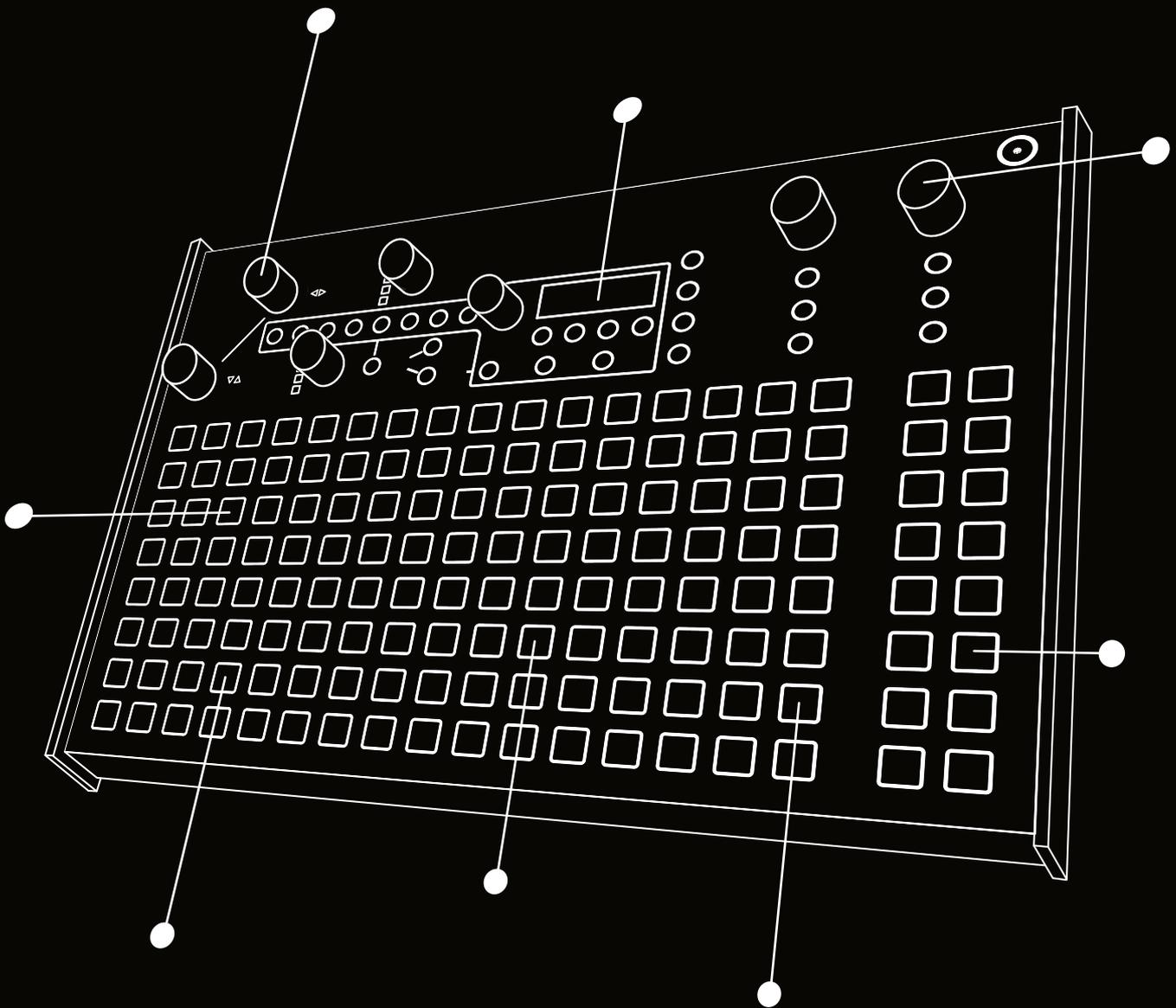


# deluge

Guidebook Addendum



Addendum from v3.0 to v3.1



# Original Manual Change Log

From Version 3.0 OS to 3.1 OS.

Page 41.

Note characteristics

- Velocity, Included wording to state default velocity can be changed in the settings menu
- Note repeat instructions added

Page 45.

Note characteristics

- Added instruction for note nudge

Page 53

Note zoom

- Changed the 64th maximum to 128th in header.

Page 55

Note zoom

- Changed the 64th maximum to 128th in step 3
- added the 128th Graphic

Page 258/259

Settings table expanded

- Added Velocity, Resolution to the 'Defaults'
- Added Colours to 'Pads'

Pages 226 & 271

USB MIDI

- USB MIDI Input only - Changed to Input and output
- Updated MIDI message descriptions.

Page 263

Mute / Launch pad colours

- Added note to indicate that the defaults can be set in settings.

Page 267

Quick ref

- Added note nudge
- Added note repeat

## 3 Sequencer

---

No Change

NOTES

### ■ SETTING A RECORDING COUNT-IN

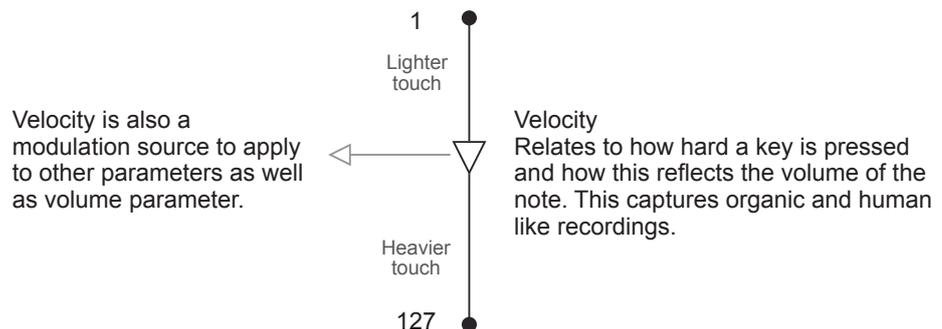
1. Press [SHIFT] + press (SELECT) to access the settings menu.
2. Turn (SELECT) to highlight 'rECo' - recording, in-focus.
3. Press (SELECT) to open the sub-menu.
4. Turn (SELECT) to highlight 'CoUn' - count-in, in-focus.
5. Press (SELECT) to set the count-in option.
6. Turn (SELECT) to choose 'oFF' or 'oN'. This will set the count-in for recording on or off.
7. Count in will operate when set ON;-
  - With Deluge as master, [RECORD] enabled, press [PLAY] to perform a count-in prior to recording.
  - Metronome and display counts down 4-3-2-1 prior to recording.
  - Count-in is disabled if recording is going to begin for just one audio clip from which it's going to auto-detect the tempo.

