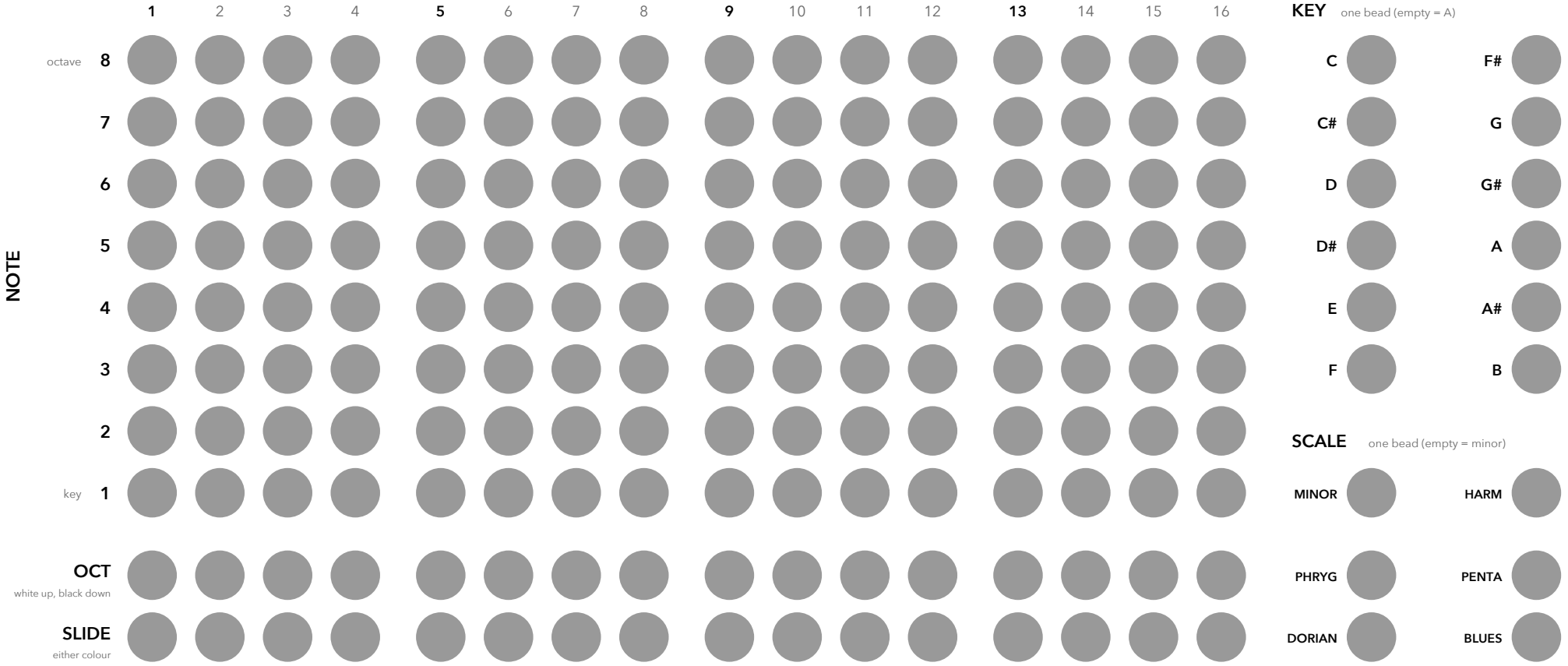
BEAD 303

acid groovebox for black and white beads

○ white bead = note ● black bead = accented note (louder, more squelch)

OCT ○ up ● down **SLIDE** either colour glides into the next note

SLIDERS one bead per track, either colour. Choose what A to F control in the app.



A **D**

B **E**

C **F**

BASS DRUMS

MIX BASS + DRUMS drag the bead to crossfade

How to play BEAD 303

BEAD 303 turns a printed sheet and a handful of black and white beads into an acid groovebox. A camera reads where the beads sit, and the app plays a 303-style bass line over a drum machine while you move beads to change it as it loops.

The grid

Each column is one step, a sixteenth note, and the sixteen columns make one bar that loops from left to right.

NOTE rows. One bead in a column plays that step, and an empty column is a rest. Row 1 is the key note, row 8 is the same note an octave higher, and the rows in between follow the scale. A white bead plays a normal note and a black bead plays an accented note, which is louder and opens the filter further.

OCT row. A white bead moves that step up an octave and a black bead moves it down an octave.

SLIDE row. A bead of either colour makes the step glide into the next note without starting a new one, which gives you the classic acid slur. Slide into the same note to hold it for longer.

