



# Bacara User Manual

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Version 1.0.62 | Bonboa

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## Introduction

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Bacara is a MIDI sequence and pattern generator. It generates melodic patterns inspired by classic acid synthesizer sequences and musical traditions, then gives you deep control to shape those patterns in real-time through deviation lanes, Euclidean rhythms, macros, and musical scales.

Bacara does not produce audio by itself. It generates MIDI note and control data that you route to your synthesizers, whether they are software plugins in your DAW or external hardware instruments.

### Key features:

- Melodic pattern generation inspired by acid, classical, and world music traditions

- 18 deviation lanes with Euclidean rhythm control
- 8 automation lanes (CC, high-res CC, NRPN, Program Change, Aftertouch, Pitchbend)
- 16 DAW-automatable macro knobs
- 38 musical scales with root key control
- 12 pattern variants (A-L) per preset
- Dual-device output with channel distribution
- MIDI drag and drop
- 48+ factory presets

**Supported formats:** VST3, Audio Units (macOS), CLAP, Standalone application

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## Installation

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### macOS

Run the provided `.pkg` installer. It will install the plugin in the standard system-level locations:

- **VST3:** `/Library/Audio/Plug-Ins/VST3/Bacara.vst3`
- **AU:** `/Library/Audio/Plug-Ins/Components/Bacara.component`
- **CLAP:** `/Library/Audio/Plug-Ins/CLAP/Bacara.clap`
- **Standalone:** `/Applications/Bacara.app`
- **Presets:** `/Library/Audio/Presets/Bonboa/Bacara/`

Bacara is a Universal Binary and runs natively on both Apple Silicon (M1/M2/M3/M4) and Intel Macs. Requires macOS 10.13 (High Sierra) or later.

### Windows

Run the provided `.msi` installer. It will install:

- **VST3:** `C:\Program Files\Common Files\VST3\`

Requires Windows 10 or later (64-bit).

### After Installation

Launch your DAW and scan for new plugins. Bacara will appear as a **MIDI effect** (not an audio effect). Load it on a MIDI/instrument track that routes to a synthesizer.

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# Getting Started

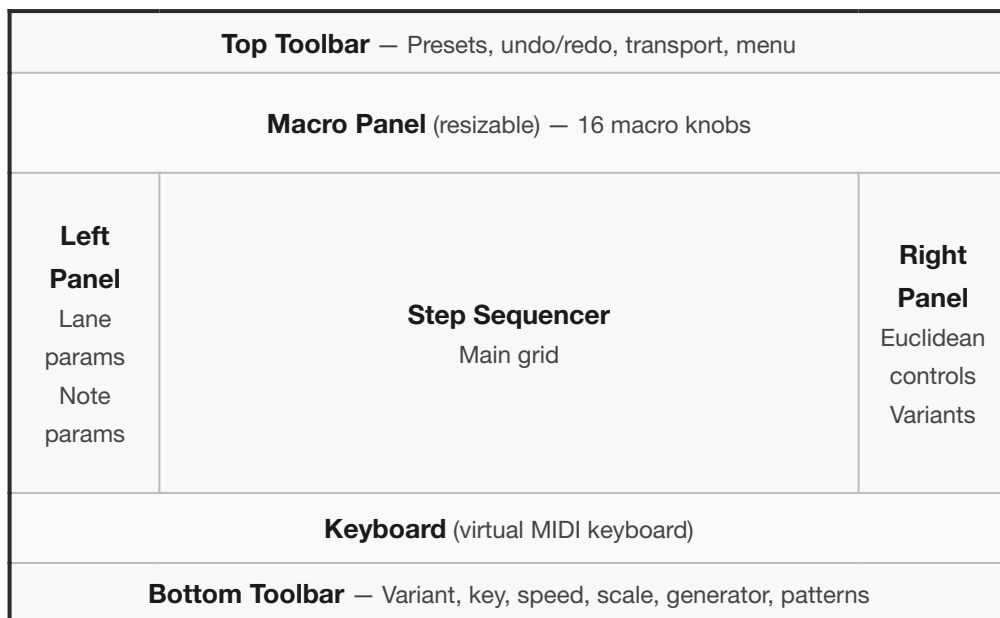
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1. **Load Bacara** on a MIDI or instrument track in your DAW
  2. **Route the output** to a synthesizer (software or hardware)
  3. **Press the dice icon** in the toolbar to generate your first pattern
  4. **Press play** in your DAW – you should hear the pattern playing through your synthesizer
  5. **Experiment** with deviation lanes, scales, and macros to shape the pattern
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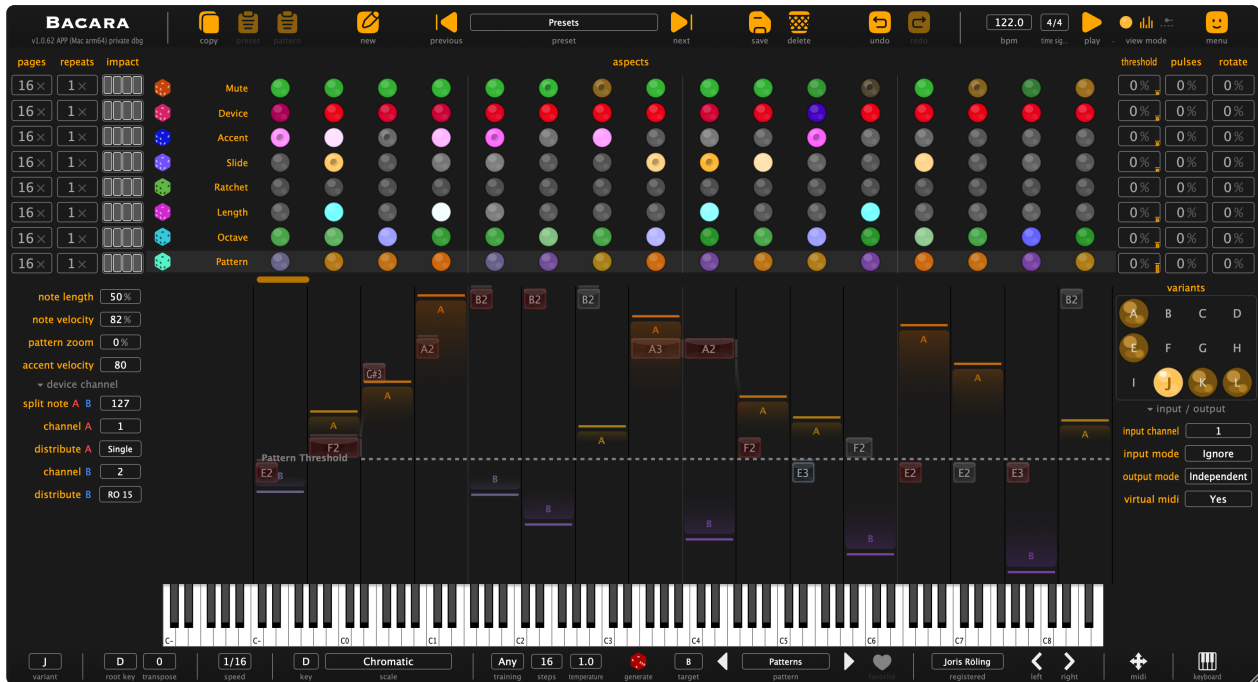
## Interface Overview

