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# **PGB-1 User Manual**

*Release 1.2.0*

**Wee Noise Makers**

**Feb 27, 2026**



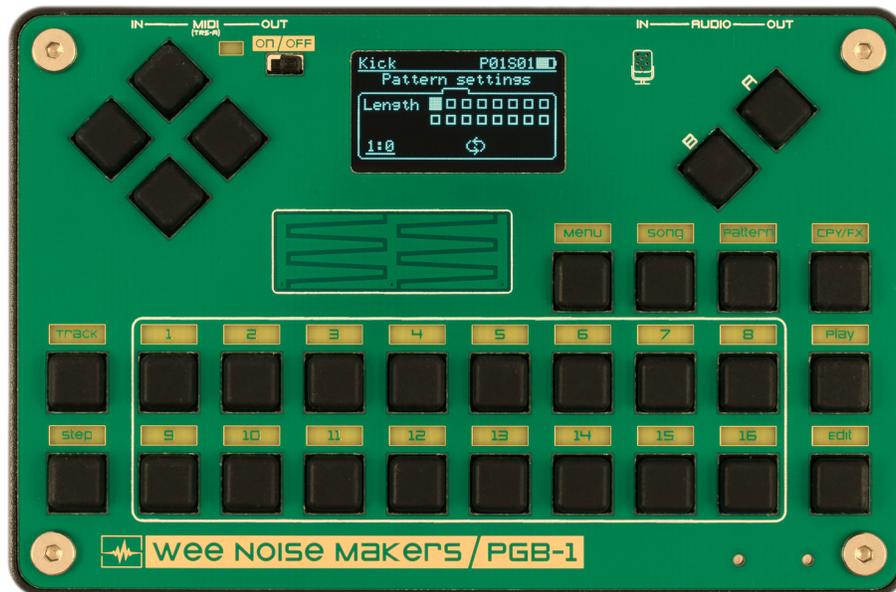
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Welcome to the official user manual for the **Wee Noise Makers PGB-1**.

The PGB-1 is a portable, battery-powered music production device designed for creating beats, melodies, and complete tracks on the go. With its intuitive interface, powerful synth engines, and comprehensive sequencing capabilities, the PGB-1 puts professional music production in your pocket.



## Key Features

- **16 Tracks** - 6 synth tracks, 2 sample tracks, 3 audio FX tracks, and 5 MIDI tracks
- **16-Step Sequencer** - Create patterns up to 256 steps with pattern linking
- **Multiple Synth Engines** - Dozens of sound engines for kicks, snares, hi-hats, bass, leads, and chords
- **12 Song Parts** - Arrange your tracks into complete songs
- **Chord Progressions** - Built-in chord system with automatic note mapping
- **Live Performance FX** - Real-time effects for dynamic performances
- **Sample Recording** - Record and edit samples directly on the device
- **Battery Powered** - Create music anywhere with the built-in rechargeable battery

## Getting Started

New to the PGB-1? Start here:

1. *Hardware Layout* - Learn the buttons and controls
2. *Power & Charging* - Set up your device
3. *Navigation Basics* - Understand the interface
4. *Rhythm Basics* - fundamental concepts of rhythm and sequencing

### 5. *Your First Project* - Create your first beat

#### Join the Community

Connect with other PGB-1 users and stay updated:

- **Discord:** Join the [Wee Noise Makers Discord](#) to share tips, tricks, and music
- **Social Media:** Follow [@weenoisemakers](#) and tag us in your creations

#### Demo Projects

The PGB-1 comes with built-in demo projects to help you explore its capabilities:

- **“Lost1”** (Lost one) by [AA Battery Music](#)
- **“Noxis”** in collaboration with [Technoval](#)
- **“Dark (#1)”** based on [BroBeatzTV’s dark trap tutorial](#)
- **“Echo (#2)”** based on [Alice Efe’s downtempo tutorial](#)

Load a demo project from the menu: **Menu > Projects > Load**. Once the project is loaded, you can press the Play button to start the sequencer. Most demo projects contain several “song parts”, these are sections of a song with different patterns, chords, or instruments enabled (intro, chorus, break, outro, etc.).

To change the song part, press the Song button to enter *Song mode*, then press button 2 to queue part two. It can take some time for the new part to start playing as the sequencer will wait for the full run of the current part before switching to the new one. Get familiar with each part and perform your own version of the track. You can also jump in *Track mode* and tweak the synths parameters.

#### Firmware Updates

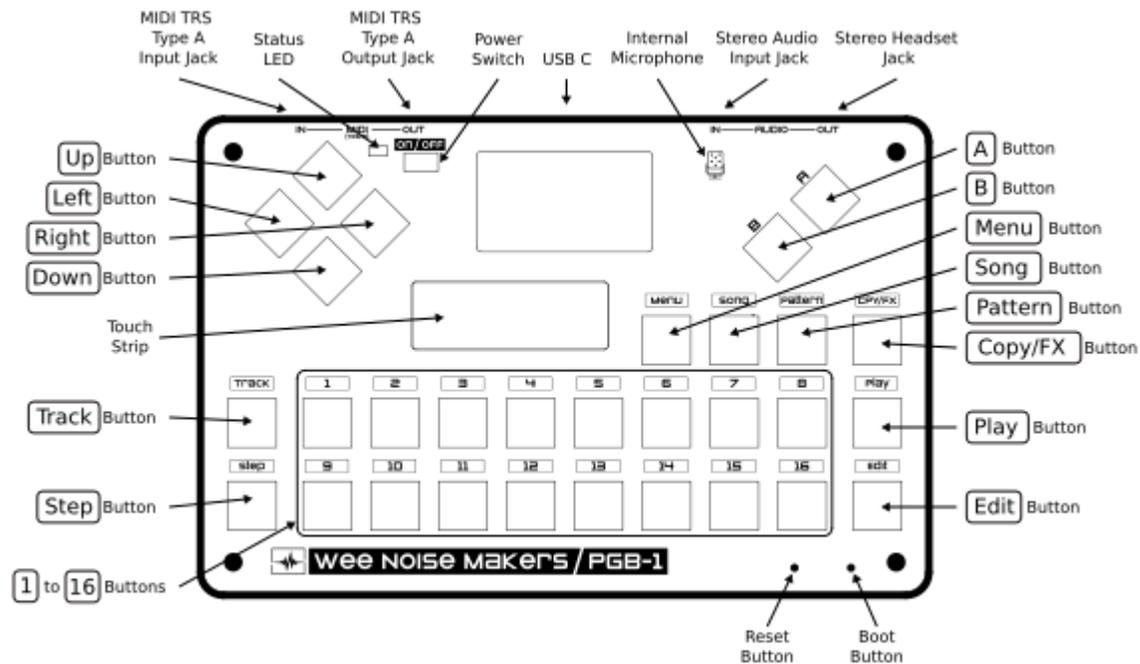
Keep your PGB-1 up to date with the latest features and improvements. Check the [Firmware Updates](#) section for instructions.

## GETTING STARTED

This section covers everything you need to know to start making music with your PGB-1.

- *Hardware Layout* - Learn the physical controls and connectors
- *Power & Charging* - Powering up and charging your device
- *Navigation Basics* - Understanding menus and navigation
- *Rhythm Basics* - Fundamental concepts of rhythm and sequencing
- *Your First Project* - Create your first beat step by step

### 1.1 Hardware Layout



## 1.1.1 Front Panel

### Power

- **Power Switch** (side) - Slide left to turn on, right to turn off
- **Power On LED** (top left, cyan) - Lit when the device is powered on
- **Battery Charge LED** (top left, red) - Lit when the battery is charging

### Navigation Buttons

- ← → - Navigate between settings pages
- ↑ ↓ - Change parameter values
- A - Confirm / Select / Enable
- B - Back / Cancel / Disable

### Mode Buttons

- Track - Enter *Track Mode* (configure instruments and sounds)
- Step - Enter *Step Mode* (configure individual step parameters)
- Pattern - Enter *Pattern Mode* (configure pattern length and linking)
- Song - Enter *Song Mode* (arrange parts and chord progressions)

### Keyboard Section

The 16 numbered buttons (1 to 16) serve multiple purposes depending on the current mode (see *Main Modes*).

### Control Buttons

- Menu - Open the main menu
- Play - Start/Stop the sequencer (also used for shortcuts when held)
- Edit - Toggle pattern edit mode / Hold for chromatic keyboard
- Cpy/FX - Hold for Live FX access and copy/paste operations

### Touch Strip

The capacitive touch strip at the bottom of the device allows for:

- Quick parameter value adjustment
- Live performance expression

## 1.1.2 Connectors

From right to left:

- **Headphone/headset** (3.5mm stereo jack) - Connect headphone/headset or external speakers
- **Line Input** (3.5mm stereo jack) - Connect external audio sources
- **USB** (type-C) - For charging and firmware updates
- **MIDI Output** (3.5mm stereo jack, TRS type A) - Control external gear via MIDI protocol
- **MIDI Input** (3.5mm stereo jack, TRS type A) - Control the PGB-1 with external gear (MIDI keyboard or sequencer, Digital Audio Workstation (DAW), etc.)

### 1.1.3 Internal Components

- **Built-in Speaker** - For monitoring without headphones
- **Internal Microphone** - For recording samples
- **Rechargeable Battery** - Provides portable operation

### 1.1.4 Recovery

- **Reset Button** (small hole) - Use a paperclip to reset the device
- **Boot Button** (small hole) - For forced firmware update procedure

## 1.2 Power & Charging

### 1.2.1 Powering On

To turn on the PGB-1, slide the **Power Switch** to the left. The device will boot up and the status LED will glow **cyan blue**.

To turn off the device, slide the Power Switch to the right.

### 1.2.2 Charging

The PGB-1 features a built-in rechargeable battery that can be charged via USB Type-C.

#### How to Charge

1. Connect a USB Type-C cable to the PGB-1
2. Connect the other end to:
  - A computer USB port
  - A USB power adapter
  - A USB power bank
3. The status LED will glow **red** while charging
4. When fully charged, the red LED will turn off

#### Battery Level Display

During charging, the on-screen battery level indicator does not provide valid information about the state of charge. Only the red status LED indicates whether charging is in progress or complete.

### 1.2.3 Power Tips

- Always use good quality USB cables and power sources
- The device can be used while charging
- If using a laptop to charge, ensure the laptop is plugged in or has sufficient battery

## 1.2.4 Troubleshooting Power Issues

### Device Won't Turn On

If the device doesn't power on:

1. Ensure the battery is charged (connect to USB and check for red LED)
2. Try the reset button with a paperclip
3. If issues persist, contact support

### Device Won't Turn Off

If the device doesn't respond to the power switch:

1. This indicates an unrecoverable software malfunction
2. Use the *Reset Procedure* to recover

## 1.3 Navigation Basics

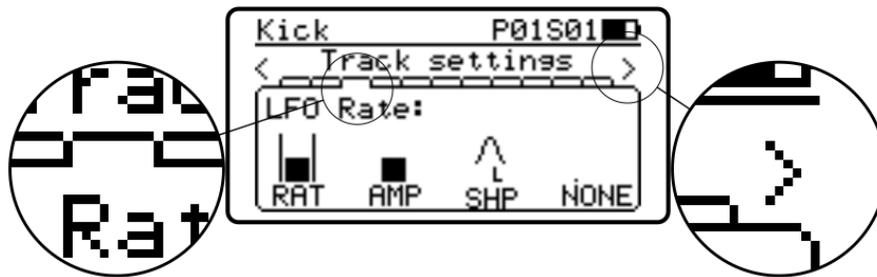
### 1.3.1 Button Controls

The PGB-1 uses a consistent navigation scheme across all menus and modes:

Button	Function
← / →	Navigate between settings pages
↑ / ↓	Change the value of the selected setting
A	Positive actions (select, accept, enable, confirm)
B	Negative actions (go back, reject, disable, cancel)

### 1.3.2 Screen Layout

#### Page Indicator



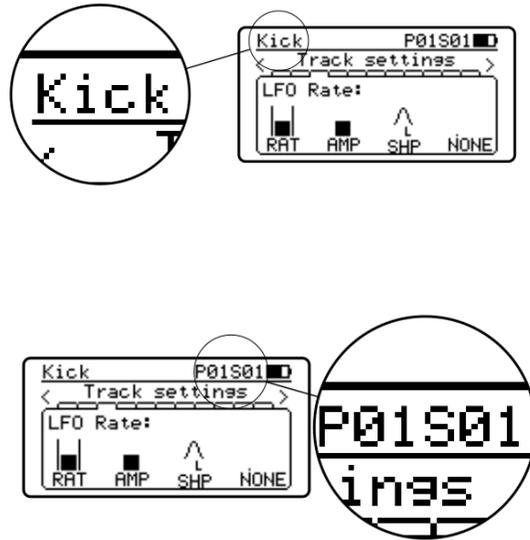
At the top of the screen, a **page indicator** shows:

- How many pages of settings are available (dots)
- Which page is currently displayed (larger dot)
- Arrows indicating more pages to the left or right

## Track and Pattern Display

In most modes, the screen displays:

- **Top left:** Current track name
- **Top right:** Current pattern and step numbers



## 1.3.3 Menu Navigation

### Opening the Main Menu

Press Menu to open the main menu. Use ← and → to browse menu items, and press A to enter a sub-menu.

