Roland

D-50 Software Synthesizer

Owner's Manual

Introduction

For details on the settings for the DAW software that you're using, refer to the DAW's help or manuals.

Screen Structure

Main window

This area shows various knobs and sliders that you can use to edit the sound.

Level meter

Shows the output level.

COMMON SELECT

By holding down the shift key and pressing the LOWER and UPPER buttons one after another, you can edit the LOWER and UPPER tone common parameters simultaneously. The tone common window of the button you press first opens.

[PATCH] button

Opens the patch common window.
Here you can edit the patch common parameters.

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[LOWER] button

Opens the tone common window.
Here you can edit the lower tone common parameters.

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[UPPER] button

Opens the tone common window.
Here you can edit the upper tone common parameters.

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[NAME] button

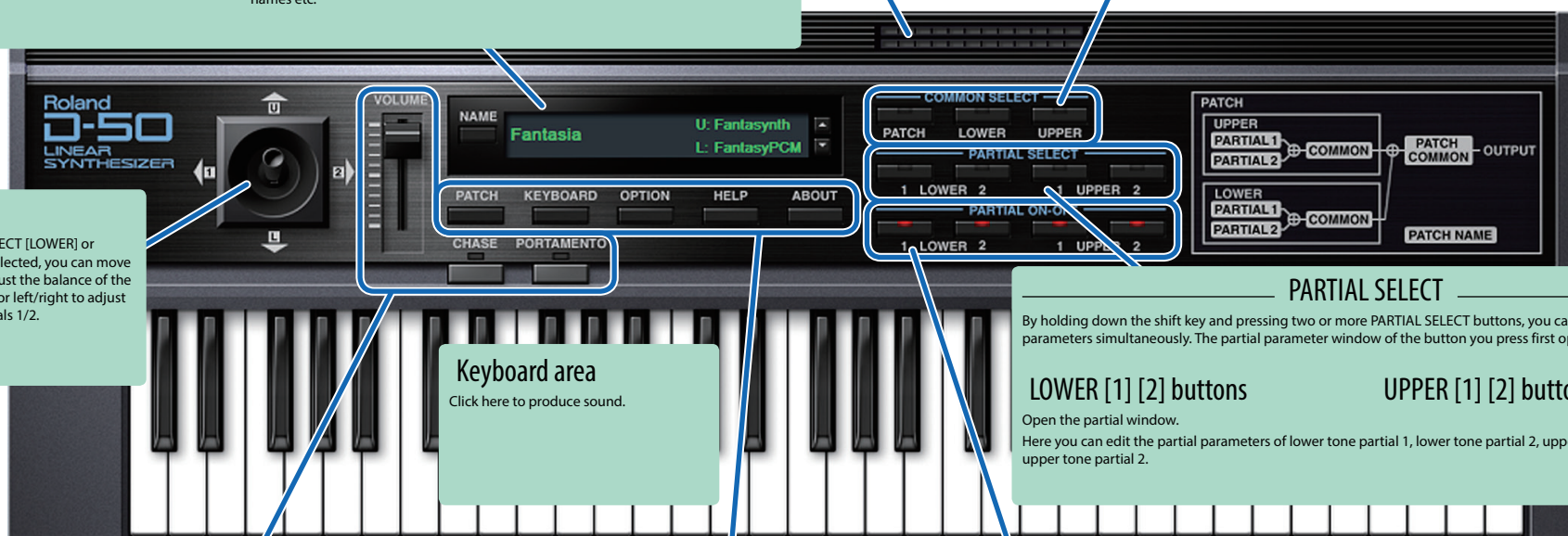
Edits the patch memory name.

Patch Memory name

Shows the name of the currently selected patch memory and the upper/lower tone names etc.

[▼] [▲] buttons

Recall the next or previous patch memory.



Joystick

If the COMMON SELECT [LOWER] or [UPPER] button is selected, you can move this up/down to adjust the balance of the lower/upper tones, or left/right to adjust the balance of partials 1/2.