### 3.5 Note Characteristics

Several basic characteristics of notes can be changed in settings. These include, velocity, note repeat, note length, quantization and note scales. Some of these can be edited in the sequencer.

#### CHANGING A RECORDED SYNTH NOTE VELOCITY

1. After a pattern has been recorded, notes will be at a default velocity level.
2. Press & hold one or more [*PAD*]'s for the note to change and turn (SCROLL ◀▶).
3. The system default velocity is 64, however the velocity used on the last note entry / edited will be applied to the next note entered.
4. Velocity will be displayed and its value.



Deluge pads are not velocity sensitive. The default velocity is 64 but this default level can be changed in the settings options under the defaults menu.

#### SETTING A NOTE TO REPEAT

1. After a pattern has been recorded, notes will be trigger individually
2. Hold [*PAD*] + Press & turn (SCROLL ▼▲). [*PAD*] is the note to repeat.
3. The value selected will determine the number of repeats to assign to the selected note, positioned equally in the time interval of the pad.

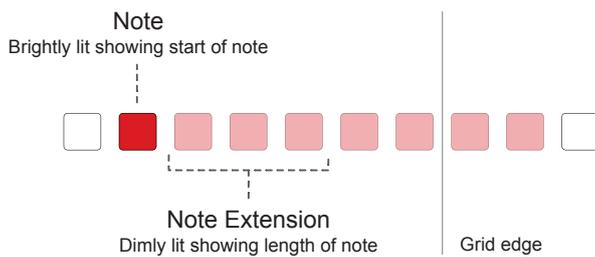
## 3 Sequencer

No Change

NOTES

### EDITING NOTES' LENGTH

1. Note lengths can be set when entering clip notes by pressing the note START [PAD] + END [PAD] on the same row. For kits, samples will automatically map across the pads matching the sample length.



2. Reduce the note length by pressing one of the extension [PAD]'s to shorten it.
3. To extend a note across grid views:-
  - Press the [PAD] for the note start.
  - Scroll to the next grid view 'page' using (SCROLL ◀▶). This would be further in time from the original note.
  - On the same row, press (SCROLL ◀▶) + [PAD] at the end position.
  - The note will be extended across the 'page'.
4. To create a note for the duration of the clip, for example as a pad or to create a 'drone' note:-
  - Press the [PAD] for the note start on the first column (left position) of the clip.
  - On the same row, press (SCROLL ◀▶) + [PAD] at the last column (right position).
  - The note will be extended across the full clip.
  - Deluge will ensure that these type of notes play continuously through the clip and will loop. This is handled as a special case and the note does not restart.

### ADJUSTING A CLIPS HORIZONTAL NOTE EVENT POSITION

1. Press (SCROLL ▼ ▲) + Turn (SCROLL ◀ ▶) control to adjust the clip note events i.e. notes and automation horizontally across the grid.
  - The note events will move 1 step incrementally across the horizontal grid. The steps are based on the zoom level.
  - Note events which scroll off the edge left or right will wrap back onto the grid from the opposite side.

### NUDGING INDIVIDUAL NOTES HORIZONTALLY

1. Hold [*Pad*] + Press and turn (SCROLL ◀ ▶) to nudge the selected [*Pad*] note event forward or backwards, indicated by +/-values.
2. This will nudge at the songs minimum resolution, default is 384<sup>th</sup> notes.

### COPYING / PASTING NOTE RANGE

1. Press [LEARN / INPUT] + press (SCROLL ◀ ▶) to copy the clips notes.
  - This will copy the step range of notes in the current view on the grid at the current scroll and zoom position.
  - The time range of notes is what is copied including all notes out of view above and below the pad range.
  - Copy can be performed from one clip to another in the same or different songs as well as within the same clip.
2. Select the new location for pasting the previously copied range. For example extend the clip length or scroll to another part of the clip.
3. Press [SHIFT] + [LEARN / INPUT] + press (SCROLL ◀ ▶) to paste the current clips notes:
  - When pasting, the notes are pasted into the current view.
  - If the destination view is transposed from the original copied location the notes are pasted into the new transposed position.
  - If only a part of the grid is selected as the destination, the notes for the available columns are pasted and the rest discarded.
  - Notes will be pasted into any new zoom levels where notes will be stretched or reduced to meet the destination zoom view.

