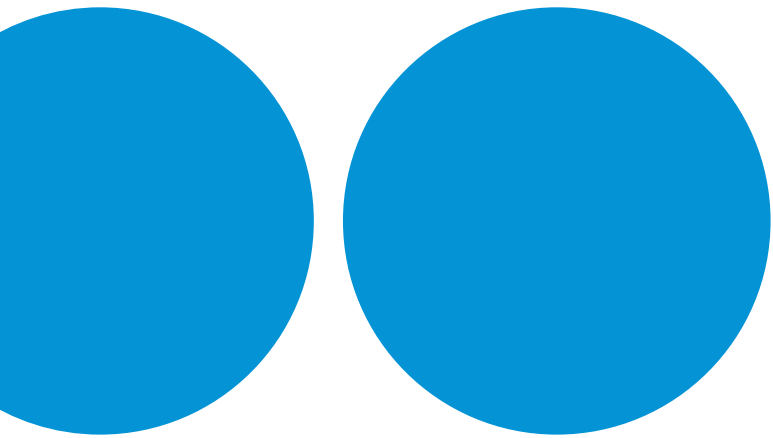
Polyend

# Polyend Step Essentials

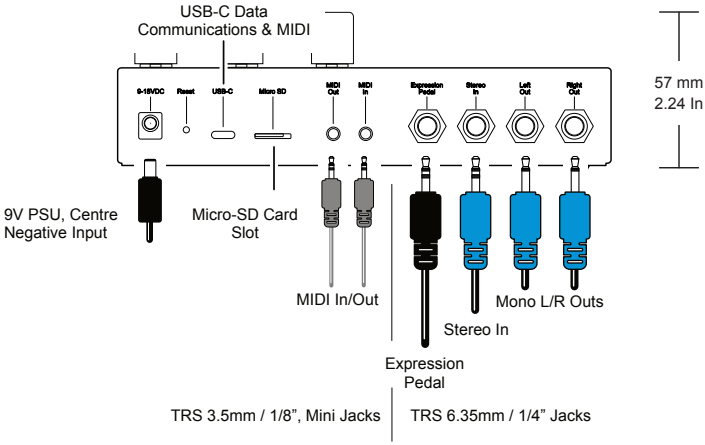
A Collection of Essential References for The Polyend Step



# Overview

The Step is a 4 Track, sample-based drum machine and sequencer that integrates well with studio and live setups. Step fits well with any electronic desktop synth setup and is an accompaniment or additional instrument for modern live musicians, guitarists, or keyboard players. Step is sample-based and operates with 4 programmable audio tracks, each hosting its own drum kit and effects plus a 16-step pattern sequencer. Multiple patterns can be handled as part of a song with a simple pattern control and playback using onboard foot switches. The control of effects is also handled with a footswitch. Step also boasts unique features, like the ability to load beats and kits covering various genres and extending beyond classic electronic styles. In Step, think of beats as presets that store patterns based on specific genre styles. A master effects section helps to glue the output together and finalize the production, as well as adding classic end-of-line effects such as delay, reverb, and saturation. Step is MIDI compatible using the USB or Mini Jack connection with the ability to change patterns via CC input messaging and to change songs using PC messages. Up to 1,000 songs can be created and edited in Step, and the Auto-Save function will ensure that your progress is saved as part of the workflow. As a final bonus, patterns created in Polyend Play can also be used in Step.

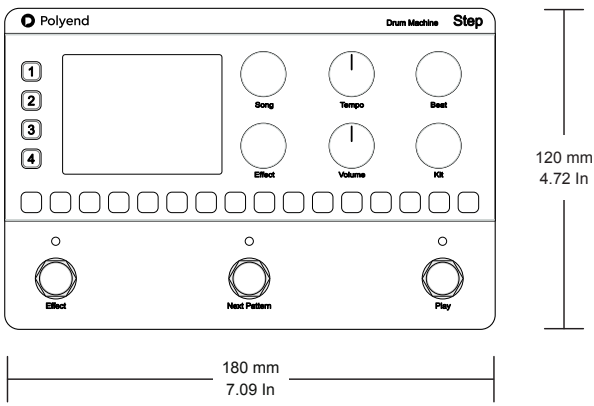
## Hardware Overview




The recessed reset button will reset the entire press unit to the default state.

