

DIGITAL KEYBOARD

REFERENCE MANUAL

PSR-E473

PSR-EW425

The purpose of the Reference Manual is to supplement the Owner's Manual with descriptions of advanced topics.

Therefore, you should read the Owner's Manual to gain familiarity with the instrument before reading the Reference Manual.



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Voice Editing

Each of the Main, Dual and Split Voices can be edited, with available parameters including volume, octave and Reverb/Chorus depth—allowing you to create new, custom sounds to best suit your own musical preferences.

Press the [FUNCTION] button to call up the Function display.



2 Rotate the dial to call up the desired item.



Voice parameters are indicated as below.

- Main Voice parameters: M. ****** (Function 006–014)
- Dual Voice parameters:
 D. ****** (Function 015–024)
- Split Voice parameters: S. ****** (Function 025–030)

For details on each parameter, refer to the Function List on the Owner's Manual.

- 3 To call up the setting display for the desired item, press the [ENTER] button when the item is shown.
- **4** Rotate the dial to set the value. Check the sound by playing the keyboard.
- 5 To exit from the setting display, press the [ENTER] button when you are finished editing the Voice.
- 6 Repeat steps 2–5 above to continue editing other parameters as desired.
- 7 Press the [FUNCTION] button to exit from the Function display.
- 8 If necessary, save your new settings to a Registration Memory.

This lets you load the custom Voice sound when you want to use it again. For instructions on saving, refer to the Owner's Manual.

NOTICE

• Be careful that the saving needs to be done before selecting another Voice. The Voice-related settings are reset when another Voice is selected.

Selecting a Reverb Type

The Reverb effect adds reverberation to the sounds, such as a rich concert hall ambience. Although selecting a Style or Song calls up the optimum Reverb type for the entire sound, you can select any Reverb type you desire manually.

Press the [FUNCTION] button to call up the Function display.



2 Rotate the dial until "Reverb" (Function 037) is shown on the display.



Reverb	

3 Press the [ENTER] button.

The Reverb Type currently selected is shown on the display.



NOTE

• If one of the Reverb Types that are available only for Songs and Styles is used, "- - -" is shown on the display.

A Rotate the dial to select the desired Reverb type.

Try and listen to the sound by playing the keyboard.

For detailed descriptions of the Reverb Types, refer to the Data List on the website.

Adjusting the Reverb depth

You can adjust the Reverb depth applied to the Main, Dual, and Split Voices individually via the same operations above. Regarding the item in step 2, refer to the Function List on the Owner's Manual.

5 Press the [FUNCTION] button to exit from the Function display.

Selecting a Chorus Type

The Chorus effect creates a thick sound that sounds like many of the same Voices being played in unison. Although selecting a Style or Song calls up the optimum Chorus type for the entire sound, you can select a Chorus type you desire manually.

Press the [FUNCTION] button to call up the Function display.

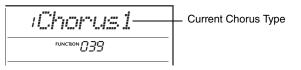


2 Rotate the dial until "Chorus" (Function 039) is shown on the display.



3 Press the [ENTER] button.

The Chorus Type currently selected is shown on the display.



NOTE

 When one of Chorus Types, that are available only for Songs and Styles, are used, "- --" is shown on the display.

A Rotate the dial to select the desired Chorus type.

Try and listen to the sound by playing the keyboard.

For detailed descriptions of the Chorus Types, refer to the Data List on the website.

Adjusting the Chorus depth

You can adjust the Chorus depth applied to the Main, Dual, and Split Voices individually via the same operations above. Regarding the item in step 2, refer to the Function List on the Owner's Manual.

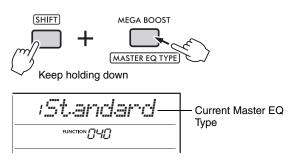
5 Press the [FUNCTION] button to exit from the Function display.

Selecting an EQ Setting for Optimum Sound

You can adjust the equalizer (EQ) for optimum sound of the instrument.

While holding down the [SHIFT] button, press the [MEGA BOOST] button.

The current Master EQ setting is shown on the display.



2 Rotate the dial to select the desired Master EQ type.

Master EQ types

1	Standard	Provides a standard, relatively flat (unprocessed) sound.
2	Piano	Optimizes the sound for solo piano performance.
3	Bright	Lowers midrange frequencies to produce a bright sound.
4	Mild	Lowers high frequencies to pro- duce a softer, more mellow sound.

3 Press the [FUNCTION] button to exit from the Function display.

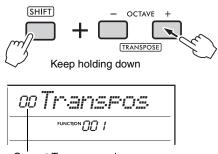
Handy Performance Features

Pitch Controls— Transpose

The overall pitch of the instrument (excepting the Drum Kit Voices can be shifted up or down in semitone increments, over a maximum of one octave.

While holding down the [SHIFT] button, press the OCTAVE [–] or [+] button.

The current amount of the Transpose is shown on the display.



Current Transpose value

2 Rotate the dial to set the Transpose value between –12 and +12.

NOTE

• You can also change the value by pressing the OCTAVE [-] or [+] button while holding down the [SHIFT] button.

3 Press the [FUNCTION] button to exit from the Function display.

Pitch Controls— Fine Tuning

The overall tuning of the instrument (excepting the Drum Kit Voices) can be finely adjusted between 427.0 Hz and 453.0 Hz in approximately 0.2 Hz increments. The default value is 440.0 Hz.

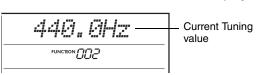
Press the [FUNCTION] button to call up the Function display.



2 Rotate the dial until "Tuning" (Function 002) is shown on the display.



3 Press the [ENTER] button. The current value is shown on the display.



- **4** Rotate the dial to adjust the Tuning.
- 5 Press the [FUNCTION] button to exit from the Function display.

Changing the Touch Response of the Keyboard

This keyboard is equipped with a Touch Response feature that lets you expressively control the dynamics as you play the keyboard, and has four different strength settings.

Press the [FUNCTION] button to call up the Function display.



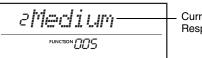
2 Rotate the dial until "TouchRes" (Function 005) is shown on the display.





3 Press the [ENTER] button.

The current Touch Response setting is shown on the display.



Current Touch Response setting

A Rotate the dial to select a Touch Response setting between 1 and 4.