### Menu Structure

The main menu contains:

- **Projects** - Save, load, and create projects
- **Custom Waveform** - Draw and edit waveforms
- **Inputs** - Configure audio inputs
- **MIDI Settings** - Configure MIDI interface
- **Update Mode** - Enter firmware update mode
- **System Info** - View firmware version

## 1.3.4 Mode Selection

### Entering Main Modes

Press and release a mode button to enter that mode:

- Track - Track Mode
- Step - Step Mode
- Pattern - Pattern Mode

- Song - Song Mode

The corresponding LED will light up to indicate the active mode.

### Quick Selection Without Mode Change

You can select items without changing the current mode by **holding** the mode button:

Action	Result
Hold Track + Press 1-16	Select track without entering Track Mode
Hold Step + Press 1-16	Select step without entering Step Mode
Hold Pattern + Press 1-16	Select pattern without entering Pattern Mode
Hold Song + Press 1-12	Select song part without entering Song Mode

### 1.3.5 Edit Mode

In Track or Step mode, press **Edit** to toggle pattern edit mode. When edit mode is active:

- The keyboard buttons (1 to 16) toggle steps on/off in the current pattern
- Press **Edit** again to exit edit mode

### Chromatic Keyboard

Hold **Edit** to access the chromatic keyboard:

- Play notes on the selected track
- Press 1 to go down an octave
- Press 4 to return to center octave
- Press 8 to go up an octave

### 1.3.6 Using the Touch Strip

The touch strip provides analog control for parameters:

1. Navigate to a parameter using  $\leftarrow / \rightarrow$
2. Touch and slide on the touch strip to adjust the value
3. The value changes smoothly as you slide

#### Tip

Hold **Cpy/FX** to access a quick parameter that can be controlled with the touch strip during performance.

## 1.4 Rhythm Basics

This chapter introduces the fundamental concepts of rhythm and sequencing.

### 1.4.1 What is Rhythm?

Rhythm is simply a pattern of sounds over time. When you tap your foot to music, you're following its rhythm. Every song has a rhythm that repeats, making it predictable and easy to follow.

### 1.4.2 Tempo and BPM

**Tempo** is how fast or slow the music plays. It's measured in **BPM** (Beats Per Minute).

BPM Range	Feel	Common Genres
60-80	Slow, relaxed	Ballads, ambient
80-100	Moderate	Hip-hop, R&B
100-120	Upbeat	Pop, house
120-140	Energetic	Techno, EDM
140+	Fast, intense	Drum & bass, hardcore

On the PGB-1, you can adjust tempo by holding Play and pressing ← or →.

### 1.4.3 Beats and Bars

Music is organized into **beats** and **bars** (also called measures):

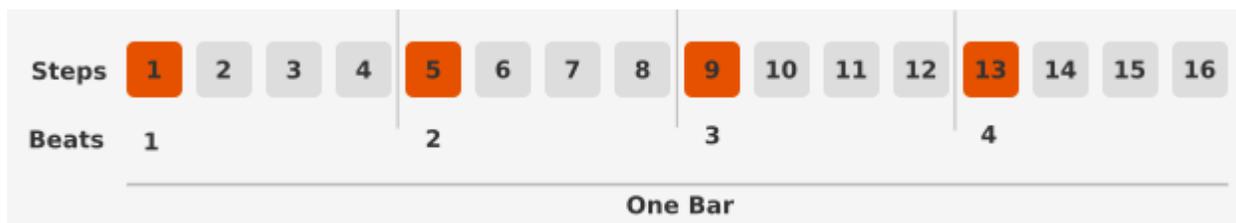
- A **beat** is a single pulse in the music - like one tap of your foot
- A **bar** contains a fixed number of beats grouped together
- Most electronic music uses **4 beats per bar** (called 4/4 time)

When you count “1, 2, 3, 4, 1, 2, 3, 4...” along with music, each number is a beat, and each group of four is one bar.

### 1.4.4 Steps on a Sequencer

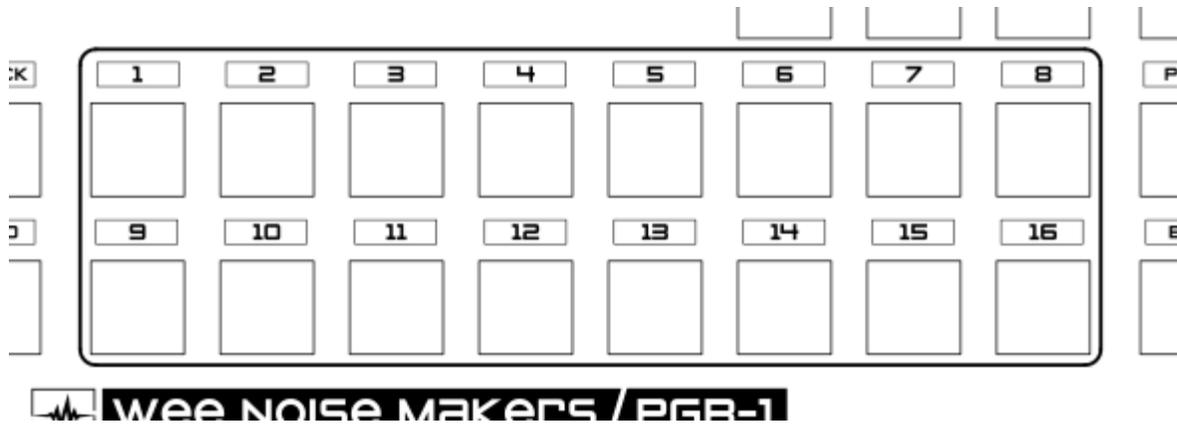
The PGB-1 features a **step sequencer**. Instead of recording music in real-time, you place notes on a patterns of **steps** and the sequencer will play the steps one after the other give the selected tempo (BPM).

The default length of a pattern is one bar, divided into 16 steps:



On the PGB-1 they are arranged in two lines 8 steps. Each of the buttons 1 to 16 represent a step of the pattern.

Steps	Position in Bar
1, 5, 9, 13	On the beat (downbeat)
2, 6, 10, 14	Second sixteenth note
3, 7, 11, 15	Third sixteenth note (off-beat)
4, 8, 12, 16	Fourth sixteenth note



**Note**

Musicians often count sixteenth notes as “1-e-and-a, 2-e-and-a, 3-e-and-a, 4-e-and-a”. Steps 1, 5, 9, 13 are the numbers; steps 3, 7, 11, 15 are the “and”s.

### 1.4.5 Common Drum Patterns

Here are some classic patterns to get you started. Each diagram shows 16 steps across one bar, with colored cells indicating active steps. Vertical lines separate the four beats.

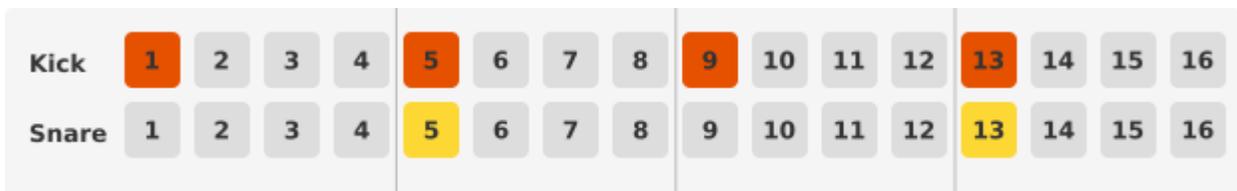
#### Four on the Floor (Kick on every beat)

This is the foundation of house, techno, and disco - a kick drum on every beat (steps 1, 5, 9, 13):



#### Backbeat

Add snare on beats 2 and 4 (steps 5 and 13) for a driving feel:



#### Off-Beat Hi-Hats

Hi-hats on the off-beats (steps 3, 7, 11, 15) create movement and groove:

#### Eighth-Note Hi-Hats

For a busier feel, add hi-hats on every other step (1, 3, 5, 7, 9, 11, 13, 15):



### 1.4.6 Shuffle and Swing

Real drummers don't play with perfect timing. **Shuffle** (or swing) slightly delays the off-beat notes, making the rhythm feel more human and groovy.

On the PGB-1, you can add shuffle to any track in *Track Mode*:

1. Press Track to enter Track Mode
2. Navigate to the **Shuffle** page using →
3. Use ↑ to increase the shuffle amount

#### Tip

A little shuffle goes a long way. Start with low values and increase until you feel the groove.

### 1.4.7 Patterns and Songs

The PGB-1 organizes music at multiple levels:

Level	Description	PGB-1 Feature
Step	A single note placement	Buttons 1-16 in <i>Step Mode</i>
Pattern	16 steps that repeat (can be linked for longer motifs)	<i>Pattern Mode</i>
Song Part	Multiple patterns playing together	<i>Song Mode</i>

This hierarchy lets you build complex music from simple building blocks.

### 1.4.8 Next Steps

Now that you understand rhythm basics, you're ready to learn more:

- *Your First Project* - Step-by-step guide to making a beat

## 1.5 Your First Project

Follow this step-by-step guide to create your first beat on the PGB-1.

### 1.5.1 Starting Fresh

1. Press **Menu**
2. Navigate to **Projects** and press **A**
3. Select **New** and press **A**
4. Confirm to create a new empty project

### 1.5.2 Programming the Kick Drum

1. Press **Track** to enter Track Mode
2. Press **1** to select the Kick track
3. Press **Edit** to enable pattern edit mode
4. Press these buttons to place kick notes: **1, 5, 9, 13**

You now have a basic four-on-the-floor kick pattern!

### 1.5.3 Adding the Snare

1. Hold **Track** and press **2** to switch to the Snare track
2. Press **5** and **13** to place snare hits on beats 2 and 4

### 1.5.4 Creating a Hi-Hat Pattern

1. Hold **Track** and press **3** to switch to the Hi-Hat track
2. Press **3, 5, 7, 8, 11, 15, 16** to create an interesting hi-hat rhythm

### 1.5.5 Adding Variation with Step Settings

Let's make the hi-hats more dynamic:

1. Press **Step** to enter Step Mode
2. Press **1** to select step 1
3. Use **←** to navigate to the **Condition** setting
4. Press **↑** multiple times to set condition to **75%**
5. Press **→** three times to reach the **Velocity** setting
6. Use the touch strip to lower the velocity to about one third

### 1.5.6 Copying Steps

Copy the configured step to create consistent variation:

1. Hold **Cpy/FX**
2. Press **Step** to enter step copy mode
3. Press **1** to select the source step

4. Press 2, 6, 9, 10, 13, 14 to paste to those steps

### 1.5.7 Adding Shuffle

1. Press Track to return to Track Mode
2. Press → multiple times until you reach the **Shuffle** page
3. Press ↑ to increase the shuffle amount to taste

### 1.5.8 Play Your Beat!

Press Play to hear your creation!

### 1.5.9 Next Steps

Now that you've created your first beat, try:

- *Adding a bass line* on Track 4
- *Creating a melody* on Track 5
- *Setting up chord progressions*
- *Using Live FX* for performance

### 1.5.10 Quick Reference

Action	Buttons
Select track	Hold Track + 1-16
Toggle step	Edit then 1-16
Copy step	Hold Cpy/FX + Step + source + destination
Play/Stop	Play
Adjust volume	Hold Play + ↑ / ↓
Adjust BPM	Hold Play + ← / →



## MAIN MODES

The PGB-1 interface operates in four main modes, plus a special Sample Mode. Each mode affects what is displayed on screen, how the keyboard LEDs behave, and the function of the buttons.

