YAMAHA

Clavinova®

CVP-601

Reference Manual

This Reference Manual explains advanced features of this instrument that are not explained in the Owner's Manual.
Please read the Owner's Manual first, before reading this Reference Manual.

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Contents

* 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 LCD screens as shown in this manual are for instructional purposes only, and may appear somewhat different from those on your instrument.
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Performing Piano Songs on the Clavinova

These operations are fully explained in the Owner's Manual. Refer to the corresponding chapter in the Owner's Manual.

Voices

– Playing the Keyboard –

Contents

Voice Characteristics

The Voice type and its defining characteristics are indicated above the Voice name in the Voice Selection display.

S.Articulation!	See the Owner's Manual, chapter 2.
Natural!	These rich and luscious Voices are comprised mostly of keyboard instrument sounds and are especially intended for playing piano and other keyboard parts. They also take full advantage of Yamaha's advanced sampling technology such as Stereo Sampling, Sustain Sampling, and Key-off Sampling.
Live!	These acoustic instrument sounds were sampled in stereo, to produce a truly authentic, rich sound — full of atmosphere and ambience.
Cool!	These Voices capture the dynamic textures and subtle nuances of electric instruments — thanks to a huge amount of memory and some very sophisticated programming.
Sweet!	These acoustic instrument sounds also benefit from Yamaha's sophisticated technology — and feature a finely detailed and natural sound.

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Drums	Various drum and percussion sounds are assigned to individual keys, letting you play the sounds from the keyboard.
SFX	Various special effect sounds are assigned to individual keys, letting you play the sounds from the keyboard.
Organ Flutes!	This authentic organ Voice lets you use the Voice Set to adjust the various footages and craft your own original organ sounds. See page 16 for details.
MegaVoice	These Voices make special use of velocity switching. Normal voices use velocity switching, too — to change the sound quality and/or level of a voice according to how strongly or softly you play it. This makes the voice sound authentic and natural. With MegaVoices, however, 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. Actual sound maps for the MegaVoices are given in the separate Data List booklet that comes with your instrument.

NOTE MegaVoices are not compatible with other models even though the model may have those types of Voices installed. Any Song or Style data you've created on the instrument using these Voices will not sound properly when played back on other instruments.

NOTE MegaVoices sound differently depending on the keyboard range, velocity, touch, etc. Hence, if you apply a HARMONY/ ECHO effect, change the transpose setting or change the Voice Set parameters, unexpected or undesired sounds may result.

MEGAEnhancer
– Converting MIDI Songs to Songs for MegaVoice playing –

MEGAEnhancer allows conversion of conventional XG/GM song data to song data optimized for use with the MegaVoice feature on a compatible instrument or tone generator. MEGAEnhancer makes MIDI guitar and bass tracks come to life, with enhanced realism and expression. MEGAEnhancer can be downloaded from the Internet.

Yamaha Downloads
http://download.yamaha.com/

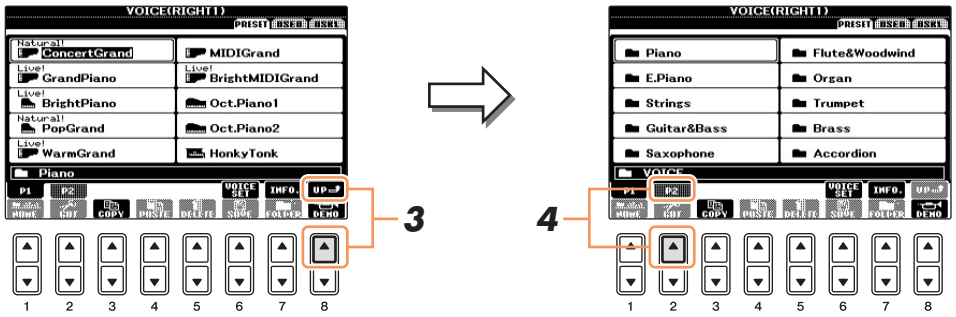
Selecting GM&XG, MegaVoices and Other Voices from the Panel

The GM&XG Voices and MegaVoice cannot be directly called up from the VOICE category selection buttons. However, they can be called up via panel operation by following the procedure below.

1 **In the Main display, select the keyboard part to which the desired Voice is to be assigned.**

2 **Press one of the VOICE category selection buttons to call up the Voice Selection display.**

3 **Press the [8▲] (UP) button to call up the Voice categories.**



4 **Press the [2▲] (P2) button to display Page 2.**

5 **Press the desired [A] – [J] button to call up the Voice Selection display of GM&XG Voices, GM2 Voices, etc.**

MegaVoices are in the “Guitar” folder in the “StyleVoices” category.

6 **Select the desired Voice.**

Selecting the Harmony/Echo type

This function lets you apply harmonies to your right hand performance according to the chords you play with your left hand, and trigger automatic echo or tremolo even by pressing a single note or two notes.

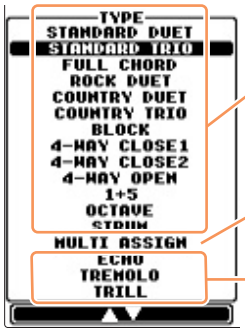
1 **Press the [VOICE EFFECT] button.**

2 **Turn the Harmony/Echo on by pressing the [I] (HARMONY/ECHO) button.**

3 **Call up the operation display by pressing the [J] (TYPE SELECT) button.**

4 **Use the [1▲▼] – [3▲▼] buttons to select the Harmony/Echo type.**

The Harmony/Echo types are divided into the following groups, depending on the particular effect applied.



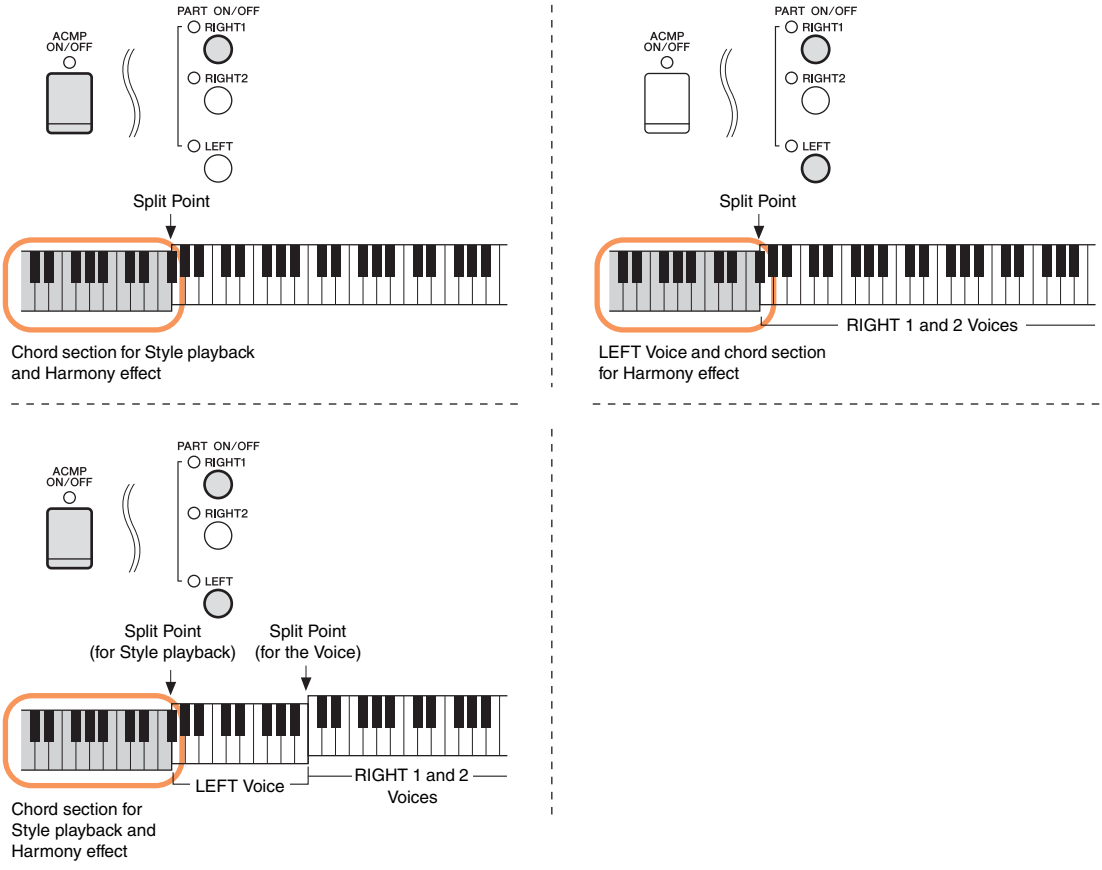
Harmony Types
These types apply the harmony effect to notes played in the right-hand section of the keyboard according to the chord specified in the left-hand section of the keyboard. (Note that the "1+5" and "Octave" settings are not affected by the chord.)

Multi Assign Type
This type applies a special effect to chords played in the right-hand section of the keyboard.

Echo Types
These types apply echo effects to notes played in the right-hand section of the keyboard in time with the currently set tempo.

■ Harmony Types

When one of the Harmony Types is selected, the Harmony effect is applied to the note played in the right-hand section of the keyboard according to the type selected above and the chord specified in the chord section of the keyboard shown below.



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■ **Multi Assign Type**

The Multi Assign effect automatically assigns notes played simultaneously on the right-hand section of the keyboard to separate parts (Voices). Both keyboard parts [RIGHT 1] and [RIGHT 2] should be turned on when using the Multi Assign effect. The Right 1 and Right 2 Voices are alternately assigned to the notes in the order you play.

■ **Echo Types**

When one of the Echo Types is selected, the corresponding effect (echo, tremolo, trill) is applied to the note played in the right-hand section of the keyboard in time with the currently set tempo, regardless of the [ACMP ON/OFF] and the LEFT part on/off status. Keep in mind that Trill works when you hold down two notes on the keyboard simultaneously (last two notes if more than two notes are held), and it plays those notes alternately.

5 Use the [4▲▼] – [8▲▼] buttons to select various Harmony/Echo settings.

The available settings differ depending on the Harmony/Echo type.

[4▲▼]	VOLUME	This parameter is available for all types with the exception of "Multi Assign." It determines the level of the harmony/echo notes generated by the Harmony/Echo effect.
[5▲▼]	SPEED	This parameter is only available when Echo, Tremolo, or Trill is selected in Type above. It determines the speed of the Echo, Tremolo, and Trill effects.
[6▲▼]	ASSIGN	This parameter is available for all types with the exception of "Multi Assign." This lets you determine the keyboard part via which the harmony/echo notes will be sounded.
[7▲▼]	CHORD NOTE ONLY	This parameter is available when one of the Harmony Types is selected. When this is set to "ON," the Harmony effect is applied only to the note (played in the right-hand section of the keyboard) that belongs to a chord played in the chord section of the keyboard.
[8▲▼]	TOUCH LIMIT	This parameter is available for all types with the exception of "Multi Assign." It determines the lowest velocity value at which the harmony 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).

Pitch-Related Settings

Fine-tuning the Pitch of the Entire Instrument

You can fine-tune the pitch of the entire instrument — a useful feature when playing the Clavinova along with other instruments or CD music. Please note that the Tuning function does not affect the Drum Kit or SFX Kit Voices with name "*** kit" and audio files.

1 **Call up the operation display.**

[FUNCTION] → [A] MASTER TUNE/SCALE TUNE → TAB [◀][▶] MASTER TUNE

2 **Use the [4▲▼]/[5▲▼] buttons to set the tuning in 0.2 Hz steps, from 414.8–466.8 Hz.**

Press the both 4 or 5's [▲] and [▼] buttons simultaneously to reset the value to the factory setting of 440.0 Hz.

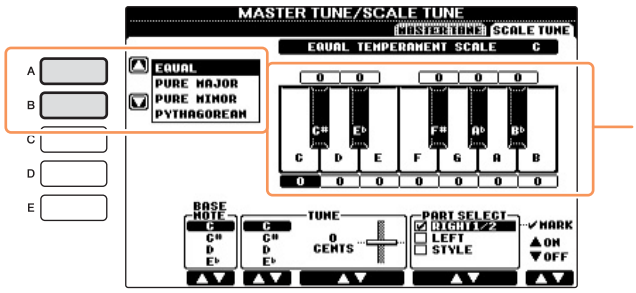
Scale Tuning

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

1 **Call up the operation display.**

[FUNCTION] → [A] MASTER TUNE/SCALE TUNE → TAB [◀][▶] SCALE TUNE

2 **Use the [A]/[B] buttons to select the desired scale.**



■ **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 are 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.

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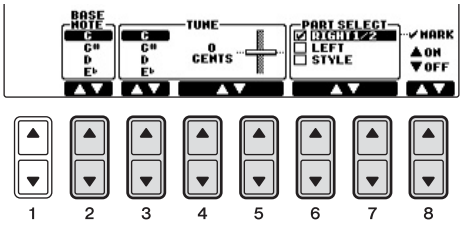
WERCKMEISTER, KIRNBERGER	This composite scale combines the Werckmeister and Kirnberger systems, which were themselves improvements on the mean-tone and Pythagorean scales. The main feature of this scale is that each key has its own unique character. The scale was used extensively during the time of Bach 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.

3 Change the following settings as necessary.



[2▲▼]	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.
[3▲▼] – [5▲▼]	TUNE	Select the desired note to be tuned by using the [3▲▼] buttons and tune it in cents by using the [4▲▼]/[5▲▼] buttons. ***NOTE*** In musical terms a "cent" is 1/100th of a semitone. (100 cents equal one semitone.)
[6▲▼]/ [7▲▼]	PART SELECT	Select the part to which the Scale Tune setting is applied by using the [6▲▼]/[7▲▼] buttons. Then press the [8▲] button to add a checkmark or press the [8▼] button to remove the checkmark.
[8▲▼]	MARK ON/OFF	

NOTE To register the Scale Tune settings to the Registration Memory, be sure to checkmark the SCALE item in the REGISTRATION MEMORY CONTENTS display.

Changing the Part Assignment of the TRANSPOSE Buttons

You can determine to which part (keyboard, Song or both) the TRANSPOSE [-]/[+] buttons are applied. This lets you transpose the pitch of the keyboard but not that of the Song (or vice versa) — allowing you to play along with a Song in a more comfortable key, for example.

1 Call up the operation display.

[FUNCTION] → [D] CONTROLLER → TAB [◄][►] KEYBOARD/PANEL

2 Use the [A]/[B] buttons to select "2. TRANSPOSE ASSIGN."

3 Press the [4▲▼]/[5▲▼] buttons to select the desired transpose type.

KEYBOARD	When this is selected, the TRANSPOSE [-]/[+] buttons affect the pitch of keyboard played Voices and Style playback (controlled by the performance in the chord section of the keyboard) — but they do not affect Song playback.
SONG	When this is selected, the TRANSPOSE [-]/[+] buttons affect only the pitch of Song playback.
MASTER	When this is selected, the TRANSPOSE [-]/[+] buttons affect the overall pitch of the instrument, except audio playback.

You can confirm the setting here by viewing the pop-up window called up via the TRANSPOSE [-]/[+] buttons.

Editing Voices (Voice Set)

The instrument has a Voice Set feature that allows you to create your own Voices by editing some parameters of the existing Voices. Once you've created a Voice, you can save it as a User Voice to the USER drive or external devices for future recall.

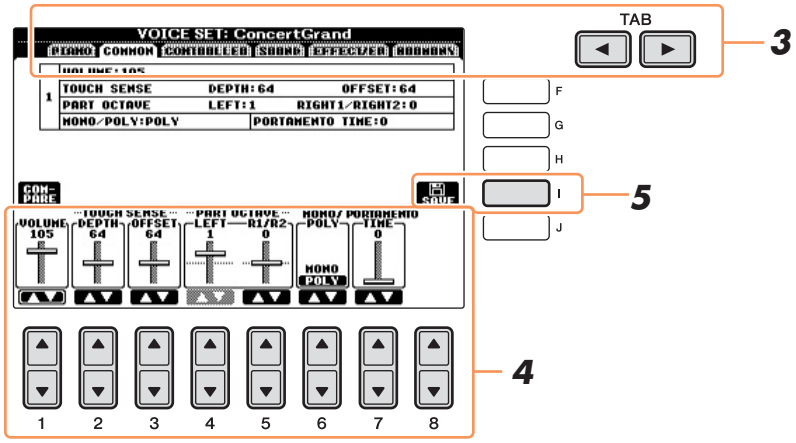
1 **Select the desired Voice (other than an Organ Flutes Voice).**

Organ Flutes Voices have a different editing method than described here. For instructions on editing the Organ Flutes Voices, see page 16.

2 **Press the [6▲] (VOICE SET) button to call up the VOICE SET display.**

3 **Use the TAB [◄][►] buttons to call up the relevant setting display.**

For information on the available parameters in each display, see the "Editable Parameters in the VOICE SET Displays" on page 11.



4 **As necessary, use the [A]/[B] buttons to select the item (parameter) to be edited and edit the Voice by using the [1▲▼] – [8▲▼] buttons.**

By pressing the [D] (COMPARE) button, you can compare the sound of the edited Voice with the original (unedited) Voice.

5 **Press the [I] (SAVE) button to save your edited Voice as a User Voice.**

NOTICE

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

Editable Parameters in the VOICE SET Displays

The Voice Set parameters are organized into six different displays. The parameters in each display are described separately, below.

NOTE The available parameters differ depending on the Voice.

■ PIANO Page

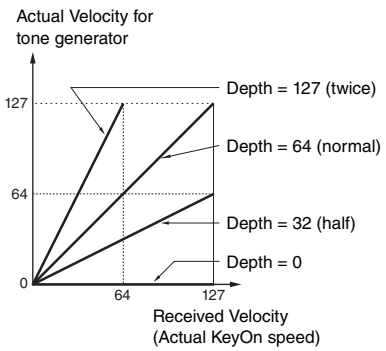
This display is available only when the Natural! piano Voice (page 3) is selected.

[1▲▼]/ [2▲▼]	TUNING CURVE	Determines the tuning curve. Select "FLAT" if you feel the tuning curve of the piano Voice does not quite match that of other instruments Voices. STRETCH: Tuning curve commonly used for solo piano performance. FLAT: Tuning curve in which the frequency is octave doubled over the entire keyboard range.
[3▲▼]/ [4▲▼]	KEY OFF SAMPLE	Adjusts the volume of the key-off sound (the subtle sound that occurs when you release a key).
[5▲▼]/ [6▲▼]	SUSTAIN SAMPLE	Adjusts the depth of sustain sampling for the damper pedal.
[7▲▼]/ [8▲▼]	STRING RESONANCE	Adjusts the depth of string resonance.

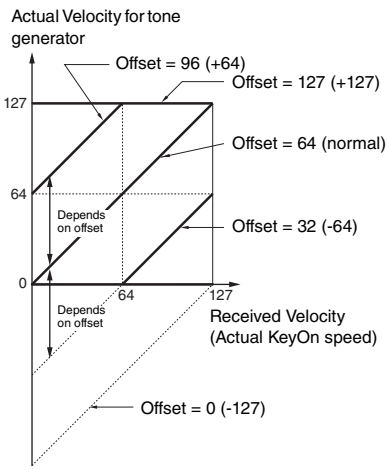
■ COMMON Page

[1▲▼]	VOLUME	Adjusts the volume of the current edited Voice.
[2▲▼]/ [3▲▼]	TOUCH SENSE	Adjusts the touch sensitivity (velocity sensitivity), or how greatly the volume responds to your playing strength.

TOUCH SENSE DEPTH
Changes to velocity curve according to VelDepth (with Offset set to 64)



TOUCH SENSE 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.

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[4▲▼]/ [5▲▼]	PART OCTAVE	Shifts the octave range of the edited Voice up or down in octaves. When the edited Voice is used as any of the RIGHT 1–2 parts, the R1/R2 parameter is available; when the edited Voice is used as the LEFT part, the LEFT parameter is available.
[6▲▼]	MONO/POLY	Determines whether the edited Voice is played monophonically or polyphonically.
[7▲▼]	PORTAMENTO TIME	Sets the portamento time (pitch transition time) when the edited Voice is set to "MONO" above. **NOTE** The Portamento Time determines the pitch transition time. Portamento is a function that creates a smooth transition in pitch from the first note played on the keyboard to the next.

■ CONTROLLER Page

1 CENTER PEDAL

2 LEFT PEDAL

These allow you to select the function to be assigned to the center or left pedal.

[1▲▼]	FUNCTION	Selects the function to be assigned to the center or left pedal. For details on the pedal functions, see page 78.
[2▲▼] – [8▲▼]	RIGHT 1, RIGHT 2, LEFT, etc.	Determines whether the assigned function is effective or not for the respective keyboard part. This also determines the depth for the function. For details, see page 78.

3 MODULATION

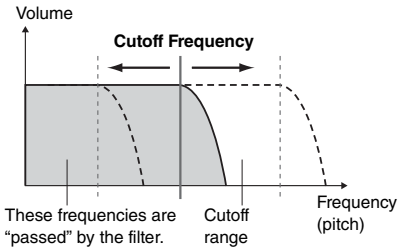
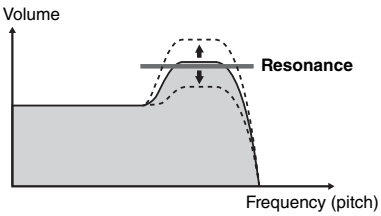
When a pedal function is assigned to MODULATION, the pedal can be used to modulate the parameters below as well as the pitch (vibrato). Here, you can set the degree to which the pedal modulates each of the following parameters.

[2▲▼]	FILTER	Determines the degree to which the pedal modulates the Filter Cutoff Frequency. For details about the filter, see page 13.
[3▲▼]	AMPLITUDE	Determines the degree to which the pedal modulates the amplitude (volume).
[5▲▼]	LFO PMOD	Determines the degree to which the pedal modulates the pitch, or the vibrato effect.
[6▲▼]	LFO FMOD	Determines the degree to which the pedal modulates the Filter modulation, or the wah effect.
[7▲▼]	LFO AMOD	Determines the degree to which the pedal modulates the amplitude, or the tremolo effect.

■ SOUND Page

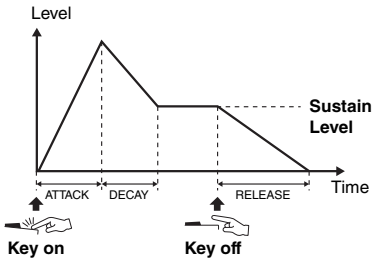
FILTER

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.

[1▲▼]	BRIGHT (Brightness)	Determines the cutoff frequency or effective frequency range of the filter (see diagram). Higher values result in a brighter sound.	
[2▲▼]	HARMO. (Harmonic content)	Determines the emphasis given to the cutoff frequency (resonance), set in BRIGHT. above (see diagram). Higher values result in a more pronounced effect.	

EG

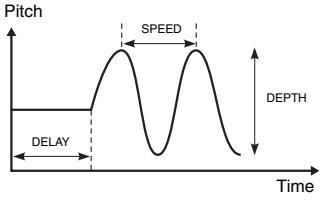
The EG (Envelope Generator) settings determine how the level of the sound changes in time. This lets you reproduce many sound characteristics of natural acoustic instruments — such as the quick attack and decay of percussion sounds, or the long release of a sustained piano tone.



[3▲▼]	ATTACK	Determines how quickly the sound reaches its maximum level after the key is played. The lower the value, the quicker the attack.
[4▲▼]	DECAY	Determines how quickly the sound reaches its sustain level (a slightly lower level than maximum). The lower the value, the quicker the decay.
[5▲▼]	RELES. (Release)	Determines how quickly the sound decays to silence after the key is released. The lower the value, the quicker the decay.

VIBRATO

Vibrato is a quavering, vibrating sound effect that is produced by regularly modulating the pitch of the Voice.



[6▲▼]	DEPTH	Determines the intensity of the Vibrato effect. Higher settings result in a more pronounced Vibrato.
[7▲▼]	SPEED	Determines the speed of the Vibrato effect.
[8▲▼]	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.

■ EFFECT/EQ Page

1 REVERB DEPTH/CHORUS DEPTH/DSP DEPTH/VIB ROTOR

[1▲▼]/ [2▲▼]	REVERB DEPTH	Adjusts the reverb depth.
[3▲▼]/ [4▲▼]	CHORUS DEPTH	Adjusts the chorus depth.
[5▲▼]	DSP ON/OFF	Determines whether the DSP is on or off.
[6▲▼]	DSP DEPTH	Adjusts the DSP depth. If you want to re-select the DSP type, you can do so in the "2 DSP" menu explained below.
[7▲▼]	VIBE ROTOR	This will be displayed only if VIBE VIBRATE is selected for the DSP Type parameter explained below. Determines whether VIBE VIBRATE should be set to on or off when selecting the Voice.