# 3 Sequencer

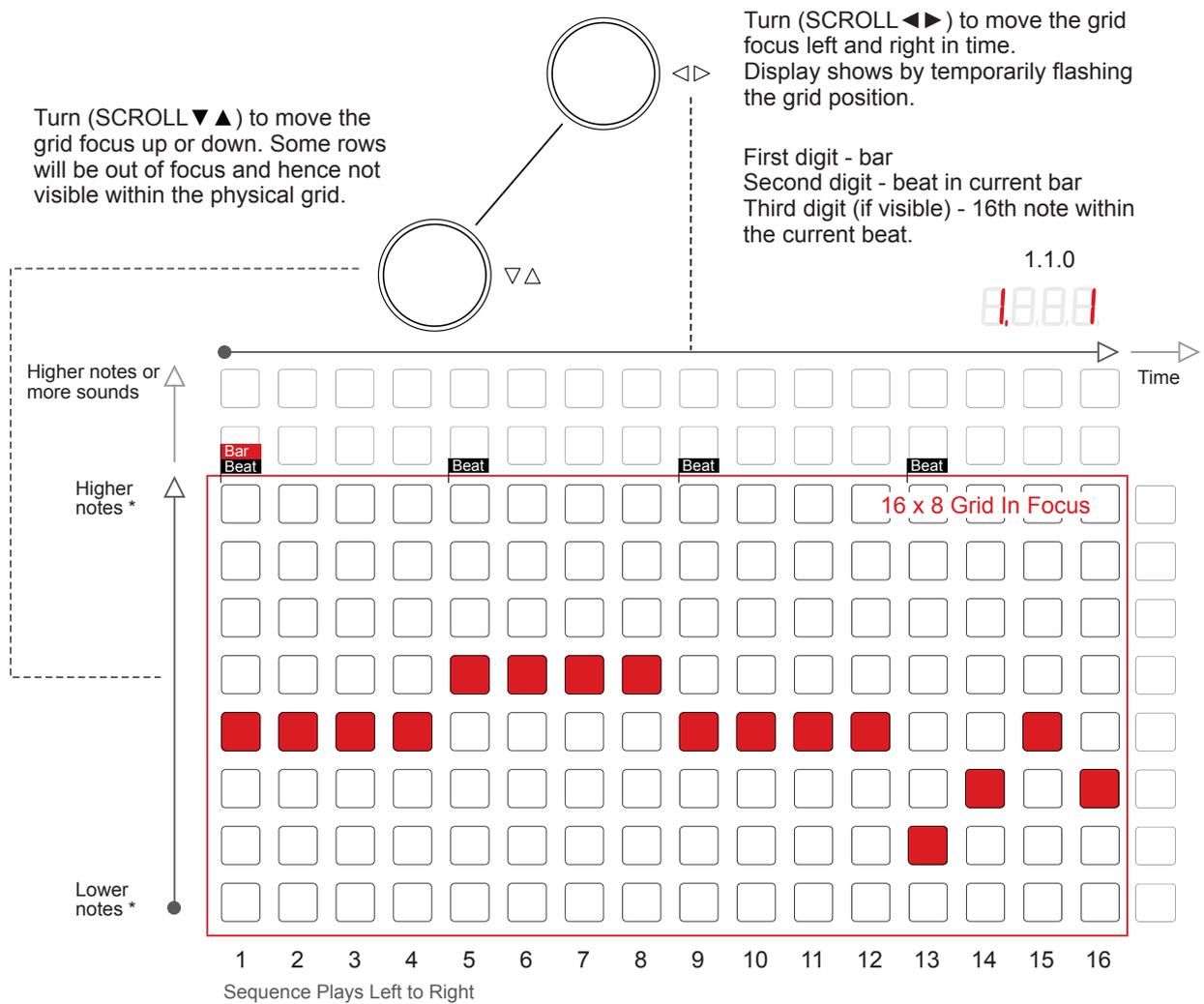
No Change

## 3.8 Navigating the Grid

Deluge has a 16 x 8 grid of pads which is used when sequencing notes and creating melodies and patterns. The actual programming grid is not limited to the 16 x 8 pads in focus and on view.

### Scrolling The Grid

Higher and lower notes (synth) or different samples (kit) can be scrolled up and down or longer time sequences left / right are available. The focus area can be scrolled and zoomed across the pattern real estate to suit your workflow and area of interest.



Default: 16<sup>th</sup> notes represented by each column of the grid.

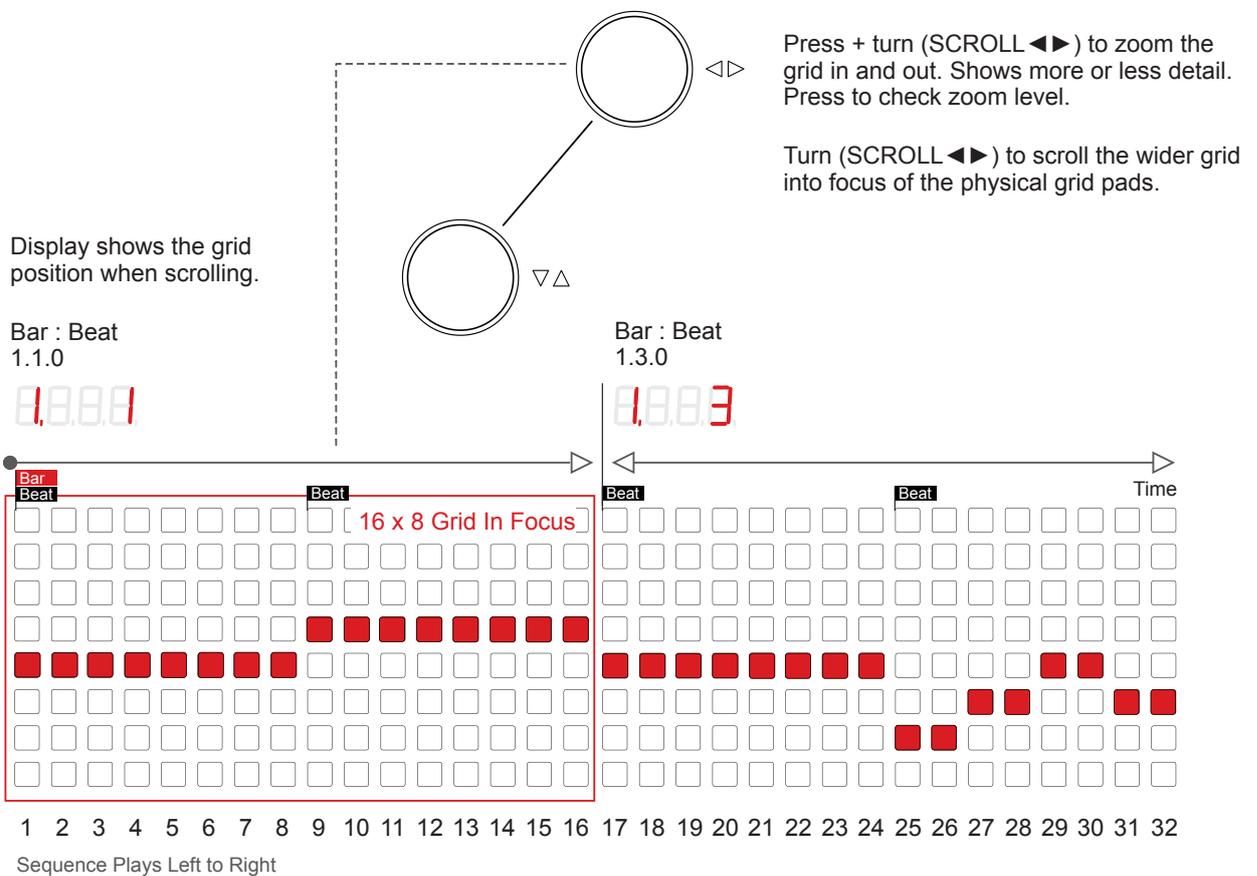
16EH

Press (SCROLL  $\blacktriangleleft \blacktriangleright$ ) to check the current zoom setting as shown on the display.

\* Rows represent notes for a synth (illustrated) and samples for a kit

## Zooming The Grid

Zooming the grid also uses the scroll and zoom rotary control. Zooming is performed across the horizontal timeline of the grid. The grid resolution will change to the zoom level selected and as such may include more or less visible information. Zooming-in is possible from the 16<sup>th</sup> default to 128<sup>th</sup> notes.



Note / step detail is expanded or contracted. Moving from the default 16<sup>th</sup> view to 32<sup>nd</sup> view will still be one bar but add more resolution detail effectively doubling the note / step detail from the first 8 columns of the 16<sup>th</sup> view across to the entire 16 columns in 32<sup>nd</sup> view.

Example: 32<sup>nd</sup> notes representing the zoomed grid.

32.8.8

Press (SCROLL ◀▶) to check the current zoom setting as shown on the display.