Touch Response

1	Soft	Results in a loud sound, even when playing softly.
2	Medium	Results in normal response, where soft playing produces soft sounds, and strong playing pro- duces loud sounds.
3	Hard	Requires strong playing to pro- duce loud sounds.
4	Fixed	Results in a fixed loudness, no matter what your playing strength.

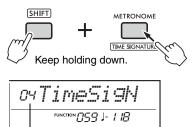
5 Press the [FUNCTION] button to exit from the Function display.

Setting the Time Signature

You can change the Time Signature from the default. Here, let's try changing it to 6/8.

While holding down the [SHIFT] button, press the [METRONOME] button.

The number of beats per measure is shown on the display.



Number of beats per measure (Time Signature Numerator).

2 Rotate the dial to select the number of beats per measure.

A chime accent sounds on the first beat of each measure, and a click sounds on the other beats. When "00" is selected, a click sounds on all beats. Here, select "06."

NOTE

• This parameter cannot be set during playback of a Style, Song or Groove.

- 3 To exit from the setting display, press the [ENTER] button.
- A Rotate the dial to call up "TimeSigD" (Time Signature Denominator).



5 Press the [ENTER] button. The current note duration of a beat is shown on the display.



Length of a single beat.

- 6 Rotate the dial to select the duration of a beat from 2 (half), 4 (quarter), 8 (eighth) or 16 (sixteenth) note duration.
 Here, select "08" (eighth).
- 7 Press the [FUNCTION] button to exit from the Function display.
- 8 Confirm the result by playing the Metronome.

Scale Tuning

By default, the temperament of this keyboard is set to Equal Temperament—the same tuning as on a normal acoustic piano. However, the setting can be changed to other musical temperaments to match the music genre or style in which you want to play.

Selecting Preset Temperament (Scale function)

You can select a desired temperament from the various preset scales.

Press the [FUNCTION] button to call up the Function display.



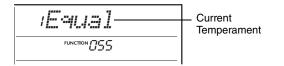
2 Rotate the dial until "Scale" (Function 055) is shown on the display.





3 Press the [ENTER] button.

The temperament currently selected is shown on the display.



4 Rotate the dial to select a temperament. The default setting is "1 Equal."

Preset Temperament Types

1	Equal	Equal
2	Pure Major	Pure Major
3	Pure Minor	Pure Minor
4	Bayat	Bayat (Arabic)
5	Rast	Rast (Arabic)

5 Press the [FUNCTION] button to exit from the Function display.

Setting the Base Note for Each Temperament

When you specify a temperament other than Equal Temperament, or create an original temperament via the Scale Tune function, you'll need to select the appropriate Base Note (or tonic) here.

Press the [FUNCTION] button to call up the Function display.

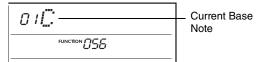


2 Rotate the dial until "BaseNote" (Function 056) is shown on the display.



3 Press the [ENTER] button. The base note currently selected is shown on the

The base note currently selected is shown on the display.



- 4 Rotate the dial to select a base note from C, C#, D, E♭, E, F, F#, G, A♭, A, B♭ and B. The default setting is "C."
- 5 Press the [FUNCTION] button to exit from the Function display.

Tuning Each Note to Create an Original Scale

You can tune the individual notes in cents (a "cent" is 1/100th of a semitone) to create your own original scale.

Press the [FUNCTION] button to call up the Function display.



2 Rotate the dial until "TuneNote" (Function 057) is shown on the display.





3 Press the [ENTER] button.

The note to be tuned is shown on the display.



Current note to be tuned.

- A Rotate the dial to select the note to be tuned from C, C[#], D, E[↓], E, F, F[#], G, A[↓], A, B[↓] or B.
- 5 Press the [ENTER] button to exit from TuneNote setting display.
- 6 Rotate the dial until "Tune" (Function 058) is shown on the display.



7 Press the [ENTER] button.

The tuning of the note selected in step 4 above is shown on the display.

0	oTune	[]:	
		1	
Tu	ining value		1

8 Rotate the dial to tune the note over a range of -64 to +63.

To reset edited value to the default, press the [+] and [–] buttons simultaneously.

NOTE

- The initial default values of each note are defined according to a temperament settings last loaded, that is, either one below.
 - A preset temperament selected at "Scale" (Function 055)
- An "(Edited)" original temperament loaded from Registration Memory; which you had edited and saved to the Memory
- 9 Press the [ENTER] button to exit from the setting display.
-]() Repeat steps 2–9 as desired.
- **Press the [FUNCTION] button to exit from the Function display.**

2 Save the settings here to a Registration Memory as desired.

By saving the settings, you can recall your original scale later. For details on saving to Registration Memory, refer to the Owner's Manual.

NOTE

• When calling up "Scale" (Function 055) after using individual note scale tuning, "(Edited)" is shown on the display. If you rotate the dial at that time, "(Edited)" disappears and the edited temperament settings are cleared.

Synchronizing an Arpeggio to Song/Style/Groove Playback (Arpeggio Quantize)

When you play the keyboard to trigger an Arpeggio along with Song/ Style/Groove playback, you'll need to play the notes with accurate timing to keep the Arpeggio in synchronization with the other playback tracks. However, since your actual timing may be slightly ahead of or behind the beat (or both), you can use the "Arpeggio Quantize" function here to correct any slight imperfections in the timing (according to the three settings below), to ensure appropriate Arpeggio playback.

- OFF: No synchronization
- 1/8: Synchronizes to 8th notes
- 1/16: Synchronizes to quarter notes

When you select an Arpeggio Type, one of the options above is selected automatically. However, the settings is changeable.

Press the [FUNCTION] button to call up the Function display.



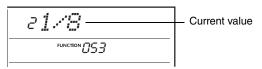
2 Rotate the dial until "Quantize" (Function 053) is shown on the display.





3 Press the [ENTER] button.

The current value is shown on the display.



- A Rotate the dial to select a setting from OFF, 1/8 or 1/16.
- 5 Press the [FUNCTION] button to exit from the Function display.

Maintaining Arpeggio Playback via the Footswitch (Arpeggio Hold)

You can set the instrument so that Arpeggio playback continues even after the note has been released, by pressing the footswitch connected to the [SUSTAIN] jack.

Press the [FUNCTION] button to call up the Function display.