2 DSP

[1▲▼] – [4▲▼]	DSP TYPE	Selects the DSP effect category and type. Select a type after selecting a category.
[5▲▼] – [8▲▼]	VARIATION	A Variation parameter is provided for each DSP type. Turning this on or off (in ON/OFF below), lets you instantly and significantly change the sound of the DSP effect. Here, you can edit the VARIATION on/off status and variation's parameter value setting.
[5▲▼]	ON/OFF	Determines whether the VARIATION is on or off. If you select VARIATION ON here, a variation of the DSP effect is assigned to the Voice. The variation parameter value can be adjusted in the VALUE menu explained below. If you select VARIATION OFF, standard variation of DSP is assigned.
	PARAMETER	Displays the variation parameter. (This differs depending on the effect type and cannot be changed.)
[6▲▼] – [8▲▼]	VALUE	Adjusts the value of the DSP variation parameter.

3 EQ

Determines the Frequency and Gain of the Low and High EQ bands. For information about EQ, refer to page 76.

■ HARMONY Page

Harmony sets the Right 1 and 2 parts together. Select the Right 1 part in the Main display, before you set it. This has the same settings as the display of "Selecting the Harmony/Echo type" page 6 in step 3.

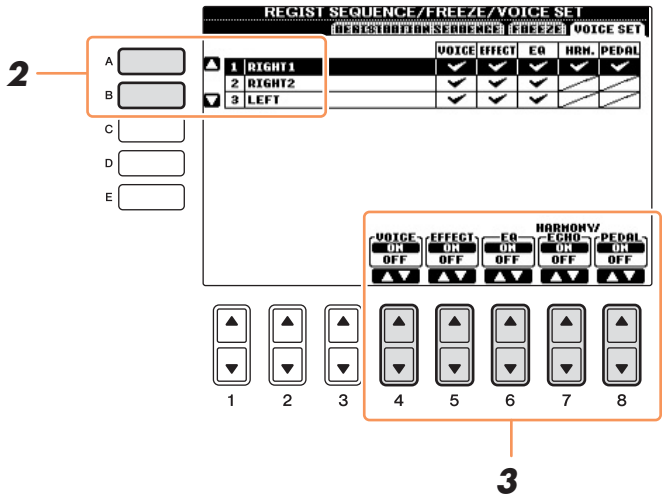
Disabling Automatic Selection of Voice Sets (Effects, etc.)

Each Voice is linked to its default VOICE SET parameter settings. Usually these settings are automatically called up when a Voice is selected. However, you can also disable this feature by the operation in the relevant display as explained below.
For example, if you want to change the Voice yet keep the same Harmony effect, set the HARMONY/ECHO parameter to OFF (in the display explained below).

1 **Call up the operation display.**

[FUNCTION] → [E] REGIST SEQUENCE/FREEZE/VOICE SET → TAB [◀][▶] VOICE SET

2 **Use the [A]/[B] buttons to select a keyboard part.**



3 **Use the [4▲▼] – [8▲▼] buttons to enable/disable automatic calling up of the settings (ON or OFF) independently for each parameter group.**

Editing Organ Flutes Parameters

The Organ Flute Voices selected from the [ORGAN FLUTES] button can be edited by adjusting the footage levers, adding the attack sound, applying effects and equalizer, etc.

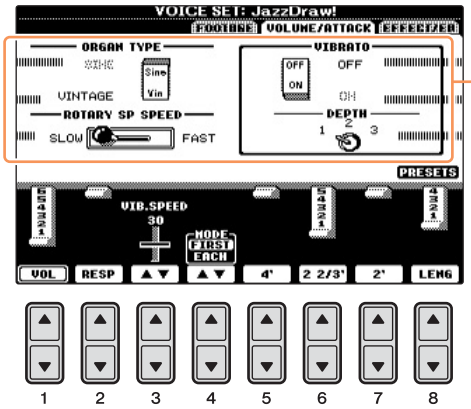
NOTICE

After editing, go to the Voice Selection display by pressing the [I] (PRESETS) button and save the setting. The settings will be lost if you select another Voice or turn the power to the instrument off without executing the Save operation.

■ FOOTAGE Page

Refer to the Owner's Manual, chapter 2.

■ VOLUME/ATTACK Page



Same as the FOOTAGE Page.

[1▲▼]	VOL (Volume)	Adjusts the overall volume of the Organ Flutes. The longer the graphic bar, the greater the volume.
[2▲▼]	RESP (Response)	Affects both the attack and release (page 13) portion of the sound, increasing or decreasing the response time of the initial swell and release, based on the FOOTAGE controls. The higher the value, the slower the swell and release.
[3▲▼]	VIB. SPEED	Determines the speed of the vibrato effect controlled by the VIBRATO ON/OFF ([F]/[G] buttons) and VIBRATO DEPTH ([H] button).
[4▲▼]	MODE	The MODE control selects one of two modes: FIRST and EACH. In the FIRST mode, attack (percussive sound) is applied only to the first notes played and held simultaneously; while the first notes are held, any subsequently played notes have no attack applied. In the EACH mode, attack is applied equally to all notes.
[5▲▼] – [7▲▼]	4', 2 2/3', 2'	These determine the attack sound volume of the ORGAN FLUTE Voice. The 4', 2-2/3' and 2' controls increase or reduce the volume of attack sound at the corresponding footages. The longer the graphic bar, the greater the attack sound volume.
[8▲▼]	LENG (Length)	Affects the attack portion of the sound producing a longer or shorter decay immediately after the initial attack. The longer the graphic bar, the longer the decay.

■ EFFECT/EQ Page

Same parameters as in the VOICE SET "EFFECT/EQ" Page explained on page 14.

Styles

– Playing Rhythm and Accompaniment –

Contents

Selecting the Chord Fingering Type

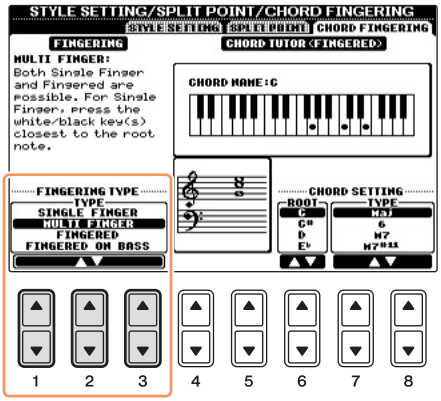
There are seven different Fingering Types which let you specify the chord root and type for Style playback.

1 Call up the operation display.

[FUNCTION] → [C] STYLE SETTING/SPLIT POINT/CHORD FINGERING → TAB [◄][►] CHORD FINGERING

2 Press the [1▲▼] – [3▲▼] buttons to select a fingering.

For information on each fingering type, see page 18.



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.
On the CHORD FINGERING display, specify the Chord Root and Chord Type by using the [6▲▼] – [8▲▼] button. The notes you need to play are shown in the display.

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

Chord Fingering Types

SINGLE FINGER	Makes it simple to produce orchestrated accompaniment using major, seventh, minor and minor-seventh chords by pressing a minimum number of keys on the Chord section of the keyboard. This type is available only for Style playback. The abbreviated chord fingerings described below are used:  **For a major chord**, press the root key only.  **For a seventh chord**, simultaneously press the root key and a white key to its left.  **For a minor chord**, simultaneously press the root key and a black key to its left.  **For a minor-seventh chord**, simultaneously press the root key and both a white and black key to its left.
MULTI FINGER	Automatically detects Single Finger or Fingered chord fingerings, so you can use either type of fingering without having to switch fingering types.
FINGERED	Lets you finger your own chords on the chord section of the keyboard, while the instrument supplies appropriately orchestrated rhythm, bass, and chord accompaniment in the selected Style. The Fingered type recognizes the various chord types which are listed on the separate Data List booklet and can be looked up using the Chord Tutor function on page 17.
FINGERED ON BASS	Accepts the same fingerings as Fingered, but the lowest note played in the Chord section of the keyboard is used as the bass note, allowing you to play "on bass" chords. (In the Fingered mode, the root of the chord is always used as the bass note.)
FULL KEYBOARD	Detects chords in the entire key range. Chords are detected in a way similar to Fingered, even if you split the notes between your left and right hands — for example, playing a bass note with your left hand and a chord with your right, or by playing a chord with your left hand and a melody note with your right.
AI FINGERED	Basically the same as Fingered, with the exception that less than three notes can be played to indicate the chords (based on the previously played chord, etc.).
AI FULL KEYBOARD	When this advanced fingering type is engaged, the instrument will automatically create appropriate accompaniment while you play just about anything, anywhere on the keyboard using both hands. You don't have to worry about specifying the Style chords. Although the AI Full Keyboard type is designed to work with many songs, some arrangements may not be suitable for use with this feature. This type is similar to Full Keyboard, with the exception that less than three notes can be played to indicate the chords (based on the previously played chord, etc.). 9th, 11th and 13th chords cannot be played. This type is available only for Style playback.

NOTE "AI" stands for "Artificial Intelligence."

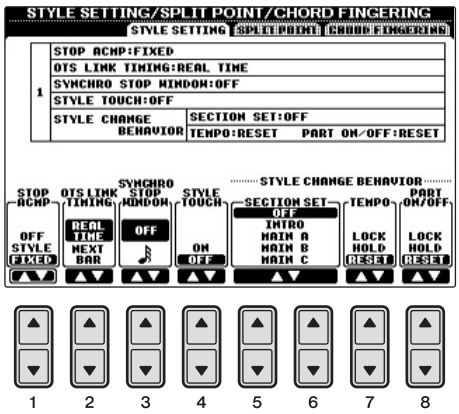
Style Playback Related Settings

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

1 Call up the operation display.

[FUNCTION] → [C] STYLE SETTING/SPLIT POINT/CHORD FINGERING → TAB [◄][►] STYLE SETTING

2 Use the [1▲▼] – [8▲▼] buttons for each setting.



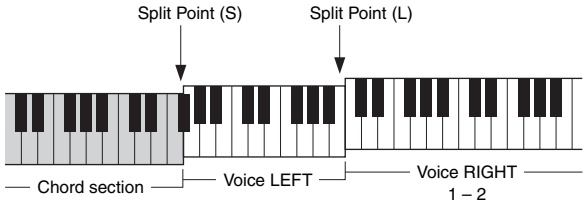
[1▲▼]	STOP ACMP	When [ACMP ON/OFF] is turned on and [SYNC START] is off, you can play chords in the chord section of the keyboard with the Style stopped, and still hear the accompaniment chord. In this condition — called "Stop Accompaniment" — any valid chord fingerings are recognized and the chord root/type are shown in the display. Here, you can determine whether the chord played in the chord section will sound or not in the Stop Accompaniment status. **OFF** The chord played in the chord section will not sound. **STYLE** The chord played in the chord section will sound via the Voices for the Pad part and the Bass channel of the selected Style. **FIXED** The chord played in the chord section will sound via the specified Voice, regardless of the selected Style. ***NOTE*** When the selected Style contains MegaVoices, unexpected sounds may result when this is set to "STYLE." ***NOTE*** When you record a song, the chord detected by playing the Stop Accompaniment can be recorded regardless of the setting here. Please note that both the Voice that is sounded and the chord data will be recorded when set to "STYLE," and only the chord data will be recorded when set to "OFF" or "FIXED."
[2▲▼]	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 a MAIN VARIATION button. **NEXT BAR** One Touch Setting is called up at the next measure, after you press a MAIN VARIATION button.

NEXT PAGE

[3▲▼]	SYNCHRO STOP WINDOW	This determines how long you can hold a chord before the Synchro Stop function is automatically cancelled. When the [SYNC STOP] button is turned on and this is set to a value other than "OFF," this is 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.
[4▲▼]	STYLE TOUCH	Turns touch response for the Style playback on/off. When this is set to "ON," the Style volume changes in response to your playing strength in the chord section of the keyboard.
[5▲▼]/ [6▲▼]	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 the 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.
[7▲▼]	TEMPO	This determines whether the tempo changes or not when you change Styles. If you want to avoid changing the tempo when selecting another Style, select LOCK or HOLD. **LOCK** The tempo setting of the previous Style is maintained. **HOLD** The tempo setting of the previous Style is maintained while Style is played back and another Style is selected. While Style playback is stopped and another Style is selected, the tempo changes to that of the initial default tempo for the selected Style. **RESET** The tempo changes to that of the initial default tempo for the selected Style.
[8▲▼]	PART ON/OFF	This determines whether the on/off status of the Style Channels (Parts) changes or not when you change Styles. If you want to avoid changing the Style Channel On/Off status when selecting another Style, select LOCK or HOLD. **LOCK** The Style Channel On/Off status of the previous Style is maintained. **HOLD** The Style Channel On/Off status of the previous Style is maintained while Style is played back and another Style is selected. While Style playback is stopped and another Style is selected, all Style Channels are set to On. **RESET** All Style Channels are set to On.

Split Point Settings

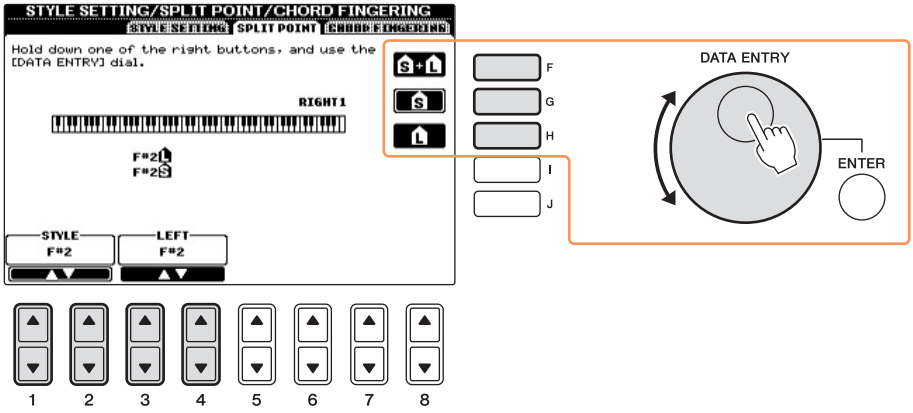
These are the settings (two Split Points) that separate the different sections of the keyboard: the Chord section, the LEFT part section and the RIGHT 1 and 2 section. The two Split Point settings (below) are specified as note names.

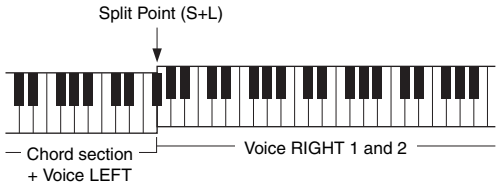


1 Call up the operation display.

[FUNCTION] → [C] STYLE SETTING/SPLIT POINT/CHORD FINGERING → TAB [◄][►] SPLIT POINT

2 Set the Split Point.



[F]	Split Point (S+L)	Sets the Split Point (S) and Split Point (L) to the same note. Press the [F] button and rotate the [DATA ENTRY] dial. 
[G]	Split Point (S)	Sets each Split Point. Press one of the desired buttons and rotate the [DATA ENTRY] dial.
[H]	Split Point (L)	***NOTE*** Split Point (L) cannot be set lower than Split Point (S).
[1▲▼]/ [2▲▼]	STYLE	You can specify each Split Point by note name. “STYLE” indicates Split Point (S) and “LEFT” indicates Split Point (L).
[3▲▼]/ [4▲▼]	LEFT	

Calling up the Panel Settings to Match the Style (Repertoire)

The convenient Repertoire function automatically calls up the most appropriate panel settings (Voice number, etc.) for the currently selected Style.

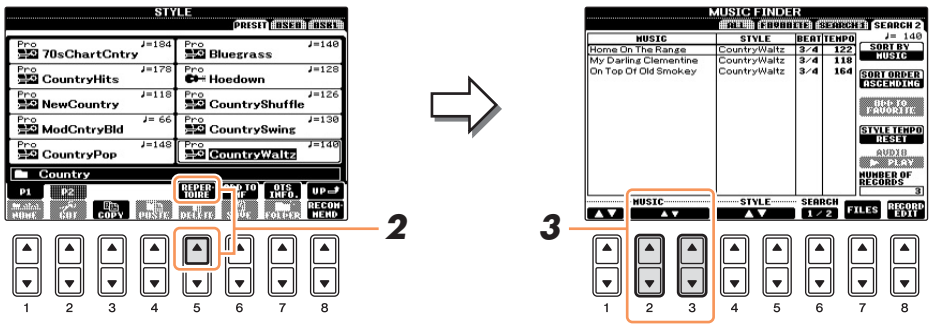
Before using the Repertoire function, you need to import Music Finder records (see instructions described in the Owner's Manual, chapter 7).

NOTE The settings shown here are Music Finder Records. You can choose additional settings by using the Music Finder feature.

1 **Select the desired Style from the Style Selection display.**

2 **Press the [5▲] (REPERTOIRE) button.**

Various appropriate panel settings matching the selected Style will be shown in the display.



3 **Use the [2▲▼] – [3▲▼] buttons to select the desired panel setting.**

NOTE Depending on the particular selected Style, there may not be any panel settings in the Repertoire function.

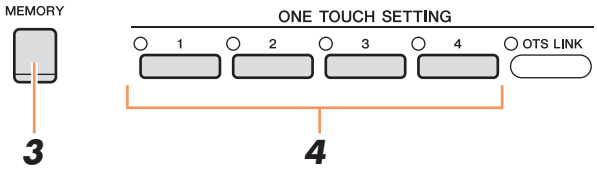
Memorizing an Original One Touch Setting

While the panel settings appropriate for each preset Style are pre-programmed as One Touch Settings, you can also register your favorite settings to create original One Touch Settings. Because the One Touch Setting data is included in a Style, the Save operation will be done as a Style on the Style Selection display.

1 **Select the desired Style to correspond to your One Touch Setting.**

2 **Set up the panel controls (such as Voice, effects, and so on) as desired.**

3 **Press the [MEMORY] button in the REGISTRATION MEMORY section.**



4 **Press one of the ONE TOUCH SETTING [1] – [4] buttons.**

A message appears in the display prompting you to save the panel settings.

5 **Press [F] (YES) button to call up the Style Selection display and save the panel settings as a Style file.**

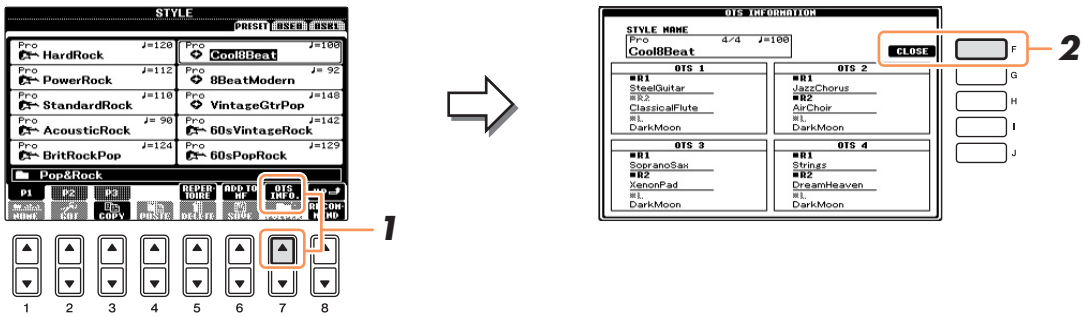
NOTICE

The panel settings memorized to each OTS button will be lost if you change the Style or turn the power off without executing the Save operation.

Confirming the One Touch Setting contents

You can check the information of the One Touch Setting [1] – [4] assigned to currently selected Style.

1 **In the Style Selection display, press the [7▲] (OTS INFO.) button to call up the Information display.**

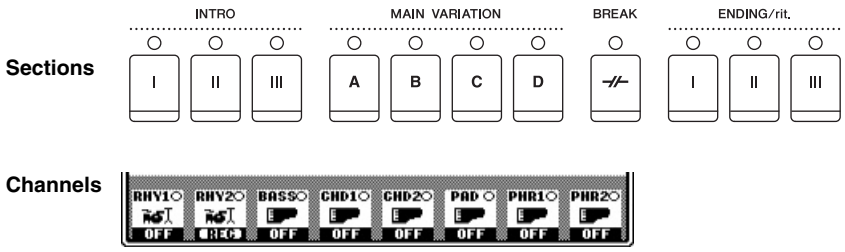


NOTE You can also call up the Information display by pressing the [DIRECT ACCESS] button then pressing one of the ONE TOUCH SETTING [1] – [4] buttons.

2 **Press the [F] (CLOSE) button to close the Information display.**

Creating/Editing Styles (Style Creator)

Styles are made up of fifteen different sections (Intro, Main, Ending, etc.) and each section has eight separate channels. With the Style Creator feature, you can create a Style by separately recording the channels, or by importing pattern data from other existing Styles.

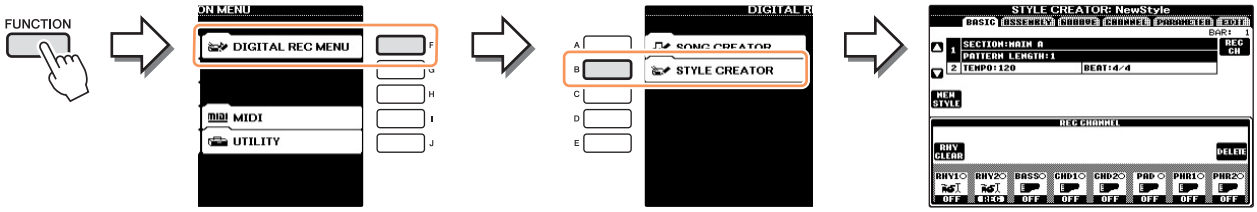


You can use one of the three different methods described below to create a Style. The created Style can also be edited.

- **Realtime Recording** This method lets you record the Style by simply playing the keyboard. See page 25.
- **Step Recording** This method lets you to enter each note individually. See page 28.
- **Style Assembly** This method lets you create a composite Style by combining various patterns from the internal preset Styles or from Styles you have already created. See page 28.

Call up the operation display.

[FUNCTION] → [F] DIGITAL REC MENU → [B] STYLE CREATOR



NOTE The Style files created on this instrument can only be played back on instruments which are compatible with SFF GE.

There are six Pages (tabs) in the Style Creator display.

- **BASIC** Creates the basic settings of the Style. You can also record your performance in real-time to create a new Style (Realtime Recording). See page 25.
- **ASSEMBLY** Mixes the various parts (channels) from preset Styles or already created Styles to create a new Style. See page 28.
- **GROOVE** Changes the rhythmic feel of your created Style. See page 30.
- **CHANNEL** Edits data for each channel — quantizing, changing velocity, etc. See page 32.
- **PARAMETER** Changes the settings related for Style File Format. See page 33.
- **EDIT** Lets you enter notes one by one to create an original Style (Step Recording). See page 28.

Realtime Recording

In the BASIC Page, you can create a single Style by recording the individual channels one-by-one, using realtime recording.

Realtime Recording Characteristics — Loop Recording and Overdub Recording

- **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 27) and Delete (page 26).
  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.

1 **When you want to create a Style based on an existing Style, select the desired Style to serve as the basis for recording/editing before calling up the Style Creator display.**

2 **Call up the operation display.**

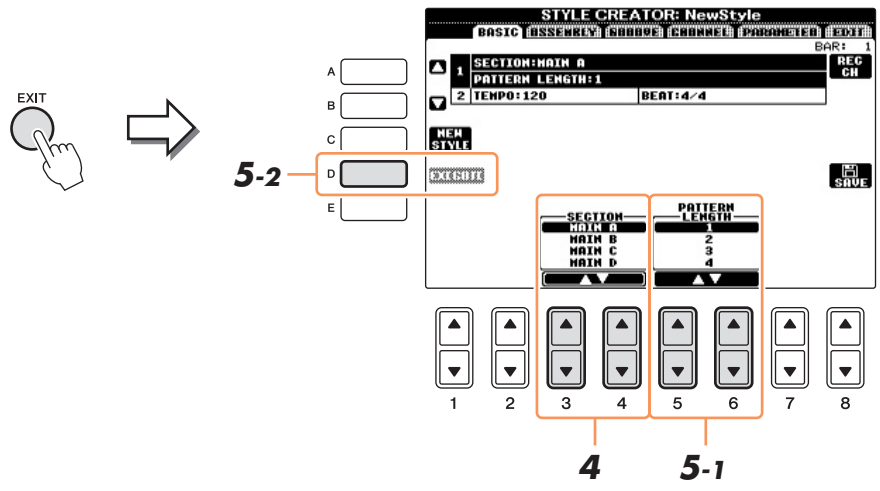
[FUNCTION] → [F] DIGITAL REC MENU → [B] STYLE CREATOR

The BASIC Page is shown.

