

PKING REFERENCE MANUAL

For pKing version 2



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Introduction

pKing is an alternative interface tool for the cross-platform Renoise music creation application. It is designed to provide a 'pad based' hardware interface to accommodate users who prefer this method of working, while still allowing access to the power of the Renoise software. This allows the feeling of 'hands-on' control and immediate feedback with all the advantages of using software.

pKing is design and written for the Korg padKONTROL and does not support any other pad based controllers.

Acknowledgements

pKing would be in a worse position if it were not for the following people:

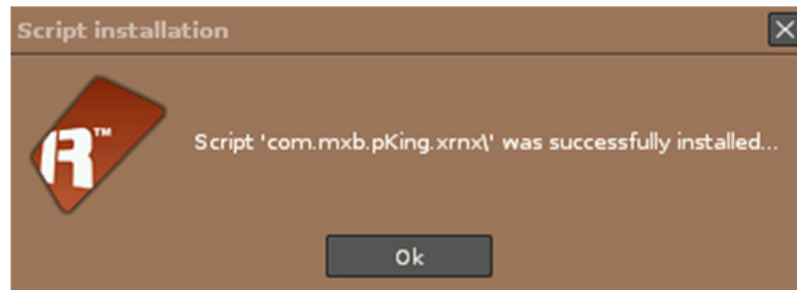
- The [Renoise development team](#) for making this great piece of software.
- [Korg](#) for making the padKONTROL for which this tool is designed.
- Peter Kirn at [CreateDigitalMusic](#) for [highlighting](#) version 1 of pKing and bringing more beta users.
- Jenoki and Dread from #renoise who tested the alpha versions of pKing 2.
- Bantai for writing the [Tempo Tap](#) tool from which I added tap tempo functionality.



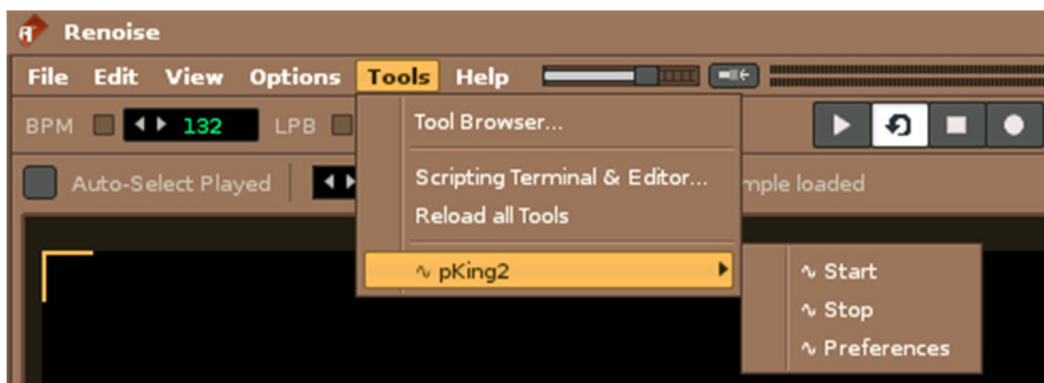
Installation and Preferences

pKing is installed as per any other Renoise Tool. A simple drag and drop of the downloaded xrnx package onto the Renoise window should be sufficient to install the tool.

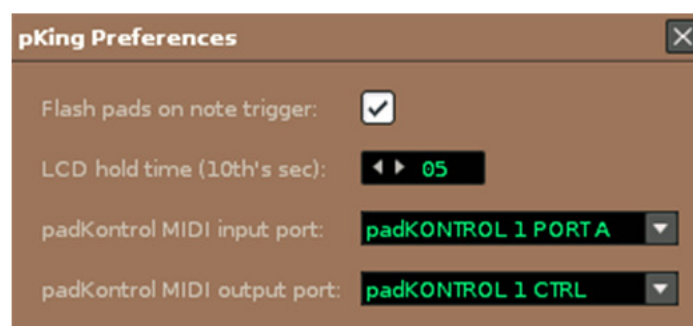
Once complete, Renoise will display a dialog indicating that the tool has been installed successfully.