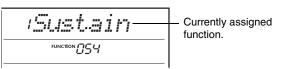


2 Rotate the dial until "PdIFunc" (Function 054) is shown on the display.



3 Press the [ENTER] button.

The function currently assigned to the footswitch is shown on the display.



A Rotate the dial to select "ArpHold."



When you want to restore the footswitch function to sustain, select "Sustain." When you want to use both hold and sustain functions, select "Sus+ArpH."

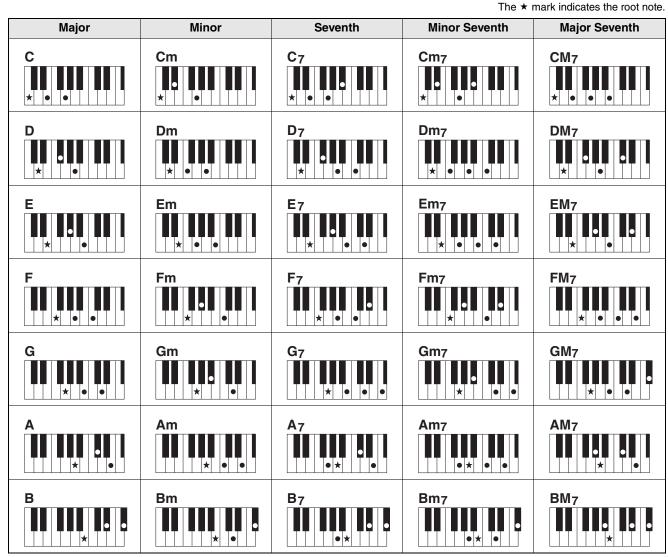
5 Press the [FUNCTION] button to exit from the Function display.

6 Try playing the Arpeggio with the footswitch.

Play the keyboard to trigger the Arpeggio, and then press the footswitch. Even if you release the keyboard, Arpeggio playback continues. To stop Arpeggio playback, release the footswitch.

Chord Types for Style Playback

For users who are new to chords, this chart features common chords. Since there are many useful chords and many different ways to use them musically, refer to commercially available chord books for further details.



 Inversions can be used as well as the root position, with the following exceptions: m7, m7 \s5, m7(11), 6, m6, sus4, aug, dim7, 7 \s5, 6(9), sus2

• Inversions of 7sus4 chords are not recognized if any notes are omitted.

• When playing a chord which cannot be recognized by this instrument, nothing is shown on the display. In such a case, only the rhythm and bass parts will be played.

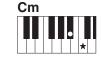
Easy Chords

This method lets you easily play the chords below in the Auto Accompaniment area of the keyboard using only one, two, or three fingers.

For root "C"



To play a major chord Play the root note (\star) of the chord.



To play a minor chord Play the root note together with the nearest black key to the left of it.



To play a seventh chord Play the root note together with the nearest white key to the left of it.



To play a minor seventh chord Play the root note together with the nearest white and black keys to the left of it (three keys altogether).

Chords Played in Smart Chord Function

When Fingering Type (Function 032) is set to "SmartChd" and the desired Key (Key Signature) is set in Smart Chord Key (Function 033), you can easily play musically useful chords, as shown in the chart below, by simply playing each root note in the Auto Accompaniment area of the keyboard.

	Smart						Root	Note					
Key Signature	Chord Key (display indication)	C	D♭	D	E⊧	E	F	F#	G	G#	A	B⊳	В
	FL7	C dim	D⊧m	D dim7	E♭ 1+5	E	F dim	F# 7	G	G# m	A	B♭ m7 ♭5	В
	FL6	C dim	D⊌ 7	D	E⊦m	E	Fm7 ∳5	F#	G dim	G# m	A dim7	B♭ 1+5	В
	FL5	C m7 ∳5	D⊧	D dim	E⊾m	E dim7	F 1+5	F#	G dim	G# 7	A	B⊧m	В
600	FL4	C 1+5	D⊧	D dim	Eŀ 7	E	Fm	F#	Gm7 ∳5	G#	A dim	B⊧m	B dim7
6.	FL3	C m	D⊧	D m7 ∳5	E⊧	E dim	Fm	F# dim7	G 1+5	G#	A dim	B⊧ 7	В
6	FL2	C m	D↓ dim7	D 1+5	E⊧	E dim	F 7	F#	Gm	G#	Am7 ⊮5	B⊧	B dim
,	FL1	C 7	D⊧	D m	E⊧	E m7 ∳5	F	F# dim	Gm	G# dim7	A 1+5	B⊧	B dim
No key signature	SP0 (default)	C	D⊧ dim	Dm	E⊧ dim7	E 1+5	F	F# dim	G 7	G#	A m	Β⊧	B m7 ♭5
₽ #	SP1	C	D⊧ dim	D 7	E⊧	Em	F	F# m7 ∳5	G	G# dim	A m	B⊧ dim7	B 1+5
*	SP2	C	D♭ m7 ♭5	D	E⊧ dim	Em	F dim7	F# 1+5	G	G# dim	A 7	Β⊧	Bm
	SP3	C dim7	D⊧ 1+5	D	E↓ dim	E 7	F	F# m	G	G# m7 ∳5	A	B⊧ dim	Bm
6	SP4	C	D⊧m	D	E⊮ m7 ⊮5	E	F dim	F# m	G dim7	G# 1+5	A	B↓ dim	B 7
<u></u>	SP5	C dim	D⊧m	D dim7	E♭ 1+5	E	F dim	F# 7	G	G# m	A	B♭ m7 ♭5	В
<u> </u>	SP6	C dim	D⊌ 7	D	E⊦m	E	Fm7 ∳5	F#	G dim	G# m	A dim7	B♭ 1+5	В
€ ‡‡‡‡	SP7	C m7 ∳5	Dŀ	D dim	E⊦m	E dim7	F 1+5	F#	G dim	G# 7	A	B⊦m	В

NOTE

• On the instrument's display, the "1+5" chords are indicated by the same symbols as each major triad.

Changing the Voice Assignments of the Style Parts (Style Revoicing)

A Style is consists of six tracks that contains one or two parts shown as below. You can change Voices assigned to the parts of Styles such as Drums and Bass.