Keyboard area

Click here to produce sound.

PARTIAL SELECT

By holding down the shift key and pressing two or more PARTIAL SELECT buttons, you can set their partial parameters simultaneously. The partial parameter window of the button you press first opens.

LOWER [1] [2] buttons

UPPER [1] [2] buttons

Open the partial window.
Here you can edit the partial parameters of lower tone partial 1, lower tone partial 2, upper tone partial 1, and upper tone partial 2.

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[TOTAL VOLUME] slider

Adjusts the overall volume.

[CHASE] button

Turns the Chase function on/off.

[PORTAMENTO] button

Turns the Portamento function on/off.

The state of these controllers is saved in patch memory.

PARTIAL ON-OFF

LOWER [1] [2] buttons

UPPER [1] [2] buttons

Turn each partial on/off.

The state of these controllers is saved in patch memory.

[PATCH] button

Selects a patch memory.
The Patch Select window opens.

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[KEYBOARD] button

Toggles the keyboard area between visible and hidden.

[OPTION] button

Here you can make various settings and authorize the software.

[HELP] button

Displays help.

[ABOUT] button

Here you can view information about the D-50 Software Synthesizer.

How the Sound Engine Is Structured

Patch

A "patch" contains sound data and data for the performance functions.

Multiple patches can be saved in patch memory, and freely recalled while you perform.

On D-50 Software Synthesizer, a patch consists of two sounds (the upper tone and lower tone), settings that specify how they are played, and settings such as keyboard mode, output mode, and reverb.