### 2.1 Overview

Mode	Button	Purpose
Track Mode	Track	Configure instrument sounds and settings
Step Mode	Step	Configure individual step parameters
Pattern Mode	Pattern	Configure pattern length and linking
Song Mode	Song	Arrange song parts and chord progressions
Sample Mode	Hold Cpy/FX + Edit	Create and edit samples

### 2.2 Switching Modes

To enter a mode, press and release the corresponding mode button. The LED next to the button will light up to indicate the active mode.

### 2.3 Quick Selection

You can select items without changing modes by holding the mode button:

- **Hold Track** + press 1-16 to select a track
- **Hold Step** + press 1-16 to select a step
- **Hold Pattern** + press 1-16 to select a pattern
- **Hold Song** + press 1-12 to select a song part

This is useful when you want to change what you're working on while staying in your current mode.

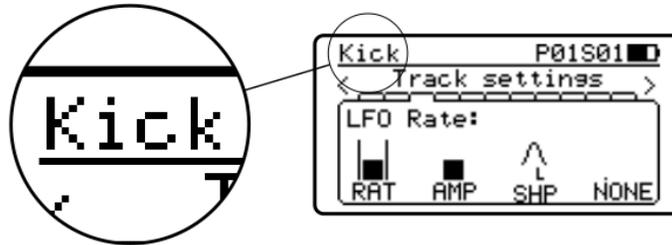
### 2.4 Mode Details

- *Track Mode* - Sound design and track configuration
- *Step Mode* - Step parameters and sequencing
- *Pattern Mode* - Pattern length and chaining
- *Song Mode* - Song arrangement and chords

- *Sample Mode* - Sample recording and editing

## 2.4.1 Track Mode

Track mode allows you to configure the 16 tracks of the PGB-1. By default, tracks 1 to 6 are synths tracks (Kick, Snare, Hihat, Bass, Lead, Chords), tracks 7 and 8 are sample tracks, tracks 9 to 11 are audio FX tracks, and tracks 12 to 16 are MIDI tracks. Note that all tracks can be configured to MIDI mode and control external devices ([more details here](#)). In Track mode, pressing one of the 1 to 16 buttons will select the corresponding track and trigger a “preview” note for this track. The name of the selected track is shown at the top left of the screen.



### Entering Track Mode

Press Track to enter Track Mode. The Track LED will light up.

### Default Track Assignment

Track	Default Instrument
1	Kick
2	Snare
3	Hi-Hat
4	Bass
5	Lead
6	Chords
7-8	Sample
9-11	Audio FX
12-16	MIDI

#### Track Flexibility

All tracks can be configured for MIDI mode to control external devices.

### Selecting Tracks

In Track Mode:

- Press 1 to 16 to select a track and trigger a preview note
- The selected track name appears at the top left of the screen

To select a track **without** playing a preview:

- Hold Track and press 1 to 16

### Track Settings Pages

Navigate between pages using ← and →. Each track has multiple settings pages, and different pages depending on the track type (synth, FX, MIDI).

Here is the list of pages for synth tracks:

#### Page 1: Synth Engine

Select the sound engine for the track. Use ↑ and ↓ to scroll through available engines. See *Synth Engines* for a complete list.

#### Page 2: Engine Parameters

Four parameters specific to the selected synth engine. Parameters vary by engine (e.g., Shape, Decay, Cutoff, Resonance).

#### Page 3: LFO

Configure the *Low Frequency Oscillator*:

Parameter	Description
Rate	Speed of the LFO
Amplitude	Intensity of modulation
Shape	Waveform shape + Sync (S) and Loop (L) options
Target	Which parameter the LFO modulates

#### Page 4: Volume

Set the track volume level.

#### Page 5: Pan

Set the stereo position of the track.

#### Page 6: Effect

Select a global mixing effect for the track:

- None (bypass)
- Overdrive
- Reverb
- Bitcrusher

#### Page 7: Octave

Shift every notes of the track up or down by octaves.

### Page 8: Shuffle

Add swing to the track timing. Higher values delay even-numbered steps.

### Page 9: Arpeggiator Mode

Set how the *arpeggiator* plays chord notes:

- Up
- Down
- Up/Down
- Random
- Order

### Page 10: Arpeggiator Notes

Configure which notes the *arpeggiator* uses.

### Page 11: Track Mode

Switch between internal synth mode and external MIDI controller mode.

#### Tips

- Use the touch strip for precise parameter adjustment
- Preview sounds while adjusting parameters by pressing track buttons

#### See Also

- *Synth Engines* - Complete engine list
- *Mixing* - Volume, panning, and effects
- *Sound Path* - How audio flows through the PGB-1

## 2.4.2 Step Mode

Step mode allows you to configure each of the 16 steps for the selected pattern of the selected track, giving you detailed control over each note's parameters. In Step mode, pressing one of the 1 to 16 buttons will select the corresponding step and trigger it at the same time.

In step mode, you are always editing steps of the selected pattern (see *Pattern mode*) The numbers of the selected pattern and step is shown at the top right of the screen:

### Entering Step Mode

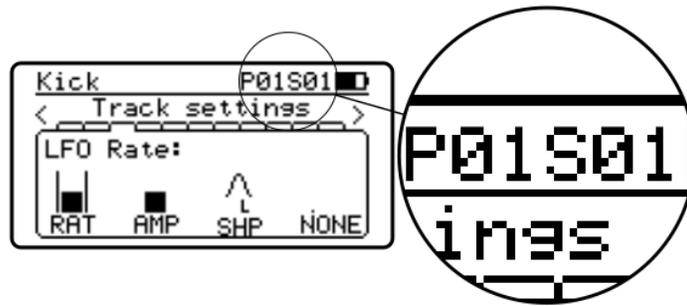
Press Step to enter Step Mode. The Step LED will light up.

### Selecting Steps

In Step Mode:

- Press 1 to 16 to select a step and trigger it
- The selected pattern and step numbers appear at the top right of the screen

To select a step **without** triggering it:



- Hold Step and press 1 to 16

### Step Settings Pages

Navigate between pages using ← and →:

#### Page 1: Trigger Condition

Determines when the step plays.

Condition	Description
Never	Step never plays
Percent (25%, 50%, 75%)	Random chance to play
Always	Step always plays
Fill	Plays when Fill FX is active
Not Fill	Plays when Fill FX is not active
X:Y (1:2, 2:2, 1:3, 2:3, etc.)	Plays on the Xth occurrence within every Y pattern loops

Some examples of Xth within Y pattern loops:

Condition	Loop 1	Loop 2	Loop 3	Loop 4	Loop 5	Loop 6
1:2	✓	·	✓	·	✓	·
2:2	·	✓	·	✓	·	✓
1:3	✓	·	·	✓	·	·
2:3	·	✓	·	·	✓	·

(✓ = step plays, · = step is skipped)

#### Page 2: Note Settings

##### Note

Set what note the step plays:

Option	Description
Fixed Note	Play a specific MIDI note regardless of current chord
Note in Chord (1-4)	Play specific note from the current chord
Arpeggiator	Use the track's arpeggiator setting
Chord	Play the full current chord

Use **A** to cycle through note modes.

Default Track Behavior:

- **Bass Track:** Steps play the chord root note by default
- **Lead Track:** Steps use the arpeggiator by default
- **Chords Track:** Steps play the full chord

#### Octave Offset

In note modes “Note in Chord”, “Arpeggiator”, and “Chord”, the notes can be shifted up or down by one or multiple octaves. This is shown as, for example, +1oct or -2oct.

#### Playing full chords

From the internal synth engines, only the Chord track can play multiple notes simultaneously (polyphony). Therefore it's the only internal track where the “Chord” note mode makes sense. However, you can use “Chord” note mode with external polyphonic MIDI instruments.

#### Duration

Set how long the note plays.

#### Velocity

Set the note's intensity/volume. Use the touch strip for precise control.

#### Page 3: Repeat

Create note repeats (retrigs) within the step:

Parameter	Description
Count	Number of repeats
Rate	Speed of repeats

#### Page 4: Parameter Locks

Parameter locks allow you to set different synth parameters for individual steps, enabling sound variations within a single pattern. Normally, all steps in a pattern use the track's synth settings, parameter locks let you override specific parameters on a per-step basis.

This is especially powerful for sample tracks where you can select different samples per step.

Press ↑/↓ or use the touch strip to set the value of the selected parameter lock. Use B to disable the selected parameter lock on the step.

## Working with Steps

### Enabling/Disabling Steps

1. Press `Edit` to enter edit mode
2. Press 1 to 16 to toggle steps on/off
3. Press `Edit` again to exit edit mode

### Tips

- Use velocity variations to create groove and dynamics Use parameter locks to
- play different samples on each step of a *sample track*
- Use Fill conditions to add controlled complexity during performance
- Creates subtle, varying ghost notes:
  - Add hi-hat or snare steps
  - Set condition to 50% or 75%
  - Set velocity low

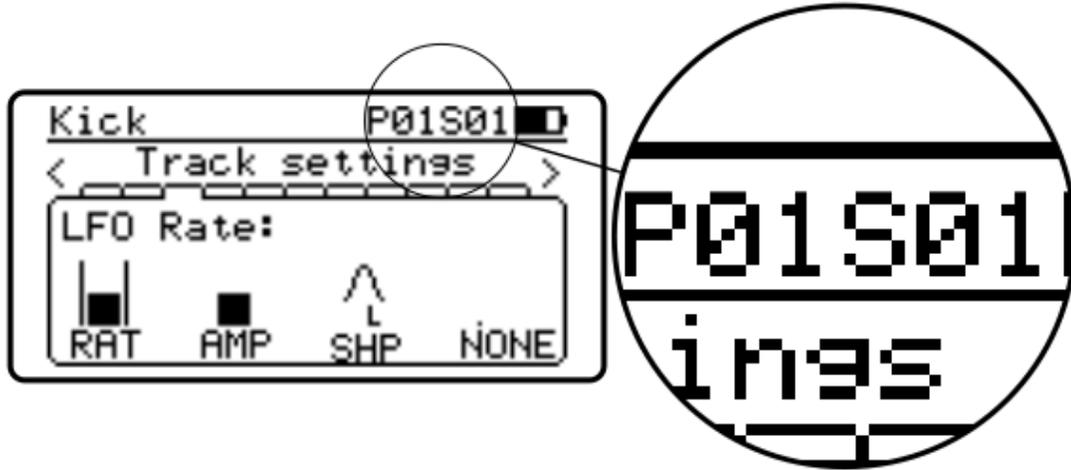
### 2.4.3 Pattern Mode

Pattern Mode allows you to configure the length of patterns and link multiple patterns together for longer sequences.

- Each track has **16 patterns**
- Each pattern has up to **16 steps**
- Patterns can be linked together to create sequences up to **256 steps** (16 patterns x 16 steps)

It's important to keep in mind the selected pattern as it is the one edited in Step mode and. The selected pattern doesn't change when selecting another track. For example, if you enter steps in pattern 4 with the kick track selected and then switch to the bass track, you will now edit pattern 4 of the bass track.

The numbers of the selected pattern is shown at the top right of the screen:



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### Entering Pattern Mode

Press **Pat t ern** to enter Pattern Mode. The Pattern LED will light up.

### Selecting Patterns

#### Important

Selecting a pattern does not play it. Which pattern plays for each track is determined in *Song Mode*. The LED corresponding to currently playing pattern is blinking in green.

In Pattern Mode:

- Press 1 to 16 to select a pattern
- The selected pattern number appears at the top right of the screen

To select a pattern without changing mode:

- Hold **Pat t ern** and press 1 to 16

### Pattern Settings

#### Length

Set how many steps the pattern contains (1-16 steps).

Navigate to the length setting and use  $\uparrow$  /  $\downarrow$  to adjust.