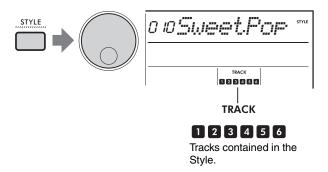
Track	Part	Display indication
DRUMS	Drums1	StyVcDr1
DHONIS	Drums2	StyVcDr2
BASS	Bass	StyVcBas
CHORD1	Chord1	StyVcCh1
CHORD2	Chord2	StyVcCh2
PAD	Pad	StyVcPad
PHRASE	Phrase1	StyVcPh1
FINASE	Phrase2	StyVcPh2

NOTE

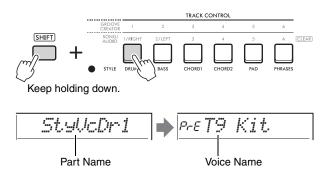
• Depending on the selected Style, some of the parts listed above may not be available.

After pressing the [STYLE] button, select the desired Style by rotating the dial.

The tracks contained in the selected Style are shown on the display.



2 While holding down the [SHIFT] button, press the [TRACK CONTROL] button corresponding to the track/part containing the Voice you want to change.



The selected part name is shown briefly, followed by the name of the Voice assigned to the part.

NOTE

- When the Voice is the same as the Voice originally assigned, "PrE" is shown to the left of the Voice name.
- When a track contains two parts, the setting display for the first part is called up by performing step 2 above. To change the Voice of the second part, repeat step 2 above.
- 3 Select the desired Voice by rotating the dial.
- A Check the sound of the Voice by playing back the Style.

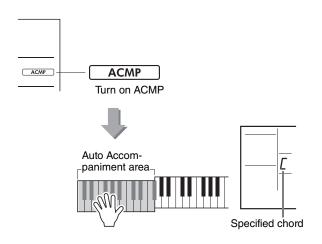
NOTE

- Voices that can be selected in step 3 above include Voices that have applied effects, such as DSP1 and Harmony/Arpeggio. However, the effects are disabled when those Voices are used for the Style parts. Because of the differences, they sometimes shown differently on the display, but are still the same as the Voices you selected.
- Because these Voice changes are just temporary, they are automatically reset when you select another Style. If you want to store the changes for future recall, use Registration Memory.

Playing Chords without Style Playback

To play in this manner, press the **[STYLE]** button and turn Style (ACMP) on by pressing the **[ACMP ON/ OFF]** button (making sure that SYNC START is off). This lets you hear only chord sounds (played with Bass and Pad Voices) with no Style playback when playing chords in the Auto Accompaniment area of the keyboard. The corresponding chord symbols are also shown in the display.

In this situation, you can apply Harmony effects with your right-hand, without playing back the auto accompaniment.

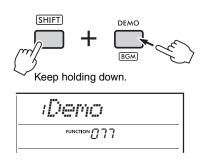


Background Music Playback

With the default setting, pressing the **[DEMO]** button will play back a select few of the internal Songs repeatedly. This setting can be changed to playing all internal Songs or playing all Songs transferred from a computer—giving you great flexibility for using the instrument for background music purposes. Six playback group settings are provided for your listening pleasure and convenience.

While holding down the [SHIFT] button, press the [DEMO] button to call up the selection display of "DemoGrp" (Function 077).

The currently selected playback group is shown on the display.



2 Rotate the dial to select a repeat playback group from the table below.

Demo	Preset Songs 001–003
Preset	All preset Songs
User	All User Songs
Download	All Songs transferred from a computer
USB	All Songs (MIDI files) in the connected USB flash drive
Audio	All audio Songs in the connected USB flash drive

3 Press the [DEMO] button.

The Songs in the selected playback group are played back continuously. To stop playback, press the **[DEMO]** button again.

NOTE

 When there are no Songs in User Songs, Download Songs or USB Songs, the Demo Songs are played back.

Random Song Playback

Song repeat playback (via the **[DEMO]** button) can be changed between numerical order and random order.

NOTE

- This setting can be changed only when "DemoGrp" (Function 077) is set to something other than "Demo."
- Press the [FUNCTION] button to call up the Function display.

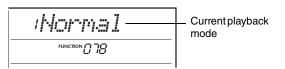


2 Rotate the dial until "PlayMode" (Function 078) is shown on the display.



3 Press the [ENTER] button.

The currently selected playback mode is shown on the display.



4 Select "Random" by rotating the dial. To enable normal playback in numerical order, select "Normal" again.

5 Press the [DEMO] button.

Songs in the selected group at "DemoGrp" are played back in random order. To stop playback, press the **[DEMO]** button again.

Melody Voice Setting of the Preset Song

You can change the Melody Voice of the Preset Songs, as well as MIDI Songs from an external device, to any other desired Voice.

- Press the [SONG/AUDIO] button, select a desired Preset Song, and then start play-back.
- 2 After pressing the [VOICE] button, select the desired Voice by rotating the dial.



3 Press the [FUNCTION] button.



A Rotate the dial until "MelodyVc" (Function 036) is shown on the display.



5 Press the [ENTER] button. The Voice selected in step 2 above is applied to

the melody of the Song.

NOTE

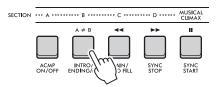
- Selecting another Song resets the Melody Voice change.
- You cannot change the Melody Voice of a User Song.
 A Voice assigned to a non-melody part might be changed on some Songs, such as Songs in a USB memory or transferred from a computer.
- You cannot change the Voice of audio songs.

6 Press the [FUNCTION] button to exit from the Function display.

Groove Retrigger Function

This function lets you repeatedly loop the beginning of the section currently playing back.

- Press the [GROOVE CREATOR] button, and then select the desired Groove by rotating the dial.
- 2 To start Groove playback, press the [►/■] (START/STOP) button or press any key in the Auto Accompaniment area.
- 3 Pressing the button of the section currently playing back restarts playback from the beginning of the section. Holding down the button loops playback of the beginning part for special repeat effects.



The length of the segment that is looped can changed by using the Knobs (Retrigger Rate; page 19).

NOTE

[•] If you record a Song with the Retrigger function, the beat indicator in the display, metronome and Arpeggio playback do not synchronize with Song playback.

This section describes the parameters which can be assigned to the Knobs.

1, 4 CUTOFF / RESONANCE

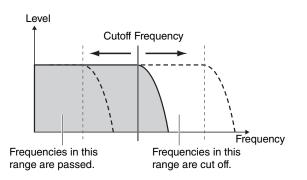
These effects let you change the tone by controlling which frequencies are filtered, and also by producing a resonance peak at the cutoff frequency. Here, we'll try creating some popular synthesizer filter effects.