3 **If you want to create a new Style from scratch, press the [C] (NEW STYLE) button to delete all channel's data.**

4 **Select the desired section (Intro, Main, Ending, etc.) for your new Style.**

First close the RECORD display by pressing the [EXIT] button. Then use the [3▲▼]/[4▲▼] buttons to select the section to be recorded.



NOTE To call up the RECORD display again, press the [F] (REC CH) button.

NOTE You can specify the sections to be recorded by using the Section buttons on the panel. Refer to step 3 on page 28.

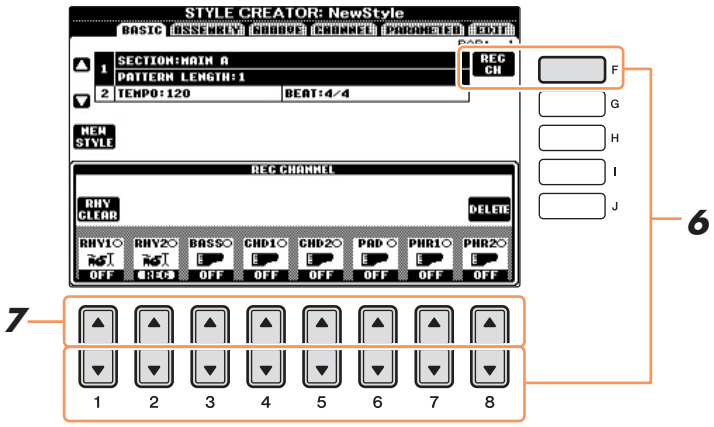
NOTE You cannot select INTRO 4 and ENDING 4 sections directly via panel operations.

NEXT PAGE

5 **Use the [5▲▼]/[6▲▼] buttons to determine the length (number of measures) of the selected section, then press the [D] (EXECUTE) button to actually enter the specified length.**

6 **Specify the channel to be recorded by simultaneously holding down the [F] (REC CH) button and pressing the appropriate numbered button, [1▼] – [8▼].**

To cancel the selection, press the corresponding [1▼] – [8▼] button again.



7 **Call up the Voice Selection display by using the [1▲] – [8▲] buttons and select the desired Voice for the corresponding recording channels.**

Press the [EXIT] button to close the Voice Selection display.

Recordable Voices

- **RHY1 channel**
  Any except your original Organ Flute and Super Articulation Voices are recordable.
- **RHY2 channel**
  Only drum/SFX kits are recordable.
- **BASS–PHR2 channels**
  Any except your original Organ Flute, drum/SFX kits and Super Articulation Voices are recordable.

NOTE Preset Organ Flute Voices can be recorded to the RHY1 and BASS–PHR2 channels.

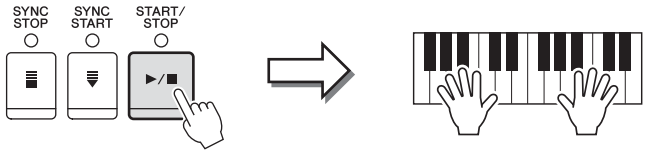
8 **If necessary, delete a channel by simultaneously holding down the [J] (DELETE) button and pressing the appropriate numbered button, [1▲] – [8▲].**

You can cancel the deletion by pressing the same numbered button again before releasing your finger from the [J] button.

NOTE When recording channels BASS–PHR2 based on the existing Style, you have to delete the original data before recording.

NEXT PAGE

9 Start recording by pressing the STYLE [START/STOP] button.



Playback of the specified section starts. Since the accompaniment pattern plays back repeatedly in a loop, you can record individual sounds one by one, listening to the previous sounds as they play. For information on recording to channels other than the rhythm channels (RHY1, 2), refer to the section "Rules when recording non-rhythm channels" below.

NOTE You can turn off the desired channels by pressing the corresponding [1▼] – [8▼] buttons.

Deleting recorded notes in the rhythm channel

When you are recording the rhythm channel (RHY1 or RHY2), you can delete a specific instrument sound by simultaneously holding down the [E] (RHY CLEAR) button and pressing the appropriate key on the keyboard.

10 To continue recording with another channel, repeat steps 6 – 9.

11 Stop recording by pressing the STYLE [START/STOP] button.

12 Press the [EXIT] button to close the RECORD display.

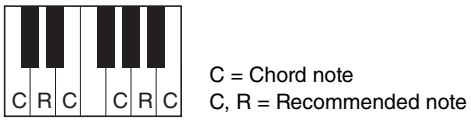
13 Press the [I] (SAVE) button to execute the Save operation.

NOTICE

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

Rules when recording non-rhythm channels

- **Use only the CM7 scale tones when recording the BASS and PHRASE channels (i.e., C, D, E, G, A, and B).**
- **Use only the chord tones when recording the CHORD and PAD channels (i.e., C, E, G, and B).**



C = Chord note
C, R = Recommended note

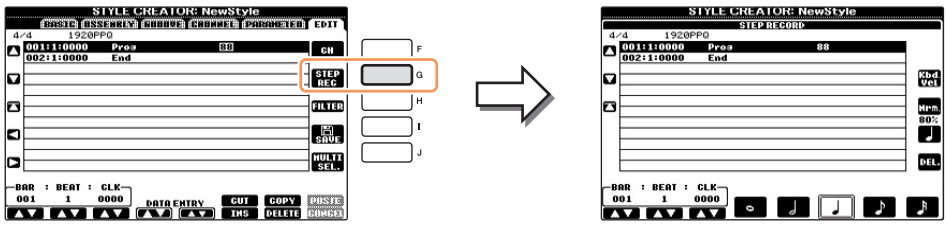
Using the data recorded here, the auto accompaniment (Style playback) is appropriately converted depending on the chord changes you make during your performance. The chord which forms the basis for this note conversion is called the Source Chord, and is set by default to CM7 (as in the example illustration above).
You can change the Source Chord (its root and type) from the PARAMETER display on page 34. 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 on chord notes and recommended notes, see page 34.

NOTE For the INTRO and ENDING sections, any desired chord or chord progression can be used.

Step Recording

In the EDIT Page, you can record notes with absolutely precise timing. This Step Recording procedure is essentially the same as that for Song Recording (page 45) with the exception of the points listed below:

- In the Song Creator, the End Mark position can be changed freely; in the Style Creator, it cannot be changed. This is because the length of the Style is automatically fixed, depending on the selected section. For example, if you create a Style based on a section of four measures length, the End Mark position is automatically set to the end of the fourth measure, and cannot be changed in the Step Recording display.
- Recording channels can be changed in the Song Creator 1-16 tab display; however, they cannot be changed in the Style Creator. Select the recording channel in the BASIC tab display.
- In the Style Creator, the channel data can be entered and System Exclusive data can be edited (delete, copy, or move). You can switch between the two by pressing the [F] button. However, Chord, Lyrics, and System Exclusive data cannot be entered.



For instructions on Step Recording, refer to pages 45 – 48. For information on the EDIT display (Event List display), refer to page 57.

Style Assembly

Style Assembly allows you to create a single Style by mixing the various patterns (channels) from existing internal Styles.

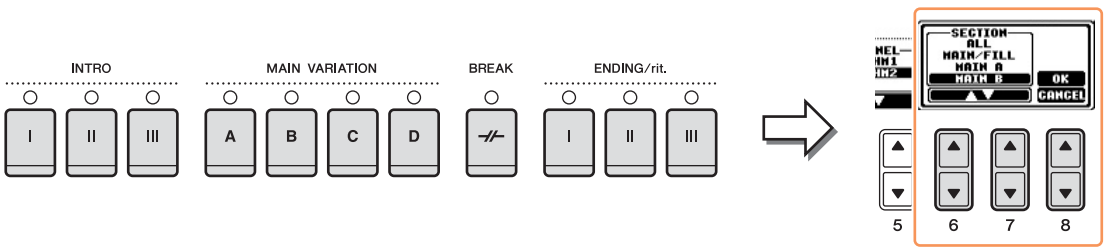
1 Select the desired Style to serve as the basis for recording/editing before calling up the Style Creator display.

2 Call up the operation display.

[FUNCTION] → [F] DIGITAL REC MENU → [B] STYLE CREATOR → TAB [◀][▶] ASSEMBLY

3 Select the desired section (Intro, Main, Ending, etc.) for your new Style.

First call up the SECTION Selection display by pressing one of the Section buttons (INTRO, MAIN, ENDING, etc.) on the panel. Then change the section as desired by using the [6▲▼]/[7▲▼] buttons and actually enter the selection by pressing the [8▲] (OK) button.

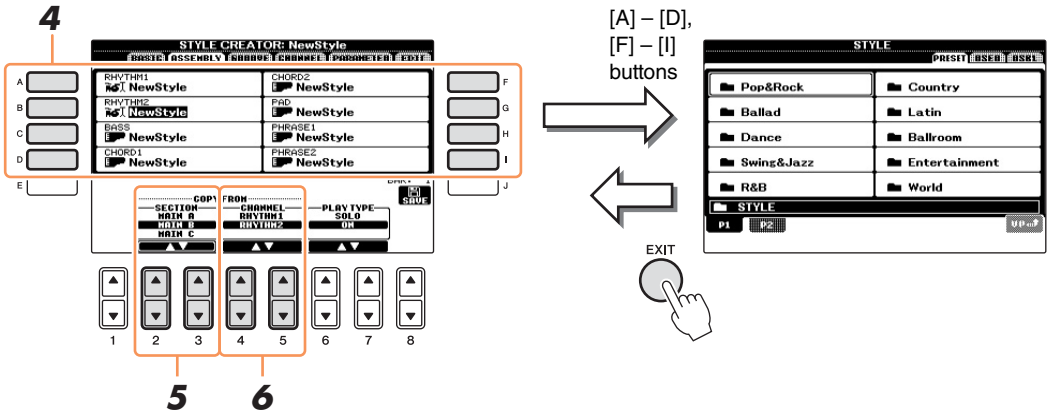


NOTE You cannot select INTRO 4 and ENDING 4 sections directly via panel operations.

NEXT PAGE

4 **Select the channel for which you wish to replace the pattern by using the [A] – [D] and [F] – [I] buttons. Call up the Style Selection display by pressing the same button again. Select the Style containing the pattern you want to replace in the Style Selection display.**

To return to the previous screen, press the [EXIT] button after selecting the Style.



5 **Select the desired section of the newly imported Style (chosen in step 4) by using the [2▲▼]/[3▲▼] (SECTION) buttons.**

6 **Select the desired channel for the section (chosen in step 5) by using the [4▲▼]/[5▲▼] (CHANNEL) buttons.**

Repeat steps 4 – 6 above to replace the patterns of other channels.

Playing the Style During Style Assembly

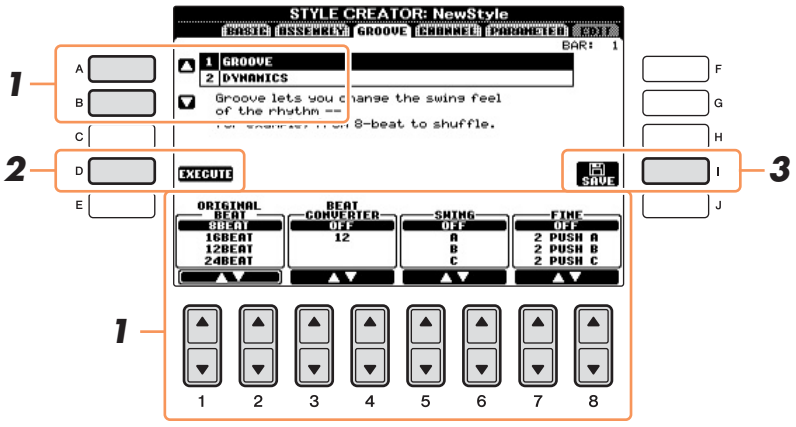
While you are assembling a Style, you can play back the Style (to check the sound of your edits) and conveniently select the method of playback. Use the [6▲▼]/[7▲▼] (PLAY TYPE) buttons in the Style Assembly display to select the playback method.

- **SOLO**
  Mutes all but the selected channel in the ASSEMBLY Page. Any channels set to ON in the RECORD display on the BASIC Page are played back simultaneously.
- **ON**
  Plays back the selected channel in the ASSEMBLY Page. Any channels set to other than OFF in the RECORD display on the BASIC Page are played back simultaneously.
- **OFF**
  Mutes the selected channel in the ASSEMBLY Page.

7 **Press the [J] (SAVE) button to execute the Save operation.**

NOTICE

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



1 In the GROOVE Page, use the [A]/[B] buttons to select the edit menu, then edit the data by using the [1▲▼] – [8▲▼] buttons.

1 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 Style.

[1▲▼]/ [2▲▼]	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.
[3▲▼]/ [4▲▼]	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.
[5▲▼]/ [6▲▼]	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.
[7▲▼]/ [8▲▼]	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.

NEXT PAGE

2 DYNAMICS

This changes the velocity/volume (or accent) of certain notes in the Style playback. The Dynamics settings are applied to each channel or all channels of the selected Style.

[1▲▼]/ [2▲▼]	CHANNEL	Selects the desired channel (part) to which Dynamics is to be applied.
[3▲▼]/ [4▲▼]	ACCENT TYPE	Determines the type of accent applied — in other words, which notes in the part(s) are emphasized with the Dynamics settings.
[6▲▼]	STRENGTH	Determines how strongly the selected Accent Type (above) will be applied. The higher the value, the stronger the effect.
[7▲▼]	EXPAND/ COMP.	Expands or compresses the range of velocity values. Values higher than 100% expand the dynamic range, while values lower than 100% compress it.
[8▲▼]	BOOST/CUT	Boosts or cuts all velocity values in the selected section/channel. Values above 100% boost the overall velocity, while values below 100% reduce it.

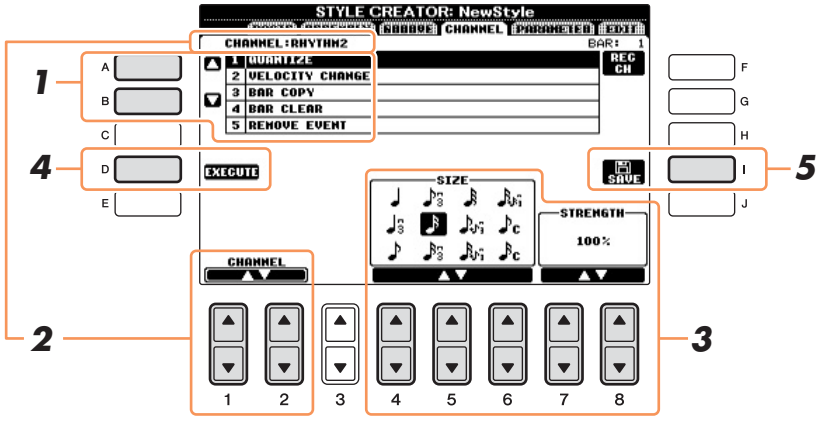
2 Press the [D] (EXECUTE) button to actually enter the edits for each display.

After the operation is completed, this button changes to "UNDO," letting you restore the original data if you are not satisfied with the Groove or Dynamics results. The Undo function only has one level; only the previous operation can be undone.

3 Press the [I] (SAVE) button to execute the Save operation.

NOTICE

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



1 In the CHANNEL Page, use the [A]/[B] buttons to select the edit menu.

1 QUANTIZE

Same as in the Song Creator (page 55), with the exception of the two additional available parameters below.

Eighth notes with swing

Sixteenth notes with swing

2 VELOCITY CHANGE

Boosts or cuts the velocity of all notes in the specified channel, according to the percentage specified here.

3 BAR COPY

This function allows data to be copied from one measure or group of measures to another location within the specified channel.

[4▲▼]	TOP	Specifies the first (TOP) and last (LAST) measures in the region to be copied.
[5▲▼]	LAST	
[6▲▼]	DEST	Specifies the first measure of the destination location, to which the data is to be copied.

4 BAR CLEAR

This function clears all data from the specified range of measures within the selected channel.

5 REMOVE EVENT

This function lets you remove specific events from the selected channel.

2 Use the [1▲▼]/[2▲▼] (CHANNEL) buttons to select the channel to be edited.

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

3 Use the [4▲▼] – [8▲▼] buttons to edit the data.

4 Press the [D] (EXECUTE) button to actually enter the edits for each display.

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

5 Press the [I] (SAVE) button to execute the Save operation.

NOTICE

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

Making Style File Format Settings

The Style File Format (SFF) combines all of Yamaha's auto accompaniment (Style playback) know-how into a single unified format. By using the Style Creator, you can take advantage of the power of the SFF format and freely create your own Styles.
The chart shown below indicates the process by which the Style is played back. (This does not apply to the rhythm track.) These parameters can be set via the Style Creator feature, in the PARAMETER Page.

Source Pattern settings — SOURCE (PLAY) ROOT/CHORD (page 34)

The Style data is appropriately converted depending on chord changes you make during your performance. You can create the "Source Pattern" with the Style Creator, which determines how the played chord will be converted. Here the "Source Chord" (page 34) can be set, allowing you to record accompaniment channels.

Chord changes via the chord section of the keyboard.

Note Transposition settings — NTR and NTT (page 35)

This parameter group features two parameters that determine how the notes of the Source Pattern are to be converted in response to chord changes.

Other settings — HIGH KEY, NOTE LIMIT and RTR (page 37)

Using the parameters of this group, you can fine-tune how Style playback responds to the chords you play. For example, the Note Limit parameter allows you to have the Voices of the Style sound as realistic as possible by shifting the pitch to an authentic range — ensuring that no notes sound outside the natural range of the actual instrument (e.g., high bass sounds or low piccolo sounds).

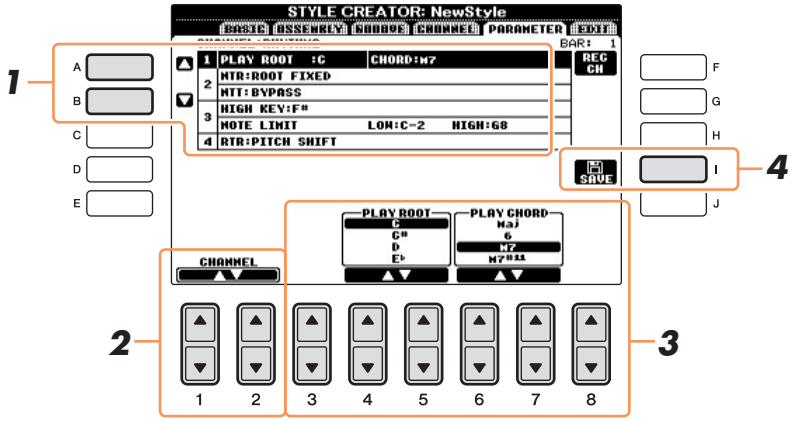
Output

This instrument's Styles are compatible with SFF GE — an enhanced format of the original SFF with especially rich, expressive guitar parts.

NOTE The Style files created on this instrument can only be played back on instruments which are compatible with SFF GE.

1 **In the PARAMETER Page, use the [A]/[B] buttons to select the edit menu.**

For details of the edit menu, see page 34.



2 **Use the [1▲▼]/[2▲▼] (CHANNEL) buttons to select the channel to be edited.**

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

3 **Use the [3▲▼] – [8▲▼] buttons to edit the data.**

For details on editable parameters, see pages 34 – 37.

4 **Press the [I] (SAVE) button to execute the Save operation.**

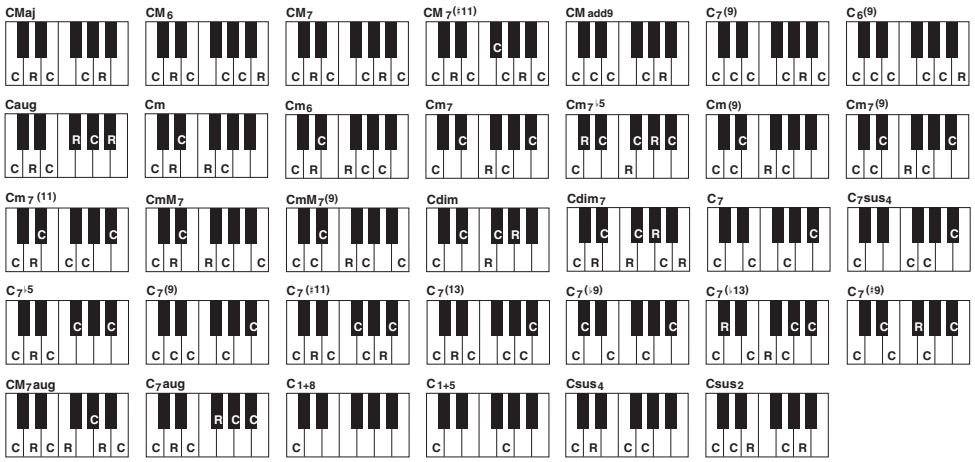
NOTICE

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

1 SOURCE (PLAY) ROOT/CHORD

These settings determine the original key of the source pattern (i.e., the key used when recording the pattern). The default setting of CM7 (with a Source Root of "C" and a Chord Type of "M7"), is automatically selected whenever the preset data is deleted prior to recording a new Style, regardless of the Source Root and Chord included in the preset data. When you change Source Root/Chord from the default CM7 to another chord, the chord notes and recommended notes will also change, depending on the newly selected chord type.

When the Source Root is C:



C = Chord notes
C, R = Recommended notes

NOTE When NTR is set to "Root Fixed," NTT is set to "Bypass" and NTT BASS is set to "OFF," the "Source Root" and "Source Chord" parameters are changed to "Play Root" and "Play Chord," respectively. In this case, you can change chords and hear the resulting sound for all channels.

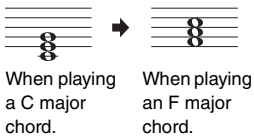
NOTE SOURCE ROOT/CHORD is not applied when NTR is set to GUITAR.

NEXT PAGE

2 NTR/NTT

[3▲▼]/ [4▲▼]	NTR (Note Transposition Rule)	Determines the relative position of the root note in the chord, when converted from the Source Pattern in response to chord changes. Refer to the list below.
[5▲▼] – [7▲▼]	NTT (Note Transposition Table)	Sets the note transposition table for the source pattern. Refer to the list below.
[8▲▼]	NTT BASS ON/ OFF	The channel for which this is set to ON will be played back by the bass root note, when the on-bass chord is recognized by the instrument. When NTR is set to GUITAR and this parameter is set to ON, only notes assigned to bass will be played back by the bass root note.

NTR (Note Transposition Rule)

ROOT TRANS (Root Transpose)	When the root note is transposed, the interval between notes is maintained. For example, the notes C3, E3 and G3 in the key of C become F3, A3 and C4 when they are transposed to F. Use this setting for channels that contain melody lines. 
ROOT FIXED	The note is kept as close as possible to the previous note range. For example, the notes C3, E3 and G3 in the key of C become C3, F3 and A3 when they are transposed to F. Use this setting for channels that contain chord parts. 
GUITAR	This is exclusively for transposing guitar accompaniment. Notes are transposed to approximate the chords played with natural guitar fingering.

NTT (Note Transposition Table)

When NTR is set to ROOT TRANS or ROOT FIXED

BYPASS	When NTR is set to ROOT FIXED, the transposition table used does not do any note conversion. When NTR is set to ROOT TRANS, the table used only converts the notes by maintaining the pitch relationship between notes.
MELODY	Suitable for melody line transposition. Use this for melody channels such as Phrase 1 and Phrase 2.
CHORD	Suitable for chordal parts transposition. Use this for the Chord 1 and Chord 2 channels, especially when they contain piano or guitar-like chordal parts.
MELODIC MINOR	When the played chord changes from a major to a minor chord, this table lowers the third interval in the scale by a semitone. When the chord changes from a minor to a major chord, the minor third interval is raised by a semitone. Other notes are not changed. Use this for melody channels of Sections which respond only to major/minor chords, such as Intros and Endings.
MELODIC MINOR 5th	In addition to the Melodic Minor transposition above, augmented and diminished chords affect the 5th intervals of the Source Pattern.