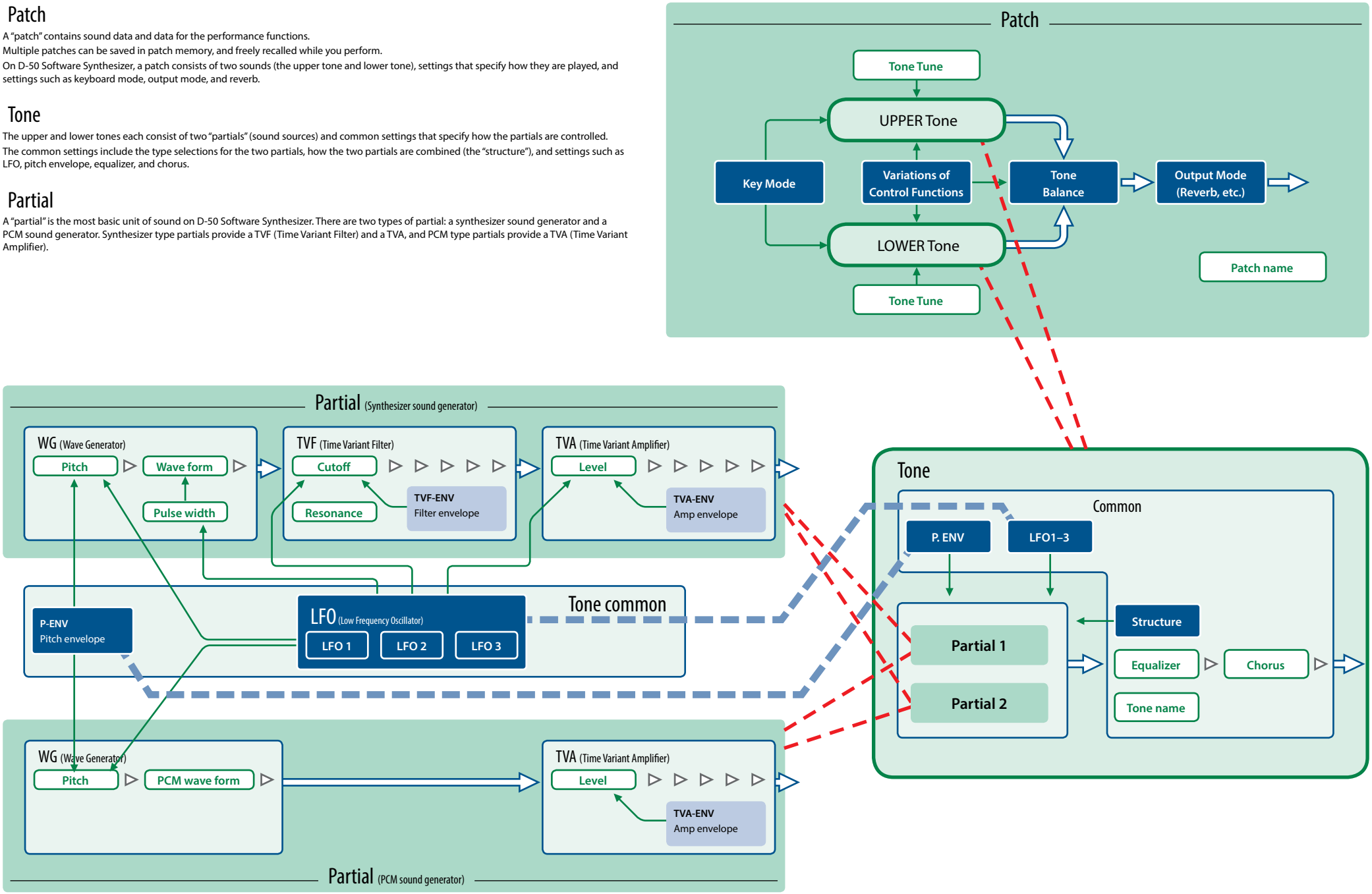
Tone

The upper and lower tones each consist of two "partials" (sound sources) and common settings that specify how the partials are controlled.

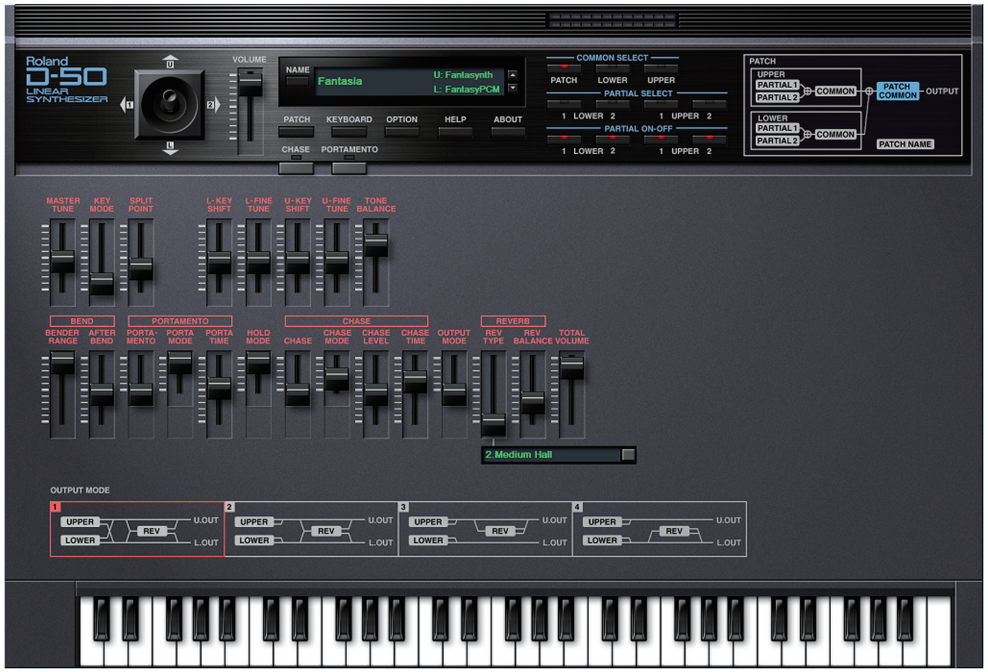
The common settings include the type selections for the two partials, how the two partials are combined (the "structure"), and settings such as LFO, pitch envelope, equalizer, and chorus.