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Bacara's interface is organized in horizontal layers from top to bottom:



Each section can be shown or hidden using keyboard shortcuts or the menu.



*Bacara's main interface showing the deviation lanes, step sequencer, and keyboard.*

## Top Toolbar

The top toolbar contains (left to right):

- **Logo** – Bacara logo
- **Copy Preset / Paste Preset / Paste Pattern** – Clipboard operations
- **New Preset** – Create a new empty preset
- **Previous / Preset List / Next** – Navigate through your presets
- **Save Preset / Delete Preset** – Manage the current preset
- **Undo / Redo** – Step through edit history
- **BPM / Play / Stop** – Transport controls (Standalone only)
- **Menu** (smiley icon) – Access settings, registration, pattern cleanup, and about



*Top toolbar showing logo, copy/paste, preset navigation, transport, and menu buttons.*

## Bottom Toolbar

The bottom toolbar contains (left to right):

- **Variant** – Select the active variant (A-L)
- **Root Key** – Set the base key for the pattern

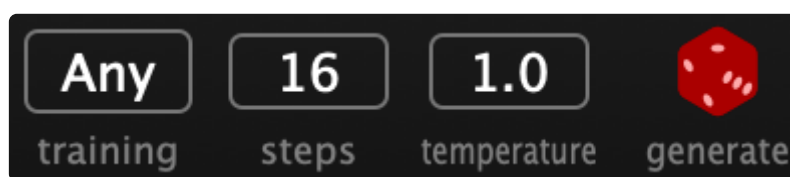
- **Transpose** – Shift the pattern up or down in semitones
- **Speed** – Pattern playback speed relative to DAW tempo (1/1 through 1/64, default: 1/16)
- **Scale Mode** – Select from 38 musical scales
- **Scale Key** – Set the root note of the scale (C through B)
- **Training** – Choose which musical style to use (Any, A, B, C, D, E, F, G, I, J, L, M, P, R, S, T, W, K, X, Y, or Z)
- **Steps** – Number of steps for generated patterns (1-64)
- **Temperature** – Controls generation randomness (1.0 - 5.0)
- **Generate** (dice icon) – Generate a new pattern
- **Pattern Target / Pattern List / Favorites** – Browse pattern history, mark favorites
- **Navigation arrows** – Step through the UI
- **MIDI Drag** – Drag MIDI pattern into your DAW

## Generating Patterns

The core of Bacara is its pattern generator. It creates melodic sequences inspired by acid synthesizer presets and musical traditions.

### How to Generate

- Click the **dice icon** in the bottom toolbar
- Or press **⌘+G** (macOS) / **Ctrl+G** (Windows)



*Generator controls: Training set, Steps, Temperature, and Generate (dice) button.*

### Generator Settings

- **Temperature** (1.0 - 5.0) – Controls randomness. Lower values produce more predictable, conventional patterns. Higher values produce more experimental, unexpected results. Default: 1.0
- **Steps** (1 - 64) – Number of steps in the generated pattern. Default: 16
- **Training** – Selects the musical style:
  - **Any** – Randomly picks one of the available styles per generation

- **A** – Acid A patterns
- **B** – Acid B patterns
- **C** – Classical patterns based on Bach and curated ground basses
- **D** – Baroque ground bass patterns; Pachelbel, Folia, Passamezzo, Andalusian, lamento, and circle-of-fifths ostinati
- **E** – Acid legacy patterns (combined Acid A + Acid P)
- **F** – Flamenco patterns; Phrygian-dominant Andalusian cadences, por medio vamps, tresillo syncopation, and augmented-2nd leaps
- **G** – Gypsy / Hungarian minor patterns; ostinati, scale walks, and augmented-2nd leaps
- **I** – Irish traditional patterns; jigs, reels, and folk melodies
- **J** – Jewish / Klezmer patterns; Freygish and Misheberakh modes with bulgar, freylekh, and hora dance figures
- **L** – Alberti bass patterns; broken-chord accompaniment figures in Mozart/Haydn style
- **M** – Minimalist patterns; Reich/Glass-style repeating cells with phase displacement
- **P** – Acid P patterns
- **R** – Renaissance patterns; Folia, Passamezzo, Romanesca, Ruggiero, lament bass and passacaglia ground basses
- **S** – Satie / French Impressionist patterns; Gymnopédie/Gnossienne sparse bass, Debussy whole-tone, and Ravel modal lines
- **T** – Acid T patterns
- **W** – Romantic patterns; chromatic descents, wide-interval leaps, and Wagner/Chopin-style voice leading
- **K** – Klassik combined (C+D+L+M+S+W); all classical-tradition styles merged
- **X** – Combined; all styles merged, enabling cross-pollination between genres
- **Y** – Acid combined (A+B+P+T); all acid styles merged
- **Z** – Non-acid combined (C+D+G+I+L+M+R+S+W); all non-acid styles merged

