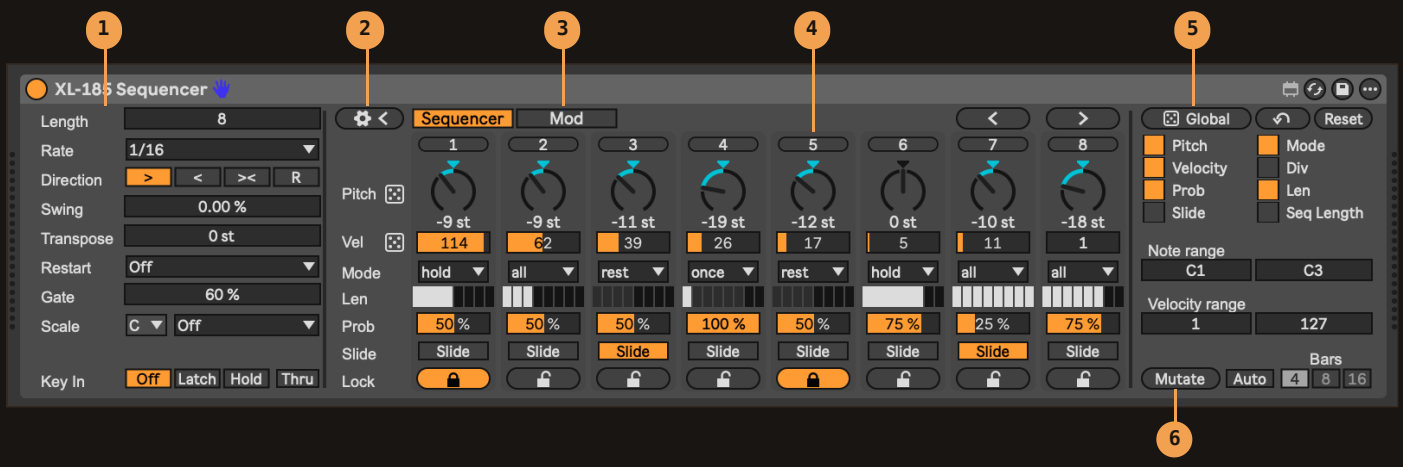
USER GUIDE

XL-185

Stage sequencer
for Max for Live

The face

XL-185 is a MIDI effect. It sits in front of an instrument and plays a loop of eight stages. Each stage holds a pitch for a number of clock steps and decides what to do with that time: one note, a held note, repeats, or silence. The lengths don't have to add up to a bar, so the loop can slide against the beat and come back around, the way a modular stage sequencer does.



1 **Settings.** Clock, direction, scale and Key In for the whole sequence.

2 **Gear.** Folds the settings column away.

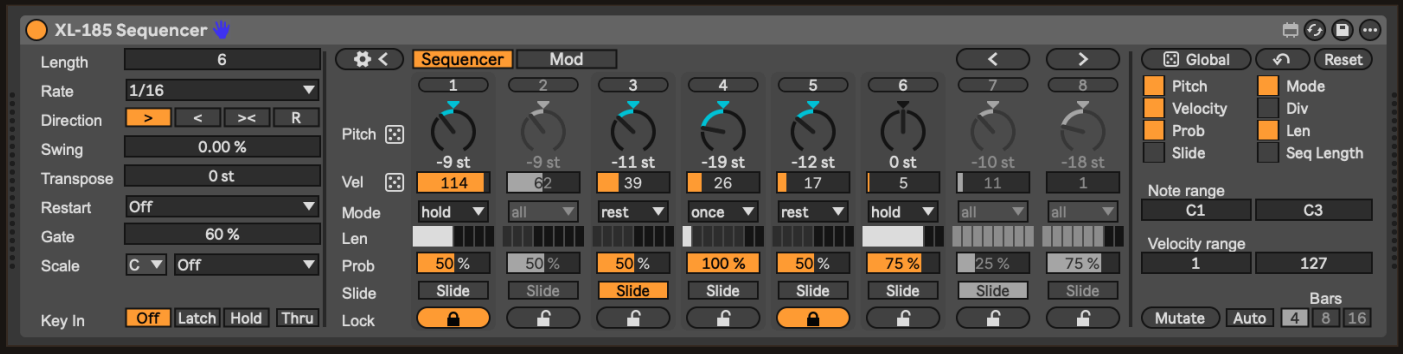
3 **Sequencer and Mod.** Note rows or modulation lanes. The right panel follows.

4 **Stages.** Eight columns, played left to right by default.

5 **Random.** Global, the undo arrow, Reset and the parts they may change.