NEXT PAGE

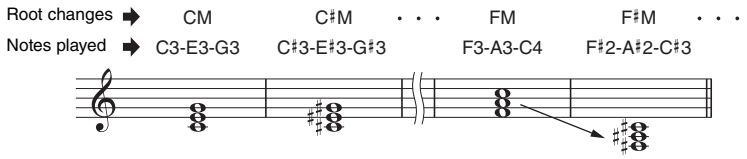
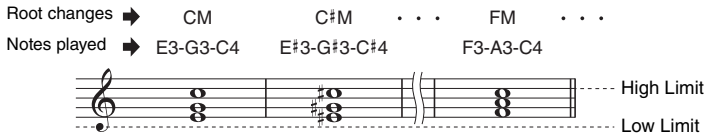
HARMONIC MINOR	When the played chord changes from a major to a minor chord, this table lowers the third and sixth intervals in the scale by a semitone. When the chord changes from a minor to a major chord, the minor third and flatted sixth intervals are raised by a semitone. Other notes are not changed. Use this for chord channels of Sections which respond only to major/minor chords, such as Intros and Endings.
HARMONIC MINOR 5th	In addition to the Harmonic Minor transposition above, augmented and diminished chords affect the 5th note of the Source pattern.
NATURAL MINOR	When the played chord changes from a major to a minor chord, this table lowers the third, sixth and seventh intervals in the scale by a semitone. When the chord changes from a minor to a major chord, the minor third, flatted sixth and flatted seventh intervals are raised by a semitone. Other notes are not changed. Use this for chord channels of Sections which respond only to a Major/minor chord such as Intros and Endings.
NATURAL MINOR 5th	In addition to the Natural Minor transposition above, augmented and diminished chords affect the 5th note of the Source pattern.
DORIAN	When the played chord changes from a major to a minor chord, this table lowers the third and seventh intervals in the scale by a semitone. When the chord changes from a minor to a major chord, the minor third and flatted seventh intervals are raised by a semitone. Other notes are not changed. Use this for chord channels of Sections which respond only to a Major/minor chord such as Intros and Endings.
DORIAN 5th	In addition to the Dorian transposition above, augmented and diminished chords affect the 5th note of the Source pattern.

When NTR is set to GUITAR

ALL-PURPOSE	This table covers both strummed- and arpeggio-played sound.
STROKE	Suitable for stroke-played sound of the guitar. Some notes may sound as if it is muted — this is normal condition when the chord is played on guitar by stroke.
ARPEGGIO	Suitable for arpeggio-played sound of the guitar. Using this table, four notes arpeggio sounds most beautiful.

NEXT PAGE

3 HIGH KEY / NOTE LIMIT

[4▲▼]/ [5▲▼]	HIGH KEY	This sets the highest key (upper octave limit) of the note transposition for the chord root change. Any notes calculated to be higher than the highest key are transposed down to the next lowest octave. This setting is available only when the NTR parameter (page 35) is set to "Root Trans." **Example — When the highest key is F.** 
[6▲▼]	NOTE LIMIT LOW	These set the note range (highest and lowest notes) for Voices recorded to the Style channels. By judicious setting of this range, you can ensure that the Voices sound as realistic as possible — in other words, that no notes outside the natural range are sounded (e.g., high bass sounds or low piccolo sounds). **Example — When the lowest note is C3 and the highest is D4.** 
[7▲▼]	NOTE LIMIT HIGH	

4 RTR (Retrigger Rule)

These settings determine whether notes stop sounding or not and how they change pitch in response to chord changes.

STOP	The notes stop sounding.
PITCH SHIFT	The pitch of the note will bend without a new attack to match the type of the new chord.
PITCH SHIFT TO ROOT	The pitch of the note will bend without a new attack to match the root of the new chord.
RETRIGGER	The note is retriggered with a new attack at a new pitch corresponding to the next chord.
RETRIGGER TO ROOT	The note is retriggered with a new attack at the root note of the next chord. However, the octave of the new note remains the same.

Song Playback

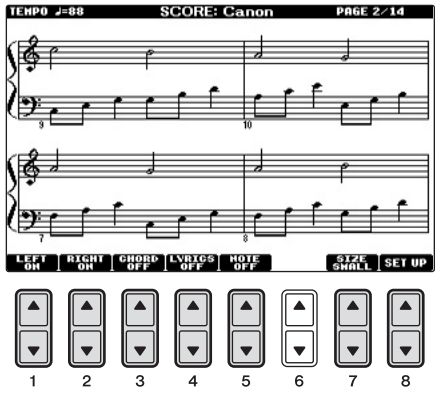
– Playing and Practice Songs –

Contents

Editing Music Notation Settings

To view the music notation of the selected Song, press the [SCORE] button. You can change the notation display as desired to suit your personal preferences. The settings here are maintained even when the power is turned off.

NOTE You can save the setting here as a part of a Song by accessing [FUNCTION] → [F] DIGITAL REC MENU → [A] SONG CREATOR → TAB [◄][►] CHANNEL → [A]/[B] SETUP. See page 56.

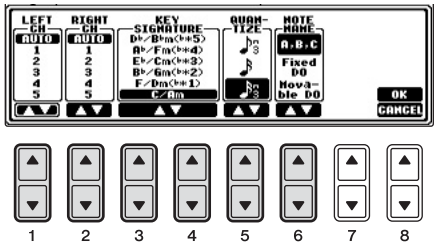


[1▲▼]	LEFT ON/OFF	Enables/disables display of the left-hand key range. Depending on other settings, this parameter may be unavailable and may appear grayed out. If this is the case, go to the detailed setting display (on page 39) and set the LEFT CH. parameter to any channel except "AUTO." Or, go to the display [FUNCTION] → [B] SONG SETTING and set the TRACK 2 parameter to any channel except "OFF" (page 41). RIGHT (next parameter) and LEFT cannot be turned off at the same time.
[2▲▼]	RIGHT ON/OFF	Enables/disables display of the right-hand key range. RIGHT and LEFT (above) cannot be turned off at the same time.
[3▲▼]	CHORD ON/OFF	Enables/disables display of the chords. If the selected Song does not contain chord data, chords are not displayed.
[4▲▼]	LYRICS ON/OFF	Enables/disables display of the lyrics. If the selected Song does not contain lyric data, lyrics are not displayed. When the Song contains Pedal events, pressing these buttons can display the Pedal events, instead of displaying Lyrics.

NEXT PAGE

[5▲▼]	NOTE ON/ OFF	Enables/disables display of the note name (pitch). The note name is indicated at the left of the note. When the space between the notes is too small, the indication may be moved to the top left of the note. When the Song contains Fingering events, pressing these buttons can display the fingering, instead of displaying note names.
[7▲▼]	SIZE	Determines the display resolution (or zoom level) of the notation.
[8▲▼]	SET UP	See below.

Pressing the [8▲▼] (SET UP) button calls up the detailed setting display. You can set the view type by using the [1▲▼] – [6▲▼] buttons, then press the [8▲] (OK) button.



[1▲▼]	LEFT CH	Determines which MIDI channel in the Song data is used for the left-hand/right-hand part. This setting returns to AUTO when a different Song is selected. **AUTO** The MIDI channels in the Song data for the right- and left-hand parts are assigned automatically — setting the parts to the same channel as the channel which is specified in [FUNCTION] → [B] SONG SETTING (page 41). **1 – 16** Assigns the specified MIDI channel (1 – 16) to the respective left- or right-hand parts. **OFF (LEFT CH only)** No channel assignment. This disables display of the left-hand key range.
[2▲▼]	RIGHT CH	
[3▲▼]/ [4▲▼]	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.
[5▲▼]	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.
[6▲▼]	NOTE NAME	Selects the type of the note name indicated at the left of the note in the notation from among the following three types. The settings here are available when the NOTE ON/OFF parameter above is set to ON. **A, B, C** Note names are indicated as letters (C, D, E, F, G, A, B). **Fixed DO** Note names are indicated in solfeggio and differ depending on the selected language. **Movable DO** Note names are indicated in solfeggio according to the scale intervals, and as such are relative to the key. The root note is indicated as Do. For example, in the key of G major the root note of "Sol" would be indicated as "Do." As with "Fixed Do," the indication differs depending on the selected language.

Using the Auto Accompaniment Features with Song Playback

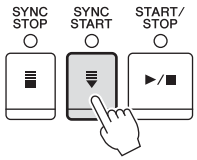
When playing back a Song and a Style at the same time, channels 9-16 in the Song data are replaced with Style channels – allowing you to play the accompaniment parts of the Song yourself. Try playing chords along with the Song playback as shown in the instructions below. When playing back a Song and a Style at the same time, we recommend that you use the Preset Songs in the "Sing-a-long" folder.

1 **Select a Song.**

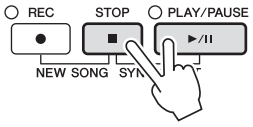
2 **Select a Style.**

3 **Press the STYLE [ACMP ON/OFF] button to turn on the Auto Accompaniment function.**

4 **Press the STYLE [SYNC START] button to enable standby — letting you simultaneously start the accompaniment as soon as you start playing.**



5 **While holding down the SONG [STOP] button, press the [PLAY/PAUSE] button to enable synchronized start for the Song.**



6 **Press the STYLE [START/STOP] button or play chords with your left hand.**

The Song and Style starts playing. When you play chords, pressing the [SCORE] button and turning CHORD on (page 38) allows you to see the chord information.

NOTE When playing back a Song and a Style at the same time, the tempo value set in the Song is automatically used.

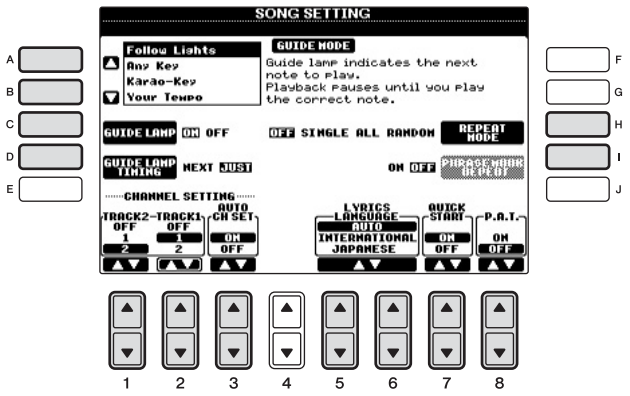
When Song playback is stopped, the Style playback is also stopped at the same time.

Song Playback Related Parameters (Repeat settings, Channel settings, Guide Function)

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

Call up the operation display.

[FUNCTION] → [B] SONG SETTING



[A]/[B]	GUIDE MODE	See page 42.
[C]	GUIDE LAMP	
[D]	GUIDE LAMP TIMING	
[H]	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 specified folder repeatedly. **RANDOM** Continues playback at random through all the Songs in the specified folder repeatedly. ***NOTE*** The preset Songs in the "Follow Lights" folder contain the Guide settings. These Songs are inappropriate for use with ALL or RANDOM repeat.
[I]	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.
[1▲▼]	TRACK 2	These parameters determine which MIDI channel in the Song data is assigned to the Left- or Right-hand part of the Guide function and the Song Score function.
[2▲▼]	TRACK 1	

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[3▲▼]	AUTO CH 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.”
[5▲▼]/ [6▲▼]	LYRICS LANGUAGE	Determines the language of the displayed lyrics. **AUTO** When the language is specified in the Song data, the lyrics are displayed accordingly. When the language is not specified in the Song data, the lyrics language is regarded as INTERNATIONAL below. **INTERNATIONAL** Handles the displayed lyrics as a western language. **JAPANESE** Handles the displayed lyrics as Japanese.
[7▲▼]	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 switches 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.
[8▲▼]	P.A.T. (Performance assistant)	See page 44.

Keyboard Practice Using the Guide Function

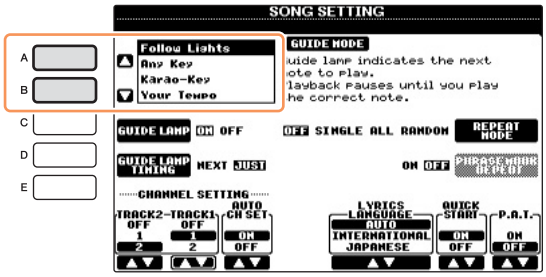
The keyboard guide lamps indicate the notes (location and timing) for you to play.

1 Select the desired Song for practicing the keyboard or singing.

2 Call up the setting display.

[FUNCTION] → [B] SONG SETTING

3 Use the [A]/[B] buttons to select the desired Guide function type.



NEXT PAGE

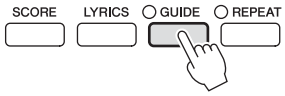
Guide menu for keyboard practice

- **Follow Lights**
  With this function, the keyboard guide lamps indicate which notes you should play. Song playback pauses and waits for you to play. When you play the correct notes, Song playback continues.
- **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 menu 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 a key on the keyboard (any key is fine) and Song playback continues.

4 Turn the [GUIDE] button on.



5 Call up the Score display by pressing the [SCORE] button.

6 Press the SONG [PLAY/PAUSE] button to start playback.

Practice playing the keyboard or singing, along with the Guide type selected in step 3.

NOTE The guide lamps light according to Song channels recorded to Track 1 and 2 and the chord data in the Song (when such data is included). If the guide lamps do not light as intended, you may need to assign the appropriate right- and left-hand channels to Track 1 and 2 respectively (page 41).

7 Press the SONG [STOP] button to stop playback.

Determining the timing by which the keyboard guide lamps light (GUIDE LAMP TIMING)

Press the [D] button in the SONG SETTING display in step 3 to select the timing by which the keyboard guide lamps light.

- **JUST**
  The guide lamps light in time with the music, at the same timing you should play.
- **NEXT**
  The guide lamps light slightly ahead of the music, indicating the notes you should play next. The guide lamps flash if you fail to play the keys with the correct timing.

NOTE If you want to turn the guide lamps off, press the [C] (GUIDE LAMP) button in the SONG SETTING display (in step 3 as described above).

NOTE You can save the Guide settings as a part of the Song data (page 56). For Songs to which the Guide settings have been saved, the Guide function will be automatically turned on and the related settings will be recalled when the Song is selected.

Playing Backing Parts with the Performance assistant Technology

This feature lets you play your own backing parts on the keyboard along with Song playback, and have them sound perfectly appropriate (even though you might be playing wrong notes).

1 Select a Song containing chord data.

The Performance assistant technology applies only to Songs containg chord data. To confirm whether the selected Song contains chord data or not, return to the Main display then start playback. If the current Song contains chord data, the Main display shows the current chord type. After stopping playback, go to the next step.

2 Call up the operation display.

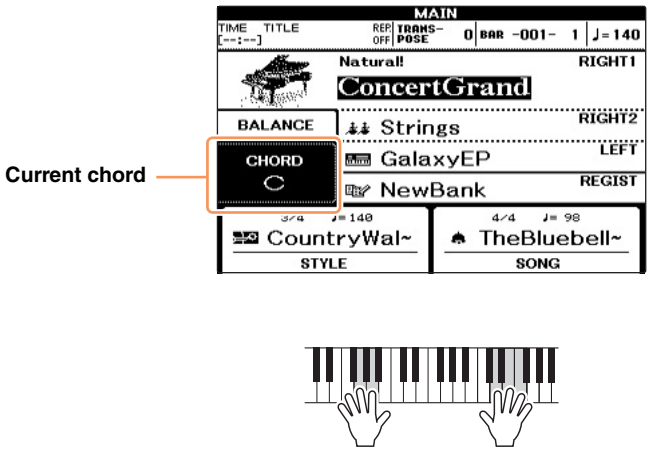
[FUNCTION] → [B] SONG SETTING

3 Press the [8▲] button to turn the P.A.T. (performance assistant technology) on.

4 Press the SONG [PLAY/PAUSE] button to start playback.

5 Play the keyboard.

Along with Song playback, try playing the bass line with the left hand area while playing various phrases or chords with the right hand area. Even if you do not know what notes should be played, don't worry and play any keys as desired! Only the harmonically "correct" notes matching the current chord are sounded, regardless of the notes you actually play.



6 Press the SONG [STOP] button to stop playback.

7 Press the [8▼] button to turn the P.A.T. off.

NOTE Selecting another Song may reset P.A.T. to OFF.

Song Recording via MIDI

– Recording Your Performance via MIDI –

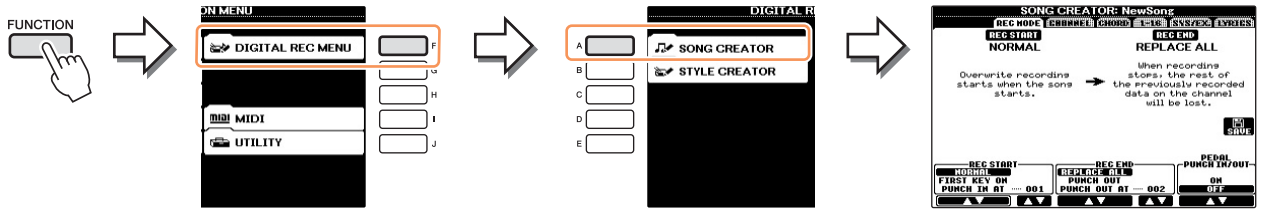
Contents

Creating/Editing Songs (Song Creator)

To create a Song, you can compose your performance by entering it one event at a time (called "Step Recording"), as well as recording your performance in real time (described in the Owner's Manual). This section explains operations of Step Recording and re-recording or editing existing Song data.

Call up the operation display.

[FUNCTION] → [F] DIGITAL REC MENU → [A] SONG CREATOR



There are six Pages (tabs) in the Song Creator display.

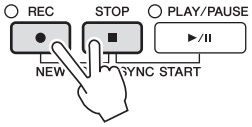
- **REC MODE** For re-recording the Song. See page 52.
- **CHANNEL** For editing the Channel events. See page 54.
- **CHORD** For recording the Chords and Sections with timing (page 49) or edits them (page 58).
- **1-16** For recording the melodies (Step Recording; see below) or edits the recorded melodies (page 58).
- **SYS/EX.** For editing the System Exclusive events (tempo, time signature, etc.). See page 58.
- **LYRICS** For inputting/editing the Song name and lyrics. See page 58.

Recording Melodies (Step Recording)

1 **Press the SONG [REC] and SONG [STOP] buttons simultaneously.**

A blank Song ("New Song") is called up for recording.

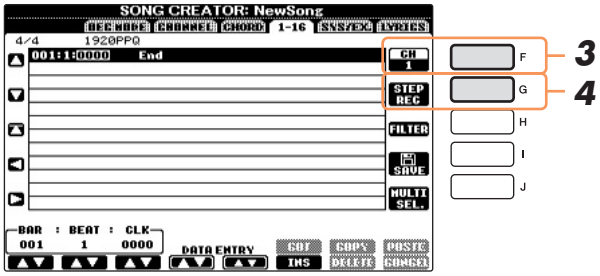
NOTE Selecting a blank Song initializes the panel settings.



NEXT PAGE

2 **Call up the operation display.**

[FUNCTION] → [F] DIGITAL REC MENU → [A] SONG CREATOR → TAB [◀][▶] 1-16

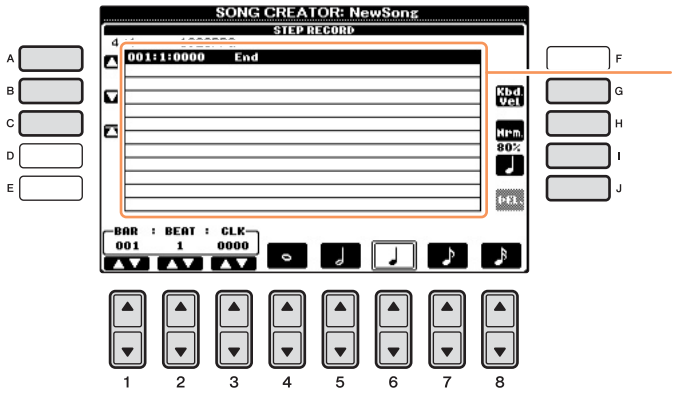


3 **Press the [F] button to select the channel for recording.**

4 **Press the [G] (STEP REC) button to call up the STEP RECORD display.**

5 **Start Step Recording by using the [A] – [J] buttons and [1▲▼] – [8▲▼] buttons.**

Refer to the example on page 47 for specific instructions.



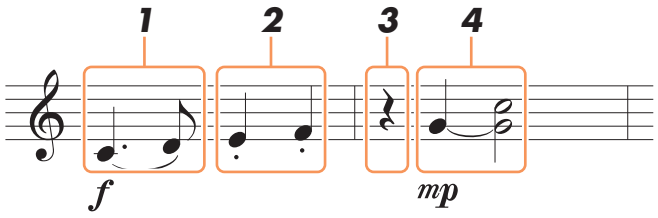
When a note is input, the location (bar: beat: clock), note name, velocity and length are shown as a list.

[A]/[B]/[C]		Moves the cursor in the list.
[G]		Determines the velocity (loudness) of the note to be entered. The velocity value can be specified within a range from 1 to 127. The higher the velocity value, the louder the sound becomes. **Kbd.Vel:** Actual resulting velocity **fff:** 127 **ff:** 111 **f:** 95 **mf:** 79 **mp:** 63 **p:** 47 **pp:** 31 **ppp:**15
[H]		Determines the gate time (note length) of the note to be entered. **Normal:** 80% **Tenuto:** 99% **Staccato:** 40% **Staccatissimo:** 20% **Manual:** The gate time can be set to any desired percentage by using the [DATA ENTRY] dial.

NEXT PAGE

[I]		Determines the note type to be entered: normal, dotted or triplet.
[J]	DEL.	Deletes the selected data.
[1▲▼]	BAR	Sets the position of the note to be entered.
[2▲▼]	BEAT	
[3▲▼]	CLK	
[4▲▼] – [8▲▼]		Determines the note length to be entered: whole-note, half-note, quarter-note, eighth-note or sixteenth-note.

Example of Step Recording — Melodies



* The numbers shown in the illustration correspond to the following operation step numbers.

In this example, keep in mind that one of the steps involves holding down a key on the keyboard while executing the operation.
Select the Voice for recording after calling up the Step Recording display.

NOTE Since the music score displayed on the instrument is generated from the recorded MIDI data, it may not appear exactly the same as shown here.

1 Enter the first and second notes with a slur.

1-1 Press the [G] button to select "f."
1-2 Press the [H] button to select "Tenuto."
1-3 Press the [I] button to select the "dotted" note type.
1-4 Select the dotted quarter-note by using the [6▲▼] buttons.
1-5 Play the C3 key.

The first note is entered.

1-6 Press the [I] button to select the "normal" note type.
1-7 Press the [7▲▼] button to select the eight-note length.
1-8 Play the D3 key.

The second note is entered.

2 Enter the next notes and apply staccato.

2-1 Press the [H] button to select "Staccato."
2-2 Press the [6▲▼] button to select the quarter-note length.
2-3 Play the keys E3 and F3 in order.

The first measure has been completed.

NEXT PAGE

3 **To enter a quarter-note rest, press the [6▲▼] button again.**

To enter the rest, use the [4▲▼] – [8▲▼] buttons. (Press the button once to select the rest value, and once again to actually enter it.) A rest having the specified note length will be entered.

4 **Enter the next notes and apply a tie.**

4-1 **Press the [G] button to select "mp."**

4-2 **Press the [H] button to select "Normal."**

4-3 **While holding G3 key on the keyboard, press the [6▲▼] button.**

Do not release the G3 key yet. Keep holding it while executing the following steps.

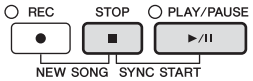
4-4 **While holding the G3 key, press the C4 key.**

Do not release the G3 and C4 keys yet. Keep holding the notes while executing the following step.

4-5 **While holding the keys G3 and C4, press the [5▲▼] button.**

After pressing the button, release the keys.

5 **Press the SONG [STOP] button (or press the [C] button) to return to the top of the Song, then hear the newly entered Song by pressing the [PLAY/PAUSE] button.**



6 **Press the [EXIT] button to exit from the Step Recording display.**

7 **Press the [I] (SAVE) button to execute the Save operation.**

NOTICE

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

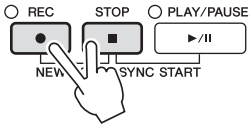
Recording Chords (Step Recording)

You can record Chords and Sections (Intro, Main, Ending, and so on) one at a time with precise timing. These instructions show how to record chord changes using the Step Record function.