NOTE

- When I is selected, these effects are applied to the Main and Dual Voices.
 - When 4 is selected, these effects are applied to the Styles and Grooves.
- Keep in mind that these effects can sometimes cause distortion, especially in the bass frequencies.

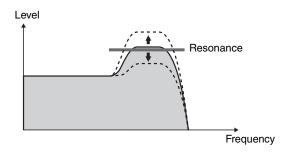
• Knob A: CUTOFF

Changes the brightness of the sound by adjusting the cutoff frequency. Turning the knob to the left makes the sound more muffled or darker, while turning the knob A to the right makes the sound brighter.



• Knob B: RESONANCE

Changes the emphasis of the cutoff frequency by adjusting the amount of filter resonance. Turning the knob to the right increases the Resonance to emphasize the frequencies at the cutoff frequency, resulting in an exaggerated peak.



2, 5 REVERB / CHORUS

• Knob A: REVERB

Reproduces the acoustic ambience of a concert hall or club. Turning the knob to the right increases the Reverb depth.

• Knob B: CHORUS

Produces effects that make the sounds warmer and more full. Turning the knob to the right increases the Chorus depth.

NOTE

 When 2 is selected, these effects are applied to the Main/Dual Voices. When 5 is selected, these effects are applied to the Styles and Grooves.

3 DSP1, 7 DSP2

• Knob A/B: DSP PARAMETER A/B

With the built-in digital effects, you can apply DSP effects to the sounds of this instrument. The DSP1 effect is applied to the Main Voice, and the DSP2 effect is applied to a part selected in "DSP2 Part" (Function 043). Each effect has two parameters which are assigned to Knobs A and B. When **3** is selected, you can control the DSP1 parameters with the knobs. When **7** is selected, you can control the DSP2 parameters. By turning the knobs in real-time, you can alter the music in various dynamic ways, such as changing the rotating speed (slow/fast) of the rotary speaker or changing the degree of distortion.

6 VOLUME BALANCE / RETRIGGER RATE

• Knob A: VOLUME BALANCE

Turning the knob A to the right decreases the volume of Style, Groove or Song. Turning the knob A to the left decreases the volume of the external sounds from the **[AUX IN]** jack or the **[USB TO HOST]** terminal. The sounds of keyboard performance and QUICK SAMPLING pads are not adjusted. By using this function, you can change the level balance between the backing parts (Style, Groove, Song) and the external sounds, or between the sounds of the backing parts, external sounds and keyboard performance and the sounds of the pads.

NOTE

 When "Audio Loop Back" (Function 070) is set OFF, the volume of external sounds from the [USB TO HOST] terminal cannot be adjusted.

• Knob B: RETRIGGER RATE

Adjusts the Retrigger Rate (the length of the part to be repeated) of the Groove Retrigger function (page 17). Turning this knob to the right decreases it, and turning the knob to the left increases it.

NOTE

• When Groove playback is set to a tempo of greater than 200, turning the knob to the right may have no effect on the length.

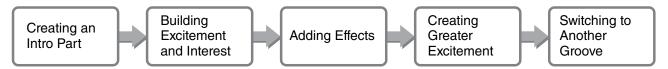
Here are some interesting and musical ways you can use the Knobs to control various effects.

Number, Effect		Example Operations
1 CUTOFF / RESONANCE		Select Voice 184, Gemini (a synth-lead type Voice), or 214, Noise. Then, select with the [KNOB ASSIGN] button. Turning Knobs A or B while playing gives you dynamic filter-sweep effects like an analog synthesizer.
2	REVERB / CHORUS	Select Voice 010, CP80. Select 2 with the [KNOB ASSIGN] button. Turn Knobs A and B all the way down to hear the direct, unprocessed sound of the Voice. As you turn the Knob B toward the right, a Chorus effect is gradually applied to the sound. Turning Knob A to the right adds a Reverb effect and makes it sound as if you are playing in a concert hall.
3	DSP1	Select Voice 038, Cool!Org. Select 3 with the [KNOB ASSIGN] button. In the Function Display, set "DSP1 Type" (Function 041) to "01 RotarySp." Use Knob A to change the rotating speed of the rotary speaker while playing the keyboard. When you move the Knob slowly, you can change the speed gradually just like a real rotary speaker. Using the Knob B applies a distortion effect to the sound.
6	VOLUME BAL- ANCE /	Knob A: Connect an external audio device or computer, and turn Knob A while you're playing back sounds on the device. You can adjust the volume balance between your playing on this instrument and the sounds from the device.
	RETRIGGER RATE	Knob B: Select Section C of Groove 008, FrenchDJ, and start Groove playback. Turn Knob B to the right while holding down the [C] button, to progressively shorten the Retrigger rate like a DJ would in performance.

Suggested Uses for the Knobs

The dynamic Groove Creator function and Live Control Knobs give you powerful tools to perform like a pro DJ! Since the Grooves and section variations change seamlessly without breaks in the rhythm, performing is truly easy. Still, a sense of rhythm is important. So, turn up the volume, feel the rhythm in your body, and work the buttons and knobs—as if you were in front of the dance floor!

In this example using Groove 001 (Elec Dnc), you'll learn how to take one Groove and transform it in a variety of ways.



Creating an Intro Part with the Track On/Off Controls

- Press the [GROOVE CREATOR] button. And then, select Groove 001 with the dial or number buttons.
- 2 Use the [TRACK CONTROL] buttons to turn on Tracks [1], [2] and [3], and turn off Tracks [4], [5] and [6], so that only the rhythm tracks play back.



- 3 Press the Section [A] button to enable Section A for playback.
- 4 Press the [$\blacktriangleright/\blacksquare$] button to start playback.
- 5 While watching the Beat marks " >>> " and Measure number as they change on the display, press the Track [6] button to turn on Track [6] when the fourth beat of Measure 008 plays (just before Measure 001 starts again).





6 Using the same timing as in step 5, press Track buttons [4] and [5] buttons simultaneously to turn on Tracks [4] and [5].

NOTE

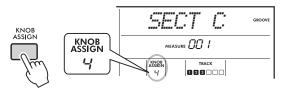
 Only up to two tracks can be turned on and off at the same time, so press only two buttons simultaneously.