6 **Mutate.** One stage at a time, by hand or every 4, 8 or 16 bars.

A stage that doesn't play turns grey. That is a stage beyond Length, or one you switched off with a click on its number. Grey stages can't be changed by hand, but their padlocks still work.



LENGTH 6, STAGE 2 SWITCHED OFF. STAGES 2, 7 AND 8 DON'T PLAY.

How it plays

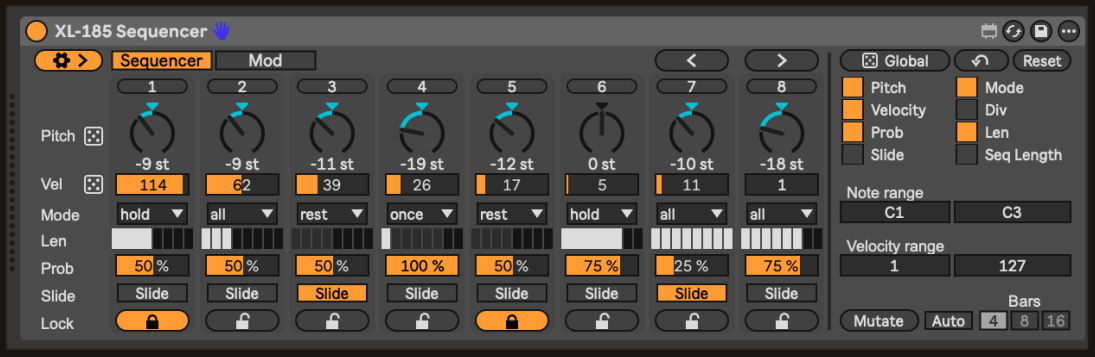
Rate sets one clock step, locked to Live's tempo. Every stage lasts its own length, 1 to 8 of those steps. Length sets how many stages play, counting from stage 1, and the loop is the sum of their lengths.

Eight stages of one 16th each make half a bar. Give stage 3 three steps and stage 6 two, and the loop grows to eleven 16ths: it starts on a different part of the bar every time around and meets the downbeat again only after eleven bars. This drift is how a stage sequencer keeps a short loop from sounding static. Restart ties it back to the arrangement every 1, 2, 4 or 8 bars.

QUICK START

1. Put XL-185 on a MIDI track in front of an instrument. A mono synth with glide shows what Slide does: Drift in mono with glide, or any 303-style synth.
2. Press Play in Live. A fresh device plays C3 on all eight stages, one 16th each.
3. Turn the Pitch knobs. Pick a scale in the settings column if every note should stay in key.
4. Change a few Modes and Len cells, and pull Prob below 100 % on a stage or two.
5. For a new idea, tick what Global may change and press Global. Keep what works; the undo arrow takes back what doesn't, up to 32 steps.

When the device chain gets crowded, the gear folds the settings column away. XL-185 shrinks from 786 to 612 pixels; the folded settings keep working and stay automatable.



FOLDED. THE SETTINGS COLUMN IS HIDDEN, THE GEAR IS LIT.

Settings

CLOCK	
LENGTH	How many stages play, 1 to 8, counting from stage 1. Lower it to shorten the loop without touching the stages. The stages beyond it turn grey and can't be changed by hand until Length reaches them. Global, Reset and the dice still write them, so lock the ones you want to keep.
RATE	One clock step: a 1/32, 1/16, 1/8 or 1/4 note. Every Len is counted in these steps. At 1/4 Swing has no effect.
DIRECTION	> forward, < backward, >< back and forth, R a random stage each time. In R the chosen stage plays its full length before the next pick.
SWING	Delays every second clock step. 0 % is straight, about 67 % gives a triplet shuffle, 100 % pushes the off-step half a step late.
RESTART	Back to stage 1 every 1, 2, 4 or 8 bars, counted from the start of the song. A loop of odd lengths lines up with the arrangement again. With Direction R it picks a new random stage instead. Off lets the sequence run free.
GATE	Length of every note that does not slide, 1 to 100 %. 100 % is the full length. Around 60 % tightens a bassline. A stage with Slide on ignores it.

PITCH	
TRANSPOSE	Moves the whole sequence from -24 to +24 semitones. With a scale on, notes still land in the scale. Key In adds on top.
SCALE	Root on the left, scale menu on the right. Off, Live, Slices or one of the device's own scales. See Scales.
BEND	Your synth's pitch bend range in semitones. Shows up only with a microtonal scale.