## Pattern History

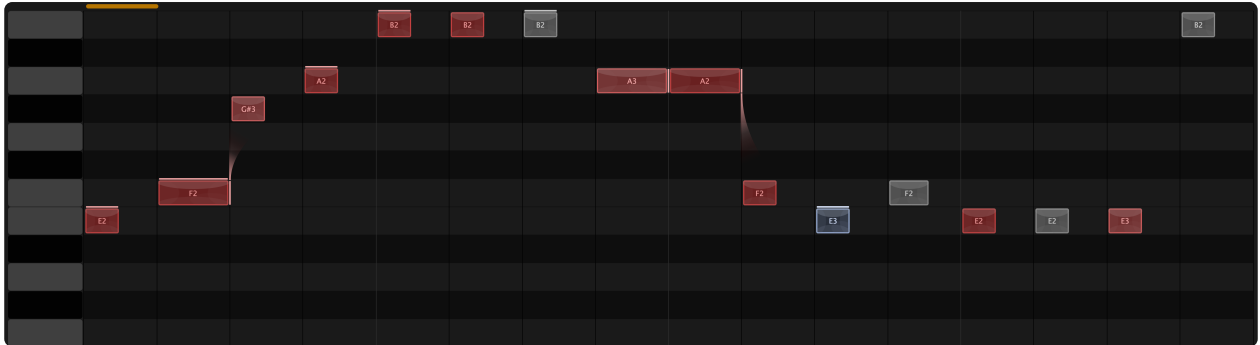
Every pattern you generate is automatically stored. Use the bottom toolbar to:

- Browse through previously generated patterns
- Mark patterns as **favorites** (star icon or press ⌘+F / Ctrl+F)
- Clean up non-favorite patterns from the menu

# The Step Sequencer

The central area of Bacara displays the step sequencer grid. This is where your pattern is visualized and can be edited.

- **Horizontal axis:** Steps (1 to 64)
- **Vertical axis:** Notes (12 visible note lanes)
- **Colored LEDs:** Active notes at each step



*The step sequencer in notes view showing note blocks in a piano-roll layout.*

## Editing Notes

- **Click** on a cell to add or remove a note
- **Drag** notes to move them
- **Double-click** for detailed note editing



*Notes view showing note blocks that can be clicked, dragged, and double-clicked to edit.*

## Pattern Length

- Patterns can be 1 to 64 steps long
- Press **⌘+] / Ctrl+]** to double the pattern length
- Press **⌘+[ / Ctrl+[** to halve the pattern length

## Note Parameters (Left Panel)

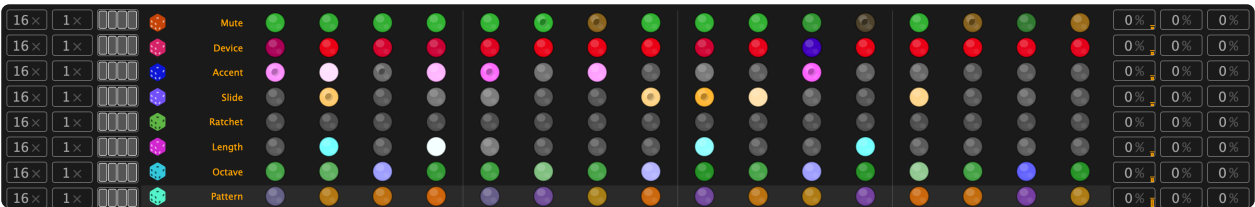
- **Note Length** (0-100, default: 50) – Controls the gate time of each note. Higher values produce longer, more legato notes
- **Note Velocity** (0-100, default: 80) – Controls how hard each note is played. Accented steps (via the Accent deviation lane) add the **Accent Velocity** value on top of this (see [Settings](#))
- **Pattern Zoom** (-100 to +100) – Zooms the visual display of the step grid

## Deviation Lanes

Deviation lanes are the heart of Bacara’s creative power. They modify specific aspects of the MIDI output using **Euclidean rhythms**, creating evolving, non-repeating musical variations over time.

There are 8 main deviation lanes, displayed below the step sequencer:

Lane	Name	Effect
1	Mute	Silences steps where the deviation pattern is active
2	Device	Routes steps to Device A or Device B
3	Accent	Adds a velocity boost to selected steps
4	Slide	Adds portamento/glide between notes
5	Ratchet	Repeats/multiplies notes on selected steps
6	Length	Varies the note gate time per step
7	Octave	Shifts pitch up or down by octaves
8	Pattern	Alternates between different base pattern variants



*The deviation lanes showing Mute, Device, Accent, Slide, Ratchet, Length, Octave, and Pattern. Each colored LED represents a deviation state per step.*

## Deviation Lane Parameters

Each deviation lane has six parameters that control its behavior:

- **Pages** (1-16) – Number of deviation pages before the pattern repeats. Higher values create longer, more evolving variations
- **Repeats** (1-16) – How many times the current deviation page repeats before advancing
- **Impact** (0-15) – A bitmask that marks which sections of the pattern the deviation applies to. The pattern is divided into segments; active segments are affected by the deviation, while inactive segments are bypassed (shown as dimmed LEDs in the UI)
- **Threshold** (-100 to +100) – Sets the level at which the deviation activates. Steps above the threshold are affected, steps below are not, or vice versa
- **Pulses** (0-100) – Number of active pulses in the Euclidean rhythm. More pulses means more steps are affected
- **Rotation** (-100 to +100) – Rotates the deviation pattern, shifting which steps are affected

## How Euclidean Rhythms Work

Bacara uses the Bresenham algorithm to distribute a number of pulses as evenly as possible across a number of steps. By varying pulses, rotation, pages, and threshold, you can create rhythmic patterns that evolve naturally over time – never quite repeating in the same way.