KEY and SCALE. One bead in each, on the right of the grid, picks the key note and the scale. If you leave them empty, the app plays in A minor.

The sliders

A to F. Each track takes one bead of either colour, and where it sits sets a value from low on the left to high on the right. In the app's patch bay you choose what each slider controls, such as the filter cutoff, resonance, tempo, echo or the drum groove, and you can repatch them while the music plays.

MIX. Slide the bead left for bass only, into the middle for bass and drums together, or right for drums only. When a track has no bead on it, the controls on screen take over.

Setting up

Print page 1 at 100% (or fit to page) on plain, matte paper. Black and white printing is fine, but turn off toner saving or draft mode so the grey shapes print as a solid mid-grey. Tube-shaped beads such as Hama, Perler or pony beads work best because they stand on end and stay where you put them.

Tape the sheet down and put the camera above it, looking as straight down as you can, so that all four black corner squares are in view. On a Mac, an iPhone can be the camera through Continuity Camera while the sound plays from the computer. The corner square with the white centre marks the top left, so the sheet can sit at any angle.

Light the sheet evenly and avoid glare. If the app misses a white bead, raise the sensitivity in the camera panel.

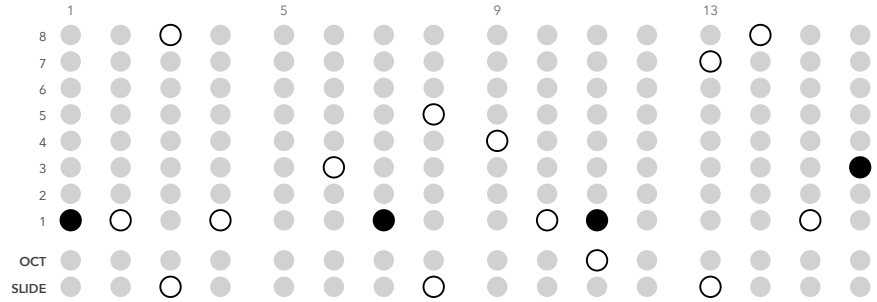
No camera to hand?

Choose Screen in the app to place beads by clicking the sheet, or press Generate for a fresh pattern that you can copy onto paper. In Chrome, the pattern and the sliders can also be sent out as MIDI to other instruments or your music software.

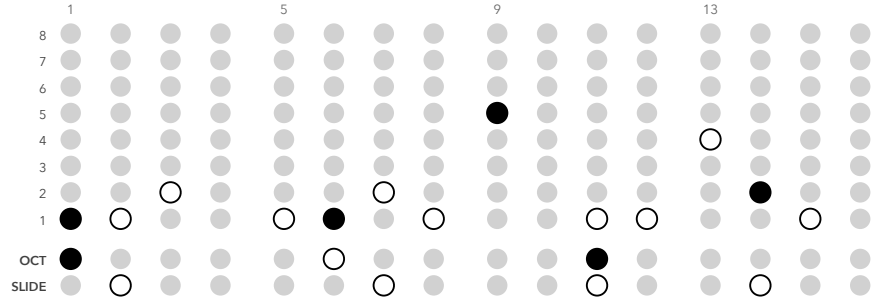
Starter patterns

Copy these onto the sheet bead for bead, or load them from the Examples menu in the app.

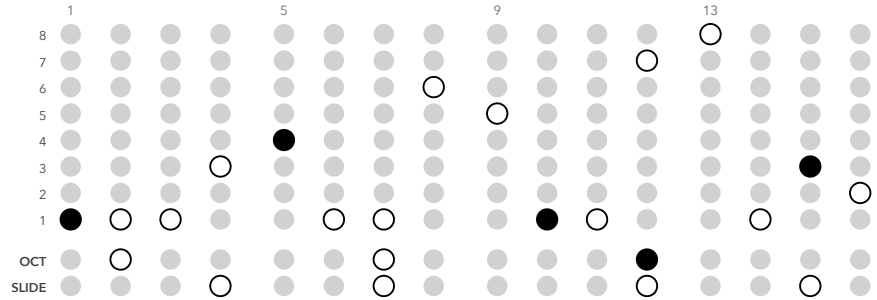
First squelch A minor, so put a bead in KEY A and SCALE MINOR



Phrygian creep E Phrygian, so put a bead in KEY E and SCALE PHRYG



Rolling sixteenths C Dorian, so put a bead in KEY C and SCALE DORIAN



Light grey dots are empty wells. Outlined dots are white beads and solid dots are black beads.