1 Press the SONG [REC] and SONG [STOP] buttons simultaneously.

A blank Song ("New Song") is called up for recording.

NOTE Selecting a blank Song initializes the panel settings.

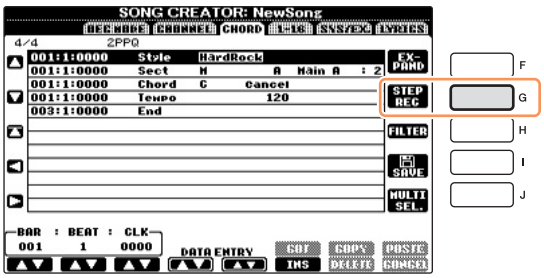


2 Select the Style you want to use in the Song.

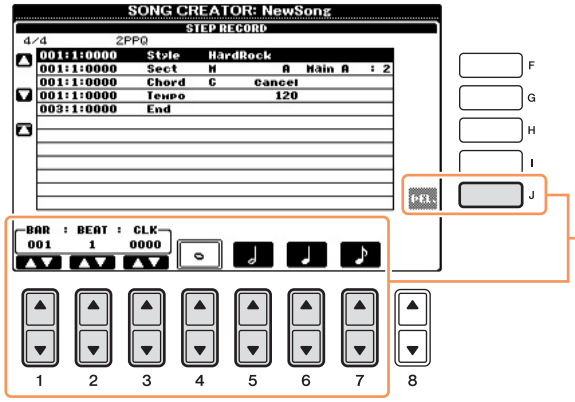
3 Call up the operation display.

[FUNCTION] → [F] DIGITAL REC MENU → [A] SONG CREATOR → TAB [◀][▶] CHORD

4 Press the [G] (STEP REC) button to call up the STEP RECORD display.



5 Start Step Recording.

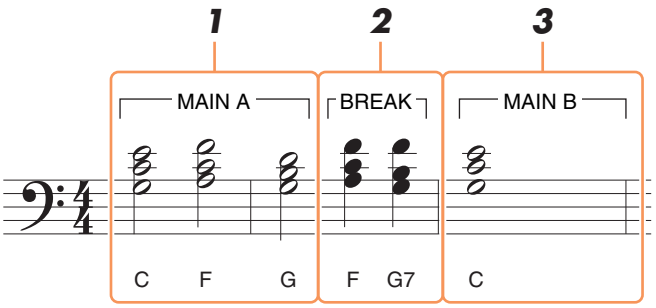


For information on these buttons, refer to page 46.

NEXT PAGE

Example of Step Recording — Chords

NOTE This example uses a Style in 4/4 time.



* The numbers shown in the illustration correspond to the respective operation step numbers below.

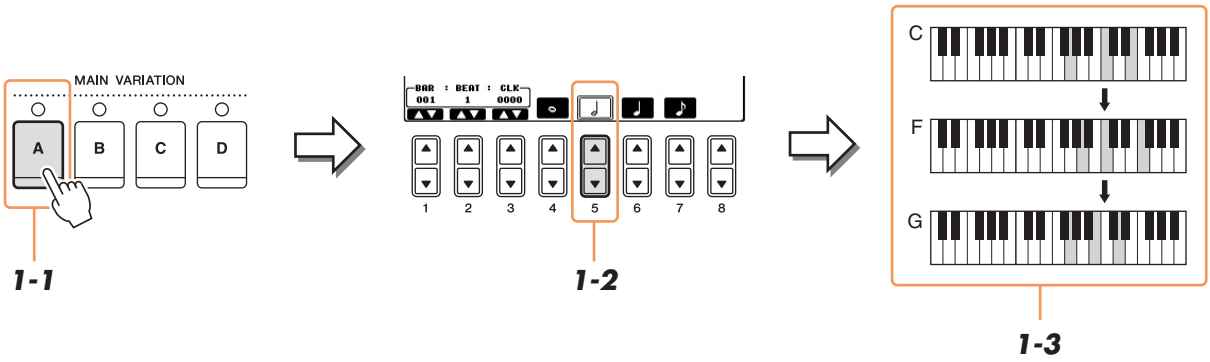
Before starting, make sure the [AUTO FILL IN] button is set to off.

1 Enter the chords for the Main A section.

1-1 Press the STYLE [MAIN A] button.

1-2 Press the [5▲▼] button to select the half-note length.

1-3 Play the chord C, F and G in the chord section of the keyboard.

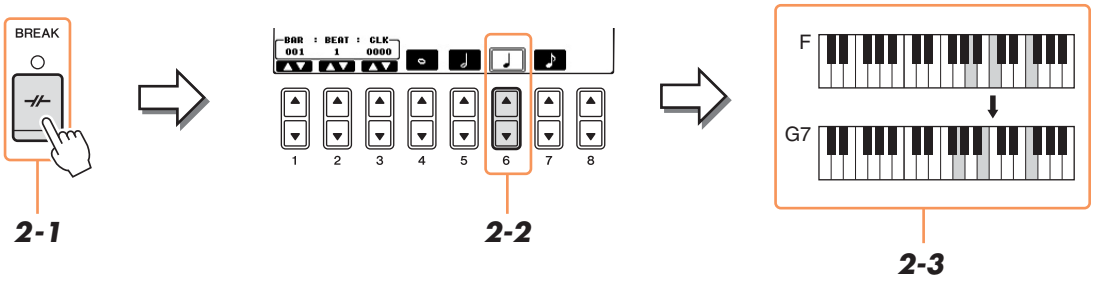


2 Enter the chords for the Break section.

2-1 Press the STYLE [BREAK] button.

2-2 Press the [6▲▼] button to select the quarter-note length.

2-3 Play the chords F and G7 in the chord section of the keyboard.



NOTE To enter fill-ins, turn the [AUTO FILL IN] button to ON, and simply press the desired MAIN VARIATION [A] – [D] button.

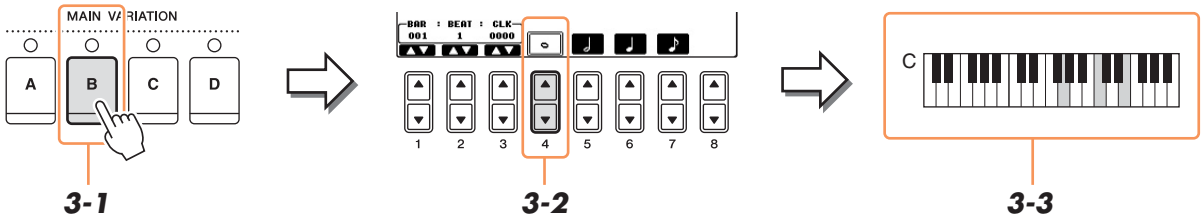
NEXT PAGE

3 **Enter the chords for the Main B section.**

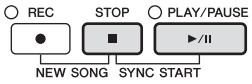
3-1 **Press the STYLE [MAIN B] button.**

3-2 **Press the [4▲▼] button to select the whole-note length.**

3-3 **Play the chord C in the chord section of the keyboard.**



4 **Press the SONG [STOP] button (or press the [C] button) to return to the top of the Song, then hear the newly entered Song by pressing the [PLAY/PAUSE] button.**



5 **Press the [EXIT] button to exit from the Step Recording display.**

6 **Press the [F] (EXPAND) button to convert the input chord change data into the Song data.**

7 **Press the [I] (SAVE) button to execute the Save operation.**

NOTICE

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

Re-Recording a Specific Section — Punch In/Out

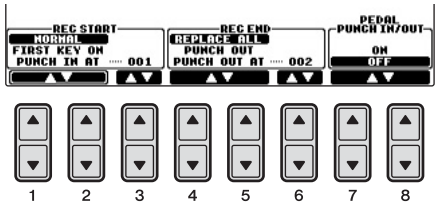
When re-recording a specific section of an already-recorded Song, use the Punch IN/OUT function. In this method, only the data between the Punch In point and the Punch Out point is overwritten with the newly recorded data. Keep in mind that the notes before and after the Punch In/Out points are not recorded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

1 Select the Song you want to re-record.

2 Call up the operation display.

[FUNCTION] → [F] DIGITAL REC MENU → [A] SONG CREATOR → TAB [◄][►] REC MODE

3 Determine the settings for recording.



[1▲▼] – [3▲▼]	REC START (Punch In)	Determines the Punch In timing. **NORMAL** Overwrite recording starts when pressing the SONG [PLAY/PAUSE] button or when you play the keyboard in the Synchro Standby mode. **FIRST KEY ON** The Song plays back normally, 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, then starts overwrite recording at that point. You can set the Punch In measure by pressing the [3▲▼] button.
[4▲▼] – [6▲▼]	REC END (Punch Out)	Determines the Punch Out timing. **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 (set with the corresponding display button), at which point recording stops and normal playback continues. This setting maintains all data after the point at which recording is stopped. You can set the Punch Out measure by pressing the [6▲▼] buttons.

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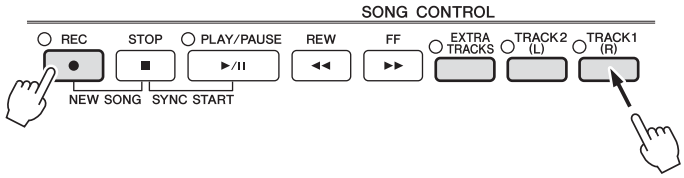
[7▲▼]/ [8▲▼]	PEDAL PUNCH IN/OUT	When this is set to ON, you can use the center pedal to control the Punch In and Punch Out points. While a Song is playing back, pressing (and holding) the center pedal instantly enables Punch In recording, while releasing the pedal stops recording (Punch Out). You can press and release the center pedal as often as you want during playback to punch in/out of overwrite recording. Note that the current function assignment of the center pedal is cancelled when the Pedal Punch In/Out function is set to ON. ***NOTE*** Pedal Punch In/Out operation may be reversed depending on the particular pedal you've connected to the instrument. If necessary, change the pedal polarity to reverse the control (page 79).

4 While holding the SONG [REC] button, press the desired track button.



5 Press the SONG [PLAY/PAUSE] button to start Punch In/Out recording.

Play the keyboard at the Punch In point and stop recording at the Punch Out point.

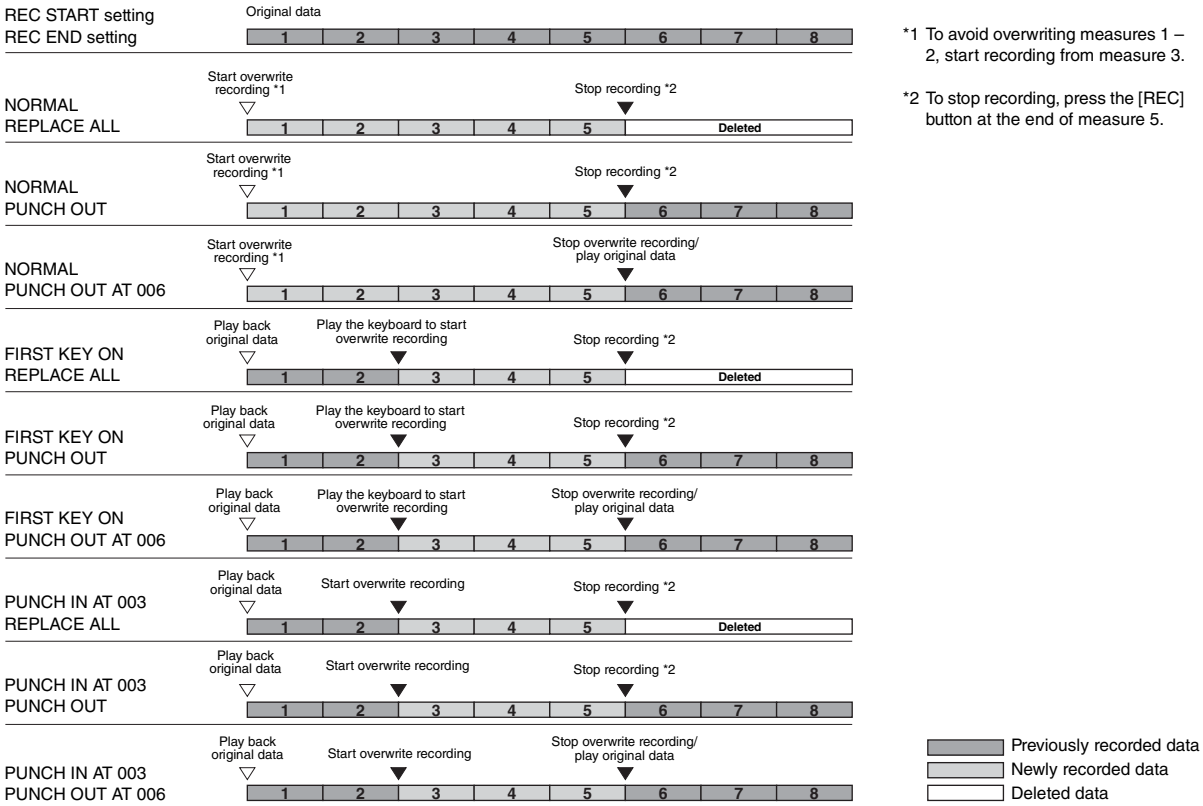
6 Press the [I] (SAVE) button to execute the Save operation.

NOTICE

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

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

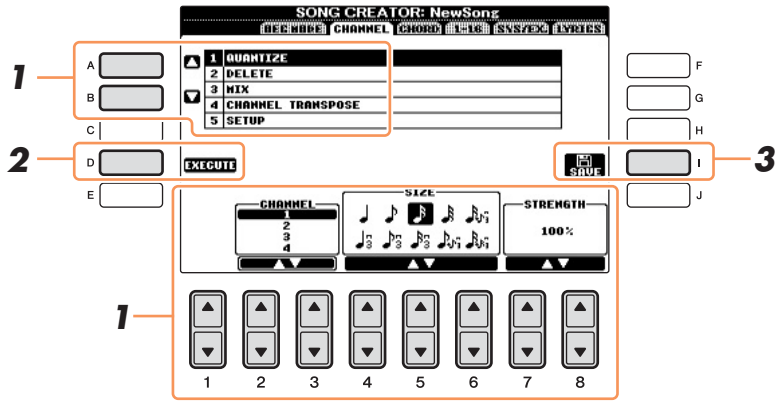
This instrument features several different ways you use the Punch In/Out function. The illustrations below indicate a variety of situations in which selected measures in an eight-measure phrase are re-recorded.



*1 To avoid overwriting measures 1 – 2, start recording from measure 3.

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

Previously recorded data
Newly recorded data
Deleted data



1 **In the CHANNEL Page, use the [A]/[B] buttons to select the edit menu, then edit the data by using the [1▲▼] – [8▲▼] buttons.**

For details of the edit menu and available settings, see page 55.

2 **Press the [D] (EXECUTE) button to execute the operation for the current display.**

After the operation (with the exception of the SETUP menu) is completed, this button changes to "UNDO," letting you restore the original data if you are not satisfied with the operation results. The Undo function only has one level; only the previous operation can be undone.

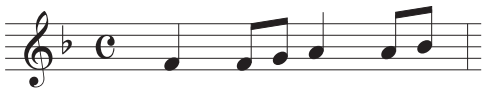
3 **Press the [I] (SAVE) button to execute the Save operation.**

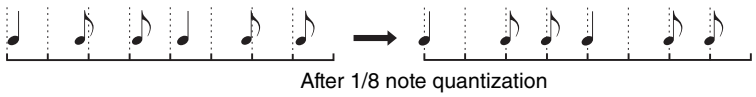
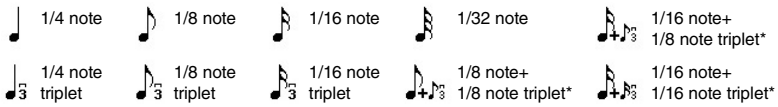
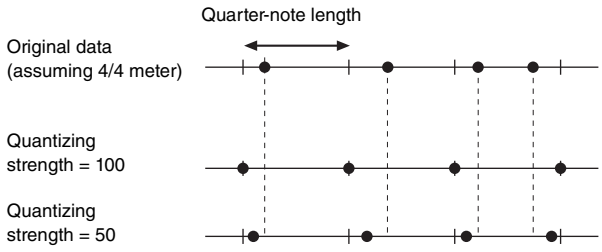
NOTICE

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

1 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 at right, 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 to correct for this.



[2▲▼]/ [3▲▼]	CHANNEL	Determines which MIDI channel in the Song data is to be quantized.
[4▲▼] – [6▲▼]	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 1/8 note as the Quantize size.  After 1/8 note quantization **Settings:**  1/4 note, 1/8 note, 1/16 note, 1/32 note, 1/16 note+ 1/8 note triplet* 1/4 note triplet, 1/8 note triplet, 1/16 note triplet, 1/8 note+ 1/8 note triplet*, 1/16 note+ 1/16 note triplet* 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 notes triplet 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.
[7▲▼]/ [8▲▼]	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.  Quarter-note length Original data (assuming 4/4 meter) Quantizing strength = 100 Quantizing strength = 50

2 DELETE

You can delete the data of the specified channel in the Song. Select the channel whose data to be deleted by using the [1▲▼] – [8▲▼] buttons, then press the [D] (EXECUTE) button to execute the operation.

3 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.

[2▲▼]/ [3▲▼]	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.
[4▲▼]/ [5▲▼]	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.
[6▲▼]/ [7▲▼]	DESTINATION	Determines the channel into which the mix or copy results will be placed.

4 CHANNEL TRANSPOSE

This allows you to transpose the recorded data of individual channels up or down by a maximum of two octaves in semitone increments.

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.

[F]	CH 1–8/CH 9–16	Toggles between the two channel displays: Channels 1–8, and Channels 9–16.
[G]	ALL CH	To simultaneously set all channels to the same value, adjust the Channel Transpose for one of the channels while holding down this button.

5 SETUP

The current settings of the Mixing Console display and other panel settings can be recorded to the top position of the Song as the Setup data. The Mixing Console and panel settings recorded here are automatically recalled when the Song starts.

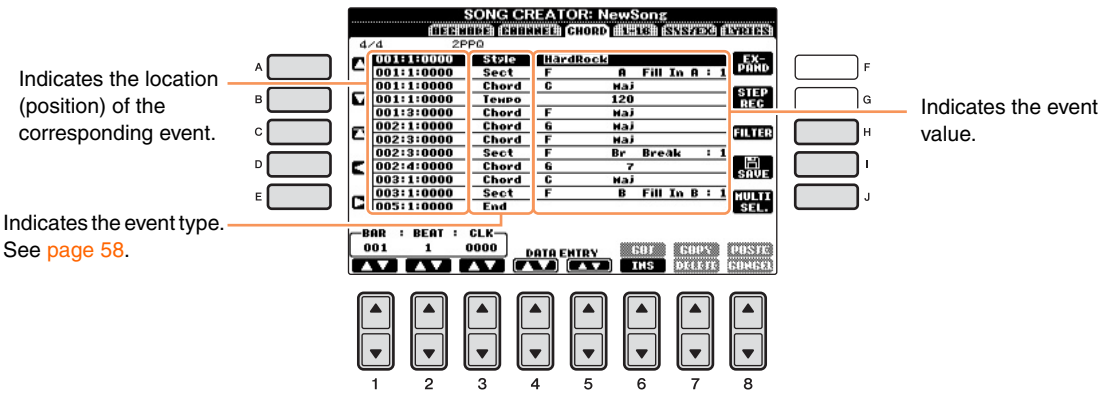
NOTE Before executing the Setup operation, move the Song position to the top of the Song by pressing the SONG [STOP] button.

[1▲▼] – [7▲▼]	SELECT	Determines which playback features and functions will be automatically called up along with the selected Song. The items selected here can be recorded only to the top position of the Song, except for the KEYBOARD VOICE. **SONG** Records the tempo setting and all settings made from the Mixing Console. **KEYBOARD VOICE** Records the panel settings, including the Voice selection of the keyboard parts (RIGHT 1, 2, and LEFT) 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. **SCORE SETTING** Records the settings in the Score display. **GUIDE SETTING** Records the settings of the Guide functions including the Guide ON/OFF setting. **LYRICS SETTING** Records the settings in the Lyrics display.
[8▲]	MARK ON	For adding or removing checkmarks to/from the selected item. Checked items are recorded to the Song.
[8▼]	MARK OFF	

Editing Chord Events, Notes, System Exclusive Events and Lyrics

You can edit chord events, note events, System Exclusive events and lyrics in the same manner on the corresponding display: CHORD, 1-16, SYS/EX and LYRICS. These displays are called “Event List display” because some events are shown in a list view.

Event List display



[A]/[B]		Moves the cursor up/down and select the desired event.
[C]		Moves the cursor to the top (beginning of the Song).
[D]/[E]		Moves the cursor left/right and select the desired parameter of the highlighted event.
[H]	FILTER	Calls up the Filter display (page 59), letting you select only the events you wish to be shown in the event list.
[I]	SAVE	Press to save the edited Song.
[J]	MULTI SEL.	Holding this button while using the [A]/[B] buttons lets you select multiple events.
[1▲▼]	BAR	Determines the position (bar/beat/clock) of the data. One clock is equal to 1/1920th of a quarter note.
[2▲▼]	BEAT	
[3▲▼]	CLK	
[4▲▼]/ [5▲▼]	DATA ENTRY	Adjusts the event value. For coarse adjustment, use the [4▲▼] buttons. For fine adjustment, use the [5▲▼] buttons or [DATA ENTRY] dial.
[6▲]	CUT	Executes the cut/copy/delete/paste operation.
[7▲]	COPY	
[7▼]	DELETE	
[8▲]	PASTE	
[6▼]	INS (INSERT)	Adds a new event.
[8▼]	CANCEL	Cancels editing and restores the original value.

NOTE After you edit events in the CHORD tab display, press the [F] (EXPAND) button to convert the data into Song data.

NOTE Chord section data recorded with Realtime Recording cannot be indicated and edited on this display.

NEXT PAGE

■ Chord Events (CHORD Page)

Style	Style
Tempo	Tempo
Chord	Chord root, Chord type, On Bass Chord
Sect	Style Section (Intro, Main, Fill In, Break, Ending)
OnOff	On/off status for each part (channel) of the Accompaniment Style
CH.Vol	Volume for each part (channel) of the Accompaniment Style
S.Vol	Overall volume of the Accompaniment Style

■ Note Events (1-16 Page)

Note	An individual note within a Song. Includes the note number 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).
Ctrl (Control Change)	Settings to control the Voice, such as volume, pan, filter and effect depth (edited via the Mixing Console described in chapter 9), etc.
Prog (Program Change)	MIDI program change number for selecting a Voice.
P.Bnd (Pitch Bend)	Data for changing the pitch of a Voice continuously.
A.T. (Aftertouch)	This event is generated when pressure is applied to a key after the note is played.

■ System Exclusive Events (SYS/EX. Page)

ScBar (Score Start Bar)	Determines the top measure of a Song.
Tempo	Determines the tempo value.
Time (Time signature)	Determines the time signature.
Key (Key signature)	Determines the key signature, as well as the major/minor setting, for the music score shown on the display.
XGPrm (XG parameters)	Allows you to make various detailed changes to the XG parameters. Refer to the “MIDI Data Format” in the MIDI Reference downloadable from the Yamaha Manual Library.
SYS/EX. (System Exclusive)	Displays the System Exclusive data in the Song. Keep in mind that you cannot create new data or change the contents of the data here; however, you can delete, cut, copy, and paste the data.
Meta (Meta event)	Displays the SMF meta events in the Song. Keep in mind that you cannot create new data or change the contents of the data here; however, you can delete, cut, copy, and paste the data.

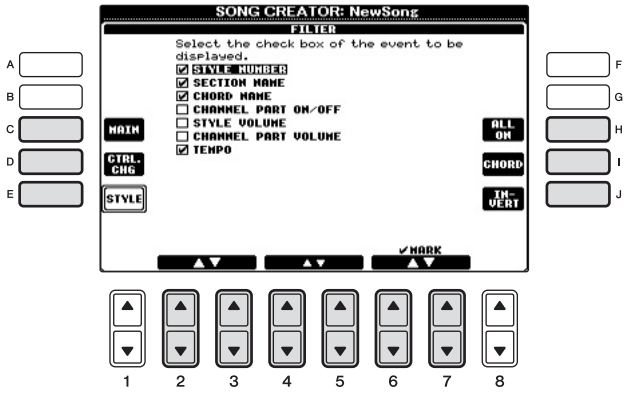
■ Lyrics Events (LYRICS Page)

Name	Allows you to enter the Song name.
Lyrics	Allows you to enter lyrics.
Code	**CR:** Enters a line break in the lyrics text. **LF:** Clears the currently displayed lyrics and displays the next set of lyrics.