Partial

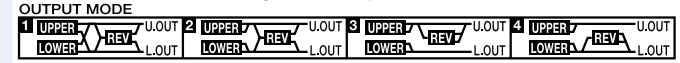
A "partial" is the most basic unit of sound on D-50 Software Synthesizer. There are two types of partial: a synthesizer sound generator and a PCM sound generator. Synthesizer type partials provide a TVF (Time Variant Filter) and a TVA, and PCM type partials provide a TVA (Time Variant Amplifier).



Patch Common Window



Parameter		Value/ Explanation
MASTER TUNE		Adjusts the pitch of the entire instrument.
KEY MODE		WHOLE: The upper tone can be played using up to 16 simultaneous notes. DUAL: Each key you press simultaneously plays the upper and lower tones layered (up to eight notes can be played simultaneously). SPLIT: The upper and lower tones play in separate regions of the keyboard divided at the split point that you specify; the right keys including the split point play the upper tone, and the left keys play the lower tone; up to eight notes can be played simultaneously in each region (middle C is C4). WHOLE-S: The upper tone can be played monophonically. DUAL-S: Each key plays the upper and lower tones layered (monophonically). SPL-US: Divided at the split point, the upper tone plays monophonically, and the lower tone plays up to eight notes polyphonically. SPL-LS: Divided at the split point, the lower tone plays monophonically, and the upper tone plays up to eight notes polyphonically.
SPLIT POINT		Specifies the split point when KEY MODE is set to SPLIT, SPL-US, or SPL-LS.
L-KEY SHIFT		Shifts the pitch of the lower tone in the range of -24–+24 (semitone steps).
L-FINE TUNE		Finely adjusts the pitch of the lower tone in the range of -50–+50 (approximately ±50 cents).
U-KEY SHIFT		Shifts the pitch of the upper tone in the range of -24–+24 (semitone steps).
U-FINE TUNE		Finely adjusts the pitch of the upper tone in the range of -50–+50 (approximately ±50 cents).
TONE BAL		Specifies the volume balance between the upper and lower tones. (This can also be set using the joystick, p. 3)
BEND	BENDER RANGE	Specifies the range of pitch change produced by the bender lever, in the range of 0–12 (one octave, semitone steps).
	AFTER BEND	Specifies the amount of pitch change produced by aftertouch.

Parameter		Value/ Explanation
PERTAMENTO	PORTAMENTO	Turns portamento on/off.
	PORTA MODE	This selects the Tone that should take on the Portamento effect. U: Works on the Upper Tone. L: Works on the Lower Tone. UL: Works on the both Tones.
	PORTA TIME	Specifies the time over which portamento occurs.
HOLD MODE		This selects the Tone that on the Pedal Hold effect. U: Upper tone L: Lower tone UL: Both tones
CHASE	CHASE	Turns chase on/off.
	CHASE MODE	**When KEY MODE is DUAL** UL: Sounds upper, then lower ULL: Sounds upper, lower, lower repeatedly ULU: Sounds upper, then lower repeatedly **When KEY MODE is WHOLE** UL: Sounds upper, then upper ULL: Sounds upper, upper, upper repeatedly ULU: Same as ULL
	CHASE LEVEL	Specifies the level of the delayed note relative to the upper note that is sounded first.
	CHASE TIME	Adjusts the spacing of time between notes.
OUTPUT MODE		Specifies how the two tones including reverb are output. OUTPUT MODE 
REVERB	REV TYPE	Selects the reverb type. **1:** Small Hall **2:** Medium Hall **3:** Large Hall **4:** Chapel **5:** Box **6:** Small Metal Room **7:** Small Room **8:** Medium Room **9:** Medium Large Room **10:** Large Room **11:** Single Delay (102 ms) **12:** Cross Delay (180 ms) **13:** Cross Delay (224 ms) **14:** Cross Delay (148–296 ms) **15:** Short Gate (200 ms) **16:** Long Gate (48 ms) **17:** Bright Hall **18:** Large Cave **19:** Steel Pan **20:** Delay (248 ms) **21:** Delay (338 ms) **22:** Cross Delay (157 ms) **23:** Cross Delay (252 ms) **24:** Cross Delay (274–137 ms) **25:** Gate Reverb **26:** Reverse Gate (380 ms) **27:** Reverse Gate (480 ms) **28:** Slap Back (short) **29:** Slap Back (mid) **30:** Slap Back (long) **31:** Twisted Space **32:** Space
	REV BAL	Sets the volume of the reverb and direct sounds.
TOTAL VOLUME		Specifies the volume of the tone. Use this setting to compensate for volume inconsistency between patches.

