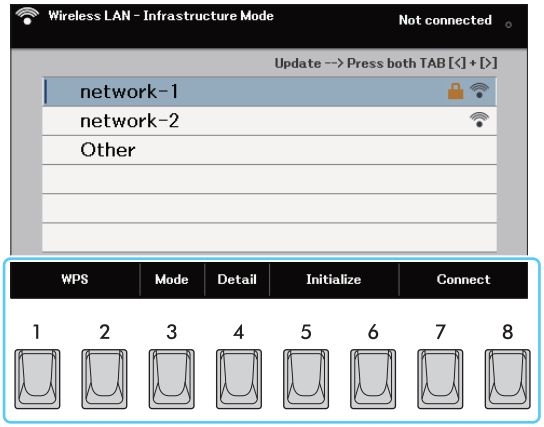
Making Wireless LAN Settings

By using a USB wireless LAN adaptor (UD-WL01; sold separately and may not be available in some areas), you can connect this instrument with a smart device such as a smartphone or tablet via a wireless network. For general operating instructions, refer to the "Smart Device Connection Manual" on the website. This section covers only operations that are specific to this instrument.
Before starting operations, make sure that the USB wireless LAN adaptor is connected to the [USB TO DEVICE] terminal and call up the setup display via [MENU] → Cursor buttons [▲][▼][◀][▶] ***Wireless LAN***, [ENTER].

NOTE If the USB wireless LAN adaptor is not recognized by the instrument, "***Wireless LAN***" is not shown. When "***Wireless LAN***" is not shown even though a USB wireless LAN adaptor has been connected, turn the instrument off then on again.

When the connection is done successfully, "***Connected***" is shown at the top of the display, and one of the icons shown below appears indicating the signal strength.

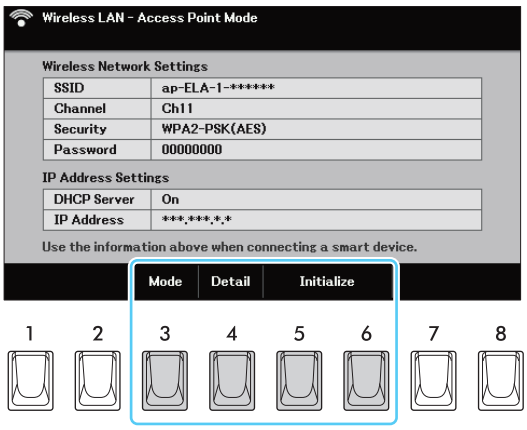
Infrastructure Mode



[1]/[2]	***WPS***	Connects this instrument to the network via WPS. Press one of these buttons followed by the [7] (***Yes***) button, and then press the WPS button on your access point within two minutes.
[3]	***Mode***	Switches to the Access Point Mode.
[4]	***Detail***	For setting the detailed parameters. After making these settings, press one of the [7]/[8] (***Save***) buttons to actually save them. • ***IP Address***: Sets the IP address and other related parameters. • ***Others***: Sets the Host name, Time Zone and Daylight Saving Time. When the instrument is connected to the network with the Infrastructure Mode, the current time is shown on the Main display.
[5]/[6]	***Initialize***	Initializes the connection setup to the default factory status.

[7]/[8]	***Connect***	After selecting the desired network, press one of the [7]/[8] buttons to connect to the selected network. For a network having a padlock icon, the Character Entry window appears and you need to enter the password. If you select "***Other***," this calls up the Manual Setup display in which you set the SSID, security method, and password. After entering those, press one of the [7]/[8] buttons in the Manual Setup display to connect to the network. ***NOTE*** Pressing the TAB [<] and [>] buttons simultaneously updates the network list on the display.

Access Point Mode



[3]	***Mode***	Switches to the Infrastructure Mode.
[4]	***Detail***	For setting the detailed parameters on the pages below. After making these settings, press one of the [7]/[8] (***Save***) buttons to actually save them. • ***Wireless Network***: For setting the SSID, security, password, and channel. • ***IP Address***: For setting the IP address and other related parameters. • ***Others***: For entering the Host name or showing MAC address, etc.
[5]/[6]	***Initialize***	Initializes the connection setup to the default factory status.

11 Menu

Contents

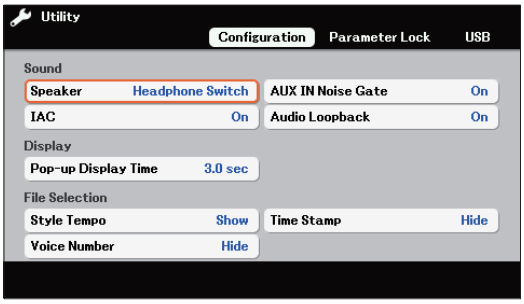
This section covers only the "***Utility***" and "***System***" displays in the Menu. For other displays, refer to the "Function List" in the Owner's Manual to see where you can find the instructions.