INPUT	
KEY IN	Off, Latch or Hold. Notes played into the track transpose the sequence. C3 leaves it where it is, D3 moves it up a whole tone. Latch keeps the last note's transpose, Hold only while the key is down. A MIDI clip on the same track works too, so a clip of root notes can drive the chord changes.
THRU	Lets MIDI coming into the track reach the instrument along with the sequence. CCs, pitch bend and, while Key In is off, notes.

Scales

Notes snap to the nearest note of the scale. The Pitch knobs stay where you left them, so switching the scale off brings the original line back.

SCALE MENU	
OFF	Pitches play as set.
LIVE	The Live set's root and scale, while Live's Scale Mode is on. The sequence changes key with the song.
SLICES	Notes stay on the slices of a Simpler. See below.
OWN	Chromatic, Major, Minor, Dorian, Phrygian, Lydian, Mixolydian, Locrian, Harmonic Minor, Melodic Minor, Phrygian Dominant, Hungarian Minor, Major and Minor Pentatonic, Minor Blues, Whole Tone, Hirajoshi, In-Sen. Built from the root on the left.
MICROTONAL ~	Rast, Bayati, Sikah, Just Major, Just Minor, Harmonic 8-16, Slendro (5-EDO), 7-EDO. Pitches between the piano keys: XL-185 plays the nearest key and bends it the rest of the way.

MICROTONAL SCALES

Set Bend to the synth's pitch bend range, or the in-between notes land in the wrong place. Pitch bend moves every note that is sounding, so these scales work best one note at a time. Overlapping Slide notes bend together.

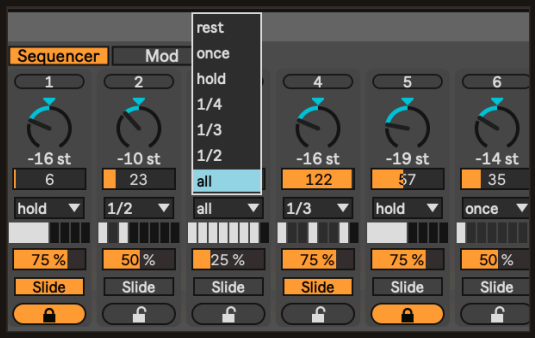
SLICES

Put a Simpler in Slicing mode after XL-185 on the same track and pick Slices in the Scale menu. The box beside the menu shows how many slices it found. Slices start at C1, one per key. Notes inside that range play as set; notes outside wrap back into it, so every note triggers a slice. Global, Mutate and the Pitch die pick among the slices.

A 0 in the box means no slicing Simpler follows, and notes pass unchanged. A Simpler inside a rack isn't found.

The stages

STAGE	
PITCH	Semitones from C3, -36 to +36. With a scale on, the knob shows where you set it and the note snaps into the scale.
VEL	Velocity, 0 to 127. 0 is silent. Low values make ghost notes on a patch whose filter or amp follows velocity.
LEN	Length in clock steps, 1 to 8. Click a cell or drag along the row. Lit cells show where notes fall; a single wide block is one held note.



THE MODE MENU.

MODE	
REST	Silent. The stage still takes its time, so the groove doesn't shift.
ONCE	One note at the start of the stage.
HOLD	One note across the whole stage. With Len 8 at 1/16 that note is half a bar long.
1/4 1/3 1/2	A note on every 4th, 3rd or 2nd step of the stage. Len 4 at 1/2 plays on steps 1 and 3.
ALL	A note on every step. Len 4 gives four 16ths in a row at 1/16.

PER STAGE	
ON / OFF	Click the stage number to switch the stage off or on. Off is silent but keeps its time and its Mode. The column turns grey and can't be changed by hand until it is on again; its lane values still go out.
PROB	Chance that a note plays, 0 to 100 %. Rolled for every note: once per pass for once and hold, on every repeat for the repeating modes. A failed roll leaves a gap; the stage keeps its time.
SLIDE	Holds the note until the next one has started: the 303 slide on a mono synth with glide. The same pitch next merges into one long note with no new attack. If nothing follows, the note ends 3/4 of a step past where the next note would have started.
LOCK	Protects the whole column. Global, Reset, Mutate, Auto and every die leave the stage alone, its lane values included. Lock the root note and the accent, then randomize around them. It also works on a grey stage.

Random

The right panel of the Sequencer page decides how far the random tools reach. Locked stages are never touched, and every tool is one step for the undo arrow.



THE RIGHT PANEL.