Tone Common Window

Parameter		Value/ Explanation
STRUCTURE		Selects one of seven patterns which specify the types of the two partials that make up the tone and specify how they are combined. STRUCTURE 1 S–S, 2 S–S (R), 3 P–S, 4 P–S (R), 5 S–P (R), 6 P–P, 7 P–P (R) S =SYNTHESIZER SOUND GENERATOR P =PCM SOUND GENERATOR R=RING MODULATOR
PART BAL		Specifies the volume balance of the two partials. (This can also be set using the joystick, p. 3)
PITCH MOD	LFO D	Specifies the depth of pitch modulation (vibrato) that LFO1 applies to the WG.
	LEVER	Specifies the sensitivity with which the bender lever controls the modulation depth.
	AFTER	Specifies the sensitivity with which aftertouch controls the modulation depth.
LFO1/LFO2/LFO3	WF	∿ (Triangle), ⩘ (Sawtooth), ⊓ (Square), RND (Random)
	RATE	Specifies the speed (frequency) of the LFO.
	DELAY	Specifies the time from key-on until the LFO effect begins to apply.
	SYNC	Specifies how the LFO cycle is synchronized. OFF: The LFO is not synchronized. ON: The LFO synchronizes when a key is pressed from a state of all keys released. KEY: The LFO synchronizes each time a key is pressed (LFO1 only).

Parameter		Value/ Explanation
PITCH ENV	T1, T2, T3, T4	Specify the T1–T4 times shown in the illustration at right.
	TKF	Causes the PITCH ENV times to vary depending on the keyboard position of the key that you press.
LOW EQ	FREQ	Frequency of the low range.
	GAIN	Specifies the amount of boost/cut for the low-frequency region.
HIGH EQ	FREQ	Frequency of the high range.
	Q	Specifies the width of the high-frequency region. Set a higher value for Q to narrow the range to be affected.
	GAIN	Specifies the amount of boost/cut for the high-frequency region.
CHORUS	TYPE	Selects the chorus type. **1:** CHORUS1 **2:** CHORUS2 **3:** FLANGER1 **4:** FLANGER2 **5:** FB-CHORUS **6:** TREMOLO **7:** CHORUS TREMOLO **8:** DIMENSION
	RATE	Specifies the speed of the chorus effect.
	DEPTH	Specifies the depth of the chorus effect.
	BAL	Specifies the volume balance between the chorus sound and the original sound.
PITCH ENV	L0, L1, L2, SUS L, END L	Specifies the amount of pitch change for L0–L2, SUS L, and END L in the illustration at right.
	VELO	Specifies the sensitivity with which velocity controls the amount of pitch change specified by PITCH ENV.
TONE NAME		Specifies the name of the tone (maximum 10 characters).

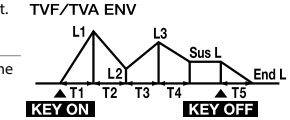
Partial Window

If the partial type is PCM, some parameters are unused and grayed-out.