## 3 Sequencer

---

No Change

NOTES

### SCROLLING CLIPS HORIZONTALLY

1. Press [CLIP] to select clip view. This is indicated by the clip button illuminated blue.
2. Select SYNTH or KIT by pressing [SYNTH] or [KIT]. The selected button illuminates red.
3. Turn (SCROLL ◀▶) to scroll the grid in focus. If there are no notes / steps existing beyond the visible pad grid then no scrolling will take place. Scrolling will move by the full page of 16 steps.
4. Editing of notes and steps is retained irrespective of whether the notes are in focus and viewed within the pad grid. Horizontal scrolling adjust the step columns in focus based on the time division

### SCROLLING CLIPS VERTICALLY

1. Press [CLIP] to select clip view. This is indicated by the clip button illuminated blue.
2. Select SYNTH or KIT by pressing [SYNTH] or [KIT]. The selected button illuminates red.
3. Turn (SCROLL ▼▲) to scroll the grid in focus. Scrolling will take place. Scrolling will move by one row at a time and for synth notes the audition pads will show the root note position for synths and the selected row for kits.
4. Editing of notes and steps is retained irrespective of whether the notes are in focus and viewed within the pad grid. Vertical scrolling adjusts the step rows in focus based on the note pitch for synths or specific sounds for kits.

## ZOOMING THE GRID HORIZONTALLY

1. Press [CLIP] to select clip view. This is indicated by the clip button illuminated blue.
2. Select SYNTH or KIT by pressing [SYNTH] or [KIT]. The selected button illuminates red.
3. Press + turn (SCROLL ◀▶) to zoom the grid showing more or less detail. Step resolution will expand up to 128<sup>th</sup> notes and shrink depending on the zoom level. Default is 16<sup>th</sup> notes.
4. The bar, beat of the current bar and (if visible) the 16<sup>th</sup> note in the current beat flashes for a short period on the display as adjustments are made.



1.3.0

## CHECKING ZOOM LEVEL RESOLUTION

1. Press [CLIP] to select clip view. This is indicated by the clip button illuminated blue.
2. Select SYNTH or KIT by pressing [SYNTH] or [KIT]. The selected button illuminates red.
3. Press (SCROLL ◀▶). The display will flash showing the timing division resolution depending on the clip length. Examples are:-



16<sup>th</sup> notes



32<sup>nd</sup> notes



64<sup>th</sup> notes



128<sup>th</sup> notes

# 12 MIDI

## 12.1 MIDI Connections

MIDI is a standard music protocol used to connect multiple devices in order to communicate and was first introduced in the early 1980's. Deluge uses the most common 5 Pin DIN connection as well as a USB connection.



Deluge has both a MIDI in and Out 5-pin DIN connection.



USB MIDI is also available via the Type-B USB connection.

MIDI DIN synchronises on PPQN pulses per quarter note. 24 and 48 pulses per quarter note (PPQN) are most common. This can be adjusted in the settings, trigger menu in Deluge and by default is set to 24.

Deluge uses MIDI CC (control change) messages while also providing *program change* and *bank change* options. This allows the presets and patches of other synths and gear to be changed and controlled as well as adjusting parameters remotely.

### USB Host

When Deluge is powered up (external supply, not internal battery) it can be connected via the USB connection to other devices as a USB host. The USB MIDI device must be connected on starting / booting Deluge up. The connection can be disconnected / reconnected once it's booted in this set-up.

Deluge supports one USB MIDI 'hub' devices as a host. Powered USB Hubs are also useful in powering up Deluge as well as other connected USB devices. Deluge will blink "MIDI" for a working MIDI device, or "UNKNOWN" for anything else. Multiple hubs especially more than four connected may not operate correctly and "FULL" is displayed if more than four devices are connected. Deluge will blink "HUB" when a connected hub device is detected and working and "DETACH" when a device is detached. If your device doesn't work and you get no error message, it may be a power issue.

Hosted MIDI USB devices are supported for both MIDI input and output.