#### Link

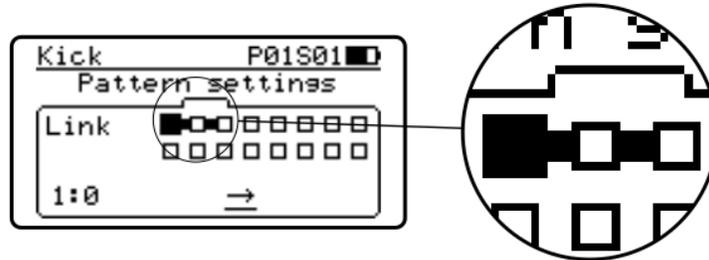
Link this pattern to the next pattern. When enabled, the next pattern will automatically play after this one completes.

Use  $\uparrow$ / $\downarrow$  to enable/ disable linking.

## Pattern Linking Visualization

### On Screen

- The two lines of small boxes at the top right of the page represent the 16 patterns.
- The bigger box represents the selected pattern
- A line between two boxes is visible when they are linked together
- The box corresponding to the currently playing pattern is blinking



### LED Indicators

- **Blue LED:** Currently selected pattern
- **Cyan LEDs:** Patterns linked to the selected pattern
- **Blinking Green LED:** Currently playing pattern

### Creating Long Patterns

To create patterns longer than 16 steps:

1. Enter Pattern Mode
2. Select the first pattern (e.g., Pattern 1)
3. Set length to 16
4. Enable Link to connect to Pattern 2
5. Select Pattern 2
6. Set its length
7. Continue linking patterns as needed

Link all 16 patterns together for a maximum of 256 steps (16 x 16).

### Example: 24-Step Pattern

1. Pattern 1: Length 16, Link enabled
2. Pattern 2: Length 8, Link disabled

This creates a 24-step sequence that plays Pattern 1 followed by Pattern 2.

## 2.4.4 Song Mode

Song Mode is unique because it controls two things: **Song Parts** (arrangement) and **Chord Progressions** (harmony).

### Entering Song Mode

Press Song to enter Song Mode. The Song LED will light up.

### Song Parts (Buttons 1-12)

Song Parts are sections (intro, chorus, etc.) of your song where you can specify which patterns play on which tracks, and which track to mute.

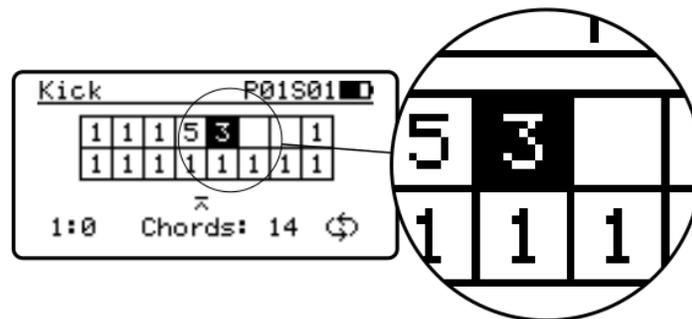
### Selecting Song Parts

- Press 1 to 12 to select and **queue** a song part
- The queued part will start playing after the current part completes
- Hold Song and press 1 to 12 to select **without** queuing

### Song Part Settings

#### Pattern Grid

The screen displays a 16-cell grid representing all tracks:



Each cell shows which pattern will play for that track:

- **Number (1-16)**: The pattern that will play
- **Empty**: Track is muted for this part

Use  $\uparrow$  /  $\downarrow$  to change the pattern number. Press B to go to the bottom line of cells, A to go up

### Song Part Settings (Bottom of Screen)

Press B to move focus to the bottom settings:

Setting	Description
Length	How many times the part repeats before allowing change
Chords	Which chord progression to use (13-16)
Link	Auto-advance to next part when complete, got back to queued part, or loop on the this part

## Chord Progressions (Buttons 13-16)

The PGB-1 has four chord progression slots (13, 14, 15, 16).

### Selecting Chord Progressions

Press 13 to 16 to enter chord progression editing.

### Chord Settings

Each chord in the progression has:

Setting	Description
Root	The root note (C, C#, D, etc.)
Quality	Chord type (Major, Minor, etc.)
Length	Duration in steps

### Adding Chords

1. Navigate to the last chord in the progression
2. Press → to go past the last setting
3. Press A to add a new chord

### Removing Chords

1. Navigate to a chord
2. Go to the add/remove page
3. Press B to remove the chord

### Random Generation

The last page offers random chord progression generation:

1. Use ↑ / ↓ to select a scale (Major, Minor, Modal)
2. Press A to generate a random progression
3. Press A again to try different progressions

### Chord Progression Indicator

While playing, small dots and an arrow on screen show your position in the chord progression. This helps you time part changes to land on specific chords.

The indicator also appears in the Cpy/FX menu for timing live effects.

### Tips

- Use the random chord generator for inspiration
- Use different chord progressions for different song sections
- The bass track automatically follows chord root notes
- Lead tracks use the arpeggiator over the current chord

- Chords track is the only polyphonic track that plays full chords

## 2.4.5 Sample Mode

Sample Mode allows you to record and edit samples directly on the PGB-1.

### Entering Sample Mode

Hold **Cpy/FX** and press **Edi t** to enter Sample Mode.

### Sample Mode Options

When entering Sample Mode, you can choose:

- **New Sample:** Record a new sample
- **Edit Sample:** Modify an existing sample's start/end points and name

### Recording a New Sample

#### Step 1: Select Input Source

Choose which input to record from using the **←** and **→** buttons:

Input	Description	Best For
Line In	3.5mm stereo jack input	External devices, synths, phones
Internal Mic	Built-in microphone	Voice, ambient sounds
Headset Mic	Microphone on connected headset	Voice recording

Use **↑** / **↓** to adjust the input volume before recording.

#### Best Practice

For line input, keep the PGB-1 gain low and increase the volume on your source device. This provides more headroom and less noise.

#### Step 2: Start Recording

Press **A** to begin recording. The PGB-1 uses a **2-second rolling buffer**:

- Recording continuously captures audio
- When buffer is full, new audio overwrites the oldest
- This lets you capture a sound even slightly after it happens

#### Step 3: Stop Recording

Press **A** again to stop recording. The captured audio is displayed as a waveform.

#### Step 4: Edit Start/End Points

- Use **←** / **→** to move the start point
- Use **↑** / **↓** to move the end point

The keyboard lights up showing available preview keys:

Button	Action
1	Preview one octave down
4	Preview at original pitch
8	Preview one octave up
Other keys	Preview at different pitches

Press **A** to continue, or **B** discard the current sample and start recording again.

### Step 6: Set Name

Enter a name for the sample (up to 15 characters).

Press **A** to continue.

### Step 7: Save

2. Select a sample slot (1-64)
3. Press **A** to confirm
4. Navigate to **Yes** and confirm

#### Warning

Saving to a slot will overwrite any existing sample in that slot.

### Editing Existing Samples

1. Enter Sample Mode
2. Select **Edit Sample**
3. Choose the sample to edit
4. Adjust start point, end point, and name
5. Save when finished

### Sample Tips

#### Recording Quality

- Use line in when possible for cleaner signals
- For line input, keep PGB-1 gain low and increase volume on the source device. This provides better headroom and less noise
- Use the waveform display to check levels

### Multiple Sounds in One Sample

You can record multiple sounds in a single sample:

1. Start recording
2. Play sound 1

3. Wait briefly
4. Play sound 2
5. Stop recording

Then use *parameter locks* to set different start points per step, effectively getting multiple samples from one slot. This technique helps maximize usage of the sample memory.

### **Sample Slots**

The PGB-1 has 64 sample slots. Samples are shared across projects and persist when the device is turned off.

### **Converting Audio Files**

You can import audio files from your computer using the online converter tool. See *Importing Samples* for details.

- *Lfo*
- *Live Fx*
- *Copy Paste*
- *Mixing*
- *Arpeggiator*
- *Projects*
- *Importing Samples*
- *Sample Tracks*
- *Custom Waveforms*
- *Shortcuts*

## 3.1 LFO (Low Frequency Oscillator)

Each synth and FX track has its own LFO that can automatically modulate one parameter over time, adding movement and expression to your sounds.

### 3.1.1 Accessing LFO Settings

1. Enter Track Mode (press Track)
2. Select a track
3. Navigate to page LFO settings page (3rd for synth tracks, 2nd for FX tracks)

### 3.1.2 LFO Parameters

#### Rate

Controls the speed of the LFO oscillation.

- Lower values = slower modulation
- Higher values = faster modulation

## Amplitude

Controls how much the LFO affects the target parameter.

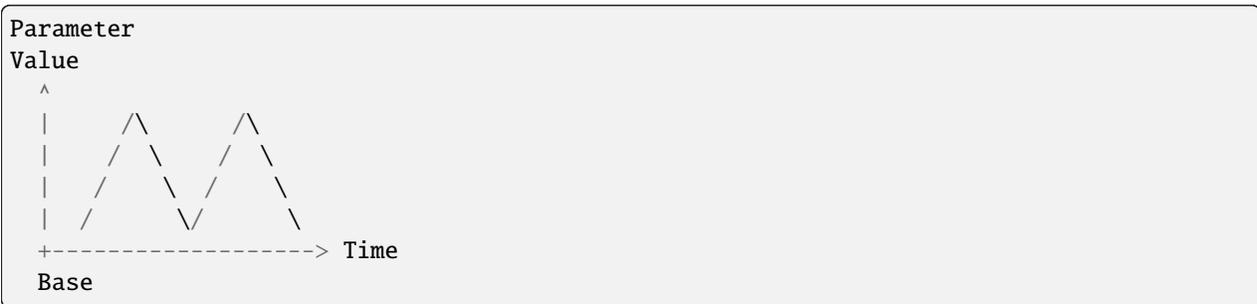
- 0 = No effect
- Higher values = More dramatic modulation

There are three modes that control the direction and range of modulation:

Mode	Direction	Use Case
<b>Add</b>	Base → Max	Filter opening, pitch bend up
<b>Bipolar</b>	Min <-> Max (around base)	Vibrato, tremolo, classic modulation
<b>Sub</b>	Base → Min	Filter closing, ducking effects

### Add(Positive)

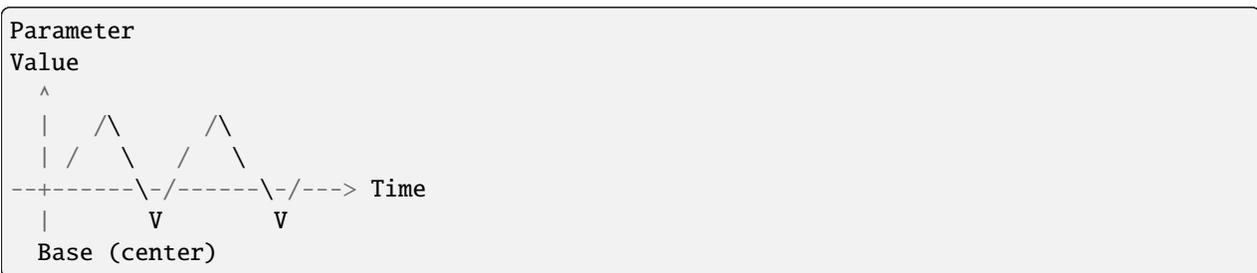
Modulation adds to the target parameter value. The LFO output ranges from the base value upward.



Use this when you want the parameter to increase from its set value. For example, if filter cutoff is set to 50%, the LFO will sweep from 50% up toward 100%.

### Bipolar (Center)

Modulation oscillates around the target parameter value, going both above and below.



Use this for classic vibrato and tremolo effects where the parameter swings symmetrically around its set value. For example, if pitch is set to a note, the LFO will create vibrato by going sharp and flat around that pitch.

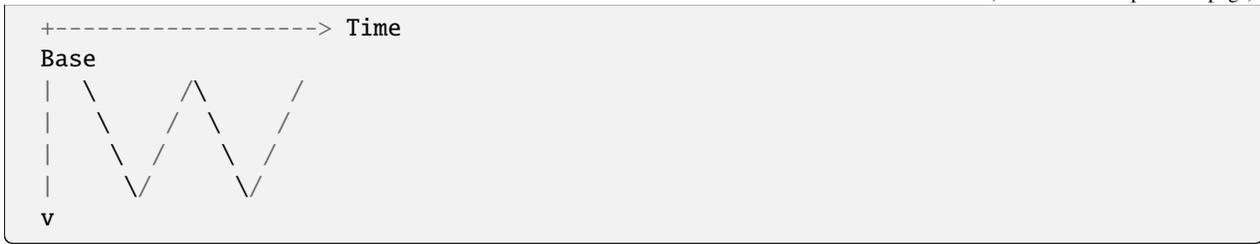
### Sub (Negative)

Modulation subtracts from the target parameter value. The LFO output ranges from the base value downward.