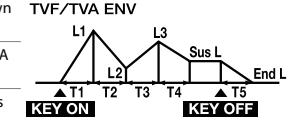
Parameter		Value/ Explanation
WG PITCH	COARSE	Specifies the pitch of the partial in the range of C1–C7 (semitone steps).
	FINE	Finely adjusts the pitch of the partial in the range of -50–+50 (approximately ±50 cents).
	KF	Specifies the key pitch ratio (key follow). This value indicates the number of octaves of pitch change that occur in a span of 12 keys.
	LFO MODE	Specifies how the LFO applies modulation. OFF: Modulation is not applied. (+): Modulation is applied by the LFO. (-): Modulation is applied by the LFO with inverted phase. A&L: Modulation is applied only by aftertouch and the bender lever.
	ENV MODE	Specifies how the ENV applies modulation. OFF: Modulation is not applied. (+): Modulation is applied by the ENV. (-): Modulation is applied by the ENV with inverted phase.
	BEND MODE	Specifies the bender mode. OFF: No change. KEY: The pitch changes in the range of the BENDER RANGE setting summed with the WG's KF setting. NOM: The pitch changes in the range specified by BENDER RANGE.
WG WAVEFORM	WF	⊓⊔ (Square), ⩘ (Sawtooth)
	PW	Specifies the wave's duty (pulse width) as a percentage.
	PW VELO	Specifies the sensitivity with which key velocity controls the duty, in the range of -7–+7.
	PW AFTER	Specifies the sensitivity with which aftertouch controls the duty.

Parameter		Value/ Explanation
WG WAVEFORM	PWM LFO SEL	Selects the LFO that applies pulse width modulation (PWM). Value: +1: LFO-1 (+); +2: LFO-2 (+); +3: LFO-3 (+); -1: LFO-1 (-); -2: LFO-2 (-); -3: LFO-3 (-)
	PWM DEPTH	Specifies the depth of PWM.
	PCM	If the partial type is PCM, this selects the sampled waveform.
TVF	CUTOFF FREQ	Specifies the cutoff frequency.
	RESO	Specifies the resonance.
	KF	Specifies how the cutoff frequency changes according to the key (key follow). This value is the same as for WG PITCH KF.
	BIAS POINT	Specifies the reference key for KF bias. [<] key: Bias is applied to KF in the region below the key. [>] key: Bias is applied to KF in the region above the key.
	BIAS LEVEL	Specifies the amount of KF bias.
	ENV DEPTH	Specifies the depth by which the TVF ENV changes the cutoff frequency.
	ENV VELO	Specifies the sensitivity with which key velocity affects the change in cutoff frequency produced by the TVF ENV.
	LFO SELECT	Selects the LFO that applies cyclic change (growl) to the cutoff frequency. Value: +1: LFO-1 (+); +2: LFO-2 (+); +3: LFO-3 (+); -1: LFO-1 (-); -2: LFO-2 (-); -3: LFO-3 (-)
	LFO DEPTH	Specifies the depth to which the LFO cyclically modulates the cutoff frequency.
	AFTER RANGE	Specifies the sensitivity with which aftertouch controls the cutoff frequency.
TVF ENV TVA ENV	T1, T2, T3, T4, T5	Specify the times T1–T5 shown in the illustration at right.
	TKF	Allows the keyboard position of the key to affect the time over which the TVF/TVA ENV change.
TVA	LEVEL	Specifies the volume of the partial.
	VELO	Specifies the sensitivity with which key velocity controls the volume.
	BIAS POINT	Specifies the reference key from which the key biases the volume. [<] key: Bias is applied to the volume in the region below the key. [>] key: Bias is applied to the volume in the region above the key.
	BIAS LEVEL	Specifies the amount by which the key biases the volume.
	LFO SELECT	Selects the LFO that applies cyclic change (tremolo) to the volume. Value: +1: LFO-1 (+); +2: LFO-2 (+); +3: LFO-3 (+); -1: LFO-1 (-); -2: LFO-2 (-); -3: LFO-3 (-)
	LFO DEPTH	Specifies the depth of the cyclic volume change produced by the LFO.
	AFTER RANGE	Specifies the sensitivity with which aftertouch controls the volume.
TVF ENV TVA ENV	L1, L2, L3, SUS L, END L	Specify the volume levels L1–L3, SUS L, and END L shown in the illustration at right.
	DKF (TVF only)	Allows the keyboard position of the key to affect the TVA ENV depth.
	T1 VELO (TVA only)	Specifies the sensitivity with which key velocity controls the TVA T1 time.