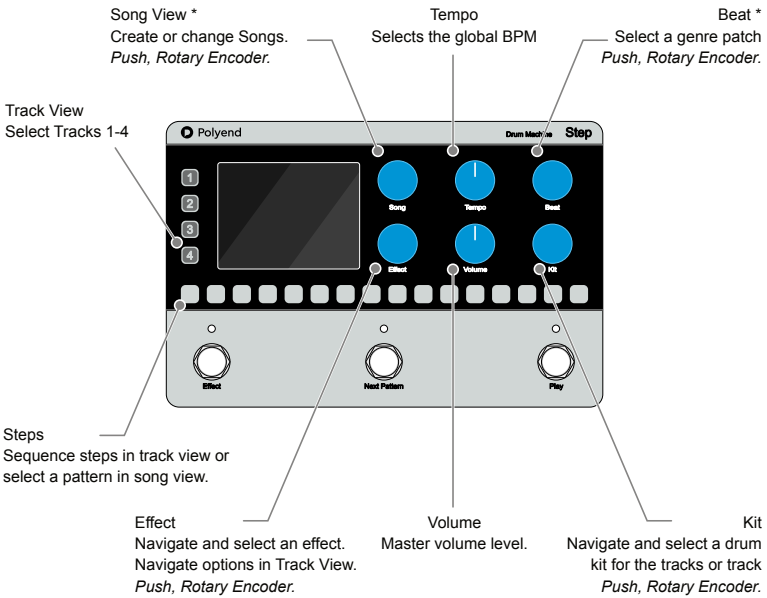
Power Supply is not included. Use a standard pedal model, 9-18V DC, 560mA, Centre Negative.

Weight
930 Grams



## Control Overview

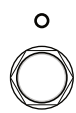
The 2 blue control knobs with the white position indicator are rotary types. The other 4 blue knobs are push/turn knobs. Press to choose a mode, open a menu window, or select an option. Turn to navigate through the options and selections. Knobs and encoders are described with parenthesis e.g. (Volume) in the instruction text. Foot switches are described with curly brackets, {Play} and, Pad step and track buttons as [Pad] or [Track 1].




** Unavailable in Track View*

**Effect**

LEDs are white in track mode.



**Next Pattern**

LEDs are orange in song mode.

**Play**

Playing: Activates the selected effect. Stopped: Tap tempo input.

Tap to cue and play the next available pattern. Press & Hold to select the next Song.

Tap to Start/Stop playback of the current pattern. Press & Hold to play all patterns in sequence.

## Summary of Definitions

Step: This is the name of our 4-track drum machine pedal with sequencing capabilities. A step is also a programming point in the sequencer, with a total of 16 steps used to create a pattern of beats.

Track: A track consists of 16 steps that can be sequenced into a pattern to create a rhythm using the sounds managed in a kit. Each track controls the sounds like kick, snare, hat, etc. Each track is managed and controlled individually when in track view.

Kit: A kit is a collection of sample sounds applied to the tracks, one sample per track. Kits are loaded to all 4 tracks when in song mode and only to the selected track when in track view. The kit browser organizes the kits listed under types, which helps you organize and choose the style of kit you need for your song. A kit is selected and loaded immediately when navigating in the kit browser list.

Pattern: The sequence created for all four tracks, each with a maximum of 16 Steps, is called a pattern. 16 Patterns are available, each selected with the step pads when in song mode i.e. no track selected. In track view, the step pads are used to create steps of beats in the pattern. Increment through available patterns with the ‘Next Pattern’ footswitch.

Beat: A beat is a predefined collection of patterns sequenced together in a genre style. When selected, these beats are applied to the sequence in each track and help to create an instant rhythm. Beats are organized in the browser by ‘genre’ for ease of selection. A beat is selected and loaded at the start of the current pattern while navigating to a beat in the browser list.

Effect: An effect is a utility that shapes, adds movement, and affects the sound character. For example, a reverb emulates a room space and the ambiance it adds. Punch-In performance effects can be switched on or off using the footswitch. A library of effects is available. In addition, several master effects can be assigned to the master outputs.

Song: A song consists of all the parameters, such as tempo and volume, as well as the kit, beat, effect configurations, and pattern settings. It helps store and recall the entire project. Song view is the default when starting up Step and when all tracks are deselected.