Building Excitement and Interest by Changing Sections

- While watching the Beat marks " >>> " as they change on the display, press the section [B] button at a musically appropriate time to switch to Section B. Even if your timing is slightly off, the section will naturally change in time with the rhythm.
- 2 Using the same timing as in step 1, press Section button [C] or [D] to build up the Groove.

Adding Effects to the Groove with the Live Control Knobs

While watching the display, press the [KNOB ASSIGN] button several times (as needed) to select "4."



2 Rotate Knob B fully to the right, and then rotate Knob A fully to the left.



3 Rotate Knob A gradually to the right to change the muffled sound to a clear, bright sound. Try rotating the Knob along with the tempo.

- A Now try rotating Knob A back and forth along with the rhythm. Notice that you can get variations even with the same rhythmic phrase.
- 5 As in the steps above, press the [KNOB ASSIGN] button to select and try "5." The "5" (REVERB/CHORUS) setting controls the reverberation and warmth of the sounds.

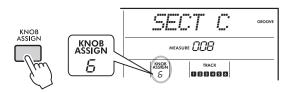
NOTE

• Only selecting a function combination will not affect the sound even if the Knob arrow is not at the center position. The selected function only works when the knob is moved.

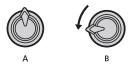
Creating Greater Excitement with the Retrigger Function

Press the Section **[C]** button to switch to Section C and listen to it. The beats become increasingly more rapid after the Measure 005. That creates intensity and excitement. You can raise the excitement level of your own performance with a similar "rapid-fire" effect with the Retrigger function and Live Control Knobs.

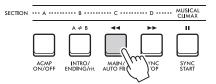
While checking the display, press the [KNOB ASSIGN] button several times to select"6."



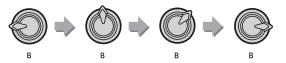
2 Rotate the Knob B about 90° to the left.



3 While watching the Beat marks " >>> " and Measure number in the display, press and hold the section [C] button down at the timing right before the Measure count reaches 005.



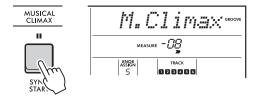
4 While holding down the Section [C] button, rotate Knob B as shown below. The beats become more rapid according to the knob position.



5 Release the Section [C] button at the dynamic peak to return to normal playback of Groove .

Switching to Another Groove with Musical Climax

While watching the Beat marks " >>> " on the display, press the [MUSICAL CLI-MAX] button at an appropriate timing, right before when the Measure changes from 008 back to 001. The Groove starts building to a climax with an 8-measure lead-in (negative count).



2 Just as the lead-in approaches 000, use the number buttons or rotate the dial to enter another Groove number. The timing may be a little difficult, but with practice you can seamlessly switch to another Groove after the Musical Climax—just like a pro DJ!

NOTE

• By memorizing the next Groove to a Registration Memory setting, you can easily switch Grooves with just a single button press.

USB Flash Drive Operations

This chapter covers operation instructions related to USB flash drive files, such as saving, loading and deleting. These instructions assume that a USB flash drive device has already been connected to the instrument. For details on how to connect USB flash drive, refer to the Owner's Manual.

Saving User Data to USB Flash Drive

User data is comprised of:

- All 10 User Songs
- Styles transferred from a computer and loaded to Style numbers 291–300
- All Registration Memory settings

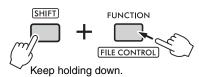
The User data can be saved as a single "User File" (.usr) to a USB flash drive.

NOTE

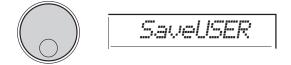
• For details on saving Samples, refer to page 23.

 The extension (.usr) of the User File is not shown on the display of this instrument. Confirm the extension on the computer display when connecting the USB flash drive to a computer.

While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



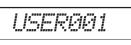
2 Rotate the dial to call up "SaveUSER."



3 Press the [ENTER] button.

Target User file names appear on the display as "USER***" (***: number). To select another file, rotate the dial and select from USER001 – USER100.





A Press the [ENTER] button again.

A "SaveOK?" confirmation message appears. To cancel the operation, press the **[EXIT]** button.

Overwriting existing files

When a file selected as the target user file already contains data, "Overwrt?" appears on the display.

5 Press the [ENTER] button again.

After a while, a message indicating completion of the operation appears, and a User file (.usr) is saved to a "USER FILES" folder which is automatically created on the USB flash drive.

NOTICE

 The Save operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.

NOTE

- The amount of time required for this operation may vary
- depending on the condition of the USB flash drive.

6 Press the [FUNCTION] button to exit from the File Control display.

NOTE

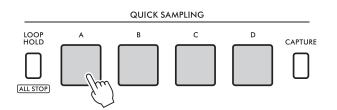
 When you want to load a User file (.usr) to this instrument, execute the Load operation (page 25).

Saving Samples to USB Flash Drive

IMPORTANT

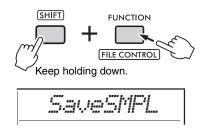
• If the instrument is in the Quick Sampling mode, press the [CAPTURE] button to exit from the mode, and then follow the steps below.

Press the QUICK SAMPLING [A]–[D] pads to confirm which pads contain the samples you want to save.



2 While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.

"SaveSMPL" is shown on the display.



- **3 Press the [ENTER] button.** "PressA-D" is shown on the display.
- 4 Press the QUICK SAMPLING pad that contains the sample you want to save. If you pressed a pad that doesn't contain a sample, "NoData" is shown on the display. In that case, reselect a pad.
- 5 Select a file to save by rotating the dial. • SMPL001 – SMPL250

6 Press the [ENTER] button again. "SaveOK?" is shown on the display. Press the [EXIT] button to return to step 2 above without saving.

Overwriting existing files

When a file selected for saving already contains data, "Overwrt?" appears on the display.

- Press the [ENTER] button again to execute the save operation.
 "Saving" is briefly shown on the display and the sample is saved.
- 8 Press the [FUNCTION] button to exit from the File Control display.

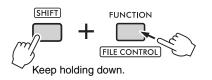
Saving User Songs as SMF to USB **Flash Drive**

A User Song can be converted to SMF (Standard MIDI File) format 0 and saved to a USB flash drive.

NOTE

- If the size of a converted SMF is too large, such as a User Song recorded with Groove data, it cannot be played back on this instrument. If this occurs, we recommend using Audio recordina
- The DSP effect cannot be converted to SMF format.
- The Transpose setting on this instrument is not included in the data.