TVF/TVA ENV



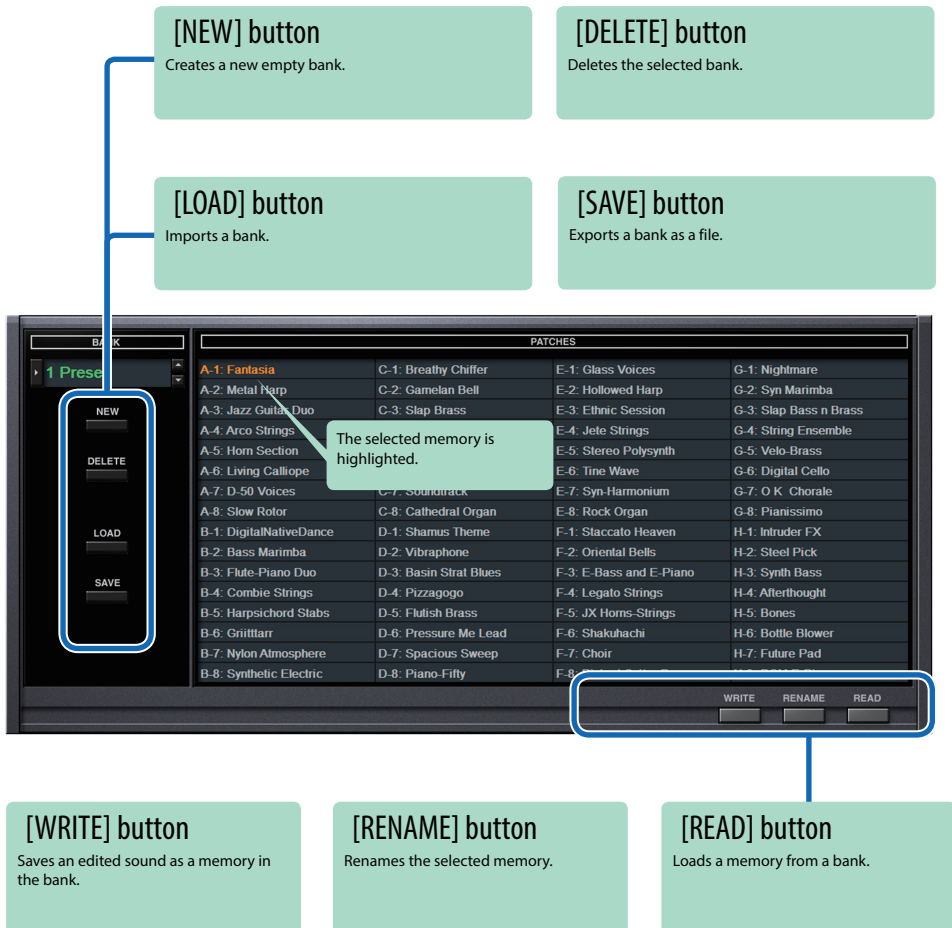
TVF/TVA ENV



Memory and Bank

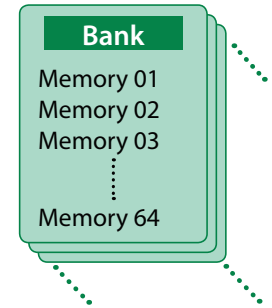
1. Click the [PATCH] button.

The Patch Select screen appears.



Bank

A set of 64 memories is called a "bank." By switching banks you can access a large number of memories.
A bank of memories can be saved as a file.



Switching Banks

1. Click the Bank field.

The bank list window opens.