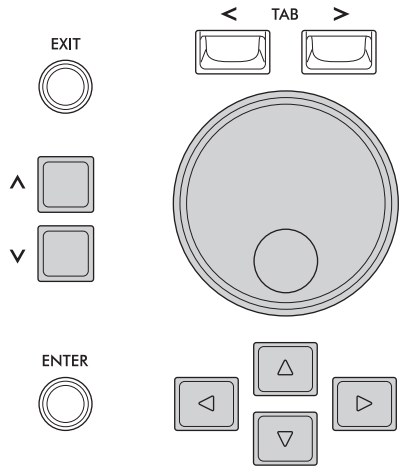
Utility

Call up the operation display.

[MENU] → Cursor buttons [▲][▼][◀][▶] ***Utility***, [ENTER]

Configuration





Sound	***Speaker***	Determines whether or not the sound is output from the speaker of this instrument. • ***Headphone Switch***: Speaker sounds normally, but is automatically cut off when a set of headphones or an external device is connected to the [PHONES] jack. • ***On***: Speaker sound is always on, even if headphones are connected. • ***Off***: Speaker sound is off. You can only hear the instrument sound via the headphones or an external device connected to the [PHONES] jack.

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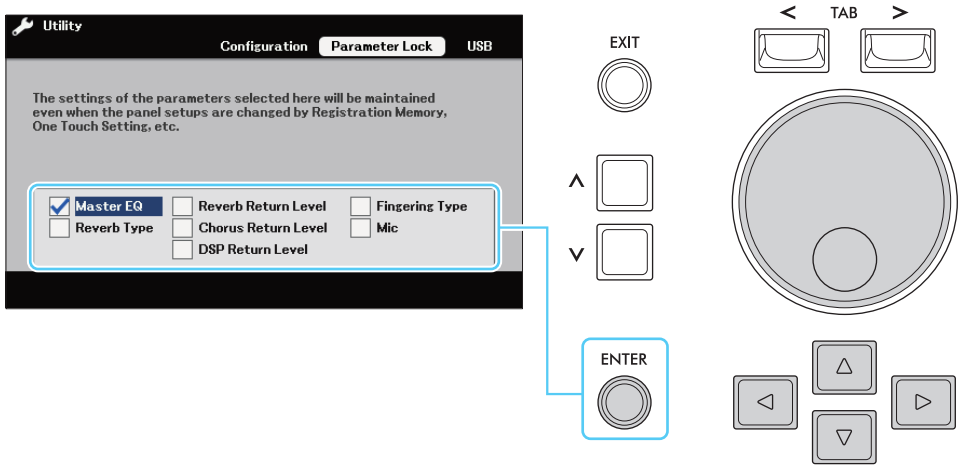
Sound	***IAC***	Turns on or off the IAC (Intelligent Acoustic Control). With this function, the sound quality of this instrument is automatically adjusted and controlled according to the overall volume. Even when the volume is low, this lets you hear both low sounds and high sounds clearly. IAC is effective only from the sound output of the instrument speakers.
	AUX IN Noise Gate	Turns on or off the Noise Gate which minimizes noise of the sound input via the [AUX IN] jack.
	Audio Loopback	Determines whether audio input from the connected computer or smart device is output to a computer or a smart device or not. For details, refer to the Owner's Manual, Chapter 10.
Display	***Pop-up Display Time***	Determines the time over which the pop-up displays remain open. (Pop-up displays are shown when you press buttons such as TEMPO [+]/[–], etc. and close automatically according to the time set here.)
File Selection	***Style Tempo***	Determines whether the default tempo of each preset Style is shown or hidden above the Style name in the Style Selection display.
	Voice Number	Determines whether the Voice bank and number are shown or hidden in the Voice Selection display. Displaying these is helpful when you want to check which bank select MSB/LSB values and program change number you need to specify when selecting the Voice from an external MIDI device. ***NOTE*** The numbers displayed here start from "1." Accordingly, the actual MIDI program change numbers are one lower, since that number system starts from "0."
	Time Stamp	Determines whether the updated date and time are shown or hidden on the File Selection display. When you connect the instrument to the network with the Infrastructure Mode (page 92) by using the USB wireless adaptor (UD-WL01), the instrument gets the "clock" information and the current time stamp (date and time) is recorded to the files you save to the instrument. Once you turn the power off, the clock is set to the factory default and will not be updated unless the instrument is connected to the network.

Parameter Lock

This lets you lock or maintain the settings of specific parameters (such as Effect and Fingering), even when the panel setups are changed by Registration Memory, One Touch Setting, etc.