*A single deviation lane row. Colored LEDs indicate active deviations, dimmed LEDs are inactive.*

## Editing Deviations

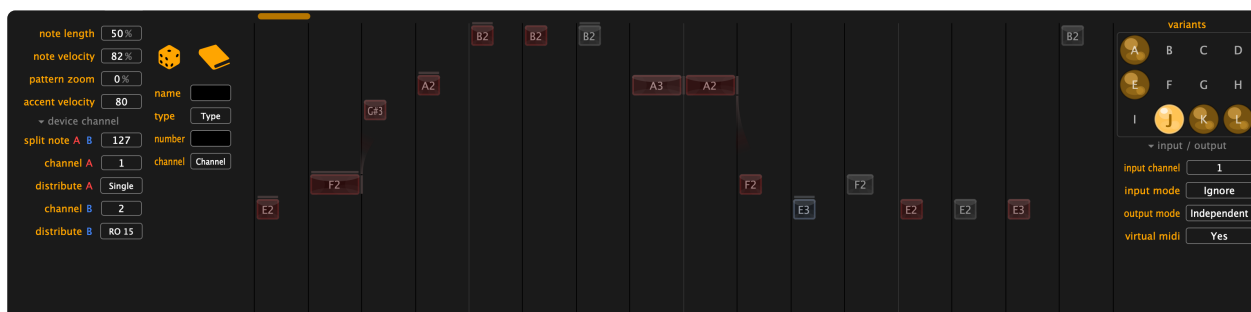
- **Click** deviation LEDs to toggle them manually
- **Drag** across LEDs to paint deviations on or off
- Press **⌘+R** / **Ctrl+R** to re-seed the focused deviation lane (randomize its pattern)

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## Automation Lanes

In addition to the 8 main deviation lanes, Bacara has **8 automation lanes** for outputting MIDI control data. Each automation lane can send one of the following message types:

Type	Description
None	Lane disabled
CC	Standard 7-bit MIDI Control Change (0-127)
CC high-res	14-bit high-resolution Control Change (0-16383)
NRPN	Non-Registered Parameter Number
Program Change	MIDI Program Change messages (0-127)
Aftertouch	Channel pressure messages
Pitchbend	Pitch bend messages



Automation lanes showing per-step automation blocks with note labels, deviation parameters on the left, and routing controls on the right.

## MIDI Device Database

Bacara includes a built-in database of 60+ manufacturers and 170+ synthesizer devices with their MIDI parameter definitions. When setting up automation lanes, you can browse this database to quickly find the correct CC numbers and NRPN addresses for your specific hardware or software synthesizer.

## Automation Lane Controls

Each automation lane shares the same deviation lane parameters as the main lanes (Pages, Repeats, Impact, Threshold, Pulses, Rotation), giving you precise rhythmic control over when automation values are sent.

Toggle the automation view with **⌘+A** / **Ctrl+A** or from the menu.

## Macros

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Bacara provides **16 macro knobs** (Macro A through Macro P) for real-time performance control. Each macro is a bipolar control ranging from -1.0 to +1.0.



*The macro panel showing a row of rotary knobs for real-time parameter control.*

## What Macros Do

Each macro can be mapped to a deviation lane parameter (threshold, pulses, rotation, etc.), and multiple macros can target the same parameter for combined control. This is ideal for:

- Live performance – sweep a single macro to evolve your pattern
- DAW automation – automate macros from your DAW for recorded parameter changes
- Hardware control – map MIDI CC from a physical controller to macros

## Macro Settings

- **Global macros** – Macro mappings shared across all presets in an instance
- **Per-preset ranges** – Each preset can define minimum and maximum bounds for macro effect

## Visibility

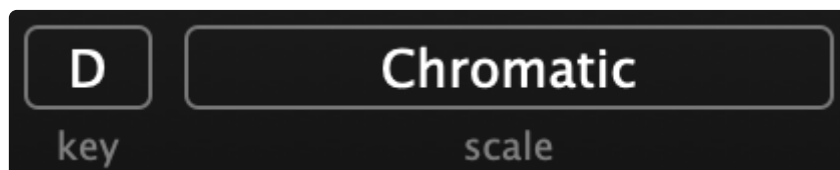
Toggle the macro panel with **⌘+M** / **Ctrl+M** or resize it by dragging the divider between the macro panel and the main content area.

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## Scales and Keys

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Bacara can quantize generated patterns to musical scales, ensuring notes always sound harmonically correct.



*Scale Mode and Scale Key selectors in the bottom toolbar.*

## Scale Mode

Choose from 38 scales:

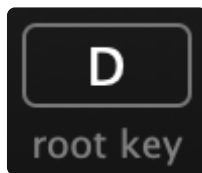
Chromatic, 8-Tone Spanish, Bhairav, Dorian #4, Dorian Mode, Half-Whole Diminished, Hirajoshi, Insan, Iwato, Kumoi, Locrian Mode, Locrian Super, Lydian Augmented, Lydian Dominant, Lydian Mode, Major Harmonic, Major Pentatonic, Major, Messiaen 3, Messiaen 4, Messiaen 5, Messiaen 6, Messiaen 7, Minor Blues, Minor Harmonic, Minor Hungarian, Minor Melodic Down, Minor Melodic Up, Minor Pentatonic, Minor, Mixolydian Mode, Pelog Selisir, Pelog Tembung, Phrygian Dominant, Phrygian Mode, Whole Tone, Whole-Half Diminished, Custom / External Chords

## Scale Key

Set the root note: C, C#, D, D#, E, F, F#, G, G#, A, A#, B

## Root Key

- **Root Key** control (C through B, or None) – Sets the base key for the pattern
- **Transposition** (-24 to +36 semitones) – Shifts the entire pattern up or down