(continues on next page)

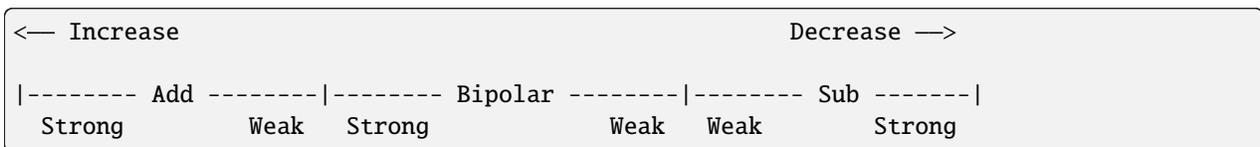
(continued from previous page)



Use this when you want the parameter to decrease from its set value. For example, if filter cutoff is set to 80%, the LFO will sweep from 80% down toward 0%.

### Navigating Between Amplitude Modes

The amplitude mode work together as a single continuous control. Starting in Add (Positive) mode lower the amplitude to reach zero and then press the ↓ button, this will switch to Bipolar (Center) mode. Continue to press down to reach zero in Bipolar mode, then press the ↓ button again, to switch to Sub (Negative) mode.



### Shape

Selects the waveform shape used for modulation:

Shape	Description
Sine	Smooth, natural modulation
Triangle	Linear rise and fall
Saw Up	Rising ramp
Saw Down	Falling ramp
Expo Up	Rising exponential ramp
Expo Down	Falling exponential ramp

### Shape Modifiers

The Shape setting also includes two important modifiers indicated by small letters:

#### S - Sync

- When enabled, the LFO resets every time a note is played
- Useful for consistent modulation at note (like an envelope)

#### L - Loop

- When enabled, the LFO continuously cycles
- When disabled, the LFO runs once per note (like an envelope)

## Target

Selects which parameter the LFO modulates:

Target	Effect
P1	Modulates engine parameter 1
P2	Modulates engine parameter 2
P3	Modulates engine parameter 3
P4	Modulates engine parameter 4
Volume	Modulates track volume (tremolo)
Pan	Modulates stereo position (auto-pan)

### 3.1.3 LFO Modes

By combining Sync and Loop settings, you can create different behaviors:

Sync	Loop	Behavior
Off	On	Free-running continuous LFO
On	On	LFO resets on each note, then loops
On	Off	<b>Envelope mode</b> - runs once per note
Off	Off	Free-running single cycle (LFO is disabled at the end of the running cycle)

#### Envelope Mode

When Sync is ON and Loop is OFF, the LFO acts like an envelope:

- Triggers on each note
- Runs through one cycle
- Stays at final value until next note

## 3.2 Live FX

The PGB-1 features 16 live effects that can be activated during playback for dynamic performances.

### 3.2.1 Accessing Live FX

Hold Cpy/FX and press 1 to 16 to toggle effects.

### 3.2.2 Effect Categories

Effects are split into two categories:

- **Sequencing Effects** (left side: 1-4, 9-12) - Affect pattern playback
- **Mixing Effects** (right side: 5-8, 13-16) - Affect audio output

### 3.2.3 Sequencing Effects

#### Roll Effects

Create note repeats at different speeds:

Button	Effect	Description
1	Roll 16th	Fast rolls (16th notes)
2	Roll 8th	Medium rolls (8th notes)
3	Roll Quarter	Slow rolls (quarter notes)
4	Roll Beat	Slowest rolls (whole beat)

Press the button to start the effect, press again to stop. When a roll effect is enable, you can press another roll effect button to directly switch to another speed.

### Fill Effects

Add or modify steps automatically:

Button	Effect	Description
9	Fill Steps	Triggers steps with “ <i>Fill</i> ” condition on any tracks
10	Auto-fill Low	Random fills on drum tracks, lower probability
11	Auto-fill High	Random fills on drum tracks, higher probability
12	Auto-fill Build-up	Increasing random fill intensity on drum tracks

#### Important

The auto-fill effects work with drum tracks (Kick, Snare, Hihat) while the Fill Steps can be used on any track.

## 3.2.4 Mixing Effects

### Filter Effects

Apply filters to the master output:

Button	Effect	Description
5	Low Pass Filter	Removes high frequencies
6	Band Pass Filter	Removes highs and lows
7	High Pass Filter	Removes low frequencies

### Filter Sweeps

Animated filter effects:

Button	Effect	Description
13	LP Sweep	Low pass filter that sweeps
14	BP Sweep	Band pass filter that sweeps
15	HP Sweep	High pass filter that sweeps

## Stutter Effects

Button	Effect	Description
8	Stutter 1	Short audio repeat effect
16	Stutter 2	Variation of stutter

### 3.2.5 One Effect Per Category

Only one effect of the same type can be active at a time:

- Enabling a filter cancels other filters
- Enabling a roll cancels other rolls
- Enabling a fill cancels other fills

### 3.2.6 Combining Effect Categories

You can combine effects from different categories:

- Roll + Filter
- Fill + Stutter
- Filter Sweep + Roll
- Etc.

### 3.2.7 Chord Progression Indicator

While holding Cpy/FX, the *chord progression* indicator appears on screen. Use this to time your effects to land on specific chord changes.

### 3.2.8 Quick Parameter Control

While holding Cpy/FX, the touch strip controls a single parameter for a selected track. This lets you perform parameter changes during Live FX.

With this feature you can control one of:

- Synth parameter 1
- Synth parameter 2
- Synth parameter 3
- Synth parameter 4
- LFO Rate
- LFO Amplitude
- Volume
- Stereo Pan
- Shuffle

To change the selected track, use the ← or → buttons while holding Cpy/FX.

To change the selected parameter, use the ↑ or ↓ buttons while holding Cpy/FX.

## 3.2.9 Performance Tips

### Plan Your FX

- Map out when to use effects in your arrangement
- Practice transitions between song parts
- Know which effects complement each other

### Less Is More

- Subtle filter movements can be very effective
- Don't overuse rolls - save them for impact moments
- Brief stutters are often more effective than sustained ones

### Build and Release

- Use filters and fills to build tension
- Release effects on strong beats
- Combine with song part changes for maximum impact

## 3.2.10 See Also

- *Sound Path* - Where Live FX fit in the audio chain
- *Trigger Conditions* - Setting up Fill conditions
- *Chord Progressions* - Using the chord indicator
- *Shortcuts* - Quick reference for all controls

## 3.3 Copy & Paste

There are four elements that can be copied and pasted on the PGB-1 : Song Parts, Tracks, Patterns, and Steps. Copying tracks means copying all patterns of a track to another track, but this **does not** include track settings. Copying patterns means copying all steps of a pattern to another pattern, this **does** include pattern settings.

### 3.3.1 Procedure

Start the copy/paste procedure, by holding the Cpy/FX button down, and keep it down during the entire procedure. Then select which kind of item you want to copy by pressing one of the Step, Pattern, Track, or Song buttons. The screen will now display the kind of element to copy, and two “addresses”: From and To. Addresses have between 1 and 3 identifiers: 1 for song parts, and tracks, 2 for patterns (Track and Pattern), 3 for steps (Track, Pattern, and Step).

```
Kick _____ P01S01
```

```
Copy TRACK
From T??
To T??
```

```
Kick _____ P01S01
```

```
Copy PATTERN
From T01-P??
To T01-P??
```

```

Kick          P01S01
Copy STEP
From T01-P01-S??
To   T01-P01-S??
    
```

Element	Address Format	On screen
Song Part	Part number	e.g. 01
Track	Track number	e.g. T01
Pattern	Track + Pattern	e.g. T01-P03
Step	Track + Pattern + Step	e.g. T01-P03-S05

In the **From** address, two blinking question marks (??) indicate the identifier to enter, press one button from 1 to 16 to set it. This is what will be copied. Now, there are two blinking question marks on the **To** address, press one button from 1 to 16 to select where to copy. The copy/paste is done immediately.

After the first paste, the “**To**” address shows blinking question marks again. You can immediately paste to another destination without re-selecting the source.

### 3.3.2 Changing Address Components

When copying patterns or steps, the addresses starts with your current track and pattern automatically set. Blinking question marks indicate what to enter next.

You may need to change the track or pattern before entering the final number:

- Press **Track** to enter/change the track number
- Press **Pat t e r n** to enter/change the pattern number

For example the following sequence will copy step 2 from pattern 5 of track 7, to step 9 from pattern 3 of track 1:

Cpy/FX -> Step, Track, 5, 7, 2, Track, 7, 3, 9

### 3.3.3 Examples

#### Copy Step 2 to Steps 4, 6, and 8 (Same Pattern)

1. Hold Cpy/FX + press Step
2. Press 2 (source step)
3. Press 4 (first destination)
4. Press 6 (second destination)
5. Press 8 (third destination)
6. Release Cpy/FX

#### Copy Step from Track 7, Pattern 5, Step 2 to Track 1, Pattern 3, Step 9

1. Hold Cpy/FX + press Step
2. Press **Track**, then 7 (source track)
3. Press 5 (source pattern)
4. Press 2 (source step)
5. Press **Track**, then 1 (dest track)

6. Press 3 (dest pattern)
7. Press 9 (dest step)
8. Release Cpy/FX

### Copy Pattern 1 to Patterns 2, 3, 4 (Same Track)

1. Hold Cpy/FX + press Pattern
2. Press 1 (source pattern)
3. Press 2 (first destination)
4. Press 3 (second destination)
5. Press 4 (third destination)
6. Release Cpy/FX

## 3.3.4 Tips

### Step Templates

1. Configure a step with desired settings
2. Copy to multiple steps quickly
3. Adjust notes/conditions as needed

## 3.4 Mixing

The PGB-1 provides essential mixing controls for each track, allowing you to balance your sounds and add effects.

### 3.4.1 Volume

#### Track Volume

Located on page 4 of synth track settings.

- Controls the overall level of the track
- Use ↑ / ↓ or the touch strip to adjust

### 3.4.2 Pan (Stereo Position)

Located on page 5 of synth track settings.

Value	Position
Left	Sound in left channel
Center	Sound in both channels equally
Right	Sound in right channel

Use panning to create width and separation in your mix.

## Master Volume

Hold Play and press ↑ / ↓ to adjust the master output volume.

### Hearing Safety

Maximum volume can be very loud, especially with headphones. Prolonged exposure to high volume may damage your hearing.

## 3.4.3 Track Effects

Located on page 6 of track settings. Each track can have one insert effect applied. Effects are shared by all tracks.

- None (Bypass): No effect applied. Use when you want the dry sound.
- Reverb: Adds space and ambience. Creates a sense of room or hall.
- Overdrive: Adds harmonic distortion and warmth.
- Bitcrusher: Reduces bit depth and sample rate for lo-fi effects. Creates digital distortion.

## 3.4.4 Effect controls

Mixing effects are controlled in *Track mode* on tracks 9 to 11.

Press and release Track to enter Track mode, then press one of 9, 10, 11 to select an effect track.

Effects parameters can be modulated with a dedicated *LFO (Low Frequency Oscillator)*. Program *steps* on effects tracks to trigger the LFO synchronization.

### Reverb (Track 9)

The reverb is based on the Dattorro plate reverb algorithm, providing lush spatial effects.

Parameter	Description
Amount	Wet/dry mix. Controls how much reverb is blended with the original signal. At minimum, you hear only the dry signal; at maximum, mostly reverb.
Time	Reverb decay time. Controls how long the reverb tail lasts before fading out. Higher values create longer, more sustained reverb.
Diffusion	Controls how the reflections are scattered. Low values create distinct echoes; high values create smoother, more diffuse reverb.
LP Cut-off	Low-pass filter on the reverb tail. Lower values darken the reverb by removing high frequencies, creating a warmer sound.

### Overdrive (Track 10)

The overdrive uses waveshaping to add harmonic distortion and warmth to sounds.