After installation, you will need to set the pKing preferences. These can be found along with entries to start and stop pKing within Renoise's main menu, under tools -> pKing2.



Selecting this option will present the following dialog:





The options are as follows:

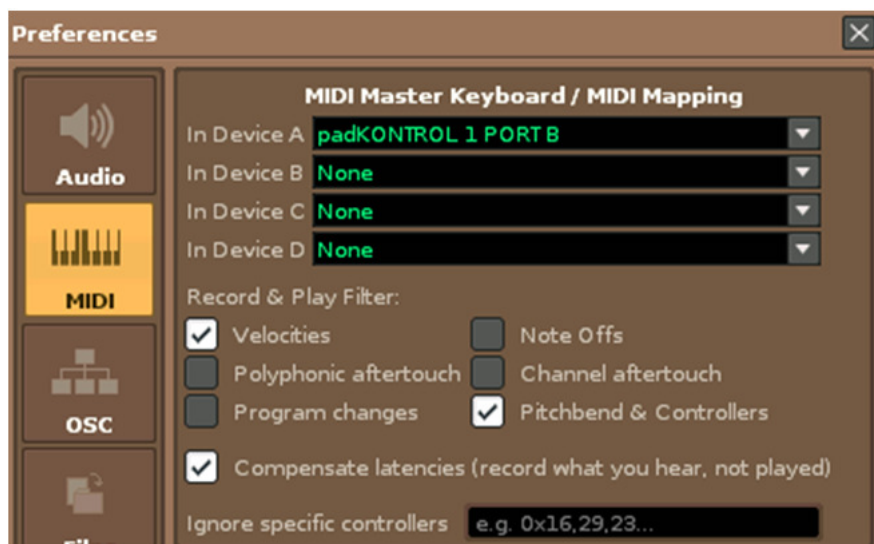
- Flash pads on note trigger – Briefly illuminate pads as they trigger notes.
- LCD hold time – When a value changes but is not the current action, the LCD will briefly display the new value before reverting to the action at hand. Set the length of this update in 10ths of a second.
- MIDI input port – Set the padKONTROL data input port.
- MIDI output port – Set the padKONTROL data output port.

All options are automatically saved. Simply close the dialog when finished.

The dialog will not appear if pKing is already running.

It is important that the correct midi input and output ports are selected. Failure to do this will result in pKing not operating correctly.

When pKing is running, the midi notes from the pads are reassigned to appear on a different midi port. The Renoise midi preferences must be updated to match this like so:



The default midi port assignment should be as follows:

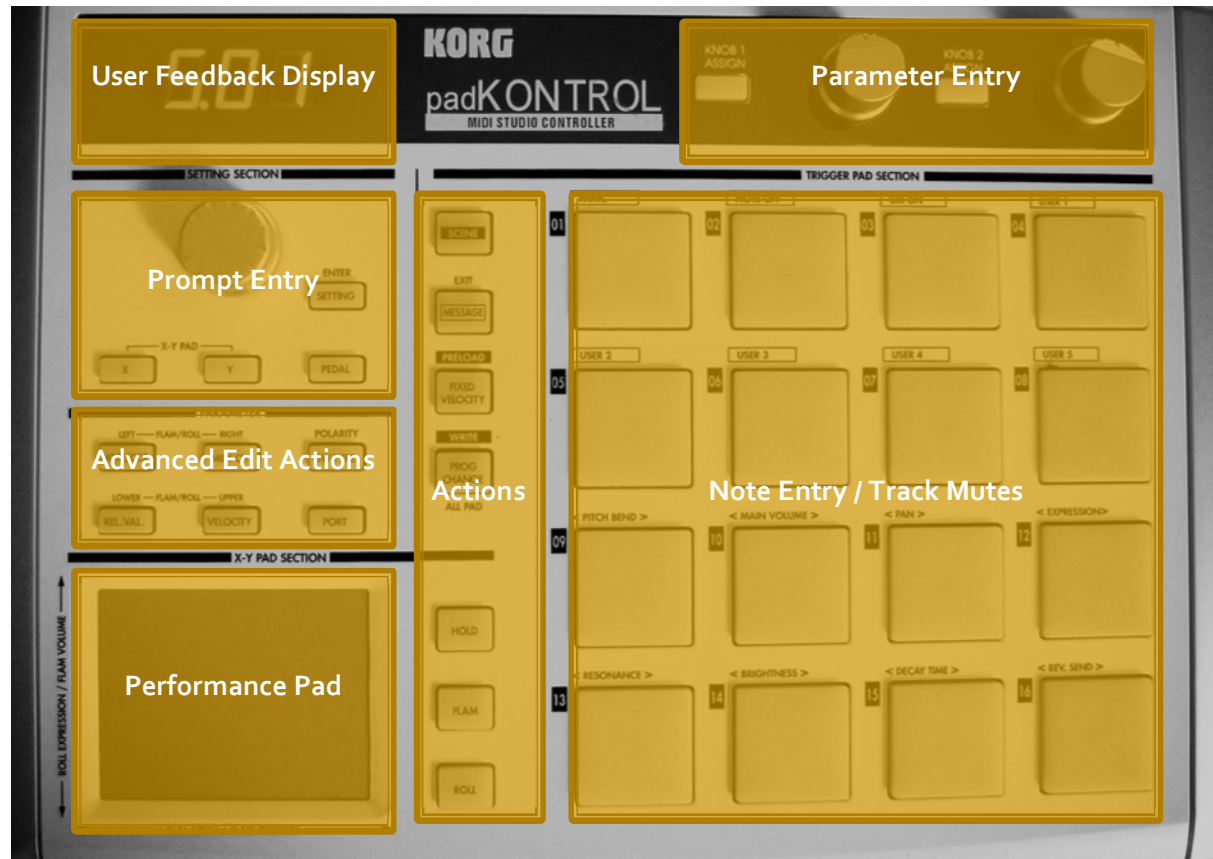
Operating System	pKing Midi Data Input Port	pKing Midi Data Output Port	Renoise Midi Input Port
Linux	padKONTROL MIDI 2	padKONTROL MIDI 2	padKONTROL MIDI 3
Mac OS	padKONTROL (PORT A)	padKONTROL (CTRL)	padKONTROL (PORT B)
Windows	padKONTROL PORT A	padKONTROL CTRL PORT	padKONTROL PORT B



Interface Overview

pKing does not provide any interface on the computer screen. All feedback is performed via the illumination of buttons and pads and the LCD display on the padKONTROL hardware.

The hardware interface can be broken down into seven main areas as follows:



Each of the areas has the following features:

- User Feedback Display – This displays relevant feedback on the current action being performed by the user.
- Parameter Entry Area – This area allows the user to set values and toggle options (with LED feedback) relevant to the current operating mode.
- Prompt Entry Area – This area is used to set values within different parameter prompts in conjunction with the User Feedback Display.
- Action Buttons – These buttons are used to perform actions and enter different prompt modes complete with LED feedback.
- Advanced Edit Actions – These buttons are also used to perform actions and enter prompt modes but target more advanced features.
- Note Entry / Track Mutes – The pads are used to enter notes into Renoise. In certain operating modes, the pads do not enter notes but toggle track mutes.
- Performance Pad – This X-Y touch pad transmits two different MIDI controller CC values, one for each axis. They may be assigned to any MIDI parameter within Renoise.



Pattern Edit Mode Commands

Pattern Edit mode is the 'main' mode of pKing. It is the mode which the user is placed within upon starting pKing. This mode allows the user to edit and record data within a Renoise pattern.

When entering this mode the LCD will display 'PAT'.