RANDOM

GLOBAL	**New values on every unlocked stage for the ticked parts.** Pitch from Note range and the scale, velocity from Velocity range, Prob 25, 50, 75 or 100 %, Slide on for roughly one stage in four, plus Mode, Div, Len and Seq Length when ticked.
UNDO	**Takes back the last Global, Reset, Mutate, die or shift, one more step with each click, up to 32.** Only what that tool changed: whatever you set by hand afterwards stays. Grey when there is nothing left. Live's Cmd+Z goes back in smaller steps.
RESET	**Puts the whole Sequencer page back to a fresh device, on every unlocked stage, whatever is ticked.** Pitch 0 st, velocity 120, Mode once, Len 1, Prob 100 %, Slide off, stage on. Length and the settings column stay.
DICE	**Beside Pitch and Vel on the stages: new pitches or velocities only.** From Note range and the scale, or from Velocity range.
< >	**The arrows over the last stages rotate the pattern by one stage inside Length.** Every row travels, lock and on / off included. A random pattern that starts late or early can be moved until it sits. On the Mod page each lane has its own pair.

WHAT THEY CHANGE

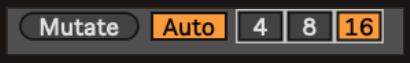
TICKS	**Pitch, Velocity, Prob, Slide, Mode, Div, Len, Seq Length.** Div is how often a repeating stage repeats; Seq Length is the Length setting, which Mutate never changes. A fresh device ticks Pitch and Velocity. The ticks steer Global and Mutate; Reset ignores them.
NOTE RANGE	**Lowest and highest note to pick, C1 to C3 on a fresh device.** One octave keeps a bassline tight; two or three suit leads and blips.
VELOCITY RANGE	**Lowest and highest velocity to pick, 1 to 127.** Raise the low end to 60 or so if quiet stages disappear in the mix.

Mutate

Mutate changes one stage at a time, so a line moves without turning into a different line. Both pages have their own row: the Sequencer page mutates the ticked note parts, the Mod page the three lane values.



SEQUENCER PAGE: AUTO ON, EVERY 8 BARS.



MOD PAGE: AUTO ON, EVERY 16 BARS.

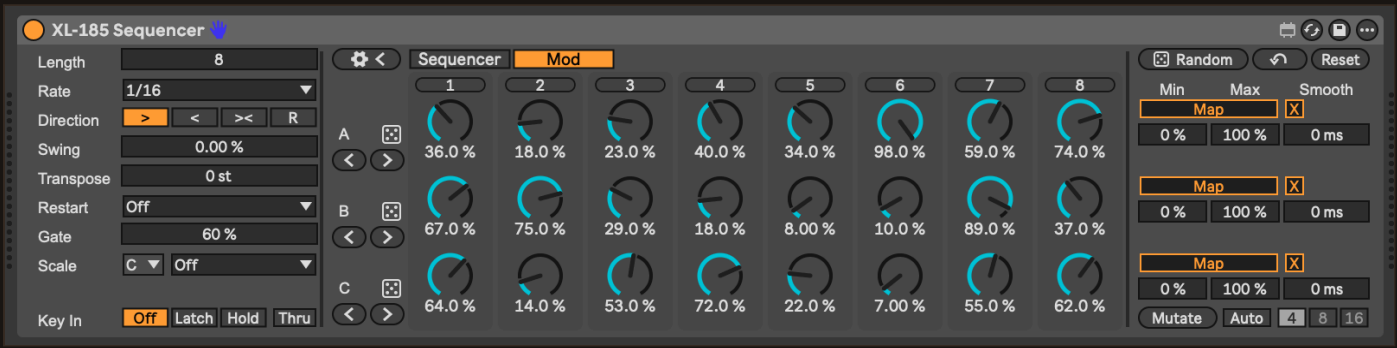
MUTATE	
MUTATE	New values for one stage, the ticked parts only. Picked among the stages that play, inside Length and switched on, and aren't locked, with the same ranges and scale as Global. The line stays recognizable.
AUTO	Mutates by itself every 4, 8 or 16 bars, at the start of the bar's last 16th. The next bar already plays the change. Bars count from the song position: from bar 1, changes come before bars 5, 9, 13. Inside a shorter loop the count keeps going. Stop starts it again.
BARS	The interval: 4, 8 or 16. Grey while Auto is off; switch Auto on to change it. Auto and Bars can be automated.

TRY THIS

Lock the stages that carry the riff, tick only Pitch, or only Prob and Slide, and let Auto run at 8 or 16 bars. When a version sticks, switch Auto off. If it went past a good one, the undo arrow walks back through the last 32 changes.

Modulation

Three lanes, A, B and C, each with one knob per stage. When a stage starts, every mapped lane moves its parameter to that stage's value. A filter cutoff, an envelope decay, a send, a control in another device or on another track: anything Live can map. The lanes follow Len, Direction, R and Restart, so the movement stays locked to the notes. They write no automation and stay out of Live's undo list.