Parameter	Description
Pre-Gain	Input gain applied before distortion. Boosts the signal going into the overdrive, affecting how hard the distortion is driven.
Drive	Amount of distortion. Controls the intensity of the waveshaping effect. Higher values create more aggressive, saturated tones.
Pan	Stereo distribution of the drive effect. Center applies equal drive to both channels; left/right applies more drive to that channel while keeping the other cleaner.
Output Level	Final output gain. Use to compensate for volume changes caused by the drive settings.

### Bitcrusher (Track 11)

The bitcrusher creates lo-fi digital distortion by reducing bit depth and sample rate.

Parameter	Description
Depth	Bit depth reduction. High values use fewer bits to represent the audio, creating more quantization noise and digital grit.
Downsampling	Sample rate reduction. Higher values skip more samples, creating aliasing artifacts and a more degraded, retro digital sound.
Cutoff	Low-pass filter applied to the crushed signal. Use to tame harsh high-frequency aliasing or shape the tone of the effect.
Mix	Wet/dry mix. Controls how much crushed signal is blended with the original. At minimum, you hear only the dry signal; at maximum, only the bitcrushed signal.

Use LFO modulation on the Downsampling parameter to create a robotic sound effect.

## 3.4.5 Mixing Tips

### Creating Space

1. Keep kick and bass centered
2. Pan hi-hats slightly off-center
3. Spread melodic elements across the stereo field
4. Use reverb sparingly on low frequencies

### Balance

1. Start with all tracks at similar volumes
2. Adjust kick and snare as your foundation
3. Bring in bass to complement the kick
4. Add melodic elements at appropriate levels

## Using Effects

- Drive works well on kicks and bass for punch
- Reverb on snares adds depth
- Bitcrusher can make drums sound gritty
- Not every track needs an effect, sometimes dry is best

## 3.5 Arpeggiator

The arpeggiator automatically plays notes from the current chord in a pattern, adding melodic movement to your tracks.

### 3.5.1 How It Works

When a step is set to use the arpeggiator (in *Step Mode*), instead of playing a fixed note, it plays notes from the current chord according to the arpeggiator settings.

### 3.5.2 Arpeggiator and Chord Progressions

The arpeggiator automatically follows chord progressions:

1. Set up a chord progression in *Song Mode*
2. Steps set to Arpeggiator will play notes from whatever chord is currently active
3. Your melody automatically harmonizes with the chords

### 3.5.3 Arpeggiator Settings

Located on pages 9 and 10 of track settings.

#### Mode (Page 9)

Determines the pattern of notes played:

Mode	Description
Up	Plays notes from lowest to highest
Down	Plays notes from highest to lowest
Up and Down	Alternates between up and down
Pattern 1	Plays notes in set order: 1, 4, 3, 4, 2, 4, 3, 4
Pattern 2	Plays notes in set order: 1, 2, 3, 4, 1, 4, 3, 4
Pattern 3	Plays notes in set order: 1, 3, 2, 4, 3, 2, 3
Random	Plays notes in random order

#### Notes (Page 10)

Select which notes the arpeggiator uses. Currently, chord notes are the only option.

### 3.5.4 Using the Arpeggiator

#### In Step Settings

Each step can be set to use different note modes:

1. Enter *Step Mode*

2. Select a step
3. Navigate to the Note setting
4. Press A to cycle through modes until “Arpeggiator” is selected

### Default Track Behavior

- **Bass Track:** Steps play the chord root note by default
- **Lead Track:** Steps use the arpeggiator by default
- **Chords Track:** Steps play the full chord

## 3.5.5 Creative Uses

### Melodic Leads

1. Select Lead track
2. Set Arpeggiator Mode to Random
3. Create a pattern with multiple steps
4. The melody will vary with each chord change

### Controlled Melodies

Mix arpeggiator steps with fixed note steps:

1. Set important melody notes (step 1, 5, etc.) to specific chord notes
2. Set fill notes to Arpeggiator
3. This creates melodies that always land on key notes

## 3.5.6 Tips

- Use Random arpeggiator mode for generative melodies
- Set key melody notes to specific chord notes for control
- The arpeggiator respects the track’s octave setting
- Combine with *step conditions* for even more variation

## 3.6 Projects

A project is a complete musical workspace on the PGB-1. It contains everything needed to recreate your song or performance.

### 3.6.1 What’s Inside a Project

Component	Description
16 Tracks	Synth engine selection, volume, pan, effects routing, LFO, arpeggiator settings
16 Patterns per track	Step sequences with notes, velocities, conditions, and parameter locks
Song arrangement	Chain of song parts that play patterns in sequence
Chord progressions	The chords assigned to each song part
Tempo	The BPM setting
Custom Waveform	A user drawn waveform specific to the project

When you power on the PGB-1, you're always working inside a project. Changes you make (adding notes, adjusting synth parameters, recording samples) happen in the current project.

The current project is automatically saved when powering off, or entering update mode.

#### Data Loss

The PGB-1 does not auto-save until you power off. If the battery runs low, the device will shutdown without saving your current project. Remember to save your project regularly (see below), especially when the battery is low.

### 3.6.2 Managing Projects

Press Menu and navigate to the Projects page (1st), press A to enter.

Option	Description
Save	Save current project to a slot
Load	Load a project from storage
New	Create a new empty project
Rename	Change the name of a project
Delete	Delete a project

#### Saving a Project

1. Select **Save**
2. Choose a project slot
3. Confirm to save

#### Loading a Project

1. Select **Load**
2. Use ↑ / ↓ to browse projects
3. Press A to select
4. Confirm the action

#### Data Loss

Loading a project will erase the current project's patterns, steps, tracks, and song settings.

#### New Project

Creates an empty project with default settings.

#### Data Loss

Creating a new project will erase the current project's patterns, steps, tracks, and song settings.

## Rename Project

Change the name of the project in the project list without any modification to its content.

## Delete Project

Remove the project from project list and discard all of its content.

### Data Loss

There is no way to recover a project once it is deleted.

## 3.7 Importing Samples

You can convert audio files from your computer into PGB-1 compatible samples using the online converter tool.

### 3.7.1 Using the Online Converter

#### Step 1: Access the Tool

Visit the Wee Noise Makers website: [weenoisemakers.com/pgb-1](http://weenoisemakers.com/pgb-1)

Scroll to the bottom of the page to find the sample converter widget.

#### Step 2: Select Your Audio File

1. Click **Choose File**
2. Select an audio file from your computer
3. Supported formats include WAV, MP3, and other common formats

#### Step 3: Preview and Adjust

- The waveform displays on screen
- Click the play button to preview
- Adjust the name field if desired

#### Step 4: Select Sample Slot

Choose which slot (1-64) to save the sample to.

### Warning

The selected slot will be overwritten when you transfer to the PGB-1.

#### Step 5: Export

Click **Export** to download the converted file.

The file will be have a `.pgb1sampleuf2` extension.

## 3.7.2 Transferring to PGB-1

### Step 1: Enter Update Mode

1. Connect PGB-1 to your computer with a USB cable
2. Turn on the device
3. Press Menu
4. Navigate to **Update Mode**
5. Press A to enter, then confirm

The PGB-1 displays “UP” on the keyboard LEDs.

### Step 2: Transfer the File

1. The PGB-1 appears as a USB drive called **RPI-RP2**
2. Drag and drop the `.pgb1sampleuf2` file into the drive
3. Wait for the PGB-1 to reboot

### Step 3: Verify

1. Go to a sample track (7 or 8)
2. Navigate to the sample selection
3. Your new sample should be in the slot you selected

## 3.7.3 Converting Tips

### Audio Preparation

Before converting, consider:

- **Trim** your audio to remove silence
- **Normalize** levels for consistent volume
- Keep samples **under 2 seconds** (the widget will truncate it for you)

## 3.7.4 Troubleshooting

### Sample Doesn't Appear

- Ensure you selected the correct slot
- Check that the transfer completed (PGB-1 rebooted)
- Try the transfer again with a different cable

## 3.8 Sample Tracks

The PGB-1 has two dedicated sample tracks (Tracks 7 and 8) that play audio samples instead of synthesized sounds.

### 3.8.1 Track Default Sample

1. Enter Track Mode (Track)
2. Select track 7 or 8
3. Navigate to the sample selection page (page 2, first parameter)
4. Use ↑ / ↓ to choose a sample (1-64)

This sets the default sample for the track.

### 3.8.2 Per-Step Sample Selection

Using *parameter locks*, each step can play a different sample:

1. Enter Step Mode (Step)
2. Select a step
3. Navigate to the 4th page
4. Choose a sample for this step

Use this technique to maximize the usage of sample tracks.

### 3.8.3 Multiple Sounds in One Sample

You can create samples with multiple sounds in them. Either *directly on the PGB-1* or using a sound editing software and *importing the sample*.

Use start point *parameter locks* to select different sounds for each step.

### 3.8.4 Extended Sample Length Technique

The PGB-1 samples have a fixed length of 2 seconds. However, you can effectively double the available length using a speed/pitch trick.

#### How It Works

1. Take a sample between 2 and 4 seconds (e.g. a drump loop)
2. On your computer, use an audio software (such as Audacity) to double the playback speed of your sample (200% speed or +12 semitones pitch shift with time correction disabled). The sped-up sample now fits in half the time/memory.
3. *Import to PGB-1*
4. Play one octave down. Set the sample track's Octave setting to -1, or use note settings to play at half the original pitch

The result: the sample plays back at its original pitch and length, but uses only half the sample slot memory.

#### Trade-offs

- Advantage: Double the effective sample length. Fit longer loops, vocals, or pads.
- Disadvantage: Reduced audio quality (half the sample rate). High frequencies may sound duller or aliased.

### 3.8.5 See Also

- *Recording Samples* - How to record your own samples
- *Importing Samples* - Load samples from your computer
- *Parameter Locks* - Per-step sample selection
- *Sound Path* - How sample audio is processed

## 3.9 Custom Waveforms

*Available from firmware 1.2.0*

The PGB-1 allows you to draw and edit custom single-cycle waveforms that can be used with various synth engines.

### 3.9.1 Accessing Custom Waveform Editor

1. Press **Menu**
2. Navigate right to **Custom Waveform**
3. Press **A** to enter

### 3.9.2 Editor Options

#### Draw Your Own

Edit the waveform manually:

- Use  $\leftarrow$  /  $\rightarrow$  to move the cursor horizontally
- Use  $\uparrow$  /  $\downarrow$  to adjust the waveform value at that point
- Use the **touch strip** to set the value directly
- Hold  $\leftarrow$  while moving the touch strip to draw continuously

#### Load Preset

Load from built-in waveform presets:

1. Navigate to the **Load** option
2. Use  $\uparrow$  /  $\downarrow$  to browse presets
3. Press **A** to load

Available presets include various classic waveform shapes that serve as starting points for your designs.

### 3.9.3 Using Custom Waveforms

Custom waveforms are available in specific synth engines. Look for engines with “Custom Waveform” in the name:

#### Bass/Lead Engines

- Custom Waveform Glide
- Custom Waveform Phaser
- Custom Waveform Pluck
- Custom Waveform Echo

- Custom Waveform PDR (Phase Distortion Resonance)

### Kick Engines

- Custom Waveform Kick
- Custom Click Kick (custom waveform with click)

### Chord Engines

- Custom Waveform (4-voice polyphonic using custom waveform)

## 3.9.4 Live Editing

One powerful feature is the ability to edit the waveform while playback is running:

1. Start a sequence with a track using a custom waveform engine
2. Enter the Custom Waveform menu
3. Draw or load new waveforms
4. Changes take effect immediately

This enables real-time sound design during performance.

## 3.9.5 Waveform Storage

- One custom waveform per project
- The waveform is saved with the project
- Different projects can have different custom waveforms

## 3.9.6 Basic Shapes

- **Sine-like:** Smooth curves for soft, warm sounds
- **Square-like:** Flat tops/bottoms for hollow, reedy sounds
- **Sawtooth-like:** Diagonal slopes for bright, buzzy sounds
- **Triangle-like:** Symmetrical slopes for smooth, flute-like sounds

## 3.9.7 Tips

- Use the touch strip for quick, expressive drawing

## 3.10 Shortcuts

Quick reference for all PGB-1 keyboard shortcuts.