2. Click the bank that you want to recall.

By pressing the [▲] [▼] buttons located at the right of the bank field, you can switch to the next or previous bank.

Exporting the Bank

Here's how to export a bank as a file.

1. Click the [SAVE] button.

The file name input window opens.

2. Enter a file name and save.

The file is exported.

Importing a Bank

1. Click the [LOAD] button.

The file selection window opens.

2. Select a file and load it.

The bank is loaded.

Creating/Deleting a Bank

Creating a bank

Click the [NEW] button to create a new empty bank.

Deleting a bank

Here's how to delete the selected bank.

1. **Select a bank as described in "Switching Banks" (p. 8).**
2. **Click the [DELETE] button.**
   A confirmation screen appears.
3. **Click [OK] to delete the bank.**

Renaming a Bank

1. **Select a bank as described in "Switching Banks" (p. 8).**
2. **At the left of the bank field, click ►.**
3. **Edit the name and press the [Return (Enter)] key.**

Memory

The D-50 Software Synthesizer manages 64 memories as one bank.

Loading a Memory

Here's how to load a memory from a bank. When you load a memory, its settings appear in the edit area and can be edited.

1. **Click the number of the memory that you want to load.**
2. **Click the [READ] button. Or press the [Return (Enter)] key.**
   The memory is loaded.
   * You can also load a memory by double-clicking a memory number.

Saving the Memory

Here's how to save an edited sound as a memory in the bank.

1. **Click the number of the memory in which you want to save the sound.**
2. **Click the [WRITE] button.**
   The memory is saved in the bank.

Renaming the Memory

1. **Click the number of the memory that you want to rename.**
2. **Click the [RENAME] button.**
3. **Change the memory name. (Up to 16 letters)**

Changing the Order of the Memories

Drag the memory number to change the order of memories.

Keyboard shortcuts

Keyboard shortcuts for the Patch Select window.

Key	Function
Command (Ctrl) + B	Changes bank
Command (Ctrl) + I	Imports bank
Command (Ctrl) + E	Exports bank
Command (Ctrl) + N	New memory
Command (Ctrl) + O	Loads memory
Command (Ctrl) + S	Saves memory
Up/Down/Left/Right	Selects memory
Space	Renames memory
Command (Ctrl) + C	Copies memory
Command (Ctrl) + V	Pastes memory
Delete *1 delete ⌦ *2 fn + delete *2	Deletes memory
Return (Enter)	Loads memory
Command (Ctrl) + Z	Undo
Command (Ctrl) + Shift + Z	Redo
Esc	Closes window

*1 Windows / *2 Mac

MIDI Learn Function

You can assign MIDI control changes to sound parameters and control them.

Making an Assignment

1. **Right-click the controller (slider) of a sound parameter.**
2. **Choose "Learn MIDI CC."**
3. **Operate your external MIDI device to send a control change message to the plug-in.**

Clearing an Assignment

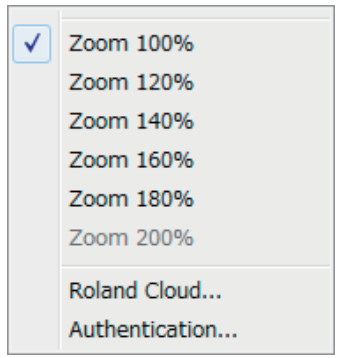
1. **Right-click the controller (slider) of a sound parameter.**
2. **Choose "Forget MIDI CC."**

NOTE

You can't assign multiple MIDI control changes to a single controller. Only the last-assigned control change is valid.

Option

1. **Click the [OPTION] button.**



2. **Select items.**

A ✓ is shown for the selected item.

Item	Explanation
Zoom	Changes the size of the main window.
Flip Scroll Direction (Only on Mac)	Inverts the direction of rotation when using the mouse wheel to edit a value.
Roland Cloud...	Displays the Roland Cloud site.
Authentication...	Performs user authentication for the D-50 Software Synthesizer.