Displaying Specific Types of Events

In the Event List displays, various types of events are shown. It may sometimes be difficult to pinpoint the ones you want to edit. This is where the Filter function comes in handy. It lets you determine which event types will be shown in the Event List displays.

1. Press the [H] (FILTER) button in the CHORD, 1-16, SYS/EX. or LYRICS displays.
2. Checkmark the desired item to be displayed.



[C]	MAIN	Displays all main types of events.
[D]	CTRL. CHG	Displays all specific Control Change message events.
[E]	STYLE	Displays all types of Style playback related events.
[H]	ALL ON	Checkmarks all event types.
[I]	NOTE/ALL OFF/ CHORD	“NOTE” or “CHORD” selects only NOTE/CHORD data. “ALL OFF” removes all checkmarks.
[J]	INVERT	Reverses the checkmark settings for all boxes. In other words, this enters checkmarks to all boxes that were previously unchecked and vice versa.
[2▲▼] – [5▲▼]		Selects an event type to be checked or unchecked.
[6▲]/ [7▲]	MARK ON	Enters/removes the checkmark for the selected event type. The checked event types can be shown on the CHORD, 1-16, SYS/EX or LYRICS Page.
[6▼]/ [7▼]	MARK OFF	

3. Press the [EXIT] button to execute the settings.

USB Audio

– Playback and Recording Audio Files –

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

Music Finder

– Calling Up Ideal Setups (Voice, Style, etc.) for Each Song –

Contents

Registering a Song, Audio or Style File (SONG/AUDIO/STYLE)

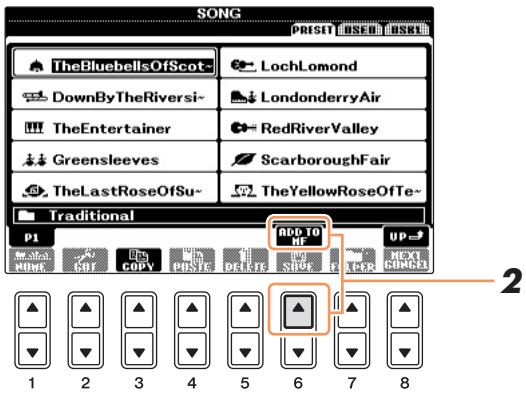
By registering a Song, Audio or Style file in various locations (Preset, User and USB) into Music Finder, you can conveniently and easily call up the file from the Song title.

NOTE If you want to register files in the USB flash memory, connect the USB flash memory containing the data to the [USB TO DEVICE] terminal.

1 On the corresponding File Selection display, select a Song, Audio or Style File to be registered to the Music Finder.

2 Press the [6▲] (ADD TO MF) button to register the selected file to Music Finder.

The display automatically changes to the Music Finder Record Edit display.

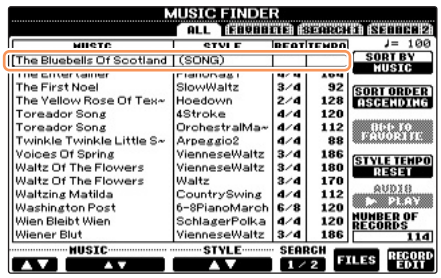


NEXT PAGE

3 **Press [8▲] (OK) button to start the registration.**

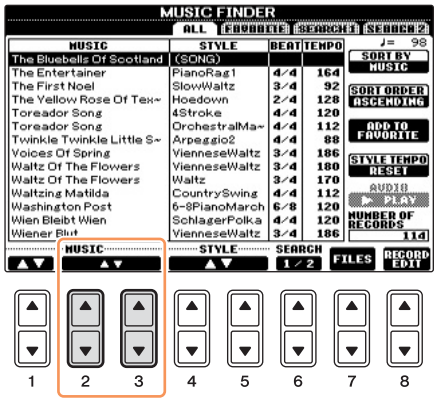
Press the [8▼] (CANCEL) button to cancel the registration.

4 **Confirm that the registered file name is shown in the MUSIC column while (SONG), (AUDIO) or the Style name is shown in the STYLE column.**



Recalling the registered data from Music Finder

You can recall the registered Song, Audio or Style data in the same way as done in the “Selecting the Desired Song from among the Panel Settings” and “Searching the Panel Settings” in the Owner’s Manual, chapter 7.



NOTE If you want to play back files in the USB flash memory, connect the USB flash memory containing the data to the [USB TO DEVICE] terminal beforehand.

To play back the registered files

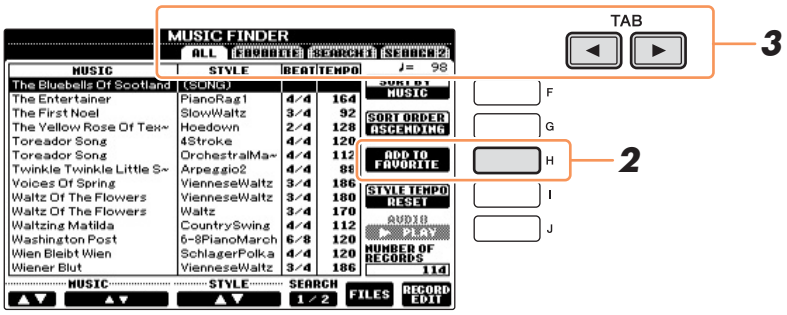
- To play back the recalled Song file, press the SONG [PLAY/PAUSE] button after selecting the SONG record.
- To play back the recalled Audio file, press the [J] (AUDIO) button in the MUSIC FINDER display after selecting the AUDIO record.
- To play back the recalled Style file, select the Style record then follow the same procedure as Style playback described in the Owner’s Manual, chapter 3.

Creating a Set of Favorite Records

As convenient as the Search function is in exploring the depths of the Music Finder records, you may want to create a custom "folder" of your favorite records — so you can quickly call up the panel settings and song data you use frequently.

1 **Call up the MUSIC FINDER display by pressing the [MUSIC FINDER] button and select the desired record.**

2 **Press the [H] (ADD TO FAVORITE) button to add the selected record to the FAVORITE display, then press the [G] (YES) button to actually add the record.**



3 **Call up the FAVORITE display by using the TAB [◄][►] buttons, and check to see if the record has been added.**

Deleting Records from the FAVORITE Display

1 Select the record you want to delete from the FAVORITE display.

2 Press the [H] (DELETE FROM FAVORITE) button, then press the [G] (YES) button to actually delete the record.

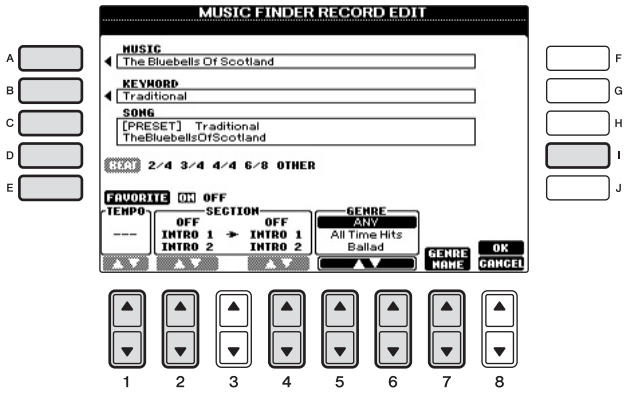
Editing Records

You can create a new record by editing the currently selected record. The newly created records are automatically saved in the internal memory.

1 Call up the MUSIC FINDER display by pressing the [MUSIC FINDER] button and select the desired record to be edited.

2 Press the [8▲▼] (RECORD EDIT) button to call up the EDIT display.

3 Edit the record as desired.



[A]	MUSIC	Edits the song name. Pressing the [A] button calls up the pop-up window to enter the song name.
[B]	KEYWORD	Edits the keyword. Pressing the [B] button calls up the pop-up window to enter the keyword.
[C]	STYLE/SONG/ AUDIO	Changes the Style in case of STYLE record (panel settings). Pressing the [C] button calls up the Style Selection display. After selecting the desired Style, press the [EXIT] button to return back to the Edit display. For SONG or AUDIO records, this field cannot be edited.
[D]	BEAT	Changes the beat (time signature) of the record for search purposes. For SONG or AUDIO records, this field cannot be edited. ***NOTE*** Keep in mind that the Beat setting made here is only for the Music Finder search function; this does not affect the actual Beat setting of the Style itself.
[E]	FAVORITE	Selects whether the edited record is entered to the FAVORITE display or not.
[1▲▼]	TEMPO	Changes the Tempo. For SONG or AUDIO records, this field cannot be changed.
[2▲▼]	SECTION	Selects the section that will automatically be called up set when the record is selected. This is useful, for example, when you want to have a selected Style automatically be set up to start with an Intro section. For SONG or AUDIO records, this field cannot be changed.
[4▲▼]		
[5▲▼]/ [6▲▼]	GENRE	Selects the desired genre.
[7▲▼]	GENRE NAME	Creates a new genre.
[I]	DELETE RECORD	Deletes the currently selected record.

NEXT PAGE

4 **Enter the edits you've made to the record as described below.**

Creating a new record

Press the [J] (NEW RECORD) button. The record is added to the ALL display. If you've entered the record to the FAVORITE display in step 3, the record is added to both the ALL display and the FAVORITE display.

Overwriting an existing record

Press the [8▲] (OK) button. If you set the record as a Favorite in step 3, the record is added to the FAVORITE display. When you edit the record in the FAVORITE display, the record is overwritten.

To cancel and quit the Edit operation, press the [8▼] (CANCEL) button.

Saving the Record as a Single File

The Music Finder feature handles all the Records including the presets and additionally created records as a single file. Keep in mind that individual records (panel settings and song data) cannot be handled as separate files.

1 **Call up the Save display.**

[MUSIC FINDER] → [7▲▼] FILES

2 **Press the TAB [◄][►] buttons to select the location for saving (USER or USB).**

3 **Press the [6▼] (SAVE) button to save the file.**

All records are saved together as a single file.

Calling Up Music Finder Records Saved to USER or USB

1 **Call up the File Selection display.**

[MUSIC FINDER] → [7▲▼] FILES

2 **Use the TAB [◄][►] buttons to select USER or USB.**

3 **Press the [A] – [J] buttons to select the desired Music Finder file.**

When the file is selected, a message is displayed according to the content of the file. Press the desired button.

[F]	REPLACE	All Music Finder records currently in the instrument are deleted and replaced with the records of the selected file. ***NOTICE*** **Selecting "REPLACE" automatically deletes all your original records from internal memory. Make sure that all important data has been archived to another location beforehand.**
[G]	APPEND	The records called up are added to the record currently in the instrument.
[H]	CANCEL	Selecting this button aborts the operation (the selected file is not called up).

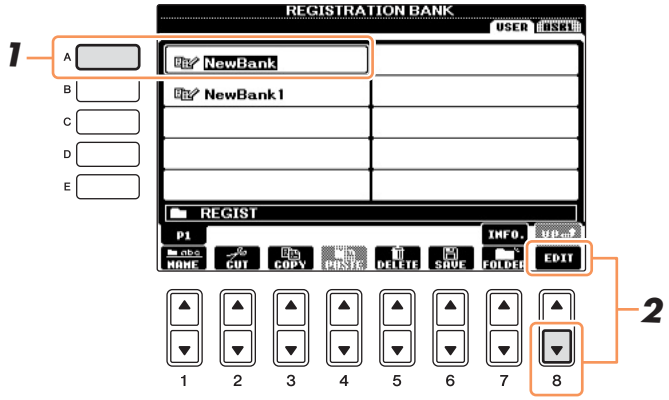
Registration Memory

– Saving and Recalling Custom Panel Setups –

Contents

Deleting or renaming the Registration

1 **Press the REGIST BANK [+] and [-] buttons simultaneously to call up the REGISTRATION BANK Selection display, then select the Registration Memory bank which contains the Registration you want to delete or rename.**

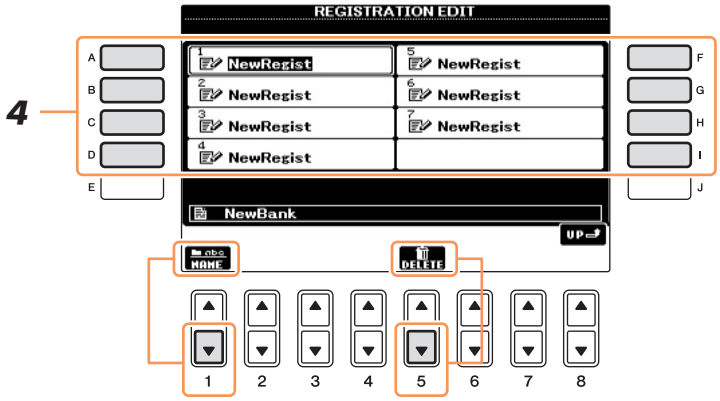


2 **Press the [8▼] (EDIT) button to call up the REGISTRATION EDIT display.**

Registrations in the selected bank will be displayed.

NEXT PAGE

3 **To delete the Registration, press the [5▼] (DELETE) button; to rename it, press the [1▼] (NAME) button.**



4 **Select a Registration you want to delete or rename by pressing one of the [A] – [D] and [F] – [I] buttons.**

The subsequent procedures are basically the same as those of renaming or deleting files described in chapter 5 of the Owner's Manual.

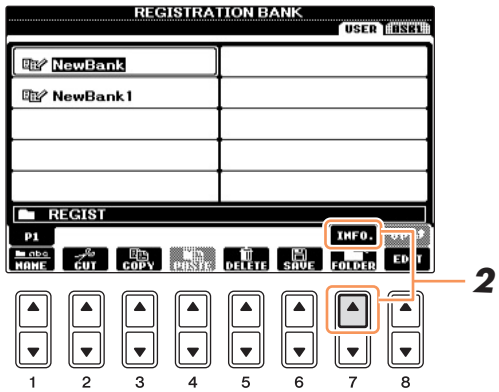
Confirming the Registration Memory Information

You can call up the information display to take a look which Voices and Style are memorized to the [1] – [8] buttons of a Registration Memory Bank.

1 **Simultaneously press the REGIST BANK [+] and [-] buttons to call up the Registration Bank Selection display, then use the [A] – [J] buttons to select the desired Bank.**

NOTE You can instantly call up the information display of the currently selected Registration Memory Bank by pressing the [DIRECT ACCESS] button and one of the REGISTRATION MEMORY [1] – [8] buttons in sequence.

2 **Press the [7▲] (INFO.) button to call up the information display.**



By using the TAB [◄][►] buttons, you can switch between the two information display pages: information for the Registration Memory [1] – [4] buttons and information for the [5] – [8] buttons.

3 **Press the [F] (CLOSE) button to close the information display.**

NOTE If certain Voice parts are set to off, the Voice part names for the corresponding parts are shown in gray.

Disabling Recall of Specific Items (Freeze)

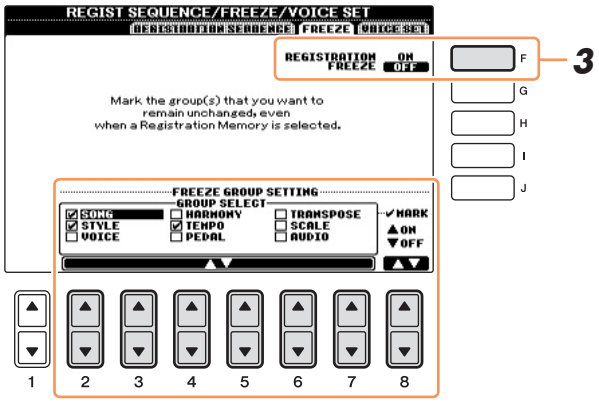
Registration Memory lets you recall all the panel setups you made with a single button press. However, there may be times that you want certain items to remain the same, even when switching Registration Memory setups. For example, you may want to switch Voices or effect settings while keeping the same accompaniment Style. This is where the Freeze function comes in handy. It lets you maintain the settings of certain items and leave them unchanged, even when selecting other Registration Memory buttons.

1 **Call up the operation display.**

[FUNCTION] → [E] REGIST SEQUENCE/FREEZE/VOICE SET → TAB [◀][▶] FREEZE

2 **Determine the items to be "frozen."**

Select the desired item by using the [2▲▼] – [7▲▼] buttons, then enter or remove the checkmark by using the [8▲] (MARK ON)/[8▼] (MARK OFF) buttons.



3 **Press the [F] (REGISTRATION FREEZE) button to turn the Freeze function on.**

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

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 quickly switch between settings — without having to take your hands from the keyboard. The convenient Registration Sequence function lets you call up the eight setups in any order you specify, by simply using the TAB [◀][▶] buttons or the pedal as you play.

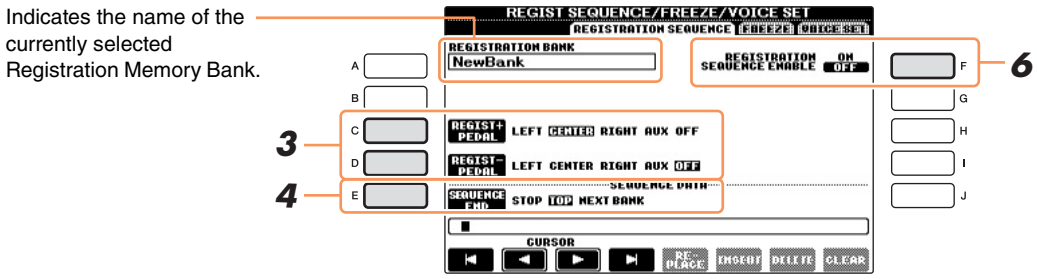
1 **Press the REGIST BANK [+] and [-] buttons simultaneously to call up the REGISTRATION BANK Selection display, then select the desired Registration Memory bank to program a sequence.**

2 **Call up the operation display.**

[FUNCTION] → [E] REGIST SEQUENCE/FREEZE/VOICE SET → TAB [◀][▶] REGISTRATION SEQUENCE

3 **If you intend to use a pedal to switch Registration Memory settings, specify here how the pedal will be used — to advance or to reverse through the sequence.**

Use the [C] (REGIST+ PEDAL) button to select the pedal for advancing through the sequence.
Use the [D] (REGIST- PEDAL) button to select the pedal for reversing through the sequence.



NOTE If you assign the function to a pedal here, the other function set in the PEDAL display (page 78) becomes invalid.

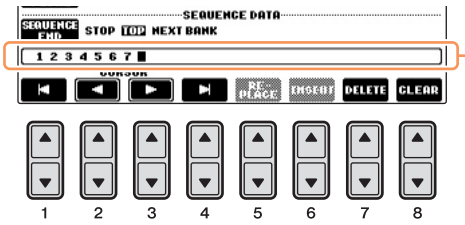
4 **Use the [E] (SEQUENCE END) button to determine how Registration Sequence behaves when reaching the end of the sequence.**

- **STOP** Pressing the TAB [▶] button or the "advance" pedal has no effect. The sequence is "stopped."
- **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.

NEXT PAGE

5 Program the Sequence order, from left to right.

Press one of the REGISTRATION MEMORY [1] – [8] buttons on the panel, then press the [6▲▼] (INSERT) button to input the number.



Indicates the Registration Memory numbers, in the order of the current Registration Sequence.

[1▲▼] – [4▲▼]	CURSOR	Moves the cursor.
[5▲▼]	REPLACE	Replaces the number at the cursor position with the currently selected Registration Memory number.
[6▲▼]	INSERT	Inserts the number of the currently selected Registration Memory number before the cursor position.
[7▲▼]	DELETE	Deletes the number at the cursor position.
[8▲▼]	CLEAR	Deletes all numbers in the sequence.

6 Press the [F] button to turn the Registration Sequence function on.

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

Confirming the Registration Sequence Setting in the Main Display

In the Main display, you can confirm whether the Registration Memory numbers are called up according to the sequence programmed on pages 68 – 69.

The Registration Sequence is indicated at the top right of the Main display, letting you confirm the currently selected number.

To shift the Registration Memory numbers, use the TAB [◀][▶] buttons when the Main display is shown. When pedal operation has been set in step 3 on page 68, you can also use a pedal to select the Registration Memory numbers in order.
To return to the first Sequence, press the TAB [◀] and [▶] buttons simultaneously when the Main display is shown. This cancels the currently selected Sequence number (the box indicator at the top right goes out). The first Sequence will be selected by pressing one of the TAB [◀][▶] buttons or by pressing the pedal.

NOTE The pedal can be used for Registration Sequence no matter which display is called up (except for the display in step 3 on page 68).

Saving the Registration Sequence Settings

The settings for the Sequence order and how Registration Sequence behaves when reaching the end of the sequence (SEQUENCE END) are included as part of the Registration Memory Bank file. To store your newly programmed Registration Sequence, save the current Registration Memory Bank file.

NOTICE

Keep in mind that all Registration Sequence data is lost when changing Registration Memory Banks, unless you've saved it with the Registration Memory Bank file.

1 Press the REGIST BANK [+] and [-] buttons simultaneously to call up the REGISTRATION BANK Selection display.

2 Press the [6▼] (SAVE) button to save the Bank file.

Mixing Console

– Editing the Volume and Tonal Balance –

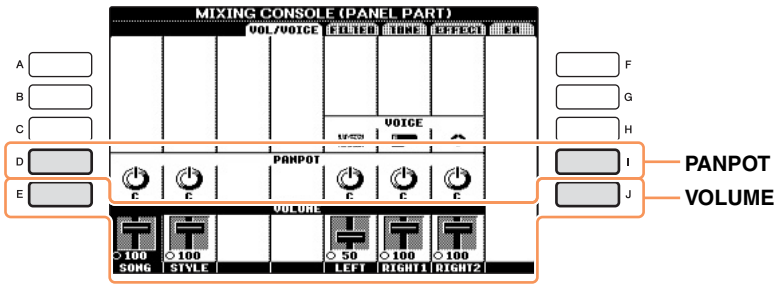
Contents

The MIXING CONSOLE display called up via the [MIXING CONSOLE] button consists of five pages of parameters. Use the TAB [◄]/[►] buttons to call up the desired page, and set various parameters for each part to adjust the balance between parts and create your desired sound. Note that the Save operation for your settings will differ depending on the part. For instructions, refer to the Owner's Manual.

Editing VOL/VOICE Parameters

Adjusting Panning/Volume for Each Part

1 **Press the [D] (or [I]) button to select the PANPOT parameter or press the [E] (or [J]) button to select the VOLUME parameter.**



2 **Use the [1▲▼] – [8▲▼] buttons to adjust panning/volume for the desired part.**

NOTE When the display for SONG CH 1-8 or SONG CH 9-16 is selected, you can switch between the two by pressing the [A] (PART) button.

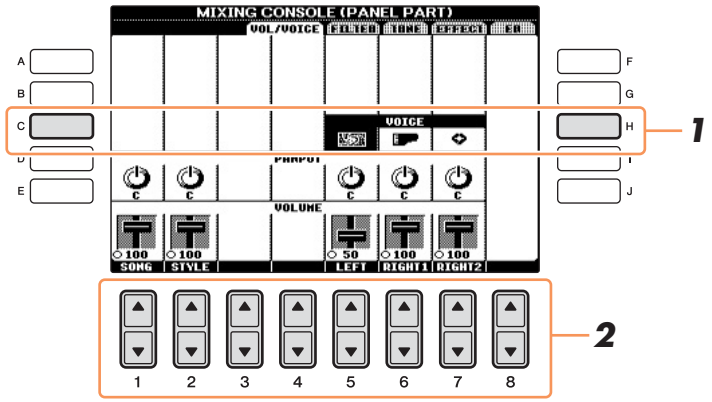
3 **Save your settings.**

Refer to the Owner's Manual, chapter 9.

Changing the Voice for Each Part

You can change the Voice for each keyboard part, Style channel or Song channel.

1 Press the [C] (or [H]) button to select the VOICE parameter.



2 Press one of the [1▲▼] – [8▲▼] buttons to select the desired part.

The Voice Selection display appears.

3 Select a Voice.

Press one of the Voice category selection buttons on the panel, then select a Voice by using the [A] – [J] buttons.

NOTE When the display for SONG CH 1- 8 or SONG CH 9-16 is selected, you can switch between the two by pressing the [A] (PART) button.

NOTE Some Voices (such as Organ Flutes) cannot be selected for Style channels.