### 3.10.1 Volume and BPM

Action	Shortcut
Increase Volume	Hold Play + Press ↑
Decrease Volume	Hold Play + Press ↓
Increase BPM	Hold Play + Press →
Decrease BPM	Hold Play + Press ←

### 3.10.2 Mute/Solo

Action	Shortcut
Mute/Unmute Track	Hold Play + Press 1-16
Solo Track	Hold Play + Press Track, then 1-16

### 3.10.3 Mode Selection

Action	Shortcut
Enter Track Mode	Press Track
Enter Step Mode	Press Step
Enter Pattern Mode	Press Pattern
Enter Song Mode	Press Song
Enter Sample Mode	Hold Cpy/FX + Press Edit

### 3.10.4 Quick Selection (Without Mode Change)

Action	Shortcut
Select Track	Hold Track + Press 1-16
Select Step	Hold Step + Press 1-16
Select Pattern	Hold Pattern + Press 1-16
Select Song Part	Hold Song + Press 1-12

### 3.10.5 Pattern Editing

Action	Shortcut
Toggle Edit Mode	Press Edit
Toggle Step On/Off	(In Edit Mode) Press 1-16
Chromatic Keyboard	Hold Edit + Press keys
Octave Down (Keyboard)	Hold Edit + Press 1
Center Octave (Keyboard)	Hold Edit + Press 4
Octave Up (Keyboard)	Hold Edit + Press 8

### 3.10.6 Live FX

Action	Shortcut
Toggle Live FX	Hold Cpy/FX + Press 1-16

**Sequencing FX (Left Side)**

Button	Effect
1	Roll 16th
2	Roll 8th
3	Roll Quarter
4	Roll Beat
9	Fill Steps
10	Auto-fill Low
11	Auto-fill High
12	Auto-fill Build-up

**Mixing FX (Right Side)**

Button	Effect
5	Low Pass Filter
6	Band Pass Filter
7	High Pass Filter
8	Stutter 1
13	LP Filter Sweep
14	BP Filter Sweep
15	HP Filter Sweep
16	Stutter 2

**3.10.7 Copy/Paste**

Action	Shortcut
Copy Song Part	Hold Cpy/FX + Song + source + dest
Copy Track	Hold Cpy/FX + Track + source + dest
Copy Pattern	Hold Cpy/FX + Pattern + source + dest
Copy Step	Hold Cpy/FX + Step + source + dest

**3.10.8 Quick Parameter Control**

Action	Shortcut
Live Parameter Adjustment	Hold Cpy/FX + Use Touch Strip



## AUDIO & MIDI

- *Output*
- *Input*
- *Sound Path*
- *Midi*

### 4.1 Audio Output

The PGB-1 provides multiple audio output options for different listening situations.

#### 4.1.1 Output Options

##### Internal Speaker

The built-in speaker allows you to hear your music without any external equipment.

- Automatically used when no headphones are connected
- Good for casual listening and sound design
- Limited bass response compared to headphones

##### Headphone/Line Output

The 3.5mm stereo jack on the top of the device:

- Connect headphones for private listening
- Connect to mixers, speakers, or audio interfaces
- Automatically switches from internal speaker when connected

##### Hearing Safety

Maximum volume can be very loud, especially with headphones or earbuds. Extended exposure to high volume may damage your hearing.

#### 4.1.2 Volume Control

##### Adjusting Master Volume

Hold Play and press ↑ or ↓ to adjust the master output volume.

- Press once for single step changes

- Hold for continuous adjustment
- Applies to both speaker and headphone output

### Track Volume

Each track has its own volume setting in *Track Mode* (page 4).

## 4.2 Audio Input

The PGB-1 features multiple audio inputs for recording samples and processing external audio.

### 4.2.1 Input Sources

#### Line Input (Stereo)

The 3.5mm stereo jack next to the headphone output:

- Connect external synthesizers
- Connect audio players, phones, or tablets
- Connect other groove boxes

#### Internal Microphone (Mono)

Built into the device:

- Record ambient sounds
- Capture voice or acoustic sources
- Always available without external equipment

#### Headset Microphone (Mono)

When using a headset with microphone:

- Record voice
- Hands-free recording
- Requires compatible headset

### 4.2.2 Configuring Audio Input

#### Accessing Input Settings

1. Press Menu
2. Navigate to **Inputs**
3. Press A to enter

#### Page 1: Input Selection

Toggle each input on or off using ↑/↓:

Setting	Description
Line In	Enable/disable line input
Int. Mic	Enable/disable internal microphone
Headset Mic	Enable/disable headset microphone

The last parameter (`Input Volume`) controls a common gain for all inputs.

### Best Practice

Keep the PGB-1 input gain low and increase volume on your source device. This provides better headroom and less noise.

## Page 2: Input Effects

Apply effects to the input signal:

Effect	Description
Bypass	No effect (clean input)
Overdrive	Distortion/saturation
Bitcrusher	Lo-fi digital effect
Reverb	Space and ambience

### 4.2.3 See Also

- *Recording Samples* - How to record your own samples
- *Sound Path* - How sample audio is processed

## 4.3 Sound Path

Understanding how audio flows through the PGB-1 helps you make better mixing and sound design decisions. This page explains the complete signal path from note trigger to audio output.

### 4.3.1 Overview Diagram

```

flowchart TB
  subgraph tracks["TRACKS 1-8"]
    seq[Step Sequencer]
    synth[Synth Engine]
    vol[Volume]
    pan[Stereo Panning]

    seq -->|note triggers| synth
    synth -->|mono audio| vol
    vol --> pan
  end

  subgraph lfo["LFO Modulation"]
    lfomod[LFO]
  end
  
```

(continues on next page)

```

end

subgraph inputs["AUDIO INPUTS"]
  line[Line Input]
  mic[Internal Microphone]
  headset[Headset Microphone]
end

subgraph fxbus["FX ROUTING · select one per track"]
  bypass[Bypass]
  drive[Overdrive]
  reverb[Reverb]
  crush[Bitcrusher]
end

subgraph output["OUTPUT"]
  mix[Final Mix]
  livefx[Live FX]
  out[Speakers / Headphones]
end

lfomod -->|synth params| synth
lfomod -->|volume| vol
lfomod -->|panning| pan

pan -->|stereo audio| fxbus
line --> fxbus
mic --> fxbus
headset --> fxbus

bypass --> mix
drive --> mix
reverb --> mix
crush --> mix

mix --> livefx
livefx --> out

```

### 4.3.2 The 8 Tracks

The PGB-1 has 8 internal tracks, each with a dedicated sound type:

Track	Type	Description
1	Kick	Bass drum sounds
2	Snare	Snare and clap sounds
3	Hi-Hat	Hi-hat and cymbal sounds
4	Bass	Bass synthesizer
5	Lead	Lead synthesizer
6	Chords	Polyphonic chord synthesizer
7	Sampler 1	First sample playback track
8	Sampler 2	Second sample playback track

Each track follows the same signal path but has different synth engines available.

### 4.3.3 Signal Path Stages

#### 1. Step Sequencer

The journey begins with the **step sequencer**. When a step is active and its conditions are met, it sends a note trigger with:

- Note pitch (fixed, from the *arpeggiator*, or
- *chord progression*) Velocity (how hard the note is
- played) Any *parameter locks* for that
- step

#### 2. Synth Engine

The *synth engine* converts note triggers and parameters into actual audio. Each track type has multiple engines to choose from (sine kicks, FM basses, etc.). The engine produces a **mono** audio signal.

The *LFO* (Low Frequency Oscillator) can modulate synth parameters at this stage, creating movement and variation in the sound.

#### 3. Volume and Panning

After synthesis, the audio passes through *mixing controls*:

- **Volume control** - Sets the track's loudness in the mix
- **Stereo panning** - Places the sound left, right, or center

The *LFO* can also modulate volume and panning for tremolo and auto-pan effects.

#### 4. FX Routing

Each track routes to one of **4 effect buses**:

Effect	Description
Bypass	No effect applied (clean signal)
Overdrive	Adds warmth and distortion
Reverb	Adds space and ambience
Bitcrusher	Adds digital lo-fi character

#### One Effect Per Track

Each track can only use one global effect at a time. Choose the effect that best suits each sound.

#### 5. Final Mix

All 4 effect buses are mixed together into a single stereo output.

## 6. Live FX

After the final mix, the audio passes through the **Live FX** stage. These are performance effects controlled in real-time holding Cpy/FX:

Effect	Description
Filter	Sweepable low-pass/high-pass filter applied to the entire mix
Stutter	Rhythmic repeat/glitch effect for build-ups and transitions

Unlike the per-track FX routing, Live FX affect the entire mix and are meant for real-time performance.

### 4.3.4 Audio Inputs

The PGB-1 has three audio inputs:

- **Line Input** - 3.5mm stereo jack for external audio devices
- **Internal Microphone** - Built-in microphone
- **Headset Microphone** - For use with headsets that have a built-in mic

All three inputs can:

- Pass through to the output with one effect applied
- Be *recorded as samples* for the sampler tracks

Audio inputs route to the same FX buses as the internal tracks, allowing you to apply reverb or other effects to incoming audio.

### 4.3.5 Next Steps

- *Your First Project* - Apply this knowledge to create a beat
- *Track Settings* - Deep dive into synth engines and mixing
- *Live FX* - Learn to control effects during performance

## 4.4 MIDI

The PGB-1 features a hardware MIDI interface (TRS type A input and output) for connecting to external synthesizers, drum machines, and controllers, allowing you to integrate it into larger setups.

### 4.4.1 Output

#### Sending notes and CC to external gear

Tracks 12 to 16 are assigned to external MIDI by default, but any of the 16 tracks can be switched to **MIDI mode** in the track settings. When a track is in MIDI mode, its sequencer data is sent as standard MIDI messages through the MIDI output port instead of being routed to the internal synthesizer.

Each MIDI mode track has the following configurable parameters:

Parameter	Description
<b>MIDI Channel</b>	Output channel (1-16) for notes and CC messages
<b>CC A-D</b>	Four assignable CC controller numbers (0-127)
<b>CC Labels</b>	User labels for each CC controller

**CC messages:** Each step has four CC slots (A, B, C, D). When a CC slot is enabled on a step, the corresponding CC message is sent using the controller number configured in the track settings. This allows per-step automation of external synth parameters.

All the standard sequencer features work in MIDI mode: note modes (single note, chord, note-in-chord, arpeggiator), trigger conditions (always, fill, probability, x-of-y patterns), note repeats, and shuffle.

### Enabling MIDI Mode

To switch a track to MIDI mode:

1. Enter Track Mode (Track)
2. Select the track to configure
3. Navigate to the last settings page (Track Mode)
4. Use  $\uparrow$  /  $\downarrow$  to select MIDI

### MIDI Clock Output

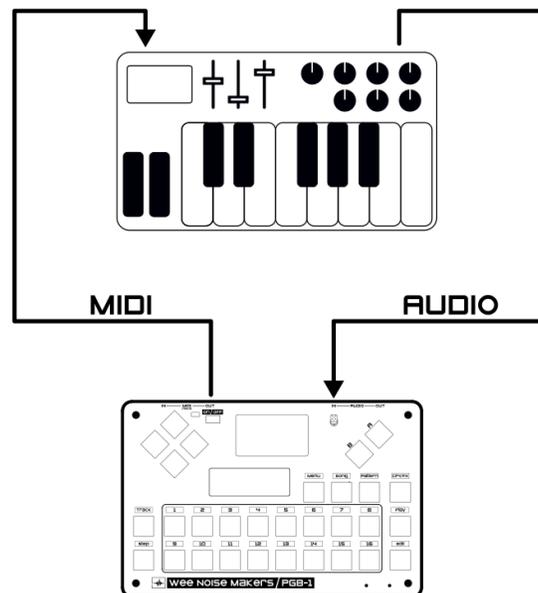
PGB-1 sends MIDI clock messages through the MIDI output port:

- **Timing Clock** (24 pulses per quarter note)
- **Start** when playback begins
- **Stop** when playback is stopped

MIDI clock output is enabled by default and can be toggled in the MIDI settings menu. Non-clock messages (notes, CC) are always sent regardless of this setting.

### Hybrid Setup

Connect the audio output of an external MIDI synth to the stereo line input of the PGB-1. The external synth sound will be mixed with the internal sound engines in a seamless hybrid setup. You can send the line input to one of the internal FX (Reverb, Overdrive, Bitcrusher).