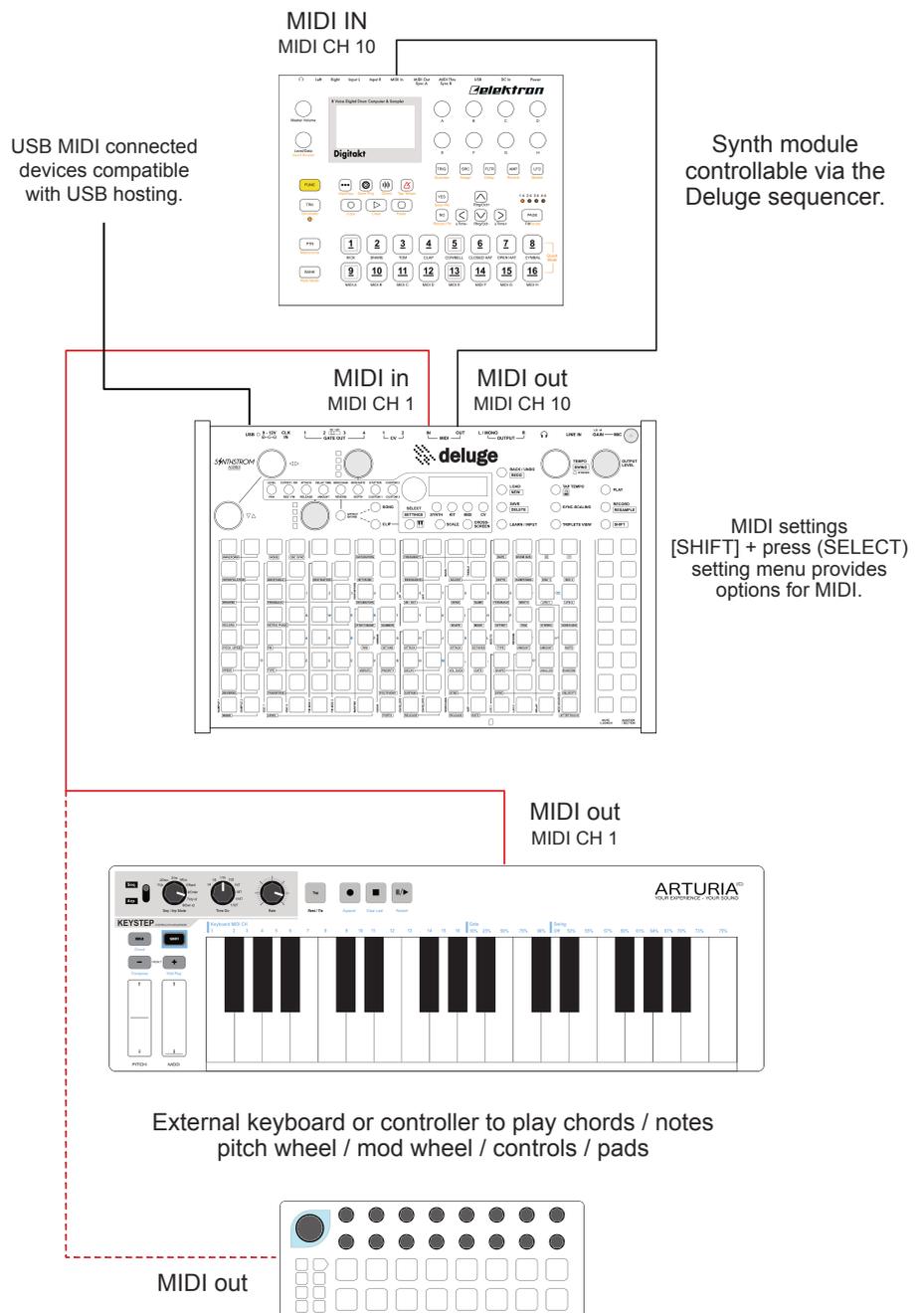
No Change

NOTES

## 12.2 MIDI Hardware Configuration

MIDI configuration requires the match up of both Deluge along with the external device. It is important to check out the manufacturers instructions when connecting other devices.

### Typical MIDI Set Up



# 14 System & General

## 14.1 System Settings

A number of parameter exist that are considered 'system' wide. These are accessible from the SETTINGS menu [SHIFT] + press (SELECT). Navigating the menu follows the same principle as the sound editor.

Function	Sub Category	Setting Options
CV	Out 1 & Out 2	Volts per octave.
		Transpose
GATE	Out 1 to Out 4	Sets gate output type.
	OFFtime	Minimum switching time between gate notes.
TCLO Trigger Clock	INput	PPQN - sync pulses. Pulses per quarter note.
		AUTO Start on/off. On the presence of a trigger clock.
	OUTput	PPQN - sync pulses. Pulses per quarter note.
	CLOCK	IN - MIDI beat clock input ON or OFF.
		OUT - MIDI beat clock output ON or OFF.
THRU	MAGN - tempo magnitude matching ON or OFF.	
MIDI MIDI Settings	CMD Global MIDI Command	MIDI Thru, ON or OFF.
		PLAY
		REStart - restart playback if already playing.
		RECOrd
		TAP tempo
		UNDO
		REDO
		LOOP
		LAYEr - Same as loop but with overdubs layers.
		Tempo
DEFAults	Swing	Applied to a new blank song upon creation.
	KEY	Applied to a new blank song upon creation.
	SCALe	None, major, minor, Dorian, Phrygian, Lydian, Mixolydian, Locrian & rand - dedicated random setting
	VELOCity	Sets the default velocity for newly entered notes between 1-127. Default is 64
	RESOLution	Resolution for new songs. Options are 96, 192, 384, 768, 1536, 3072, 6144. Default is 384
SWING Interval	Sets the timing interval at which swing may be applied. This is song specific and saved with the song. New songs use this default - 16 <sup>th</sup> notes	
PAdS Shortcut / Alphanumeric layout	SHORtcuts	1.0 or 3.0 shortcut options to match the software version and Deluge overlay.
	KEYBoard	Style of alphanumeric keyboard, QWERTY, AZERTY, QWERTZ.
	COLOurs	Set mute / launch pad colours for rows as:- Active; Green, Blue, Yellow, Cyan, Purple, Amber, White, Pink, Red. Muted; Green, Blue, Yellow, Cyan, Purple, Amber, White, Pink, Red. Stopped; Green, Blue, Yellow, Cyan, Purple, Amber, White, Pink, Red. Soloed; Green, Blue, Yellow, Cyan, Purple, Amber, White, Pink, Red.
PREView	ON / OFF/ CONDITIONal : Refers to the previewing of sounds from the SD card. Conditional is based on the playback mode.	

## System Settings (Continued)

Function	Sub Category	Setting Options
CURSOR	Controls appearance of the play cursor. FAST (short sharp blinks) or SLOW (solid white squares) or OFF	
	COUNT In	Turns RECORD count In ON or OFF.
RECORD	QUANTization	Sets the level at which recorded notes are quantized. OFF (192 <sup>nd</sup> notes),.
	MARGins	Sets a fade margin to avoid clicks at the loop point in an audio clip. Feature is set ON or OFF.
	MONItoring	Sampling options: ON / OFF/ CONDitional : monitor on = headphones in + mic recording. monitoring always on = line in.
FIRMware	Indicates only the current firmware version of Deluge.	

Note: Only the swing setting is saved with a song. Other parameters are not saved with song and are system specific.

### CHANGING A SYSTEM PARAMETER SETTING

1. Press [SHIFT] + press (SELECT) to access the settings configuration menu.
2. Turn (SELECT) and scroll to the desired parameter. Press (SELECT)
3. Turn (SELECT) when the parameter is in-focus to change its value or setting.
4. Press [BACK / UNDO] to back up out of the menu at any time.

### PERFORMING A FACTORY RESET

1. Ensure Deluge is switched OFF / powered down.
2. Press & hold (SELECT) and switch power ON to Deluge.
3. The display will blink 'RESE' to confirm reset is complete.

## 14 System & General

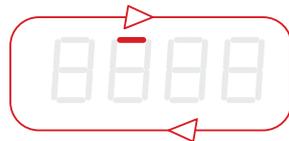
---

No Change

NOTES

### PERFORMING A DELUGE UPDATE

1. Check and note the current firmware version from within the settings menu.
2. Download the latest version (a .bin file) and install onto the root directory of the SD card. This is typically performed with a PC or Mac.
3. Power Deluge OFF. Insert the SD card pins up into Deluge.
4. Ensure Deluge has enough power or is connected to a power supply. Do not switch off during the update.
5. Press & hold [SHIFT] on Deluge.
6. While holding SHIFT power up Deluge.
7. An 'UPdA' - update message is shown and then a spinning cursor will display while the update is being performed.



Firmware Update in Progress

8. Once complete, 'DonE' - done, is displayed.
9. Check the new version in the settings menu.
10. Deluge is ready to use.

### 14.3 Deluge Pad Colours

Deluge has options to change the pad illumination including colours, brightness and refresh rate. A predefined refresh rate is set for optimal user comfort. However there may be a requirement to film deluge with various devices such as smart-phones, tablets, cameras, etc. The refresh rate may be set to match your device and allow a higher quality recording of Deluge.