While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



2 Rotate the dial until "SaveSMF" is shown on the display.



3 Press the [ENTER] button.

Available User Song names appear on the display as "User **" (**: 1-10). To select a desired Song to convert, rotate the dial and select from User 1 - User 10.



▲ Press the [ENTER] button.

Available file names on the USB flash drive appear on the display as "SONG***" (***: 001-100). To select a desired location for saving, rotate the dial and select from SONG001 -SONG100.



SONGØØI

5 Press the [ENTER] button again.

"SaveOK?" is shown on the display. Press the [EXIT] button to cancel saving.

Overwriting existing files

When a file selected for saving already contains data, "Overwrt?" appears on the display.

6 Press the [ENTER] button again to execute the save operation.

After a while, a message indicating completion of the operation appears, and a User Song will be saved (in SMF format 0) to a "USER FILES" folder, automatically created on the USB flash drive.

NOTICE

 The Save operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.

NOTE

• The amount of time required for this operation may vary depending on the condition of the USB flash drive.

7 Press the [FUNCTION] button to exit from the File Control display.

Loading User Data from USB Flash Drive

User data (page 22) saved as a User file (.usr) to the USB flash drive can be loaded to this instrument.

NOTICE

• Loading a User file will overwrite and erase all existing data, including all 10 User Songs, Style data loaded to the Style numbers 291–300, and all the Registration Memory settings. Save important data you want to keep as another file to USB flash drive before loading a User file.

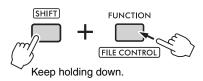
IMPORTANT

 Note that User files must be saved in the "USER FILES" folder on the USB flash drive. Files saved outside the folder are not recognized.

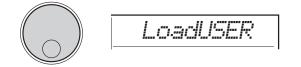
NOTE

• For details on loading Samples, refer to page 26.

While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



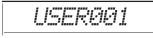
2 Rotate the dial until "LoadUSER" is shown on the display.



3 Press the [ENTER] button.

User file names on the USB flash drive are shown on the display as "USER***" (***: number). If necessary, select another User file by rotating the dial.





4 Press the [ENTER] button again. "LoadOK?" is shown on the display. Press the

[EXIT] button to cancel loading.

5 Press the [ENTER] button once again to execute the load operation.

"Complete" is shown on the display when loading is done.

NOTICE

- The Load operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.
- 6 Press the [FUNCTION] button to exit from the File Control display.
- 7 Confirm that the data has been properly loaded by calling up the User Song, one of the Styles 291–300, and/or the Registration Memory settings.

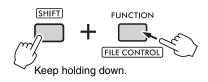
Loading Samples from USB Flash Drive

IMPORTANT

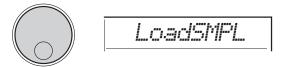
• If the instrument is in the Quick Sampling mode, press the [CAPTURE] button to exit from the mode. Then, follow the steps below.

NOTICE

- The loading operation overwrites and erases previously existing samples. Save important samples you want to keep to USB flash drive (page 23).
- While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



2 Rotate the dial until "LoadSMPL" is shown on the display.



3 Press the [ENTER] button.

"PressA-D" is shown on the display. When there are no samples in USB flash drive, "NoFile" is shown instead and return to the display of step 2 above.

- **4** Press one of the QUICK SAMPLING pads to register (load) the sample.
- 5 Select a file to load by rotating the dial.
- 6 Press the [ENTER] button again. "LoadOK?" is shown on the display. Press the [EXIT] button to cancel loading and return to the display of step 2 above.
- 7 Press the [ENTER] button once again to execute the load operation.

"Loading" is briefly shown on the display and the sample is registered to the pad.

8 Press the [FUNCTION] button to exit from the File Control display.

9 Try the loaded samples. To play back the sample, press the pad to which the loaded sample was registered.

Loading WAV Files from USB Flash Drive

WAV files saved to USB flash drive can be imported to this instrument as samples and registered to the QUICK SAMPLING pads.

NOTE

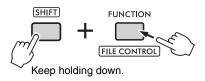
• Available file formats are monaural or stereo PCM (WAV) of 44.1 kHz with 16 bit.

IMPORTANT

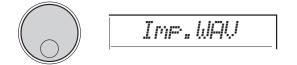
• If the instrument is in the Quick Sampling mode, press the [CAPTURE] button to exit from the mode. And then, follow the steps below.

NOTICE

- The importing operation overwrites and erases previously existing samples. Save important samples you want to keep to a USB flash drive (page 23).
- While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



2 Rotate the dial until "Imp.WAV" is shown on the display.



3 Press the [ENTER] button.

"PressA-D" is shown on the display. When there are no WAV files in USB flash drive, "NoFile" is shown instead and return to the display of step 2 above.

- **4** Press one of the QUICK SAMPLING pads to register the WAV file.
- 5 Select a file to import by rotating the dial.
- 6 Press the [ENTER] button again.
 "LoadOK?" is shown on the display. Press the [EXIT] button to cancel loading and return to the display of step 2 above.

7 Press the [ENTER] button once again to execute the load operation.

"Loading" is briefly shown on the display, and the WAV file is imported as a sample and registered to the pad.

8 Press the [FUNCTION] button to exit from the File Control display.

9 Try the loaded samples.

To play back the sample, press the pad to which the loaded sample was registered.

Loading Individual Style Files

Style data created on another instrument or a computer can be loaded to Style numbers 291–300, and you can play them in the same way as the internal preset Styles. The following two Load operations are available.

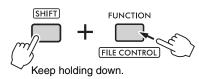
- Loading of a Style file (.sty) saved on the root directory on the USB flash drive.
- Loading of a Style file (.sty) transferred from a computer to the internal memory of this instrument.

NOTE

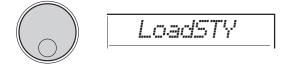
• For instructions on transferring a Style file from a computer, refer to the "Computer-related Operations" on the website. After data transfer is completed, load the Style data to one of the Style numbers 291–300 to enable playback.

NOTICE

- Loading a Style file overwrites and erases the existing data of the destination number. Save important data you want to keep as another file to a USB flash drive before loading.
- While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



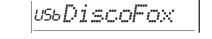
2 Rotate the dial until "LoadSTY" is shown on the display.