Within this mode the controls work as follows:

- User Feedback Display:
 - Displays the current edit position within the current pattern in the format of BAR.BEAT.LINE. When edit mode is enabled, only BAR.BEAT will display to reduce the amount of data to/from the padKONTROL and assist with reducing latency from the pads.
- Parameter Entry Area:
 - Knob 1 Assign – Toggle chord mode. Illuminates if enabled.
 - Knob 1 – For unsliced instruments, note entry octave, for sliced instruments, selects pad slice bank.
 - Knob 2 Assign – Toggle record quantize / edit step enable. Illuminates if enabled.
 - Knob 2 - Record quantize / Edit step value. LCD displays step as equivalent note length.
- Prompt Entry Area:
 - Unless overridden by a prompt, the controls within the Prompt Entry Area work as follows:
 - Encoder – Scroll edit cursor position.
 - Setting – Enter pattern length prompt.
 - X – Insert line in selected track at edit cursor position.
 - Y – Delete current line in selected track.
 - Pedal – Clear current line in selected track.
- Action Buttons:
 - Scene – Single press to enter sequencer position prompt. Double press to enter sequencer / mixer edit mode.
 - Message – no action in this mode.
 - Fixed Velocity – Insert note off at current edit cursor position.
 - Prog Change – Single press to enter instrument selection prompt. Double press to enter instrument edit mode.
 - Hold – Toggle pattern follow. Illuminates if enabled.
 - Flam – Toggle edit mode. Illuminates if enabled.
 - Roll – Start/stop transport. Illuminates if playing. The pattern will continuously loop.
- Advanced Action Buttons:
 - Note/CC – Enter note column selection prompt.
 - Midi Ch – Enter track selection prompt.
 - SW Type – Toggle metronome. Illuminates if enabled.
 - Rel Val – Enter note delay modify prompt.
 - Velocity – Enter note velocity modify prompt.



- Port – Enter note panning modify prompt.
- Pads:
 - For unsliced instruments:
 - The pads play a chromatic scale with C in the selected input octave on pad #1 (top left) rising to D# in the octave above on pad #16 (bottom right).
 - For sliced instruments:
 - The pads play individual slices from the selected bank within a sliced instrument. The slice index ascends from upper left to lower right.
- Performance Pad:
 - Transmits MIDI Controller Change (CC) messages
 - CC #126 – X axis.
 - CC #127 – Y axis.

Pattern Edit Mode Prompts

Within this mode the following prompts are used:

- Pattern length prompt.
- Sequencer position prompt.
- Instrument selection prompt.
- Note column selection prompt.
- Track selection prompt.
- Note delay modify prompt.
- Note volume modify prompt.
- Note panning modify prompt.

Within all prompts, 'setting' is used to confirm and exit the prompt and the current prompt enter button flashes.



The Prompt Entry Area controls perform the following actions within these prompts:

Prompt	Encoder	X	Y	Pedal
Pattern length	Set pattern length in beats. The LCD will display current length.	No action.	No action.	No action.
Sequencer position	Select position in sequence line. The LCD will display current sequencer index.	Clone current pattern and insert in sequence at current position.	Delete current pattern from pattern sequence.	Clear all data from current pattern.
Instrument selection	Select instrument in instrument list. The LCD will display current instrument index.	Clone current instrument and insert in instrument list at current position.	Delete current instrument from instrument list.	Clear all data from current instrument.
Note column selection	Select note column within current track. The LCD will display current column index.	Append addition note column (up to a maximum of eight columns per track).	Remove rightmost note column from current track (to a minimum of one column per track).	Clear all data from current note column.
Track selection	Select track within pattern. The LCD will display current track index or MST if the master track is selected.	Insert new track after current track.	Delete current track.	Clear all data from current track within this pattern.
Note delay modify	Set note delay value. The LCD will display the current value.	Toggle delay column visibility for current track. Illuminates if visible.	Set to maximum delay (FF).	Clear note delay value.
Note volume modify	Set note volume value. The LCD will display the current value.	Toggle volume column visibility for current track. Illuminates if visible.	Set to maximum volume (7F).	Clear note volume value.
Note panning modify	Set note panning value. The LCD will display the current value.	Toggle panning column visibility for current track. Illuminates if visible.	Set to center panning (40)	Clear note panning value.