#### SETTING DELUGE USER INTERFACE REFRESH RATE

1. Press & hold [CLIP] + turn (SELECT).
2. Adjust until the flickering as observed through the camera or device has gone or been reduced. Settings above 200 and below 8 are NOT recommended as this may affect visual performance.
3. Settings are not saveable so this would need to be changed per filming session.

#### SETTING DELUGE PAD BRIGHTNESS

1. Press & hold [SHIFT] + [LEARN / INPUT] + turn (SCROLL ▼ ▲).
2. Adjust until the desired pad brightness.
3. Settings are not saveable.

#### SETTING DELUGE PAD COLOURS

1. In [CLIP] view.
2. Press & hold [SHIFT] + turn (SCROLL ▼ ▲).
3. Adjust until the desired pad colours are set. Colours will be reflected in other views. This may be particularly useful in SONG view.

Note: Default Mute / Launch pad rows colours for active, muted, stopped and soloed states can also be set in the pad menu within the settings options.

# 14 System & General

No Change

## Quick Reference Commands

Context	Action	Command
<b>All Views</b>		
System	Adjust brightness	[SHIFT] + [LEARN / INPUT] + turn (SCROLL ▼▲)
System	Settings menu	[SHIFT] + (SELECT)
System	Undo	[BACK / UNDO]
System	Redo	[SHIFT] + [BACK / UNDO]
System	Tempo change	Turn (TEMPO)
System	Tempo change 1BPM inc	Push & turn (TEMPO)
System	Swing adjustment	[SHIFT] + turn (TEMPO)
System	Metronome on/off	[SHIFT] + [TAP TEMPO]
Navigation	Check current zoom level	Push (SCROLL ◀▶)
Navigation	Change current zoom level	Push & turn (SCROLL ◀▶)
Navigation	Scroll left or right	Turn (SCROLL ◀▶)
Navigation	Scroll up or down	Turn (SCROLL ▼▲)
Song	Load song (saved tempo)	[LOAD] + turn (SELECT), then [LOAD]
Song	Load song (current tempo)	[LOAD] + turn (SELECT), then push (TEMPO) + [LOAD]
Song	Delete song	[SHIFT] + [SAVE]
Song	New song	[SHIFT] + [LOAD], then [LOAD]
Song	Delay load	[LOAD], Then turn (SELECT)
Sampling	Loop resample	[RECORD] + [PLAY] then [RECORD] + [PLAY]
Sampling	Resample	[SHIFT] + [RECORD]
Sequencer	Nudge clock	Push (SCROLL ◀▶) + turn (TEMPO)
<b>Parameter Control - Rotary Push Controls - Toggle Options</b>		
FX	LP, HP, EQ option	[CUTOFF / RES] = on, press (UPPER)
FX	LPF slope type	[CUTOFF / RES] = on, press (LOWER)
FX	Ping-Pong on/off	[DELAY TIME / AMOUNT] = on, press (UPPER)
FX	Delay style digital / analog	[DELAY TIME / AMOUNT] = on, press (LOWER)
FX	Compressor sync 8 <sup>th</sup> - 32 <sup>nd</sup>	[SIDECHAIN / REVERB] = on, press (UPPER)
FX	Reverb room size preset	[SIDECHAIN / REVERB] = on, press (LOWER)
FX	Effect song or kit: chorus, flanger, phaser	[MOD RATE / DEPTH] & affect entire = on, press (UPPER)
FX	Effect song or kit: depth, offset, feedback	[MOD RATE / DEPTH] & affect entire = on, press (LOWER)
FX	Stutter	[STUTTER / CUSTOM 1] = on, press (UPPER)
FX	Stutter - ramp speed	[STUTTER / CUSTOM 1] = on, press & turn (UPPER)

No Change

## Quick Reference Commands (Cont.)

Context	Action	Command
<b>Song View</b>		
Song	Clip parameter adjustment	Hold [PAD] on the grid + turn (UPPER) or (LOWER)
Song	Change section assignment / Colour	[SHIFT] + [SECTION]
Song	Section repeats / share status	Press [SECTION] + turn (SELECT)
Song	Move row	Hold [PAD] of row to move + turn (SCROLL ▼▲)
Song	Clone clip	Hold [PAD] of master clone clip + press [PAD] of another row
Song	Solo section	Tap [SECTION] pad
Song	Solo clip (arm)	Hold (SCROLL ◀▶) + press clip's [LAUNCH] pad
Song	Solo clip (Immediate)	Hold (SCROLL ◀▶) + [SHIFT] + press clip's [LAUNCH] pad
Song	Un-solo	Press clip's [MUTE] pad
Song	Instant mute / launch	[SHIFT] + [MUTE] pad
Song	Delete clip	Hold [PAD] of clip to delete + press [SAVE / DELETE]
Song	Drag clip instance to arranger	Hold [PAD] + press [SONG] + turn (SCROLL ◀▶) then release pad
Song	Record to arranger	Hold [RECORD] + press [SONG]
Looping	Create audio clip	Hold [PAD] of empty clip + press (SELECT)
Looping	Set input source for audio clip	Hold [LEARN/INPUT] + Press [PAD] of clip
Looping	Loop record	In record mode, press [PLAY] with armed, empty audio clip(s) present
Looping	Close loop recording	Press [LAUNCH] pad of clip
Looping	Close loop + immediate solo	Hold (SCROLL ◀▶) + press [LAUNCH] Pad to close loop.
Looping	Loop record during playback	In record mode, unmute armed, empty (audio) clip
Looping	Overdub	Hold [RECORD] + press [PAD] of clip row underneath
Looping	Continuous overdub layering	Hold [RECORD] + press [AUDITION] Pad of row underneath
Looping	'Loop pedal' record	Record loop while no other clip is playing / unmuted and metronome is off
Looping	Grab tempo from audio clip	Hold (TEMPO) + press [PAD] for clip row (song view) or any pad in clip view
Looping	Select MIDI switch LOOP target	Enter audio clip or hold clip row in song view + press switch
Looping	Auto extending instrument clip record	In record mode, unmute armed empty clip during playback