*The Root Key control in the bottom toolbar.*

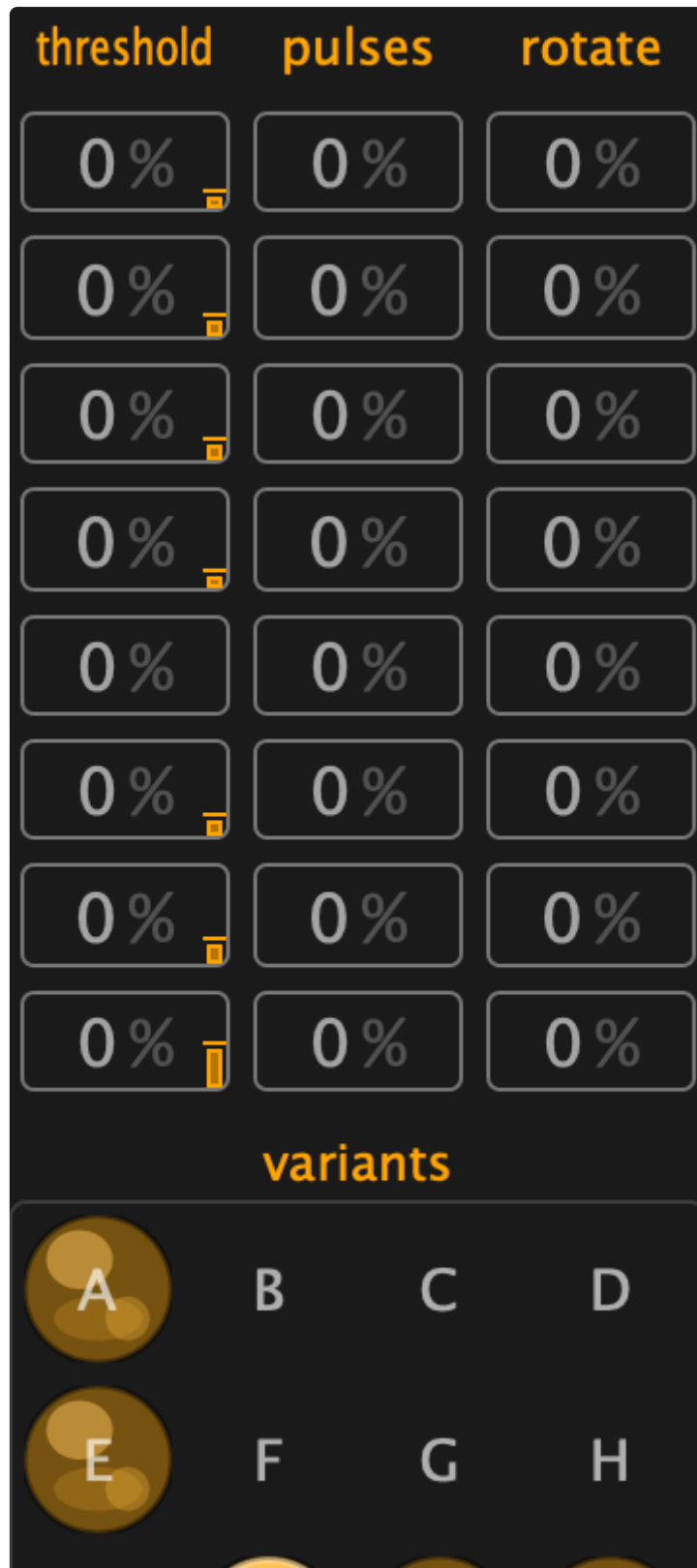
## Custom / External Chords

When set to “Custom / External Chords”, Bacara uses incoming MIDI notes to define the active scale. Send a sustain pedal message to reset back to Chromatic.

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## Variants

Each Bacara preset can hold **12 pattern variants**, labeled **A** through **L**. Variants let you store different configurations within the same preset for quick switching during performance.



*The variant panel (A-L) on the right side of the interface.*

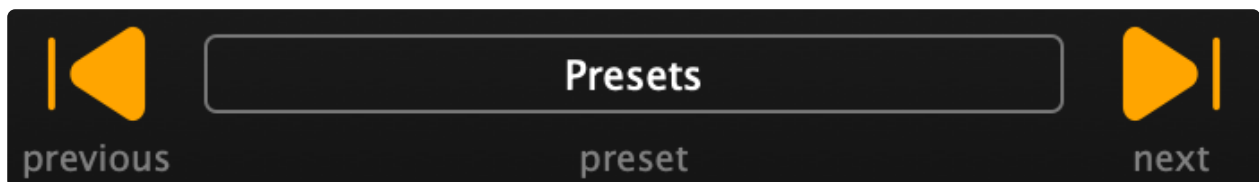
## Using Variants

- Click a variant button (A-L) in the right panel to switch
- Each variant remembers its own pattern data and deviation settings
- Mark variants as favorites for quick identification

## Presets and Patterns

### Presets

Presets store the complete state of Bacara, including all parameters, macro mappings, and variant data. Preset files use the `.bcr` extension.



*Preset navigation with previous/next buttons and preset list.*

- **Factory presets** – 48+ included presets to get you started
- **User presets** – Save your own presets from the top toolbar
- **Copy/Paste** – Copy the current preset to the clipboard and paste it into another instance
- **Undo/Redo** – Up to 32 levels of undo history

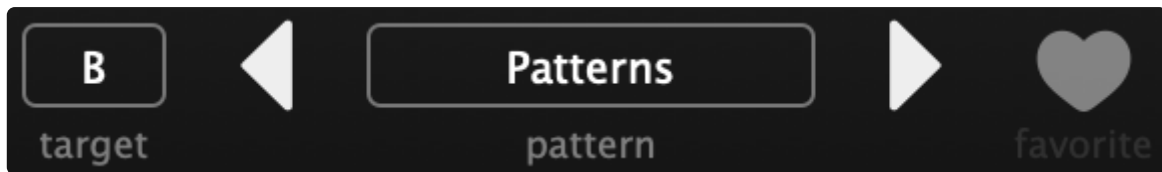
### Preset Locations

Platform	Path
macOS	<code>/Library/Audio/Presets/Bonboa/Bacara/</code>
Windows	<code>%APPDATA%\Bacara\Presets\</code>

Patterns are stored alongside presets in a `.patterns` subfolder on macOS, or in a `Patterns` folder on Windows.