NOTE Only Drum kit Voices and SFX kit Voices can be assigned to the RHY2 channel in the STYLE PART display.

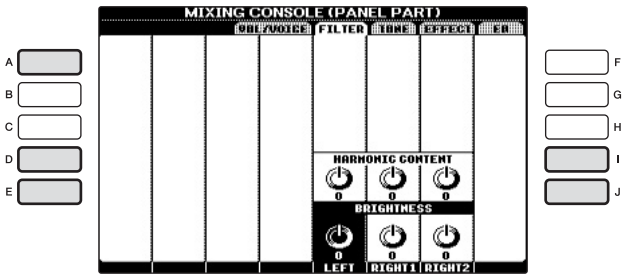
NOTE When playing GM Song data, channel 10 can only be used for a Drum kit Voice.

4 Press the [EXIT] button to return to the MIXING CONSOLE display.

5 Save your settings.

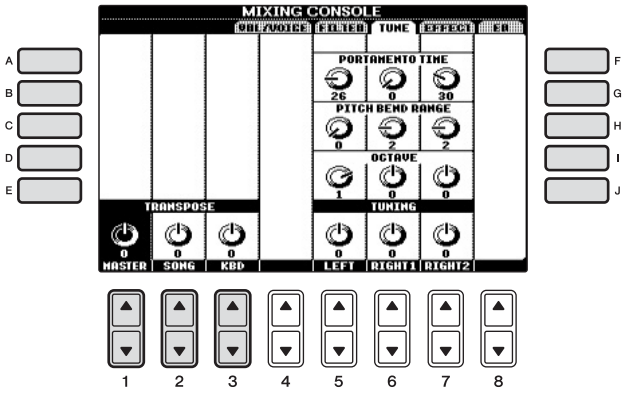
Refer to the Owner's Manual, chapter 9.

Editing FILTER Parameters



[A]	PART	This will be displayed only if SONG CH 1-8 or SONG CH 9-16 is selected for the part. Toggles between the two channel displays: SONG CH 1-8 and SONG CH 9-16. For details, refer to chapter 9 in the Owner's Manual.
[D]/[I]	HARMONIC CONTENT	Allows you to adjust the resonance effect (page 13) for each part.
[E]/[J]	BRIGHTNESS	Determines the brightness of the sound for each part by adjusting the cut-off frequency (page 13).

Editing TUNE Parameters



[A]/[B]/ [F]/[G]	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.
[C]/[H]	PITCH BEND RANGE	Determines the range of the PITCH BEND for each keyboard part (when a pedal is assigned to this function; page 78). The range is from "0" to "12" with each step corresponding to one semitone.
[D]/[I]	OCTAVE	Determines the range of the pitch change in octaves, over two octaves up or down for each keyboard part.
[E]/[J]	TUNING	Determines the pitch of each keyboard part.
[1▲▼]–[3▲▼]	TRANSPOSE	Allows you to set transposition for overall sound of the instrument (MASTER), Song playback (SONG), or the keyboard pitch (KBD), respectively.

Editing EFFECT Parameters

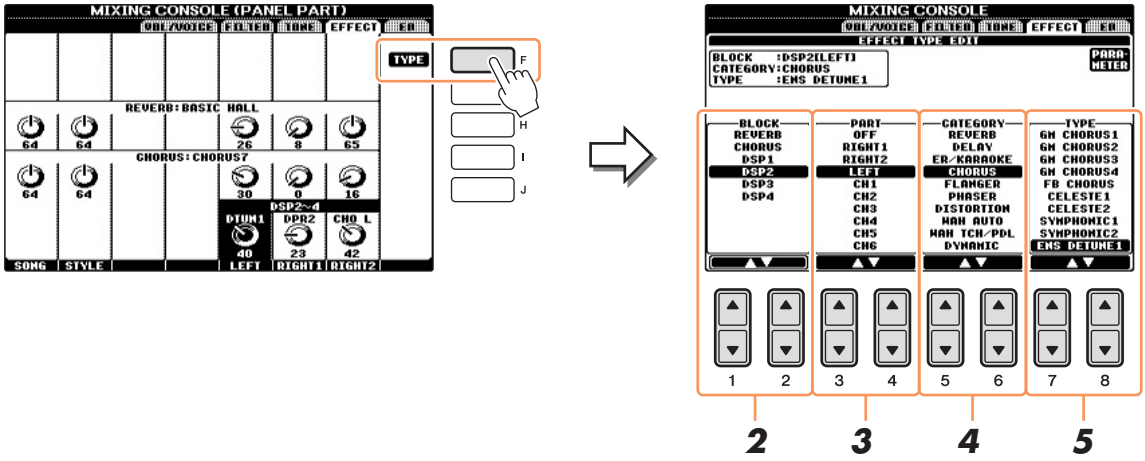
This instrument has an effect system featuring six separate blocks (Reverb, Chorus and DSP1-4). For each block, you can assign the desired effect type individually. The effects are applied independently for each part or globally for the entire sound according to the blocks: the effects of Reverb and Chorus blocks are applied to all of the parts input to the Mixing Console, DSP1 is applied only to the Style and Song sounds (or applied to a specific part of the Style or Song depending on the setting), and DSP2-4 are applied to the specific keyboard parts and Song parts. Use these instructions to set up various effects for blocks and parts to enhance the sound as desired.

Selecting an Effect Type for Each Block

NOTE When the display for SONG CH 1-8 or SONG CH 9-16 is selected, you can switch between the two by pressing the [A] (PART) button.

1 Press the [F] (TYPE) button in the EFFECT Page of the Mixing Console display.

The Effect Type Selection display is called up.



2 Use the [1▲▼]/[2▲▼] buttons to select the effect BLOCK.

Effect Block	Applicable parts	Effect characteristics
REVERB	All parts	Reproduces the warm ambience of playing in a concert hall or jazz club.
CHORUS	All parts	Produces a rich, “fat” sound as if several identical instruments 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	This effect is applied only to Style/Song parts. When the “Connection” parameter selected in step 3 of “Creating an Original Effect” section (on page 75) 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.
DSP2-4	RIGHT 1, RIGHT 2, LEFT, SONG CHANNEL 1-16	For each of DSP2-4, you can select one of the parts or channels listed at left. When you select “RIGHT2” for DSP2, for example, the DSP2 Effect is applied only to the Right 2 part. Note that if you select a Song or Style which requires the DSP2-4 Blocks, the part assignment of these three Blocks will be changed automatically with last priority according to the data.

NEXT PAGE

3 **Use the [3▲▼]/[4▲▼] buttons to select the part to which you want to apply the effect.**

Note that a part cannot be selected if "REVERB" or "CHORUS" is selected, or if the CONNECTION parameter of "DSP1" is set to "System" (in step 3 of "Creating an Original Effect" below). This is because only one of the Effect Types can be selected to be commonly applied to all available Parts.

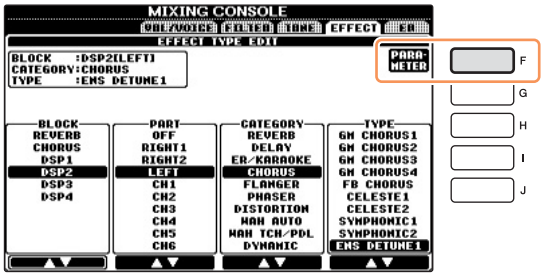
4 **Use the [5▲▼]/[6▲▼] buttons to select the effect CATEGORY.**

5 **Use the [7▲▼]/[8▲▼] buttons to select the effect TYPE.**

If you want to edit the effect parameters, go on to the next operation.

Creating an Original Effect

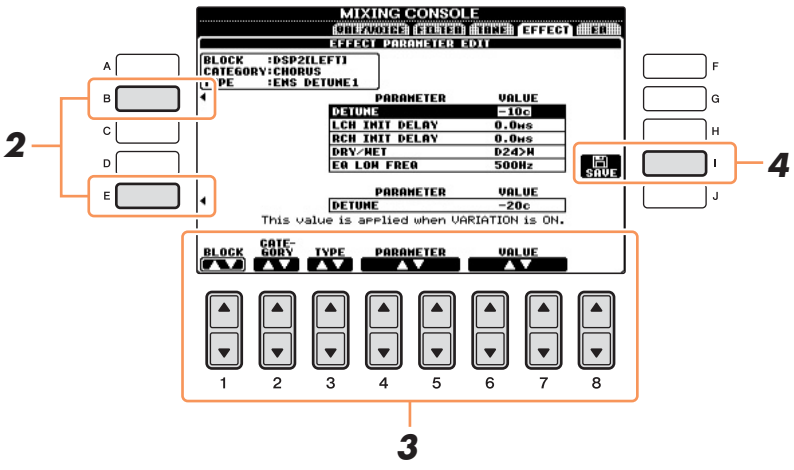
1 **Once you've selected an Effect Block and Effect Type above, press the [F] button to call up the display for editing the effect parameters.**



2 **If you have selected one of the DSP2-4 effect blocks:**

You can edit both the conventional parameters and the convenient Variation parameter. Press the [E] button to move the cursor to the Variation parameter, then edit the value via the [6▲▼/[7▲▼] buttons. This parameter is effective only when the DSP VARIATION is on. To move the cursor to the normal parameters, press the [B] button.

NOTE The Variation parameter can be turned on or off by pressing the [VOICE EFFECT] → [5▲▼] (DSP VARIATION). This lets you instantly and significantly change the sound of the effect.



3 **Select the desired parameter for editing by using the [4▲▼]/[5▲▼] buttons, then adjust the value by using the [6▲▼]/[7▲▼] buttons.**

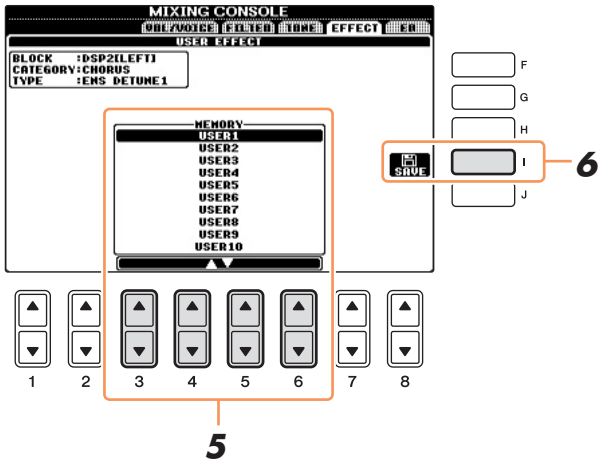
If you have selected the REVERB, CHORUS or DSP1 effect block, you can adjust the Effect Return Level by pressing [8▲▼] button.

To re-select the Effect block, category and type, use the [1▲▼] – [3▲▼] buttons. The re-selected effect configuration is displayed at the upper left side box in the display.

NOTE Keep in mind that in some cases noise may result if you adjust the effect parameters while playing the instrument.

NEXT PAGE

4 **Press the [I] (SAVE) button to call up the display for saving your original effect.**



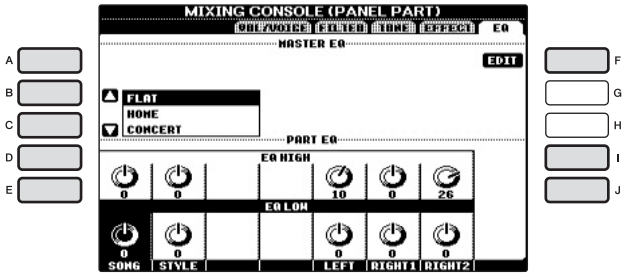
5 **Use the [3▲▼] – [6▲▼] buttons to select the destination for saving the effect.**

The maximum number for effects that can be saved differs depending on the effect block.

6 **Press the [I] (SAVE) button to save the effect.**

When recalling the saved effect, use the same procedure as in steps 4 – 5 of "Selecting an Effect Type for Each Block."

Editing EQ Parameters

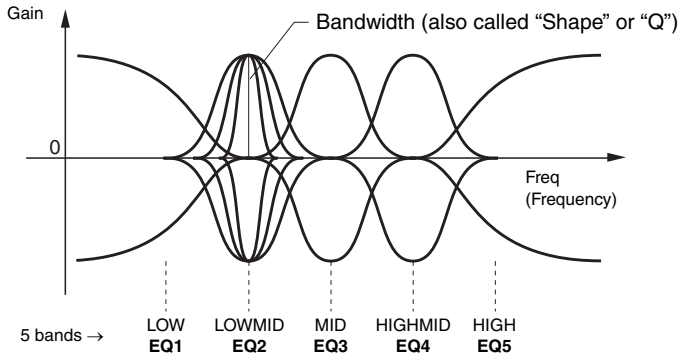


[A]	PART	This will be displayed only if SONG CH 1-8 or SONG CH 9-16 is selected for the part. Toggles between the two channel displays: SONG CH 1-8 and SONG CH 9-16. For details, refer to chapter 9 in the Owner's Manual.
[B]/[C]	TYPE	Selects the desired Master EQ type. This affects the overall sound of the instrument.
[F]	EDIT	For editing the Master EQ. See page 77.
[D]/[I]	EQ HIGH	Boosts or attenuates the high EQ band for each part.
[E]/[J]	EQ LOW	Boosts or attenuates the low EQ band for each part.

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. Usually an equalizer is used to correct the sound from speakers to match the special character of the room. For example, you can cut some of the low range frequencies when playing in large spaces where the sound is too "boomy," or boost the high frequencies in rooms and close spaces where the sound is relatively "dead" and free of echoes.

NEXT PAGE

The instrument possesses a high grade 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 EQ display. You can even create your own custom EQ settings by adjusting the frequency bands, and save the settings to one of two User Master EQ types.

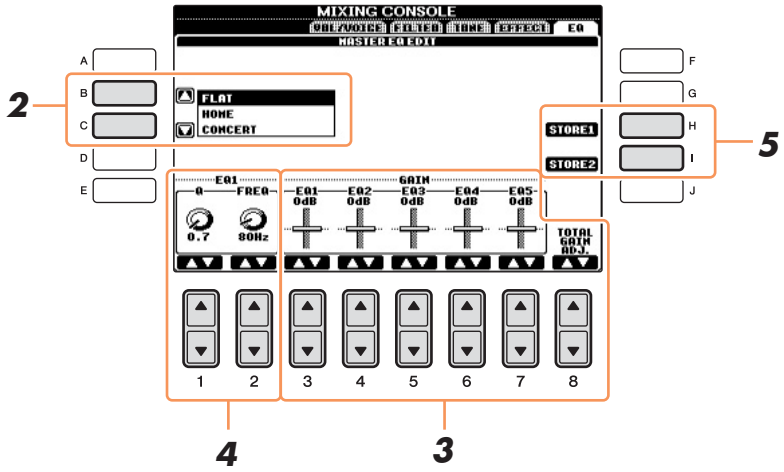


Editing and Saving the Selected Master EQ

Master Equalizer is EQ processing that is applied to the overall sound (except Audio) which is finally output from the Effect block to the speakers or headphones.

1 Press the [F] (EDIT) button in the EQ Page of the Mixing Console display.

The MASTER EQ EDIT display is called up.



2 Use the [B]/[C] buttons to select a preset EQ type.

The set parameters of the selected EQ type are automatically shown at the bottom of the display.

3 Use the [3▲▼] – [7▲▼] buttons to boost or cut each of the five bands.

Use the [8▲▼] buttons to boost or cut all the five bands at the same time.

4 Adjust the Q (bandwidth) and the FREQ (center frequency) of the band selected in step 3.

To adjust the bandwidth (also called “Shape” or “Q”), use the [1▲▼] buttons. The higher the value of Q, the narrower the band width.

To adjust the FREQ (center frequency), use the [2▲▼] buttons. The available FREQ range is different for each band.

5 Press the [H] or [I] (STORE 1 or 2) button to save the edited EQ type.

Up to two types of EQ can be created and saved. The saved EQ can be recalled from the EQ tab display by using the [B]/[C] buttons.

Connections

– Using Your Instrument with Other Devices –

Contents

Footswitch/Foot Controller Settings

Assigning Specific Functions to Each Foot Pedal

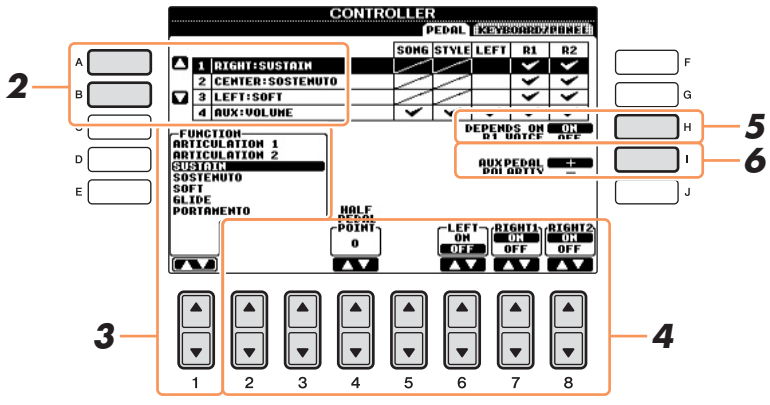
In addition to the footswitch or foot controller, the three piano pedals installed to the instrument (Right, Center and Left pedals) can also be assigned to various functions here. The following explanations cover the related operations and assignable functions (parameters).

NOTE For information on how to connect a Footswitch or Foot Controller, refer to the Owner's Manual, chapter 10.

1 Call up the operation display.

[FUNCTION] → [D] CONTROLLER → TAB [◀][▶] PEDAL

2 Use the [A]/[B] buttons to select one of the three pedals or the AUX-connected pedal, to which the function is to be assigned.



3 Use the [1▲▼] buttons to select the function to be assigned to the pedal specified in step 2.

For information on available parameters, see pages 79 – 81.

NOTE You can also assign other functions to the pedal — Punch in/out of Song (page 52) and Registration Sequence (page 68). If you assign multiple functions to the pedal, the priority is: Punch in/out of Song → Registration Sequence → functions assigned here.

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4 **Use the [2▲▼] – [8▲▼] buttons to set the details of the selected functions (the part for which the function is applied, etc.).**

The available parameters differ depending on the function selected in step 3.

5 **When you have selected the left or center pedal in step 2, press the [H] (DEPEND ON R1 VOICE) button to turn this parameter OFF.**

This setting locks the pedal function so that it does not change automatically when you change the Right 1 Voice.

6 **If necessary, set the polarity of the pedal by using the [I] button.**

Pedal on/off operation may differ depending on the particular pedal you've connected to the instrument. For example, pressing down on one pedal may turn the selected function on, while pressing a different make/brand of pedal may turn the function off. If necessary, use this setting to reverse the operation.

■ **Assignable Pedal Functions**

For functions indicated with "*", use only the foot controller; proper operation cannot be done with a footswitch.

ARTICULATION	When you use a Super Articulation Voice that has an effect assigned to the pedal/footswitch, you can enable the effect by pressing the pedal/footswitch. You can turn this function on or off for each keyboard part on this display.
VOLUME*	Allows you to use a foot controller to control the volume. This function is available only for the pedal connected to the instrument's AUX PEDAL jack.
SUSTAIN	Allows you to use a pedal to control the sustain. When you press and hold the pedal, all notes played on the keyboard have a longer sustain. Releasing the pedal immediately stops (damps) any sustained notes. If you are using the right pedal or connected foot controller, the "HALF PEDAL POINT" parameter allows you to specify how far down you should press on the pedal until the damper effect starts working.
SOSTENUTO	Allows you to use a pedal to control the Sostenuto effect. If you play a note or chord on the keyboard and press the pedal while holding the note(s), the notes will sustain as long as the pedal 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 will not affect any of the Organ Flutes and only some of the Super Articulation Voices, even if this has been assigned to the Foot Pedals.
SOFT	Allows you to use a pedal to control the Soft effect. Pressing this pedal reduces the volume and changes the timbre of the notes you play. This is effective only for certain appropriate Voices. You can turn this pedal function on or off for each keyboard part on this display. If you are using the right pedal or connected foot controller, the "HALF PEDAL POINT" parameter allows you to specify how far down you should press on the pedal until the soft effect starts working.

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GLIDE	When the pedal is pressed, the pitch changes, and then returns to normal pitch when the pedal is released. The following parameters can be set for this function on this display. **UP/DOWN** Determines whether the pitch change goes up (is raised) or down (is lowered). **RANGE** Determines the range of the pitch change, in semitones. **ON SPEED** Determines the speed of the pitch change when the pedal is pressed. **OFF SPEED** Determines the speed of the pitch change when the pedal is released. **LEFT, RIGHT 1, 2** Turns this pedal function on or off for each keyboard part.
PORTAMENTO	The portamento effect (a smooth slide between notes) can be produced while the pedal is pressed. Portamento is produced when notes are played legato style (i.e., a note is played while the preceding note is still held). The portamento time can also be adjusted form the Mixing Console display (page 73). This function does not affect certain Natural Voices, which would not sound appropriately with this function. ***NOTE*** This function will not affect any of the Organ Flutes, Super Articulation Voices and only some of the Super Articulation Voices, even if this has been assigned to the Foot Pedals.
PITCHBEND*	Allows you to bend the pitch of notes up or down by using the pedal. This function can be assigned to the right pedal or connected foot controller. The following parameters can be set for this function on this display. **UP/DOWN** Determines whether the pitch change goes up (is raised) or down (is lowered). **RANGE** Determines the range of the pitch change, in semitones. **LEFT, RIGHT 1, 2** Turns this pedal function on or off for each keyboard part.
MODULATION*	Applies a vibrato effect to notes played on the keyboard. Moreover, various effects can be added to the S. Articulation Voice. The effect becomes deeper when pressing down the foot controller. You can turn this pedal function on or off for each keyboard part on this display.
DSP VARIATION	Switches Voice Effect DSP VARIATION on and off.
VIBE ROTOR ON/OFF	Switches the VIBRATE SW parameter on and off when the VIBE VIBRATE effect type is selected.
HARMONY/ECHO	Switches the HARMONY/ECHO Voice Effect on and off.
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).
SONG PLAY/PAUSE	Same as the SONG [PLAY/PAUSE] button.
STYLE START/STOP	Same as the STYLE [START/STOP] button.

NEXT PAGE

TAP TEMPO	Same as the [TAP TEMPO] button.
SYNCHRO START	Same as the [SYNC START] button.
SYNCHRO STOP	Same as the [SYNC STOP] button.
INTRO 1–3	Same as the INTRO [I]–[III] buttons.
MAIN A–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.
ENDING1–3	Same as the ENDING/rit. [I]–[III] buttons.
FADE IN/OUT	Switches Fade In /Fade Out function on and off.
FINGERD/FING ON BASS	The pedal alternately switches between the Fingered and On Bass modes (page 18).
BASS HOLD	While the pedal is pressed, the Accompaniment 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.
PERCUSSION	The pedal plays a percussion instrument selected by the [4▲▼] – [8▲▼] buttons. You can use the keyboard to select the desired percussion 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.
RIGHT 1 ON/OFF	Same as the PART ON/OFF [RIGHT 1] button.
RIGHT 2 ON/OFF	Same as the PART ON/OFF [RIGHT 2] button.
LEFT ON/OFF	Same as the PART ON/OFF [LEFT] button.
OTS +/-	Calls up the next/previous One Touch Setting.

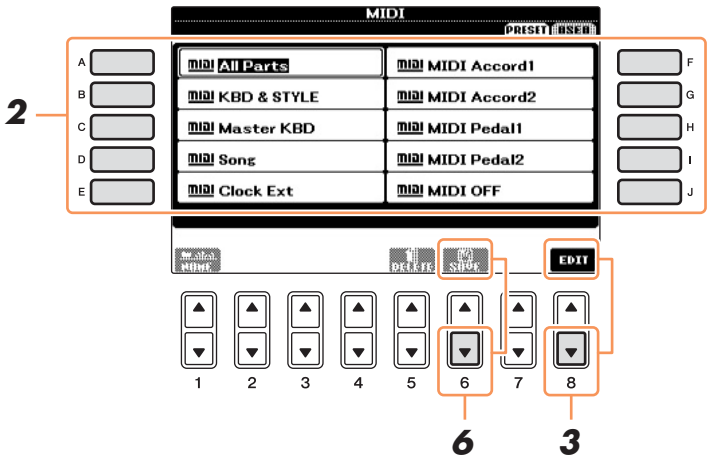
MIDI Settings

In this section, you can make MIDI-related settings for the instrument. The CVP-601 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 display.