# 14 System & General

No Change

## Quick Reference Commands (Cont.)

Context	Action	Command
<b>Arranger View</b>		
Clip	Place clip instance	[PAD]
Clip	Delete clip instance	[PAD] Leftmost start pad of an instance
Clip	Clip instance length	Hold [PAD] start + press [PAD] end on the same row
Clip	Move clip instance horizontally	Hold [PAD] + turn (SCROLL ◀▶)
Clip	Change instance clip	Hold [PAD] + turn (SELECT)
Clip	Make clip instance unique	[SHIFT] + [PAD] creates a 'white' clip instance
Clip	Adjust clip instance parameters	Hold [PAD] + turn (UPPER) or (LOWER) for the selected parameter
Clip	Enter clip view for a clip	[PAD] of any clip instance pad other than the first / leftmost
Clip	Drag 'unique' clip instance to song view	Hold [PAD] + [SONG] + turn (SCROLL ▼▲) then release pad
Row	Move track	Hold [AUDITION] pad + turn (SCROLL ▼▲)
Instrument	Mute / unmute track	[MUTE] pad for row
Instrument	Solo track	Press & hold (SCROLL ◀▶) + [MUTE] for instrument
Instrument	Change or Add new instrument	Hold [AUDITION] pad + turn (SELECT) or press [INSTRUMENT] type
Instrument	Delete track row	Hold [AUDITION] pad + [SAVE / DELETE]
Instrument	Audition instrument	[AUDITION] - Songs root note or snare drum in kit mode
Arrangement	Clear arrangement	Press & hold (SCROLL ◀▶) + [BACK / UNDO]
Audio	Create new audio track	Empty lane [AUDITION] + press (SELECT)
Audio	Set input source for audio track	[LEARN / INPUT] + [AUDITION] pad of audio track
Audio	Record audio from current position	[PLAY] while in [RECORD], with armed audio present
<b>Clip View</b>		
Clip	Change clip colour	[SHIFT] + turn (SCROLL ▼▲)
Clip	Change clip preset, MIDI Ch, CV out	Turn (SELECT)
Clip	Adjust clip length	[SHIFT] + turn (SCROLL ◀▶)
Clip	Duplicate / multiply and append clip content	[SHIFT] + press (SCROLL ◀▶)
Clip	Horizontal clip shift / nudge L-R	Press & hold (SCROLL ▼▲) + turn (SCROLL ◀▶)
Clip	Playback from current screen	Press & hold (SCROLL ◀▶) + [PLAY]
Clip	Clear clip	Push (SCROLL ◀▶) + [BACK / UNDO]

## Quick Reference Commands (Cont.)

Context	Action	Command
<b>Clip View (Cont)</b>		
Note	Note length	Hold [PAD] start + press [PAD] end on the same row
Note	Note length - long	Press [PAD] start. Navigate grid - turn (SCROLL ◀▶). Hold (SCROLL ◀▶) + press [PAD] end on the same row
Note	Note velocity	Hold [PAD] on the grid + turn (SCROLL ◀▶)
Note	Note repeat	Hold [PAD] on the grid + hold and turn (SCROLL ▼▲)
Note	Note play probability %	Hold [PAD] of note + turn (SELECT) anticlockwise / left
Note	Set dependance on first note	Hold All [PAD]s together + turn (SELECT) anticlockwise / left
Note	Iteration dependance for a note	Hold [PAD] of note + turn (SELECT) clockwise / right
Note	Copy notes	Hold [LEARN / INPUT] + press (SCROLL ◀▶)
Note	Paste notes	Hold [LEARN / INPUT] + [SHIFT] + press (SCROLL ◀▶)
Note	Nudge individual notes horizontally	Hold [Pad] + press and turn (SCROLL ◀▶)
Parameter	Automate a parameter	While recording, LED on; turn (UPPER) or (LOWER) of selected parameter
Parameter	Per note parameter change	Hold [PAD] of note start + turn (UPPER) or (LOWER) of selected parameter
Parameter	Delete parameter automation	[SHIFT] + press (UPPER) or (LOWER) of selected parameter
Parameter	Copy automation	Hold [LEARN / INPUT] + press (UPPER) or (LOWER) of selected parameter
Parameter	Paste automation	Hold [LEARN / INPUT] + [SHIFT] + press (UPPER) or (LOWER) of selected parameter
Sample	Load sample	[AUDITION] + [LOAD]
Sound	Sound Editor	[SHIFT] + [PAD] of shortcut as labelled or press (SELECT)
Preset	Preset load interface	[LOAD] + [SYNTH] or [KIT]
Audio	Audio clip trim	Press [PAD] of rightmost column at the end of the waveform
<b>Sound Editor</b>		
Sound Editor	Move cursor	Turn (SCROLL ◀▶) to navigate
Controls	Parameter knob assignment	Hold [LEARN / INPUT] + turn (UPPER) or (LOWER) parameter control
Controls	MIDI knob assignment	Hold [LEARN / INPUT] + turn (MIDI) Control of external device
Controls	Unassign MIDI control knob	[SHIFT] + [LEARN / INPUT]
Preset	Save preset	[SAVE]
Parameter	Apply a change to entire kit	Press & hold [AFFECT ENTIRE] while changing parameter i.e. Polyphony, mode, reverse, speed, pitch/speed)

# 14 System & General

No Change

## Quick Reference Commands (Cont.)

Context	Action	Command
<b>Synth, Keyboard, MIDI, CV Clips</b>		
Synth	Synth resample	[RECORD] + [AUDITION] or grid [PAD]
Synth	Load blank synth	[SHIFT] + [SYNTH]
Synth	Save synth preset	[SAVE / DELETE] + [SYNTH]
Scales	Cycle through default scales	[SHIFT] + [SCALE]
Scales	Change root note	[SCALE] + [AUDITION] pad row of new note
Scales	Chromatic scale	[SCALE] to turn it OFF, LED unlit
Scales	Create scale	In chromatic mode - scale OFF; select [PAD] notes, then press [SCALE]
Scales	Alter current scale	Hold [AUDITION] pad + press & turn (SELECT)
Transpose	Transpose current clip an octave	Press & turn (SCROLL ▼▲)
Transpose	Transpose current clip a semitone	In chromatic mode - Scale OFF; [SHIFT] + press & turn (SCROLL ▼▲)
Transpose	Transpose ALL clips a semitone	In scale mode - scale ON; [SHIFT] + press & turn (SCROLL ▼▲)
Note	Create full screen 'drone' note	Hold [PAD] first column + press [PAD] last column of grid
MIDI	Assign MIDI CC to parameter knob (MIDI Track)	Press & hold (UPPER) or (LOWER) + turn (SELECT)
<b>Kit Clips</b>		
Kit	Change colour of specific row	[SHIFT] + [AUDITION] + turn (SCROLL ▼▲)
Kit	Create new kit	[SHIFT] + [KIT]
Kit	Save kit preset	[SAVE / DELETE] + [KIT]
Kit	Move row	[AUDITION] pad for row + press & turn (SCROLL ▼▲)
Kit	Delete row	[PAD] for row to delete + [SAVE / DELETE]
Sample	Slice a sample	[SHIFT] + [KIT], Turn (SELECT) to choose sample, [SHIFT] + Press (SELECT)
Sample	Record sample from input	[AUDITION] + [RECORD] to start recording. [RECORD] again to end
CV	Set kit row output to gate	[AUDITION] + press [CV]
CV	Set kit row CV gate	[AUDITION] + turn (LOWER) - must be set as a CV row
MIDI	Set kit row output to MIDI	[AUDITION] + press [MIDI]
MIDI	Set kit row MIDI channel	[AUDITION] + turn (LOWER) - must be set as a MIDI row
MIDI	Set kit row MIDI note	[AUDITION] + turn (UPPER) - must be set as a MIDI row