THE MOD PAGE. THE ARROWS UNDER EACH LETTER ROTATE THAT LANE.

LANES	
KNOBS	0 to 100 % per stage. A point between the lane's Min and Max.
DIE	Random values for one lane on every unlocked stage.
MAP	Click it, then click any parameter in Live. Map blinks while it waits; click again to cancel. It then shows the parameter's name. A parameter another lane or device already controls is refused, and so are XL-185's own controls. The mapping is saved with the set.
X	Frees the mapped parameter.
MIN, MAX	The part of the parameter's range the lane covers. 0 % and 100 % are the bottom and the top of the mapped parameter, whatever its own range is. Max below Min turns the lane upside down.
SMOOTH	Glide between stage values, 0 to 2000 ms. 0 jumps at each stage start; a few hundred ms turns the steps into sweeps.
RANDOM	All three lanes to random values on every unlocked stage. Min, Max, Smooth and the mappings stay.
RESET	Puts the whole Mod page back: knobs 0 %, Min 0 %, Max 100 %, Smooth 0 ms. The mappings stay.
MUTATE, AUTO	As on the Sequencer page, with their own settings. One stage gets new values on all three lanes, by hand or every 4, 8 or 16 bars.

Recipes

ACID LINE

MONO SYNTH, GLIDE

Rate 1/16, Scale Minor, Note range one octave. Slide on two or three stages, Prob 75 % on one, a rest somewhere in the middle. Map lane A to the filter cutoff and lane B to the envelope decay, Smooth about 30 ms. For a long take, tick only Pitch and Slide and run Auto at 8 bars.

ODD STAB

POLYMETER

Length 5 with Len 3, 2, 3, 2, 3: thirteen 16ths that keep landing somewhere new against the kick. Restart at 4 bars brings the pattern back to the downbeat for every phrase.

CHOPPED BREAK

SIMPLER, SLICING

Drop a drum loop into Simpler, set it to Slicing, pick Slices in XL-185 and press Global with only Pitch ticked: every note hits a slice. Use all or 1/2 on the busy stages with Prob between 50 and 75 %, so the fills thin out instead of sounding like a machine gun.

CHORD BASS

KEY IN

Key In on Latch and a clip of root notes on the same track. The clip doesn't sound by itself; each of its notes moves the whole sequence, so a one-bar riff follows a sixteen-bar chord progression. With Thru on, the clip's CCs and pitch bend still reach the synth.

SLOW DRIFT

AUTO

Auto on both pages at different intervals, 8 bars for the notes and 16 for the lanes, with stage 1 locked as the anchor. It keeps changing slowly while you work on the rest of the track, and the undo arrow can bring back a pass you liked.

Reference

PUSH BANKS	
MAIN	Length, Rate, Direction, Swing, Transpose, Restart, Key In, Scale
MUTATE	Auto and Bars for the Sequencer page, Auto and Bars for the lanes
STAGE ROWS	Pitch, Velocity, Mode, Len, Prob, Slide, On, Div. One bank each, stages 1 to 8 in order.
SCALE	Scale source, Root, Scale, Key In, Thru
LANES	Lane A, Lane B, Lane C. Stages 1 to 8 each.

GOOD TO KNOW	
KEYS AND PADS	Global, Mutate on both pages and the lanes' Random can be mapped to a key or a pad (Cmd+K or Cmd+M, Ctrl on Windows). Every press runs the tool. A controller button that sends a momentary CC runs it twice, on press and on release: send a note, or set the button to toggle.
LIVE UNDO	A random tool changes several controls at once, and Cmd+Z (Ctrl+Z on Windows) takes them back one control at a time. Use the device's undo arrow. While Auto runs, Live's undo list fills up with its changes.
AUTOMATION	Prob, Slide, Scale, lane values and a stage's on / off drawn exactly on a stage start take effect one stage late. Draw them slightly early. Pitch, velocity, Mode, Div, Len, Transpose and Key In are on time.
RECORDING	Global, Mutate, Auto and the dice write automation while Live records it. On playback a later change overrides it, and Live lights Re-Enable Automation.
KEY IN + THRU	Releasing a key also ends the sequencer's note if it has the same pitch.
SLICES	The Simpler has to sit directly on the track after XL-185, not inside a rack.

VERSION 1.1

REQUIREMENTS Ableton Live 12 Suite, or Live 12 Standard with Max for Live.

CREDITS XL-185 builds on ML-185 by Nico Starke (2009).