NOTE You can save all your original templates as a single file to USB flash memory: [FUNCTION] → [J] UTILITY → TAB [◄][►] SYSTEM RESET → [G] MIDI SETUP FILES. See page 95.

1 Call up the operation display.

[FUNCTION] → [I] MIDI



2 Select a pre-programmed template from the PRESET Page (page 83).

If you have already created your original template and saved it to the USER Page, you can also select the template from the USER Page.

3 Press the [8▼] (EDIT) button to call up the MIDI display to edit the selected template.

4 Use the TAB [◄][►] buttons to call up the relevant setting display.

- **SYSTEM** MIDI System Settings (page 84)
- **TRANSMIT** MIDI Transmission Settings (page 85)
- **RECEIVE** MIDI Reception Settings (page 86)
- **BASS** Settings for the bass note of chord for Style playback via MIDI reception data (page 87)
- **CHORD DETECT** Settings for the chord type for Style playback via MIDI reception data (page 87)

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

6 Select USER tab display by using the TAB [◄][►] buttons, then press the [6▼] (SAVE) button to save the edited template.

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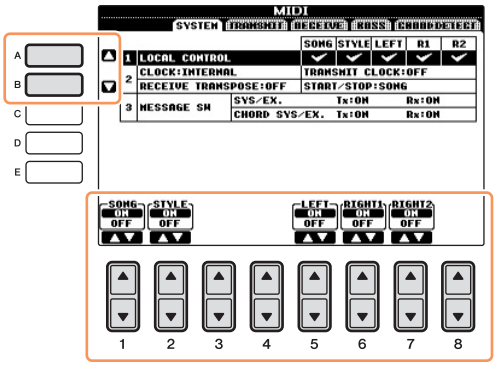
■ **Pre-programmed MIDI Templates**

ALL PARTS	Transmits all parts including the keyboard parts (RIGHT 1, 2, and LEFT), with the exception of Song parts.
KBD & STYLE	Basically the same as “ALL PARTS” with the exception of how keyboard parts are managed. The right-hand parts are handled as “UPPER” instead of RIGHT 1 and 2 and the left-hand part is handled as “LOWER.”
Master KBD	In this setting, the instrument functions as a “master” keyboard, playing and controlling one or more connected tone generators or other devices (such as a computer/sequencer).
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.	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.
MIDI Accord 1	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 keyboard and control Style playback on the instrument with the left-hand buttons.
MIDI Accord 2	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 Pedal 1	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.
MIDI Pedal 2	This template lets you play the bass part for Style playback by using a MIDI pedal unit.
MIDI OFF	No MIDI signals are sent or received.

The explanations here apply to the SYSTEM Page in step 4 on page 82.
Use the [A]/[B] buttons to select the parameters (below), then set the ON/OFF status by using the [1▲▼] – [8▲▼] buttons.



1 Local Control

Turns the 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 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.

2 Clock setting, etc.

■ 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: MIDI, USB 1, or USB 2. In this case, make sure that the external device is connected properly (e.g., to the instrument's MIDI IN terminal), and that it is properly transmitting a MIDI clock signal. When this is set for control by an external device (MIDI, USB 1 or USB 2), the Tempo is indicated as "Ext." in the Main display.

NOTE If the Clock is set to something other than INTERNAL, the Style or Song cannot be played from the panel buttons.

■ TRANSMIT CLOCK

Turns MIDI clock (F8) transmission on or off. When set to OFF, no MIDI clock or Start/Stop data is transmitted even if a Song or Style is played back.

■ RECEIVE TRANSPOSE

Determines whether or not the instrument's transpose setting is applied to the note events received by the instrument via MIDI.

■ START/STOP

Determines whether incoming FA (start) and FC (stop) messages affect Song or Style playback.

3 MESSAGE SW (Message Switch)

■ SYS/EX.

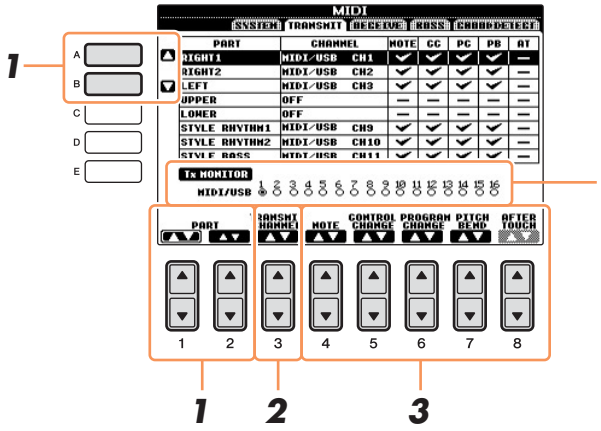
The "Tx" setting turns MIDI transmission of MIDI System Exclusive messages on or off. The "Rx" setting turns MIDI reception and recognition of MIDI System Exclusive messages generated by external equipment on or off.

■ CHORD SYS/EX.

The "Tx" setting turns MIDI transmission of MIDI Chord System Exclusive data (chord detect, root and type) on or off. The "Rx" setting turns MIDI reception and recognition of MIDI chord exclusive data generated by external equipment on or off.

MIDI Transmit Settings

The explanations here apply to the TRANSMIT Page in step 4 on page 82. 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).

1 Use the [A]/[B] buttons or [1▲▼]/[2▲▼] buttons to select the part for changing transmit settings.

With the exception of the two parts below, the configuration of the parts is the same as those already explained elsewhere in the Owner's Manual.

UPPER

A keyboard part played on the right side of the keyboard from the Split Point for the Voices (RIGHT 1 and/or 2).

LOWER

A keyboard part played on the left side of the keyboard from the Split Point for the Voices. This is not affected by the on/off status of the [ACMP ON/OFF] button.

2 Use the [3▲▼] buttons to select a channel via which the selected part will be transmitted.

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.

3 Use the [4▲▼] – [8▲▼] button to determine the types of data to be sent.

The following MIDI messages can be set on the TRANSMIT/RECEIVE display.

NOTE (Note events) .....page 58

CC (Control Change).....page 58

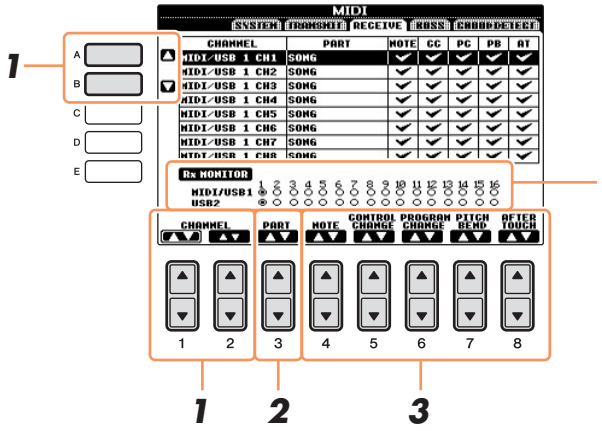
PC (Program Change) .....page 58

PB (Pitch Bend) .....page 58

AT (Aftertouch) .....page 58

MIDI Receive Settings

The explanations here apply to the RECEIVE Page in step 4 on page 82. 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).

1 Use the [A]/[B] buttons or [1▲▼]/[2▲▼] buttons to select the channel to be received.

The instrument can receive MIDI messages over 32 channels (16 channels x 2 ports) by USB connection.

2 Use the [3▲▼] buttons to select the part via which the selected channel will be received.

With the exception of the two parts below, the configuration of the parts is the same as those already explained elsewhere in the Owner's Manual.

KEYBOARD

The received note messages control the instrument's keyboard performance.

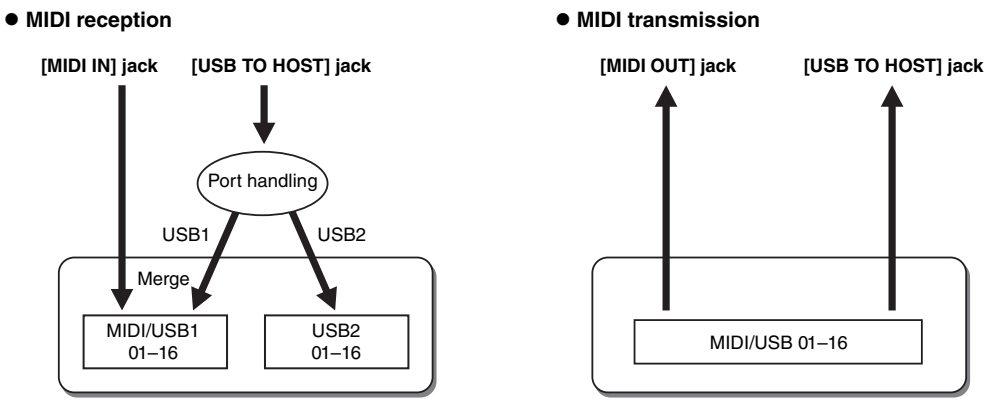
EXTRA PART 1–5

There are five 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 five parts in addition to the parts.

3 Use the [4▲▼] – [8▲▼] button to determine the types of data to be received.

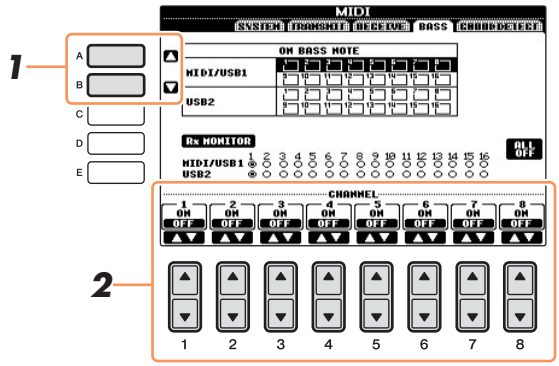
MIDI transmission/reception via the USB terminal and MIDI terminals

The relationship between the [MIDI] terminals and the [USB] terminal which can be used for transmitting/receiving 32 channels (16 channels x 2 ports) of the MIDI messages is as follows:



Setting the Bass Note for Style Playback via MIDI Receive

The explanations here apply to the BASS Page in step 4 on page 82. 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 ON/OFF] or split point settings. When several channels are simultaneously set to “ON,” the bass note is detected from merged MIDI data received over the channels



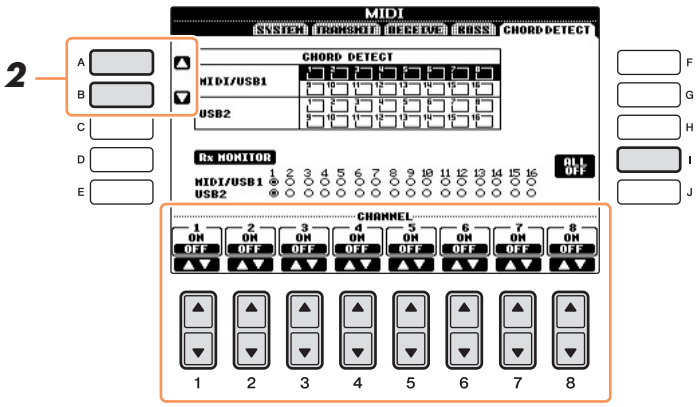
1 Use the [A]/[B] buttons to select the channel.

2 Use the [1▲▼] – [8▲▼] buttons to set the desired channel to ON or OFF.

You can also set all channels to OFF by pressing the [I] (ALL OFF) button.

Setting the Chord Type for Style Playback via MIDI Receive

The explanations here apply to the CHORD DETECT Page in step 4 on page 82. These settings let you determine the chord type 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 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 ON/OFF] or Split Point settings. When several channels are simultaneously set to “ON,” the chord type is detected from merged MIDI data received over the channels.



The operation procedure is basically the same as that of the BASS display above.

Utility

– Making Global Settings –

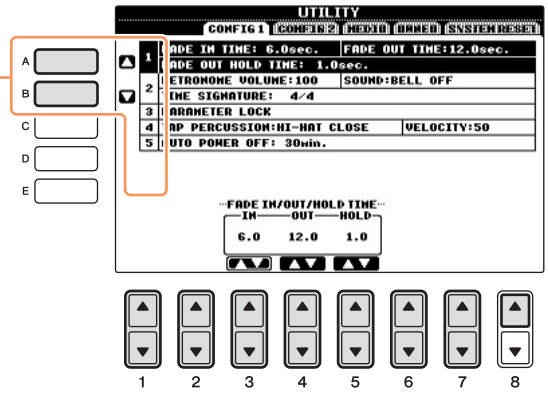
Contents

CONFIG1

Call up the operation display.

[FUNCTION] – [UTILITY] → TAB [◀][▶] CONFIG 1

Select the desired parameter:
1 Fade In/Out
2 Metronome
3 Parameter Lock
4 Tap
5 Auto Power Off



1 Fade In/Out

These parameters determine the behavior when the Style or Song playback is faded in/out.

[3▲▼]	FADE IN TIME	Determines the time it takes for the volume to fade in, or go from minimum to maximum (range of 0 – 20.0 seconds).
[4▲▼]	FADE OUT TIME	Determines the time it takes for the volume to fade out, or go from maximum to minimum (range of 0 – 20.0 seconds).
[5▲▼]	FADE OUT HOLD TIME	Determines the time the volume is held at 0 following the fade out (range of 0 – 5.0 seconds).

2 Metronome

[2▲▼]	VOLUME	Determines the level of the metronome sound.
[3▲▼] – [5▲▼]	SOUND	Determines which sound is used for the metronome. BELL OFF.....Conventional metronome sound, with no bell accent. BELL ON .....Conventional metronome sound, with bell accent. ENGLISH VOICE .....Count in English GERMAN VOICE.....Count in German JAPANESE VOICE ....Count in Japanese FRENCH VOICE .....Count in French SPANISH VOICE.....Count in Spanish
[6▲▼]/ [7▲▼]	TIME SIGNATURE	Determines the time signature of the metronome sound.

3 Parameter Lock

This function is used to "lock" specific parameters (effect, split point, etc.) to make them selectable only via the panel control — in other words, instead of being changed via Registration Memory, One Touch Setting, Music Finder, or Song and sequence data.

Use the [1▲▼] – [7▲▼] buttons to select the desired parameter, then lock it with the [8▲] (MARK ON) button.

4 Tap

This allows you to set the drum sound and the velocity which will sound when the Tap function is used.

[2▲▼] – [4 ▲▼]	PERCUSSION	Selects the instrument.
[5▲▼]/ [6▲▼]	VELOCITY	Sets the velocity.

5 AUTO POWER OFF

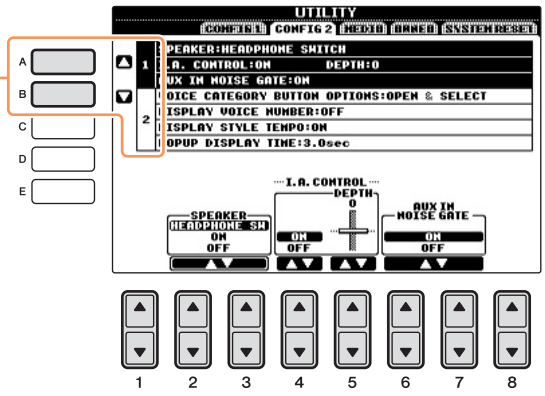
Refer to the Owner's Manual.

CONFIG2

Call up the operation display.

[FUNCTION] – [UTILITY] → TAB [◀][▶] CONFIG 2

Select the desired parameter:
1 Speaker
2 Voice Category Button Options/Display-related Settings



1 Speaker-related settings

[2▲▼]/ [3▲▼]	SPEAKER	Determines whether or not the speaker will sound. **HEADPHONE SW** Speaker sounds normally, but is cut off when headphones are inserted to the PHONES jack. **ON:** Speaker sound is always on. **OFF:** Speaker sound is off. You can only hear the instrument sound via the headphones.
[4▲▼]	I.A. CONTROL ON/OFF	I.A. Control (Intelligent Acoustic Control) is a function which automatically adjusts and controls the sound quality according to the overall volume of the instrument. Even when the volume is low, it permits both low sounds and high sounds to be clearly heard. I.A. Control is effective only from the sound output of the instrument speakers.
[5▲▼]	I.A. CONTROL DEPTH	This sets the depth of the I.A. Control. The higher the value, the more clearly that low and high sounds are heard at lower volume levels.
[6▲▼]/ [7▲▼]	AUX IN NOISE GATE	This effect mutes the input signal when the input from the AUX IN falls below a specified level.

2 Voice Category Button Options/Display-related settings

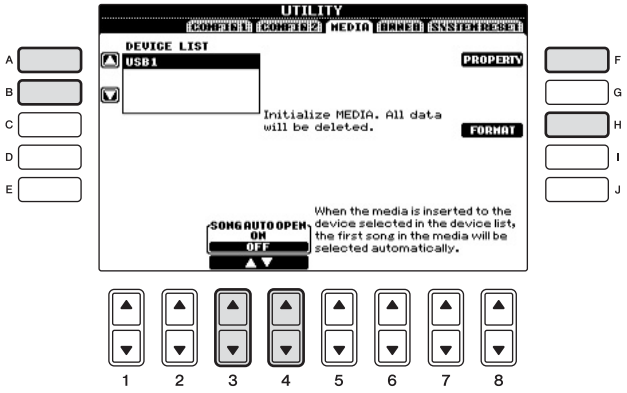
[1▲▼]/ [2▲▼]	VOICE CATEGORY UTTON OPTIONS	Determines how the Voice Selection display is opened when one of the VOICE buttons is pressed. **OPEN & SELECT** Opens the Voice Selection display with the previously selected Voice in the Voice category automatically selected (when one of the VOICE buttons is pressed). **OPEN ONLY** Opens the Voice Selection display with the currently selected Voice (when one of the VOICE buttons is pressed).
[3▲▼]/ [4▲▼]	DISPLAY VOICE NUMBER	Determines whether or not the Voice bank and number are shown in the Voice Selection display. This is useful 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." ***NOTE*** For the GS Voices, the Display Voice Number is not available (the program change numbers are not shown).
[5▲▼]/ [6▲▼]	DISPLAY STYLE TEMPO	Selects whether the default tempo of each Style is displayed above the Style name or not in the Style Selection display.
[7▲▼]/ [8▲▼]	POPUP DISPLAY TIME	Determines the time which elapses before the pop-up windows close. (Pop-up windows are displayed when you press buttons such as TEMPO, TRANSPOSE, etc.)

MEDIA

You can set or execute important media-related operations for the instrument. The word “media” refers to the connected USB flash memory.

Call up the operation display.

[FUNCTION] – [UTILITY] → TAB [◀][▶] MEDIA

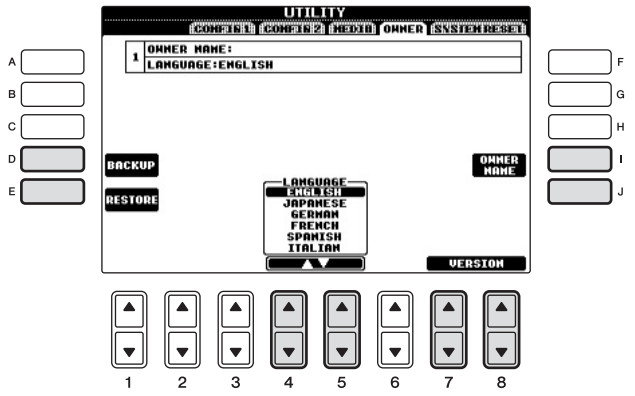


[A]/[B]	DEVICE LIST	Selects the desired USB flash memory for checking the remaining memory of (see “PROPERTY” below) or for formatting (see the Owner’s Manual).
[F]	PROPERTY	Opens the Property display of the USB flash memory selected by [A]/[B] buttons, from which you can check the amount of remaining memory. ***NOTE*** The displayed remaining memory value is an approximate value.
[H]	FORMAT	Formats the USB flash memory selected by [A]/[B] buttons. Refer to the Owner’s Manual, chapter 10.
[3▲▼]/ [4▲▼]	SONG AUTO OPEN	Turns the Song Auto Open function on or off. When this is set to “ON” and the USB flash memory selected in the Device List above is inserted, the instrument automatically calls up the first MIDI Song in the USB flash memory.

OWNER

Call up the operation display.

[FUNCTION] – [UTILITY] → TAB [◀][▶] OWNER



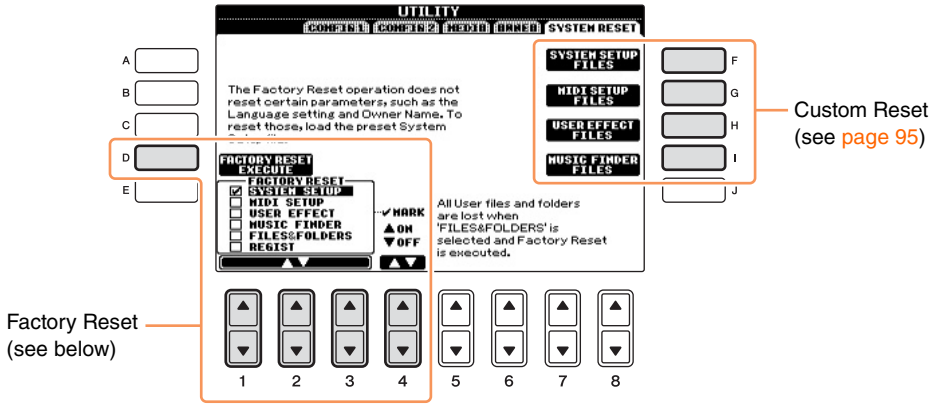
[D]	BACKUP	Allows you to backup all data on the instrument to a USB flash memory. Refer to the Owner's Manual.
[E]	RESTORE	Loads the backup file from the USB flash memory.
[I]	OWNER NAME	Allows you to enter your name as the owner. The Owner name is indicated on the opening display when you turn the power on. Refer to the Owner's Manual.
[4▲▼]/ [5▲▼]	LANGUAGE	Determines the language used for the display messages. Once you change this setting, all messages will be shown in the selected language.
[7▲▼]/ [8▲▼]	VERSION	Displays the version number of this instrument.

SYSTEM RESET

There are two reset methods in the SYSTEM RESET display: Factory Reset and Custom Reset.

Call up the operation display.

[FUNCTION] – [UTILITY] → TAB [◀][▶] SYSTEM RESET



Factory Reset — Restoring the Factory Programmed Settings

This function lets you restore the status of the instrument to the original factory settings.

1 Select the desired item to be restored by using [1▲▼] – [3▲▼] buttons and add a checkmark to it by pressing the [4▲] (MARK ON) button.

To remove the checkmark, press the [4▼] (MARK OFF) button.

SYSTEM SETUP	Restores the System Setup parameters to the original factory settings. Refer to the Data List for details about which parameters belong to the System Setup.
MIDI SETUP	Restores the MIDI settings including the MIDI templates on the USER tab display to the original factory status.
USER EFFECT	Restores the User Effect settings, including the user effect types and user master EQ types created via the Mixing Console display, to the original factory settings.
MUSIC FINDER	Restores the Music Finder data (all records) to the original factory settings.
FILES & FOLDERS	Deletes all files and folders stored in the USER tab display.
REGIST	Temporarily deletes the current Registration Memory settings of the selected Bank. The same can be done also by turning the power button ON while holding the B6 key (right-most B key on the keyboard).

2 Press the [D] (FACTORY RESET) button to execute the Factory Reset operation for all checkmarked items.

Custom Reset — Saving and Recalling Your Original Settings as a Single File

For the items below, you can save your Original Settings as a Single File for future recall.

1 **Make all desired settings on the instrument.**

2 **Call up the operation display.**

[FUNCTION] → [J] UTILITY → TAB [◄][►] SYSTEM RESET

3 **Press one of the [F] – [I] buttons to call up the relevant display for saving your data.**

[F]	SYSTEM SETUP FILES	Parameters set on the various displays such as the [FUNCTION] → [J] UTILITY are handled as a single System Setup file. Refer to the Data List for details on which parameters belong to the System Setup.
[G]	MIDI SETUP FILES	The MIDI settings including the MIDI templates on the USER tab display are handled as a single file.
[H]	USER EFFECT FILES	The User Effect settings including the user effect types and user master EQ types created via the Mixing Console displays are managed as a single file.
[I]	MUSIC FINDER FILES	All the preset and created records of the Music Finder are handled as a single file.

4 **Use the TAB [◄][►] buttons to select one of the tabs (other than the PRESET) to which your settings will be saved.**

5 **Press the [6▼] (SAVE) button to save your file.**

6 **To recall your file, press the desired [F] – [I] buttons in the SYSTEM RESET display, then select the desired file.**

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