Sequencer / Mixer Edit Mode Commands

Sequencer / Mixer Edit mode allows you to combine patterns to create songs. This mode is accessed from Pattern Edit Mode. This mode allows the user to edit the pattern sequence and perform mixing operations.

When entering this mode the LCD will display 'SEQ'.

Within this mode the controls work as follows:

- User Feedback Display:
 - There is no default LCD display in this mode. The display will continuously display the results of user actions.
- Parameter Entry Area:
 - Knob 1 Assign – Toggle mute of current track. If the current track is muted, this button is illuminated. If another track than the current track is muted, this button will flash. If no tracks are muted, this button remains unlit.
 - Knob 1 – Set the current track volume. A value of 0 is equivalent to a value of $-INF$, a value of 100 is equivalent to $+3db$.
 - Knob 2 Assign – Toggle solo of current track. If the current track is soloed, this button is illuminated. If another track than the current track is soloed, this button will flash. If no tracks are soloed, this button remains unlit.
 - Knob 2 – Set the current track panning from 50Left to 50Right with a generous region in the center of the dial for central panning.
- Prompt Entry Area:
 - Unless overridden by a prompt, the controls within the Prompt Entry Area work as follows:
 - Encoder – Set current sequencer position.
 - Setting – Enter pattern length prompt.
 - X – Clone current pattern and insert after current position in the sequence.
 - Y – Delete the current pattern from the sequence.
 - Pedal – Clear all data from the current pattern.
- Action Buttons:
 - Scene – No action.
 - Message – Illuminated in this mode. Press to return to Pattern Edit Mode.
 - Fixed Velocity – No action.
 - Prog Change – No action.
 - Hold – Toggle current pattern loop. Illuminates if enabled.
 - Flam – Toggle edit mode. Illuminates if enabled.
 - Roll – Start/Stop transport. Illuminates if playing.
- Advanced Action Buttons:
 - Note/CC – No action.
 - Midi Ch – Enter track selection prompt.
 - SW Type - Toggle metronome. Illuminates if enabled.
 - Rel Val – Enter track output routing / delay prompt.
 - Velocity – No action.



- Port – Song BPM prompt.
- Pads:
 - The pads act as pattern track mutes in the pattern matrix within this mode. The currently selected pattern is the top row of the pads. The currently selected track is the leftmost column of pads. Illuminated pads will play. Patterns on the master track cannot be disabled.
- Performance Pad:
 - Transmits MIDI Controller Change (CC) messages
 - CC #126 – X axis.
 - CC #127 – Y axis.

Sequencer / Mixer Mode Prompts

Within this mode the following prompts are used:

- Pattern length prompt.
- Track selection prompt.
- Track output routing / delay prompt.
- Song BPM prompt.

Within all prompts, 'setting' is used to confirm and exit the prompt and the current prompt enter button flashes.

The Prompt Entry Area controls perform the following actions within these prompts:

Prompt	Encoder	X	Y	Pedal
Pattern length	Set pattern length in beats. The LCD will display current length.	No action.	No action.	No action.
Track selection	Select track within pattern. The LCD will display current track index or MST if the master track is selected.	Insert new track after current track.	Delete current track.	Clear all data from current track within this pattern.
Track output / delay prompt	Set parameter value. The LCD will display the parameter value.	Set track routing to parent group if available.	Set track routing directly to Master track.	Toggle setting of track routing (unlit) or track delay (illuminated).
Song BPM prompt	Set song BPM. The LCD will display the current value.	Tap tempo. Four presses required. Illuminates if part way through.	No action.	No action.



Instrument Edit Mode Commands

Instrument Edit Mode allows you to set properties of native Renoise instruments. This mode is accessed from Pattern Edit Mode.

When entering this mode the LCD will display 'INS'.