Enter (or remove) checkmarks by pressing the [ENTER] button to the desired parameters that you wish to lock the settings.

USB

Refer to the Owner's Manual, Chapter 10.

System

Call up the operation display.
[MENU] → Cursor buttons [▲][▼][◀][▶] ***System***, [ENTER]

Common

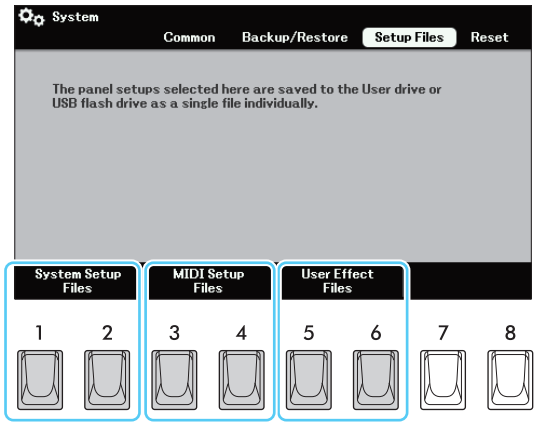
Refer to "Starting Up" in the Owner's Manual.

Backup/Restore

Refer to "Basic Operations" in the Owner's Manual.

Setup Files

The following settings can be saved as a file individually for future recall. Make all desired settings on the instrument before saving the file.



Pressing one of the [1]–[6] buttons calls up the relevant display for saving the data. On the display that is called up, select the desired destination to save the file, and then press the [6] (***Save***) button.

[1]/[2]	***System Setup Files***	Parameters set on the various displays such as ***Utility*** are handled as a single System Setup file. Refer to "Parameter Chart" in the Data List (separate PDF) for details on which parameters belong to System Setup.
[3]/[4]	***MIDI Setup Files***	The MIDI settings including the edited MIDI templates saved to the User drive (page 87) are handled as a single file.
[5]/[6]	***User Effect Files***	The following data can be managed as a single file. • User Microphone Settings ..... page 68 • User Effect types ..... page 81 • User Master EQ types ..... page 82 • User Master Compressor types ..... page 84

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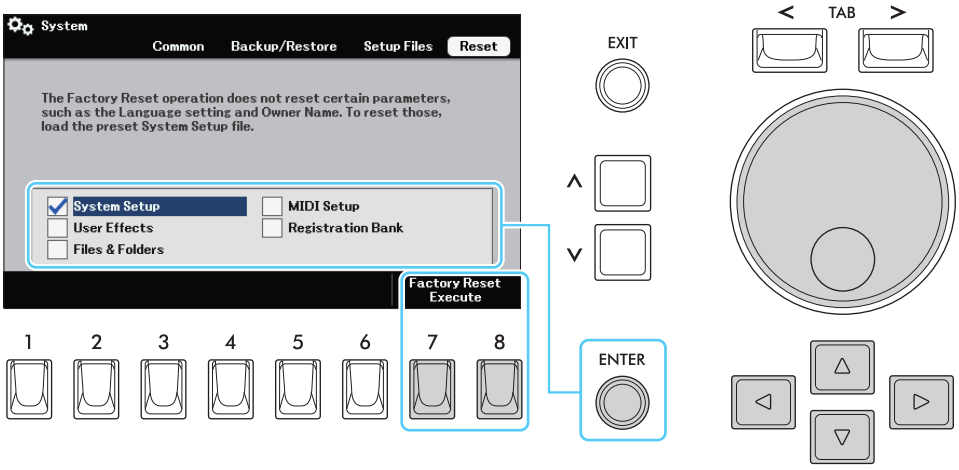
To call up the saved data:
Select the desired item in the "***Setup Files***" display, and then select the desired file.
If you want to restore the factory programmed settings, select the file in the "***Preset***" tab.

Reset

The items checkmarked on this display can be initialized to the default by pressing one of the [7]/[8] buttons. To enter (or remove) checkmarks, press the [ENTER] button.



System Setup	Resets the System Setup parameters to the original factory settings. Refer to the "Parameter Chart" in the Data List on the website for details about which parameters belong to System Setup.
MIDI Setup	Deletes all edited MIDI templates saved to the User drive (page 86).
User Effects	Resets the current Effect settings and the following data: • User Microphone Settings .....page 68 • User Effect types .....page 81 • User Master EQ types .....page 82 • User Master Compressor types.....page 84
Registration Bank	Resets the current Registration Memories to the original factory settings. **NOTE** The same operation can be done by turning the power on while holding the right-most B key on the Upper Keyboard.
Files & Folders	Deletes all files and folders saved in the User drive.

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