Tempo: The clock controls the step pedal and sets the speed of the sequencer in beats per minute (BPM) between a range of 30 and 280. An external MIDI clock can also be used to control the tempo of step.

MIDI: MIDI, Musical Instrument Digital Interface, is a protocol used to communicate between audio devices. The Step pedal accepts MIDI In and sends MIDI out either using the TRS or USB connectors. MIDI control can be used to adjust Parameters (CC), play patterns (Note), and song changes (PC).

## Control Details

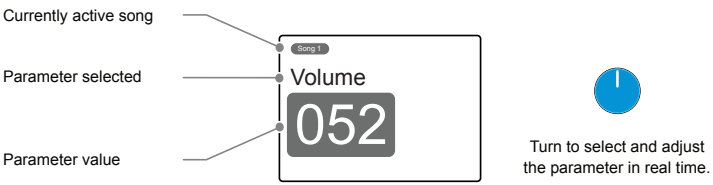
| Control | Function | Description |
|---|---|---|
| Track View | Buttons 1-4 | Press 1-4 to select a track. Track view is on or off for the specifically selected track. Only one track can be selected at a time. The pad flashes when a step for the track is playing. Step pads are used for sequencing pattern steps when in track view. |
| Steps | Pad buttons | In track view, the drum pattern is sequenced using the 16 pads to create steps. When in Song view, i.e. when tracks are deselected, use the step pads to select and manage each of the 16 patterns. |
| Effect | Foot Switch | While playing, Hold to temporarily turn the assigned effect on or off or Tap to latch the effect on or off. You can also control the effect behavior during pattern changes in conjunction with the pattern change footswitch. When stopped, this footswitch acts as a tap tempo input. |
| Next Pattern | Foot Switch | Patterns will usually loop playback. Press this footswitch to increment to select the following available pattern to play. The footswitch LED will flash if the current pattern still plays, pending a change at the end, and then move on to the following pattern. Press and hold to change songs. |
| Play | Foot Switch | Tap to play the current pattern. The step pads are lit to reflect the playhead position. If a track is selected, the step pads represent the track color. Press & Hold to start/stop playback and advance all patterns automatically. |
| Song | Push Encoder | In Song View, press or turn to open the song browser menu. Open or create up to 1000 songs. Press & Hold Song in any view to open the global options menu which includes MIDI, Settings, Master FX, Firmware etc. |
| Effect | Push Encoder | In Song View, Press or Turn to select the effect list. Press to switch browsing between the category and effect preset. Turn to navigate and press to select. Activate and apply the effects using the ‘Effect’ footswitch. |
| Beat | Push Encoder | In Song View, Press to select the beat list presets. Press to switch browsing between the genre and preset lists. The preset list is the complete list of all genres. Turn to navigate and select in real-time. Beats cannot be selected in track view. |
| Kit | Push Encoder | Press to open the kit list presets. Press to switch browsing between the type and preset lists. The preset list is the complete list of all types. Turn to navigate and select in real-time. In Song view, all tracks will be changed using kit. In track view, kit will change only the selected track. |
| Tempo | Knob | Turn to adjust the tempo beats per minute (BPM). The range is 30-280 BPM. Changes are applied instantly. Tap tempo is also available using the ‘Effect’ footswitch when play is stopped. If connected and active, an external MIDI clock will override the internal tempo. |
| Volume | Knob | Turn to adjust the master volume level between 0 and 100. The display will indicate any changes, which will be applied in real time. |

## Display Screen & Control Conventions

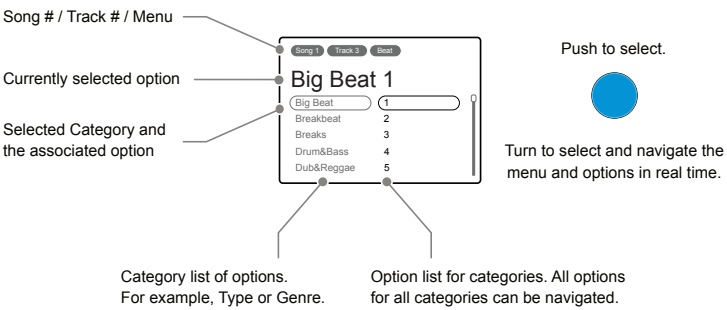
The display will follow a similar convention when using all Step controls. However there are two main modes of operation to consider. Song View is the default operating mode for generic control for all tracks and settings. Track View enables each of the 4 tracks to be edited individually and step patterns created. Track View is selected by tapping Track [1] - [4] button.