Within this mode the controls work as follows:

- User Feedback Display:
 - There is no default LCD display in this mode. The display will continuously display the results of user actions.
- Parameter Entry Area:
 - Knob 1 Assign – Toggle chord mode. Illuminates if enabled.
 - Knob 1 – For unsliced instruments, note entry octave, for sliced instruments, selects pad slice bank.
 - Knob 2 Assign – Toggle selected sample beat sync enable. Illuminates if enabled.
 - Knob 2 – Set selected sample beat sync at number of 16th notes.
- Prompt Entry Area:
 - Unless overridden by a prompt, the controls within the Prompt Entry Area work as follows:
 - Encoder – Select sample within current instrument.
 - Setting – Enter Sample Edit Mode.
 - X – Clone selected sample and sample mapping within current instrument
 - Y – Delete selected sample and associated sample mappings with current instrument.
 - Pedal – Clear selected sample.
- Action Buttons:
 - Scene – Enter sequencer position prompt.
 - Message – Return to Pattern Edit Mode.
 - Fixed Velocity – No action.
 - Prog Change – Enter instrument selection prompt.
 - Hold – No action.
 - Flam – Enter sample volume / panning / note off prompt.
 - Roll – Enter sample transpose / tuning / resample mode prompt.
- Advanced Action Buttons:
 - Note/CC – Enter sample mapping note edit prompt.
 - Midi Ch – Enter sample mapping velocity edit prompt.
 - SW Type – Generate drumkit note map (reset all sample mappings within current instrument to sequential notes. One note per sample).
 - Rel Val – No action.
 - Velocity – No action.
 - Port – No action.
- Pads:
 - For unsliced instruments:



- The pads play a chromatic scale with C in the selected input octave on pad #1 (top left) rising to D# in the octave above on pad #16 (bottom right).
- For sliced instruments:
 - The pads play individual slices from the selected bank within a sliced instrument. The slice index ascends from upper left to lower right.
- Performance Pad:
 - Transmits MIDI Controller Change (CC) messages
 - CC #126 – X axis.
 - CC #127 – Y axis.

Instrument Edit Mode Prompts

Within this mode the following prompts are used:

- Sequencer position prompt.
- Instrument selection prompt.
- Sample volume / panning / note off prompt.
- Sample transpose / tuning / resample mode prompt.
- Sample mapping note edit prompt.
- Sample mapping velocity edit prompt.

Within all prompts, 'setting' is used to confirm and exit the prompt and the current prompt enter button flashes.



The Prompt Entry Area controls perform the following actions within these prompts:

Prompt	Encoder	X	Y	Pedal
Sequencer position	Select position in sequence line. The LCD will display current sequencer index.	Clone current pattern and insert in sequence at current position.	Delete current pattern from pattern sequence.	Clear all data from current pattern.
Instrument selection	Select instrument in instrument list. The LCD will display current instrument index.	Clone current instrument and insert in instrument list at current position.	Delete current instrument from instrument list.	Clear all data from current instrument.
Sample volume / panning / note off	Set parameter value. The LCD will display the current value.	Set sample volume. 0 is equivalent to –INF, 100 is equivalent to +3dB. Illuminates if this is the current action of the encoder.	Set sample panning from 50Left, through CENTER to 50Right. Illuminates if this is the current action of the encoder.	Set sample new note action (NNA). Illuminates if this is the current action of the encoder.
Sample transpose / tuning / resample mode	Set parameter value. The LCD will display the current value.	Set sample transpose in semitones. Illuminates if this is the current action of the encoder.	Set sample finetuning. Illuminates if this is the current action of the encoder.	Set sample resampling mode. Illuminates if this is the current action of the encoder.
Sample mapping note edit	Set parameter value. The LCD will display the current value as a note-octave value.	Set low note. Illuminates if this is the current action of the encoder.	Set high note. Illuminates if this is the current action of the encoder.	Set base note. Illuminates if this is the current action of the encoder.
Sample mapping velocity edit	Set parameter value. The LCD will display the current value.	Set low velocity. Illuminates if this is the current action of the encoder.	Set high velocity. Illuminates if this is the current action of the encoder.	Set velocity range to max (0 – 127).