3 Press the [ENTER] button.

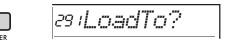
A Style file on the USB flash drive or the internal memory of this instrument is shown. If necessary, select a file to load by rotating the dial.





A Press the [ENTER] button again.

"*** LoadTo?" (***: 291–300) is shown on the display. To load the file to another number, select a number by rotating the dial.



5 Press the [ENTER] button once again. "LoadOK?" is shown on the display. Press the [EXIT] button to cancel loading.

6 Press the [ENTER] button one more time to execute the Load operation.

"Complete" is shown on the display when loading is done.

NOTICE

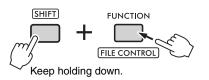
• The Load operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.

- 7 Press the [FUNCTION] button to exit from the File Control display.
- 8 Press the [STYLE] button, select a Style from 291–300 by rotating the dial, and try playing it back.

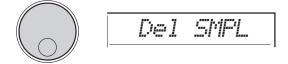
Deleting Samples from USB Flash Drive

IMPORTANT

- If the instrument is in the Quick Sampling mode, press the [CAPTURE] button to exit from the mode, and then follow the steps below.
- While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



2 Rotate the dial until "Del SMPL" is shown on the display.



3 Press the [ENTER] button.

When there are no samples in USB flash drive, "NoFile" is shown instead and return to the display of step 2 above.

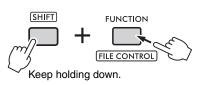
- **4** Select a file to delete by rotating the dial.
- 5 Press the [ENTER] button again. "Del OK?" is shown on the display. Press the [EXIT] button to cancel deleting and return to the display of step 2 above.
- 6 Press the [ENTER] button once again to execute the Delete operation.

"Deleting" is briefly shown on the display and the sample is deleted.

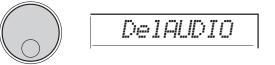
7 Press the [FUNCTION] button to exit from the File Control display.

Deleting Audio Files from USB Flash Drive

While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.



2 Rotate the dial until "DelAUDIO" is shown on the display.



3 Press the [ENTER] button.

Audio files on the USB flash drive are shown as "AUDIO***" (***: number) on the display. Select a file to delete by rotating the dial.



Press the [ENTER] button again. "Del OK?" is shown on the display. Press the [EXIT] button to cancel deleting and return to the display of step 2 above.

5 Press the [ENTER] button once again to execute the Delete operation.

"Complete" is shown on the display when deleting is done.

NOTICE

- The Delete operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.
- 6 Press the [FUNCTION] button to exit from the File Control display.

Deleting User Files from USB Flash Drive

User Files (.usr) in the root directory of USB flash drive can be deleted.

IMPORTANT

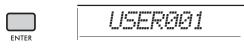
- Only User files (.usr) saved in the "USER FILES" folder on the USB flash drive can be deleted. Files outside this folder cannot be recognized.
- While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.
- 2 Rotate the dial until "Del USER" is shown on the display.



Del USER

3 Press the [ENTER] button.

User files on the USB flash drive are shown as "USER***" (***: number) on the display. Select a file to delete by rotating the dial.



4 Press the [ENTER] button again.

"Del OK?" is shown on the display. Press the **[EXIT]** button to cancel deleting.

5 Press the [ENTER] button once again to execute the Delete operation.

"Complete" is shown on the display when deleting is done.

NOTICE

• The Delete operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.

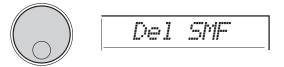
6 Press the [FUNCTION] button to exit from the File Control display.

Deleting SMF Files from USB Flash Drive

MIDI files recorded on this instrument and saved to USB flash drive via the SaveSMF operation (page 24) can be deleted individually.

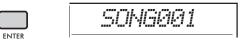
IMPORTANT

- Only SMF files (.mid) saved in the "USER FILES" folder on the USB flash drive can be deleted. Files outside this folder cannot be recognized. This operation applies only to files named with the format of "SONG***" (***: 001–100).
- While holding down the [SHIFT] button, press the [FUNCTION] button to call up the File Control display.
- 2 Rotate the dial until "Del SMF" is shown on the display.



3 Press the [ENTER] button.

SMF files on the USB flash drive are shown as "SONG***" (***: number) on the display. Select a file to delete by rotating the dial.



4 Press the [ENTER] button again. "Del OK?" is shown on the display. Press the [EXIT] button to cancel deleting.

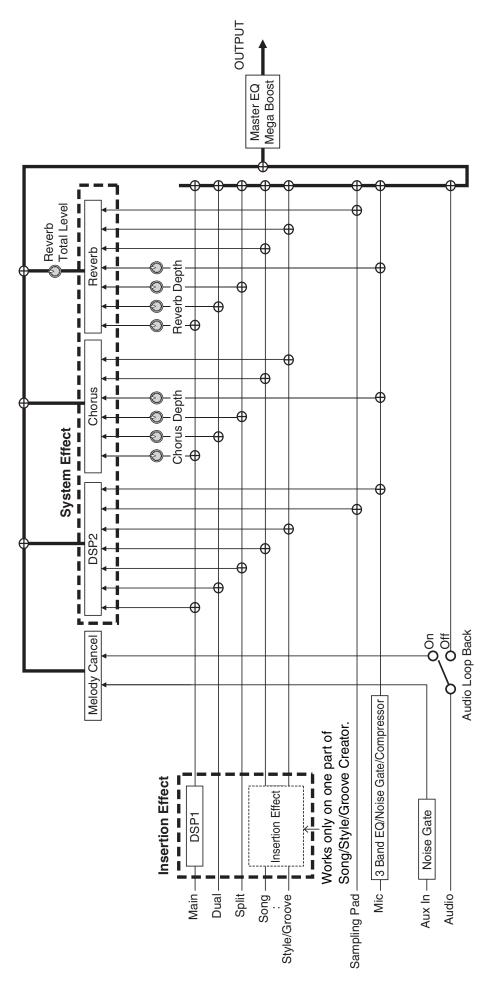
5 Press the [ENTER] button once again to execute the Delete operation.

"Complete" is shown on the display when deleting is done.

NOTICE

- The Delete operation cannot be cancelled during execution. Never turn off the power or disconnect the USB flash drive during the operation. Doing so may result in data loss.
- 6 Press the [FUNCTION] button to exit from the File Control display.

Block Diagram



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