Channel	Voice
2	Kick
3	Snare
4	Cymbal
5	Bass
6	Lead
7	Chord
8	Sample 1
9	Sample 2
10	Reverb
11	Overdrive
12	Bitcrusher

This allows an external MIDI controller or DAW to play any of the PGB-1’s synth voices directly by sending on the appropriate channel.

Internal synth voices also support Control Change messages:

Setting	Control Change	Values
Parameter 1	0	0-127
Parameter 2	1	0-127
Parameter 3	2	0-127
Parameter 4	3	0-127
Volume	4	0-100
Pan	5	0-100
Engine	6	0-127 (depending on the list of engines implemented for the track)
FX Send	7	0: Bypass, 1: Overdrive, 2: Reverb, 3: Bitcrusher
LFO Rate	8	0-127
LFO Amplitude	9	0-127
LFO Amplitude Mode	10	0: Positive, 1: Center, 2: Negative
LFO Target	11	0: Param1, 1: Param2, 2: Param3, 3: Param4, 4: Volume, 5: Pan
LFO Shape	12	0: Sine, 1: Triangle, 2: Ramp Up, 3: Ramp Down, 4: Exponential Up, 5: Exponential Down
LFO Loop	13	0: Repeat, 1: One Shot
LFO Sync	14	0: Disable, 1-127: Enable

Note that Volume, Pan, Engine and FX Send settings are not available for the FX tracks (Reverb, Overdrive, Bitcrusher)

### 4.4.3 Tips

#### Recording Tracks as MIDI

Any synth track can be converted to MIDI, this means you can use MIDI output to record beats, melody, and patterns in your DAW.

1. Connect PGB-1 MIDI output to your computer
2. Turn every track in “MIDI mode” and assign a different MIDI channel to each of them
3. Record the incoming MIDI in your DAW
4. Press play to start internal sequencer

If you want to only record a single track, set this track to solo (hold Play, press Track, press the number of the track you want to record (1-16)).

- *Menu*
- *Firmware*
- *Troubleshooting*

## 5.1 Main Menu

The main menu provides access to system functions, project management, and device settings.

### 5.1.1 Accessing the Menu

Press **Menu** to open the main menu.

Navigate with **<** / **>** and select with **A**.

### 5.1.2 Menu Items

#### Projects

Save, load, create, delete *projects*

#### Custom Waveform

Draw and edit custom waveforms. See *Custom Waveforms*.

*Available from firmware 1.2.0*

#### Inputs

Configure *audio inputs and FX*.

#### MIDI Settings

Configure *MIDI input and output*.

#### Update Mode

Enter firmware update mode. See *Firmware Updates*.

#### Warning

Entering update mode will save the current project and reboot the device.

## System Info

View device information:

- Firmware version
- Other system details

Useful for:

- Checking if you need to update
- Support requests
- Troubleshooting

## 5.2 Firmware Updates

Keep your PGB-1 up to date with the latest features and improvements.

### 5.2.1 Checking Your Version

1. Press **Menu**
2. Navigate to **System Info**
3. Press **A** to view
4. Note your current firmware version

### 5.2.2 Getting Updates

Check for new firmware at:

- [weenoisemakers.com/pgb-1](https://weenoisemakers.com/pgb-1)
- Discord server: [discord.gg/EAmAgsmV5V](https://discord.gg/EAmAgsmV5V)
- Social media: @weenoisemakers

### 5.2.3 Standard Update Procedure

#### Prerequisites

- Good quality USB cable
- Computer that won't restart during update
- Latest firmware .uf2 file downloaded

#### **Danger**

Never turn off the PGB-1 or unplug the USB cable during a firmware update. This may leave the device in an invalid and **unrecoverable** state.

#### Step 1: Connect and Enter Update Mode

1. Connect PGB-1 to your computer via USB
2. Turn on the device
3. Press **Menu**

4. Navigate to **Update Mode**
5. Press **A** to enter
6. Press **→** then **A** to confirm

The device reboots into update mode. The LEDs display “UP” in green.

Added in version 1.2.0: Starting with firmware version 1.2.0, it is possible to enter Update mode by holding the Menu button while powering on the device. The LEDs display “UP” in red.

### Step 2: Transfer the Firmware

1. A USB drive named **RPI-RP2** appears on your computer
2. Drag and drop the **.uf2** firmware file into this drive
3. Wait for the transfer to complete
4. The PGB-1 automatically reboots when finished

### Step 3: Verify

1. Press Menu **→ System Info**
2. Confirm the new version number

## 5.2.4 User Data

### Note

Data Preserved Firmware updates do not erase your projects or samples. Your data remains intact after updating.

## 5.2.5 Reset Procedure

Use when the device is unresponsive or won't turn off.

1. Locate the Reset button (leftmost hole on the bottom edge)
2. Use a paperclip to press the button
3. The device will restart

### Data Loss

Changes to the current project will not be saved when resetting.

## 5.2.6 Forced Firmware Update Procedure

### Data Loss

Because of a hardware glitch, this procedure is not available for the first batch of PGB-1. However, starting with firmware version 1.2.0, it is possible to enter Update mode by holding the Menu button while powering on the device.

Use when the device won't boot normally, standard update procedure fails, or the device is stuck or froze.

## Prerequisites

1. Make sure the device is **off** (power switch to right, cyan LED off)
2. If the device won't turn off, use the *Reset Procedure* first
3. Have USB cable and firmware file ready

## Procedure

1. Connect PGB-1 to computer via USB
2. **Hold the Boot button** (rightmost hole on bottom, use a paperclip)
3. While holding Boot, turn on the device (power switch left)
4. Release the Boot button
5. The **RPI-RP2** drive should appear
6. Drag and drop the firmware file
7. Wait for reboot

## 5.2.7 Troubleshooting Updates

### RPI-RP2 Drive Doesn't Appear

- Try a different USB cable
- Try a different USB port
- Ensure you're in Update Mode (LEDs show "UP")
- Try the Forced Update procedure

### Update Seems Stuck

- Wait at least 5 minutes
- Do not unplug the cable
- If nothing happens, use Reset then try Forced Update

### Version Doesn't Change After Update

- Verify you used the correct .uf2 file
- Check the file wasn't corrupted during download
- Try downloading the firmware again
- Try the update procedure again

### Device Won't Start After Failed Update

Use the *Forced Firmware Update Procedure* to recover.

## 5.2.8 Best Practices

1. **Don't interrupt:** Let the update complete fully
2. **Use good cables:** Poor cables cause failed transfers
3. **Check power:** Ensure laptop is plugged in or has good battery

4. **Close applications:** Minimize computer activity during update
5. **Read release notes:** Know what's new before updating

## 5.3 Troubleshooting

Solutions for common issues with the PGB-1.

### 5.3.1 Device Issues

#### Device Won't Turn On

**Symptoms:** No response when power switch is moved to On position.

**Solutions:**

1. **Charge the battery**
  - Connect USB cable
  - Look for red charging LED
  - Wait for some charge before trying again
2. **Try reset**
  - Use a paperclip to press the Reset button
  - Located in the leftmost hole on the bottom edge
3. **Check power switch**
  - Ensure switch is fully to the left (On position)

#### Device Won't Turn Off

**Symptoms:** Device stays on when power switch is in Off position.

**Cause:** Unrecoverable software malfunction.

**Solution:** Use the Reset Procedure.

#### Device is Frozen/Unresponsive

**Symptoms:** Buttons don't respond, display frozen.

**Solution:**

1. Use the Reset Procedure (paperclip in reset hole)
2. Note: Unsaved changes will be lost

### 5.3.2 Audio Issues

#### No Sound from Speaker

**Solutions:**

1. Check volume - Hold Play + ↑
2. Ensure no headphones are connected (speaker mutes when headphones plugged in)
3. Check that tracks are not muted
4. Verify patterns have steps enabled

### **No Sound from Headphones**

**Solutions:**

1. Check headphone connection
2. Check volume level
3. Try different headphones
4. Clean the headphone jack

### **Audio is Distorted**

**Solutions:**

1. Lower the master volume
2. Lower individual track volumes
3. Reduce drive/effect levels
4. Check if sample levels are too hot

### **Audio Inputs Not Working**

**Solutions:**

1. Ensure input is enabled in Menu → Inputs
2. Check input gain level
3. Verify cable connection
4. Try different input source

## **5.3.3 Sequencer Issues**

### **Pattern Won't Play**

**Solutions:**

1. Check the pattern is selected in Song Mode for the current part
2. Verify the track isn't muted (hold Play + track button)
3. Ensure steps are enabled in the pattern
4. Check step conditions aren't set to "Never"

### **Wrong Pattern Playing**

**Cause:** Song Mode controls which patterns play.

**Solution:**

1. Enter Song Mode (Song)
2. Check which patterns are assigned to the current song part
3. Modify as needed

## Steps Not Triggering

### Solutions:

1. Check step condition (probability, fill, etc.)
2. Verify step is enabled
3. Check track isn't muted
4. Verify song part has the pattern assigned

## 5.3.4 Firmware Issues

### Update Failed

See *Firmware Updates - Troubleshooting*.

### Device Won't Enter Update Mode

#### Solutions:

1. Use the Forced Firmware Update Procedure
2. Hold Boot button while turning on
3. Try different USB cable

## 5.3.5 USB Issues

### Computer Doesn't Recognize Device

#### Solutions:

1. Try different USB cable
2. Try different USB port
3. Restart the PGB-1
4. Check computer's USB drivers

### RPI-RP2 Drive Not Appearing

#### Solutions:

1. Ensure device is in Update Mode
2. Try Forced Update procedure
3. Try different cable/port

## 5.3.6 Reset Procedure

Use when the device is unresponsive.

1. Locate Reset button (leftmost hole, bottom edge)
2. Insert paperclip and press
3. Device restarts

#### Data Loss

Unsaved project changes will be lost.

### 5.3.7 Forced Firmware Update Procedure

Use when normal update fails.

1. Turn off device completely
2. Connect USB cable to computer
3. Hold Boot button (rightmost hole) with paperclip
4. While holding, turn on device
5. Release Boot button
6. RPI-RP2 drive should appear
7. Transfer firmware file

### 5.3.8 Battery Issues

#### Battery Indicator Not Accurate While Charging

**This is normal.** During charging, the on-screen battery indicator doesn't show accurate charge state. Only the red LED indicates charging status.

#### Charge Doesn't Complete

##### Solutions:

1. Use a different USB cable
2. Try a different power source
3. Ensure power source provides adequate current

### 5.3.9 Getting Help

If problems persist:

1. Join the Discord: [discord.gg/EAmAgsmV5V](https://discord.gg/EAmAgsmV5V)
2. Visit the website: [weenoisemakers.com/pgb-1](https://weenoisemakers.com/pgb-1)
3. Contact support via the website contact form

## REFERENCE

- *Engines*
- *Warranty*

### 6.1 Synth Engine Reference

Complete list of synth engines available on the PGB-1.

WORK IN PROGRESS...

### 6.2 Warranty & Support

#### 6.2.1 Warranty

Devices purchased directly from Wee Noise Makers have a warranty of six months from the date of purchase. This warranty can be extended depending on local regulations.

This warranty covers any manufacturing defects in the device. It does not cover damage due to incorrect handling, storage, power, overvoltage events, or modifications.

Please use the [Contact Form](#) on our website if you are experiencing issues with your device. Devices returned under warranty will either be refunded, re-placed, or repaired at our discretion. User data may not be preserved. You will be responsible for the cost of returning the device to Wee Noise Makers.

#### 6.2.2 Modding and Hacking

PGB-1 is open source and designed to be extended and modified by users. However, hardware modification or installation of third party firmware can lead to irreversible damage to the device. Wee Noise Makers will not be accountable for those damages. Any modification will void the warranty, and could void the user's authority to operate the equipment. We will not refund, repair, or replace any products that have been modified.

#### 6.2.3 Support

##### Before Contacting Support

Please have ready:

- Order number or proof of purchase
- Firmware version (Menu → System Info)
- Description of the problem
- Steps to reproduce the issue

- What you've already tried

### **Official Support**

For warranty claims or technical issues use the [Contact Form](#) on our website.

### **Community Support**

Join the Discord server for community help: [discord.gg/EAmAgsmV5V](https://discord.gg/EAmAgsmV5V)