Sample Edit Mode Commands

Sample Edit mode allows the user to record new samples and perform basic sample manipulation. This mode is accessed from Instrument Edit Mode.

When entering this mode the LCD will display 'SAM'.

Within this mode the controls work as follows:

- User Feedback Display:
 - There is no default LCD display in this mode. The display will continuously display the results of user actions.
- Parameter Entry Area:
 - Knob 1 Assign – Toggle chord mode. Illuminates if enabled.
 - Knob 1 – For unsliced instruments, note entry octave, for sliced instruments, selects pad slice bank.
 - Knob 2 Assign – Toggle selected sample beat sync enable. Illuminates if enabled.
 - Knob 2 – Set selected sample beat sync at number of 16th notes.
- Prompt Entry Area:
 - Unless overridden by a prompt, the controls within the Prompt Entry Area work as follows:
 - Encoder – Move sample cursor.
 - Setting – No action.
 - X – Modify selection start position.
 - Y – Modify selection end position.
 - Pedal – Select all visible waveform.
- Action Buttons:
 - Scene – No action.
 - Message – Return to Instrument Edit Mode.
 - Fixed Velocity – No action.
 - Prog Change – No action.
 - Hold – Enter sample looping prompt.
 - Flam – Enter sample volume / panning / note off prompt.
 - Roll – Enter sample transpose / tuning / resample mode prompt.
- Advanced Action Buttons:
 - Note/CC – Enter sample slicer prompt.
 - Midi Ch – Enter sample autochop prompt.
 - SW Type – Enter sample record prompt.
 - Rel Val – Zoom to selection.
 - Velocity – Zoom out.
 - Port – Zoom out maximum (display all sample).
- Pads:
 - For unsliced instruments:
 - The pads play a chromatic scale with C in the selected input octave on pad #1 (top left) rising to D# in the octave above on pad #16 (bottom right).
 - For sliced instruments:



- The pads play individual slices from the selected bank within a sliced instrument. The slice index ascends from upper left to lower right.
- Performance Pad:
 - Transmits MIDI Controller Change (CC) messages
 - CC #126 – X axis.
 - CC #127 – Y axis.

Sample Edit Mode Prompts

Within this mode the following prompts are used:

- Sample looping prompt.
- Sample volume / panning / note off prompt.
- Sample transpose / tuning / resample mode prompt.
- Sample slicer prompt.
- Sample autochop prompt.
- Sample record prompt.

Within all prompts, 'setting' is used to confirm and exit the prompt and the current prompt enter button flashes.



The Prompt Entry Area controls perform the following actions within these prompts:

Prompt	Encoder	X	Y	Pedal
Sample looping	Set parameter value.	Set sample loop start point. Illuminates if this is the current action of the encoder.	Set sample loop end point. Illuminates if this is the current action of the encoder.	Set sample loop mode. Illuminates if this is the current action of the encoder.
Sample volume / panning / note off	Set parameter value. The LCD will display the current value.	Set sample volume. 0 is equivalent to – INF, 100 is equivalent to +3dB. Illuminates if this is the current action of the encoder.	Set sample panning from 50Left, through CENTER to 50Right. Illuminates if this is the current action of the encoder.	Set sample new note action (NNA). Illuminates if this is the current action of the encoder.
Sample transpose / tuning / resample mode	Set parameter value. The LCD will display the current value.	Set sample transpose in semitones. Illuminates if this is the current action of the encoder.	Set sample finetuning. Illuminates if this is the current action of the encoder.	Set sample resampling mode. Illuminates if this is the current action of the encoder.
Sample slicer	Set slice length.	Insert new slice marker.	Delete slice marker.	Select slice marker.
Sample autochop	Set number of slices.	No action.	No action.	Perform autochop.
Sample record	No action.	Start/stop recording.	Cancel sample recording.	No action.