### Patterns

Patterns are the raw melodic sequences generated by Bacara. They are stored automatically and can be browsed from the bottom toolbar.



*Pattern navigation with previous/next, pattern list, and favorite toggle.*

- **Pattern history** – Browse all previously generated patterns
  - **Favorites** – Mark patterns you want to keep with the star icon
  - **Cleanup** – Remove all non-favorite patterns from the menu (smiley icon > Cleanup Patterns)
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## Device Output and Routing

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Bacara can split its MIDI output between two devices (Device A and Device B), letting you drive two synthesizers from a single pattern.

accent velocity 80

▼ device channel

split note A B 127

channel A 1

distribute A Single

channel B 2

distribute B RO 15

*Device output controls: split note, channel assignment, and distribution mode.*

## Device Split

The **Device Split** slider (0-127) determines how notes are distributed between Device A and Device B. At 127 (default), all notes go to Device A. Lower values send more notes to Device B.

## Channel Assignment

Each device can be assigned its own MIDI channel:

- **Device A Channel** (default: 1)
- **Device B Channel** (default: 2)

## Channel Distribution

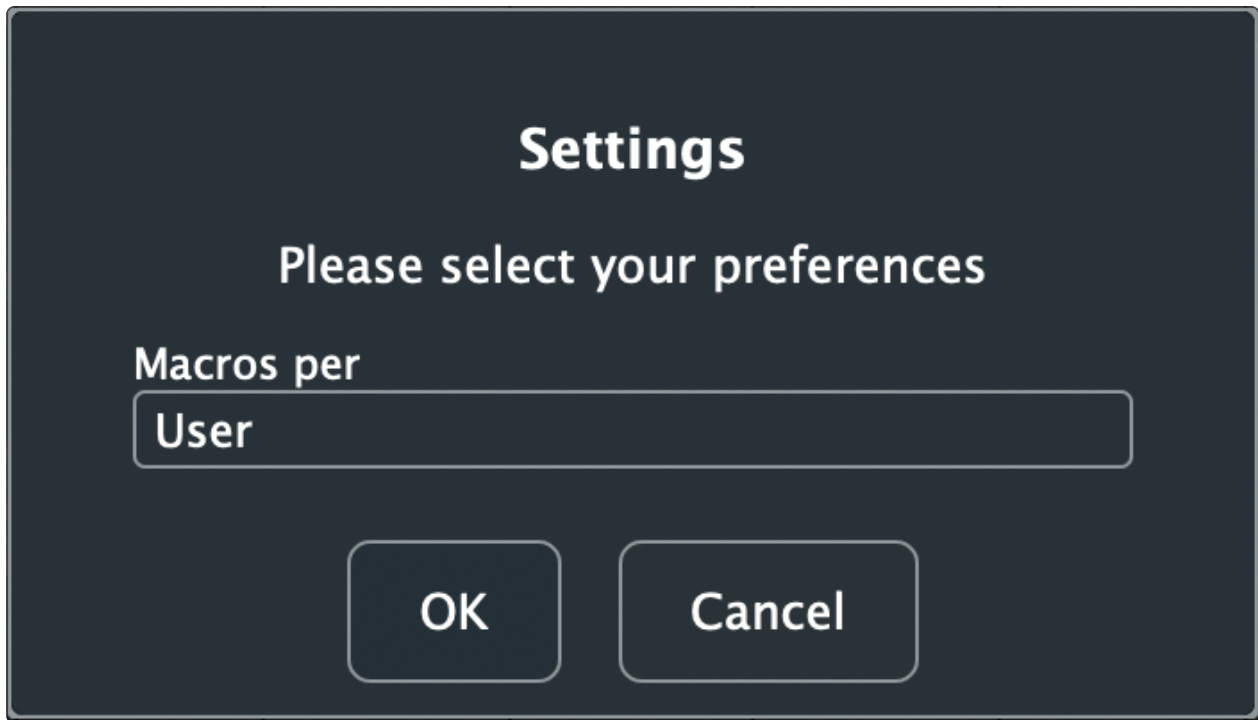
When a device has multiple channels assigned, Bacara can distribute notes across them:

- **Round Robin** – Cycles through available channels in order
- **Random** – Randomly selects a channel for each note

**Note:** Slide deviations require single-channel output. When using channel distribution, slide behavior may not work as expected.

## Settings

Access settings from the **smiley icon** in the top toolbar.



*The Settings dialog.*

### Instance Settings (per plugin instance)

- **Input Mode** – How incoming MIDI notes interact with the pattern:
  - **None** – Pattern generates independently
  - **Transpose** (default) – Incoming notes transpose the pattern