### 14.3 Deluge CPU Performance

#### Processing power and CPU management

Deluge does not enforce firm limits on how many tracks or voices may sound at once thus allowing the user as many as they wish. The ultimate limitation will inevitably be based on Deluge's CPU loading especially from concurrent voices or effects. Under conditions of high CPU loading, Deluge will switch off a synth or sample voice to lower its load. Deluge will attempt to do this in the most subtle way possible, preferring to switch off voices which are "releasing", and those which have been sounding for the longest time.

Unaffected sample voices are very light on the CPU. This has been tested with a measure of up to 110 sounding at once. For synth voices, the most simple ones are light enough to allow around 64 to play.

The Deluge's analog-modelled oscillator types and drive filter consume a little more CPU than the other types, but not enormously more.

#### Considerations for CPU power :-

- Analog-simulated delay, time stretching, and pitch shifting (where pitch and time are treated independently - including live audio input) are the highest CPU users.
- All other effects and synth features, though lighter, will add to the CPU's load as well.
- Synths with unison switched on will multiply the amount of processing power that that synth consumes.
- Arpeggiation can generate a lot of CPU-eating voices very rapidly, which can add up if polyphony is on (is set to POLY) and if the release time is long. Try changing these parameters if you notice voices cutting out on your song.
- There is a slight CPU overhead for each sound present in the Deluge's currently loaded song - even if it is not sounding at a given moment. This may begin to affect CPU performance if you have more than 50 to 100 sounds loaded. For this reason, you may wish to refrain from importing large folders of samples as kits where these are not in-fact used. Multi-sampled instruments, count as just one sound regardless of how many separate samples they contain.
- Voice priority can be manually set for a sound, to tell the Deluge which voices to consider (or not) dropping first - see sound editor.
- See sample interpolation / pitch for some additional notes on CPU usage.

## 14 System & General

---

No Change

NOTES

### Sample interpolation / pitch

Whether or not actual “pitch shifting”, the process of treating pitch and speed independently, is applied, another process called interpolation is needed anytime a sample needs to be played back at a different pitch, or if its sample rate is different to the Deluge’s native 44.1kHz.

Since firmware V2.1, Deluge utilises 16-point windowed-sinc interpolation for high-quality sample pitch adjustment with minimal aliasing. If you prefer the more “bitcrushed” sound of linear interpolation, which was used prior to V2.1, see the INTERpolation setting in the sound editor.

Songs and presets created with pre-V2.1 firmware which include sample pitch adjustment will continue to default to linear interpolation, to keep your older projects sounding the same.

The 16-point windowed-sinc interpolation uses a little more CPU power than the lower-quality linear interpolation, but not very much more, thanks to the hardware acceleration features of the Deluge’s CPU. If the Deluge’s CPU becomes overloaded, it may revert to using linear interpolation in some cases. It is not recommended that you manually switch to linear interpolation purely for the purpose of saving CPU power - it won’t have this effect in all cases.

### Sample and RAM management

The Deluge streams audio samples directly off the SD card, meaning there is no practical limit on the amount of sample content that may be used per song, and the user does not have to wait for all sample data to be read when loading a song.

You may eject the SD card at any time, the only adverse effect being that if the Deluge is playing any sample, it may stop, and samples may not play correctly until the card is reinserted.

The Deluge has 64MB of working RAM, which is mostly available to hold the currently loaded song’s synths, parameters, and sequenced notes. It’s unlikely that the 64MB limit would ever be reached - this would be enough to hold over 2 million notes.

There may be cases, if both songs contain a lot of samples (i.e. near to the Deluge’s 64MB RAM limit), where the newly loaded song may fail to play some sounds for the first couple of seconds. However, the Deluge does everything it can to avoid such a case, by first discarding any not-currently-playing samples in the old song, and if necessary delay the loading of any not-currently-playing samples in the new song until the old song has been discarded completely.

## 14.4 USB Host Mode for Devices

The USB connection can also be used to host USB MIDI devices. In order to use this feature, you must power your Deluge via its DC power socket (centre-negative) - the feature is not available when running the Deluge on its battery.

The Deluge is able to deliver a little bit of power to connected devices, but this is very limited. More basic controllers without too many LEDs should work in many cases, but bigger controllers with advanced features may not. If your MIDI controller has the option to provide it with power externally, that will enable it to work in most cases.

Deluge supports one USB MIDI 'hub' devices as a host. Powered USB Hubs are also useful in powering up Deluge as well as other connected USB devices. Deluge will blink "MIDI" for a working MIDI device, or "UNKNown" for anything else. Multiple hubs especially more than four connected may not operate correctly and "FULL" is displayed if more than four devices are connected. Deluge will blink "HUB" when a connected hub device is detected and working and "DETACH" when a devices is detached. If your device doesn't work and you get no error message, it may be a power issue.

MIDI USB devices are supported for MIDI input and output.

### ■ DELUGE AS USB HOST WITH A USB DEVICE

1. Connect the USB device to Deluge with the USB connection
2. Connect a DC power supply to Deluge. Host mode does not work when Deluge is operating from its battery
3. Power ON Deluge
4. USB Host mode will be activated.
5. The USB device can now be connected and reconnected. A reboot is required if a PC is to be connected.

## Compliance information

### FCC compliance for United States

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio & television reception.

### CE compliance



This product is CE marked to denote conformity with Directives 2014/30/EU (Electromagnetic Compatibility) and 2014/35/EU (Low Voltage), as amended.

### Environmental Protection



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

© Synthstrom Audible 2019

The Deluge Manual

Second Edition v3.1

[www.synthstrom.com](http://www.synthstrom.com)

[www.facebook.com/synthstromaudible](https://www.facebook.com/synthstromaudible)

All rights reserved. This book or any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of the publisher except for the use of brief quotations in a book review. This book and its contents are the property of Synthstrom Audible.

Produced in partnership with Synthdawg.

[www.synthdawg.com](http://www.synthdawg.com)

1.1





*SYNTHSTROM* AUDIBLE



**SYNTHDAWG**  
PRODUCER GUIDES