pKing Quick Reference Tables

Control	Pattern Edit Mode	Song Edit Mode	Instrument Edit Mode	Sample Edit Mode
Top frame	Hidden	Spectrum	File browser	File browser
Middle frame	Pattern editor	Matrix / Mixer	Sample mapping	Sample editor
Bottom frame	Hidden	Track DSP	Instrument parameters	Instrument parameters
Encoder	Edit cursor row	Select sequencer slot	Select sample in inst	Move selection cursor
Setting	Pattern length prompt	Pattern length prompt	Sample Edit Mode	-
X	Insert line in track	Clone current pattern	Clone sample slot	Modify selection start
Y	Delete line in track	Delete current pattern	Delete sample slot	Modify selection end
Pedal (Z)	Clear line in track	Clear current pattern	Clear sample slot	Select all visible
Scene	Seq pos prompt x2 - Song Edit Mode	-	Seq pos prompt	-
Message	-	Return to Pattern Edit Mode	Return to Pattern Edit Mode	Return to Inst Edit Mode
FixedVel	Insert note off	-	-	-
ProgChange	Inst idx prompt x2 - Inst Edit Mode	-	Inst idx prompt	-
Hold	Pattern follow toggle	Toggle pattern loop	-	Sel samp loop prompt
Flam	Edit mode toggle	Edit mode toggle	Sel samp vpn prompt	Sel samp vpn prompt
Roll	Start/stop transport	Start/stop transport	Sel samp ttr prompt	Sel samp ttr prompt
NoteCC	Note col idx prompt	-	Sel samp note map prompt	Slicer prompt
MidiCh	Track idx prompt	Track idx prompt	Sel samp vel map prompt	Autochop prompt
SwType	Metronome toggle	Metronome toggle	Generate drumkit note map	Sample record prompt
RelVal	Note delay prompt	Track out/del prompt	-	Zoom to selection
Velocity	Note velocity prompt	-	-	Zoom out
Port	Note pan prompt	BPM prompt	-	Zoom out max
Knob1	Unliced inst - octave Sliced inst - bank 1/2	Track volume	Unliced inst - octave Sliced inst - bank 1/2	Unliced inst - octave Sliced inst - bank 1/2
Knob1Assign	Chord mode toggle	Track mute / any mute	Chord mode toggle	Chord mode toggle
Knob2	Rec quant / Edit step	Track panning	Sel samp beat sync lines	Beat sync lines
Knob2Assign	Rec quant toggle	Track solo / any solo	Sel samp beat sync toggle	Toggle beat sync
Pads	Unliced inst - notes Sliced inst - slices	Pattern track mutes	Unliced inst - notes Sliced inst - slices	Unliced inst - notes Sliced inst - slices



Prompt	Encoder	X	Y	Pedal
Pattern length prompt	Set length	-	-	-
Seq pos prompt	Select seq position	Clone pattern	Delete pattern	Clear pattern
Inst idx prompt	Select instrument	Clone inst	Delete inst	Clear inst
Note col idx prompt	Select note column	Append	Remove last	Clear in pattern
Track idx prompt	Select track	Insert track	Delete track	Clear in pattern
Note delay prompt	Set note delay	Toggle col vis	Full value	Clear
Note velocity prompt	Set note velocity	Toggle col vis	Full value	Clear
Note pan prompt	Set note panning	Toggle col vis	Center	Clear
Sel samp note map prompt	Set value	Low note	High note	Base note
Sel samp vel map prompt	Set value	Low velocity	High velocity	0-127
Track out/del prompt	Set value	Set to parent group	Set to master	Toggle output / delay
BPM prompt	Set bpm	Tap tempo	-	-
Sel samp loop prompt	Set value	Sample loop start	Sample loop end	Sample loop mode
Sel samp vpn prompt	Set value	Sample volume	Sample panning	Sample nna
Sel samp ttr prompt	Set value	Sample transpose	Sample fine tune	Sample resample mode
Sample record prompt	-	Start/stop recording	Cancel recording	-
Autochop prompt	Set value	-	-	Clear slices & Chop
Slicer prompt	Slice length	Insert marker	Delete marker	Select marker