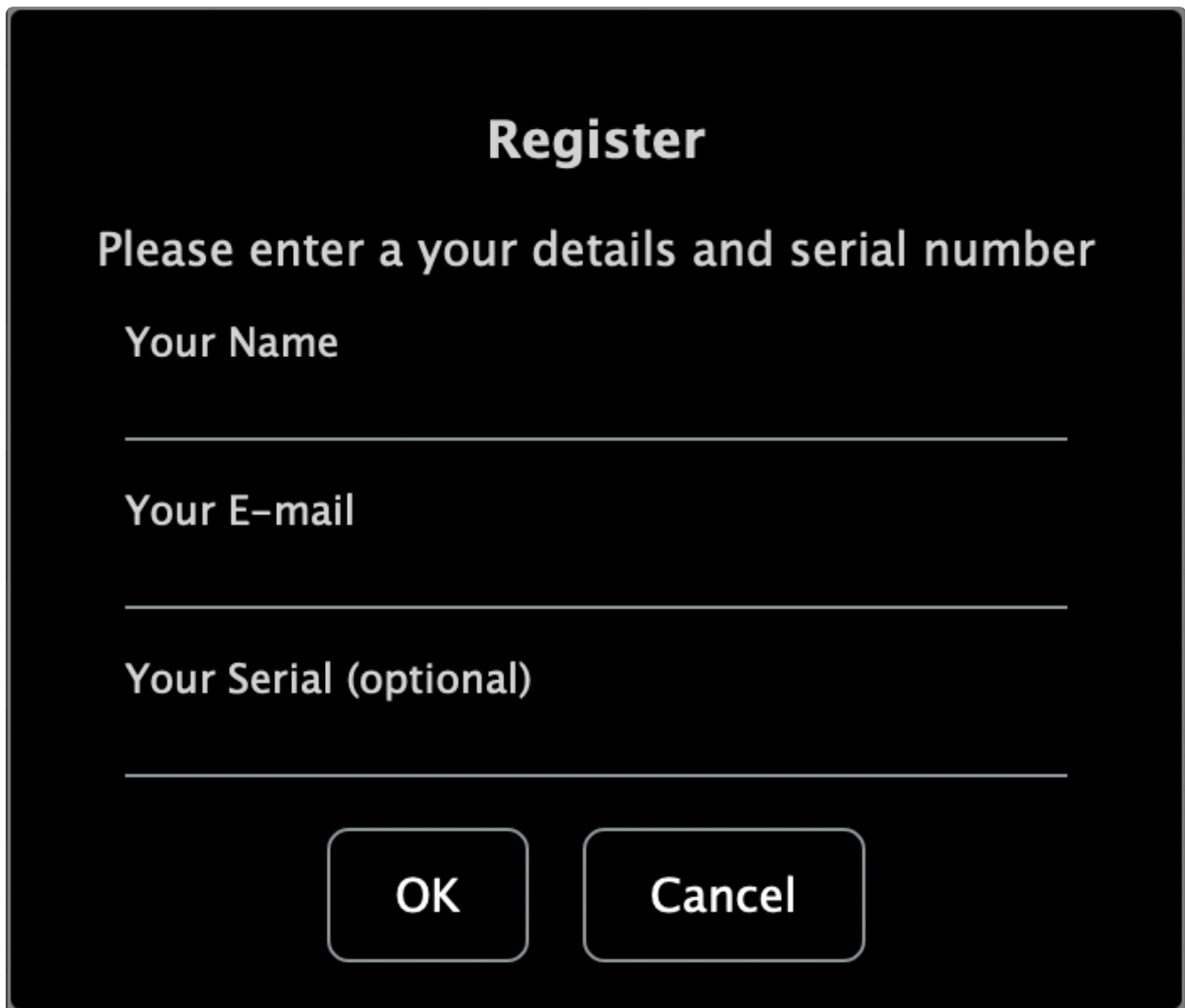
- **Add Start** – Incoming notes are added at the beginning of the pattern
- **Add End** – Incoming notes are added at the end of the pattern
- **Output Mode:**
  - **Always** (default) – Pattern plays continuously
  - **Only when input notes are active** – Pattern only plays when you hold notes
- **Input Channel** – Which MIDI channel to listen on for input notes (default: 1)
- **Accent Velocity** – The velocity boost added on top of **Note Velocity** when a step is accented by the Accent deviation lane (default: 100). For example, with Note Velocity at 80% and Accent Velocity at 100, accented steps play at full velocity

## Global Settings (shared across instances)

- **Global Macros** – When enabled, macro mappings are shared across all presets
- **Global Settings** – When enabled, certain settings are shared across instances

## Registration

Bacara can be used in demo mode or registered with a serial key for full functionality. Enter your registration details from the menu.

A dark-themed registration dialog box with a title bar. The title is "Register" in bold white text. Below the title is a subtitle "Please enter a your details and serial number" in white text. There are three input fields, each with a white label and a horizontal line for text entry. The labels are "Your Name", "Your E-mail", and "Your Serial (optional)". At the bottom of the dialog are two rounded rectangular buttons with white text: "OK" and "Cancel".

**Register**

Please enter a your details and serial number

Your Name

\_\_\_\_\_

Your E-mail

\_\_\_\_\_

Your Serial (optional)

\_\_\_\_\_

OK Cancel

*The Registration dialog where you enter your name, e-mail, and serial number.*

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## MIDI Input and Control

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### Input Notes

Bacara listens for MIDI notes on the configured input channel. What they do depends on the Input Mode setting (see Settings).

### MIDI Note Ranges

Bacara responds to specific MIDI note ranges for special functions:

Note Range	Function
C0 - B0	Select variant (A-L)
C1 - B1	Set root key
C2 - B6	Pattern note input (5 octaves)
C7 - B7	Generate pattern (each note increases temperature)
C8 - D#9	Re-seed deviation lanes
E9 - B9	Generate automation values

## MIDI CC Control

Bacara responds to the following CC messages on the input channel:

CC	Function	Range
CC 1/33	Macro control (14-bit)	0-16383
CC 2	Pages (iterations)	0-15
CC 3	Repeats	0-15
CC 4	Impact	0-15
CC 5	Generate (dice)	0 = off, 127 = trigger
CC 6	Threshold	0-100
CC 7	Pulses	0-127
CC 8	Rotation	0-127
CC 9	Shift Euclidean	0 = off, 127 = on
CC 10	Shift Page	0 = off, 127 = on
Sustain	Reset user-defined scale to Chromatic	

## MIDI Drag and Drop

You can drag MIDI patterns directly from Bacara into your DAW:



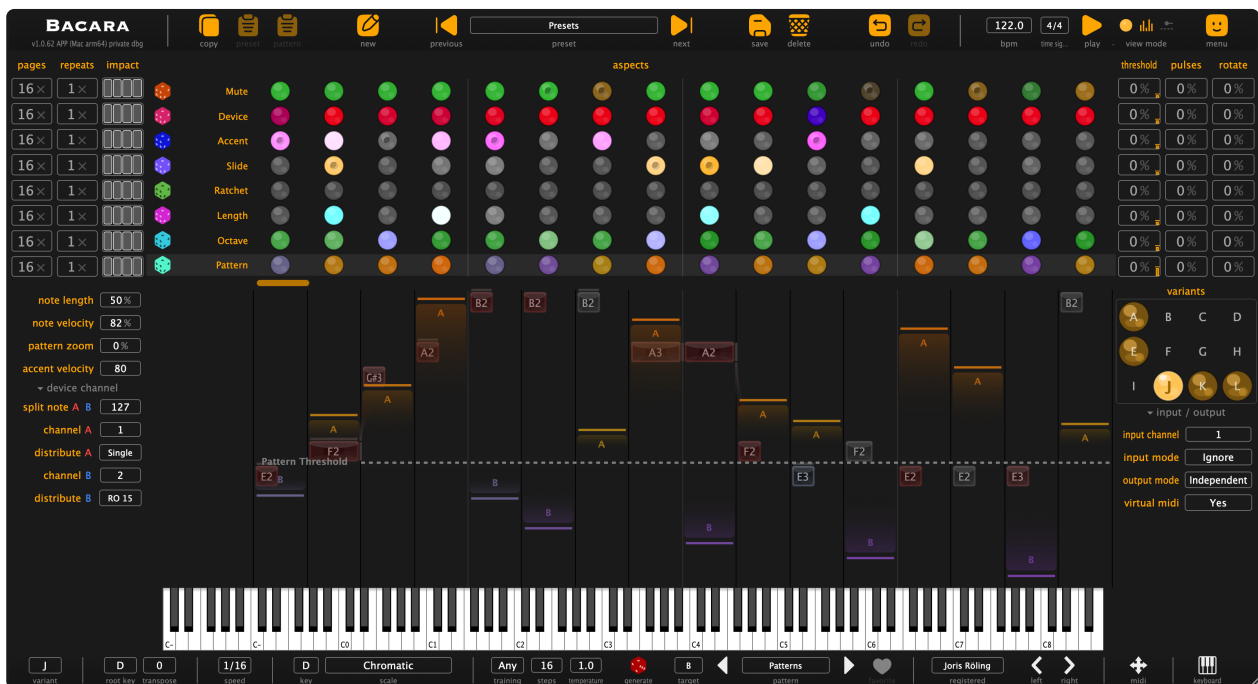
The MIDI drag button in the bottom toolbar.

1. Click and hold the **MIDI drag icon** in the bottom toolbar
2. Drag it onto a MIDI track or clip slot in your DAW
3. Release to create a new MIDI clip containing the current Bacara pattern

This converts the Bacara pattern into a standard MIDI clip that you can further edit in your DAW.

## Standalone Application

Bacara is also available as a standalone application (not requiring a DAW).



Bacara standalone application with the virtual MIDI keyboard visible at the bottom.



The virtual MIDI keyboard.

## Transport Controls

- **Play/Stop** buttons in the top toolbar
- **BPM** display and control

## Sync Options

- **Ableton Link** – Sync tempo and transport with other Link-enabled applications on your network
- **MIDI Clock** – Send or receive MIDI clock for synchronization with hardware

## Virtual MIDI (macOS)

The standalone app creates a virtual MIDI port named “Bacara” that other applications can receive MIDI from. Configure this in the settings:

- **None** – No virtual MIDI port
- **Single** – One virtual MIDI port
- **Multiple** – Multiple virtual MIDI ports

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## Keyboard Shortcuts

Use **⌘** on macOS or **Ctrl** on Windows as the modifier key.

### Editing

Shortcut	Action
⌘+C	Copy preset
⌘+V	Paste preset
⌘+Z	Undo
⌘+Shift+Z	Redo

## Pattern & Generation

Shortcut	Action
⌘+G	Generate new pattern
⌘+N	New preset
⌘+R	Re-seed focused deviation lane
⌘+]	Double pattern length
⌘+[	Halve pattern length
⌘+F	Toggle pattern Favorite
⌘+T	Toggle Pattern Target

## View Toggles

Shortcut	Action
⌘+E	Toggle Editor panels (left and right)
⌘+L	Toggle Aspects view
⌘+A	Toggle Automation lanes
⌘+D	Toggle Deviation lanes
⌘+S	Toggle Sidebar
⌘+K	Toggle Keyboard
⌘+M	Toggle Macros panel

## Navigation

Shortcut	Action
Left Arrow	Previous preset
Right Arrow	Next preset
Up Arrow	Previous pattern
Down Arrow	Next pattern
Shift+>	Next page
Shift+<	Previous page

## Settings

Shortcut	Action
I	Instance settings (plugin) / ⌘+, (standalone)
⌘+W	Global settings

## Standalone Only

Shortcut	Action
Space	Toggle Play/Stop
⌘+Shift+L	Toggle Ableton Link
⌘+Shift+M	Toggle MIDI Sync

## Troubleshooting

### Plugin not appearing in DAW

- Ensure you've rescanned plugins in your DAW after installation
- Bacara is a **MIDI effect**, not an audio effect. Some DAWs list these separately

- On macOS, check that the plugin is not blocked by Gatekeeper (System Settings > Privacy & Security)

## No sound

- Bacara outputs MIDI, not audio. Make sure you have a synthesizer receiving Bacara's MIDI output
- Check that the MIDI output channel matches what your synthesizer expects
- Verify your DAW's transport is playing (Bacara syncs to DAW playback)
- If Output Mode is set to "Only when input notes are active", make sure you're holding a note

## Pattern not generating

- Try adjusting the temperature or step count if patterns seem stuck

## Slides not working

Slide deviations require single-channel MIDI output. If you're using channel distribution (Round Robin or Random), slides will not function correctly. Set your device to a single channel.

## High CPU usage

- Bacara is a MIDI-only plugin and should have minimal CPU impact
- If you're experiencing issues, try reducing the UI refresh rate or closing unused panels

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# Support

- **Developer:** Bonboa
  - **Website:** [bonboa.com](https://bonboa.com)
  - **Contact:** [info@bonboa.com](mailto:info@bonboa.com)
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*Bacara – melodic pattern generation by Bonboa*