The push encoders navigate menus and options while the rotary knobs for volume and tempo operate over a finite range, e.g., Volume 0-100. While navigating, some option menus will 'time out' and revert to the main view after a few seconds of inactivity.

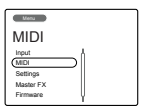
### Control Knob: Tempo & Volume




### Push Encoder: Beat, Kit, Effect and Song




The main settings menu can also be navigated and edited using the 'Song' push encoder. Press & Hold 'Song' to open the main menu. Turn to navigate, push to select a sub-menu or option. Selecting 'Back' in the sub-menu moves backs up the hierarchy.



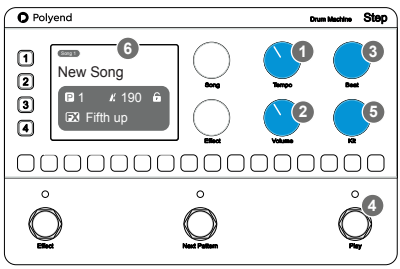
## Quick Start with a Basic Pattern

A 16-step pattern can be created for each of the 4 tracks. This is the first step in creating a basic foundation for a longer sequence or a song. This example uses a beat as a starting point before changing the kit and editing the pattern steps.

1. As a starting point, Turn (Tempo) and set it to 110 BPM. This can be changed later.

2. It's good practice to start with a lower volume, say 40, and then later Turn (Volume) up to adjust when the sound is playing. Adjust to a desired level.

3. In Song View, select and load a beat. Setting a beat cannot be performed in Track View. Deselect the track to enter Song View. Maybe choose the 'Big Beat' Genre, then select beat '1'. Press (Beat) knob to switch between the genre and the beat number lists. Turn (Beat) to scroll the lists and choose the beat number '1'. Note that scrolling all of the beat numbers will automatically change genre, as this is a complete beat list. The beat will change instantly once selected.



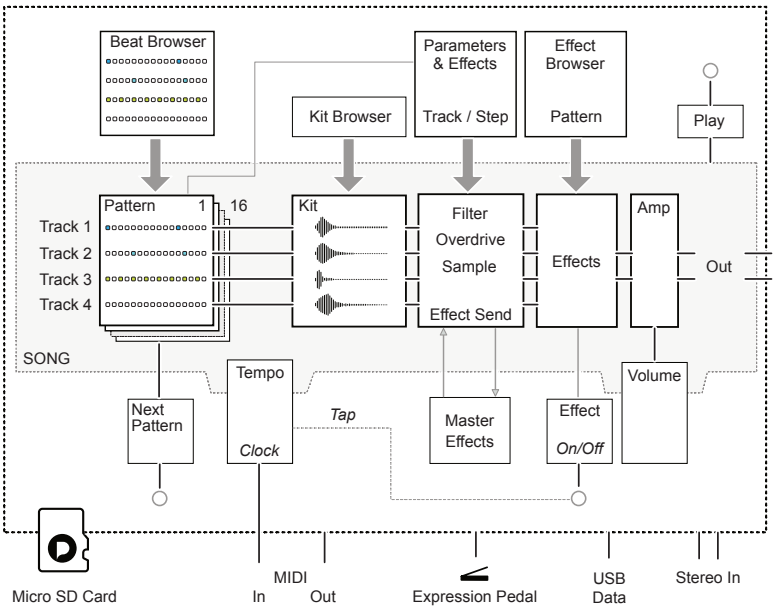

4. Tap {Play} footswitch to play the pattern. The default kit will be played to the beat selected. The Play LED will be lit orange when playing in Song view, and any triggered track buttons will flash in their respective colors. Press again to stop.

5. Select and load a global kit to all 4 tracks. Ensure Step is not in Track View, i.e. no tracks selected. Press the (Kit) knob to choose between the kit types and kit numbers. Turning the knob will highlight, select and instantly load the kit by number. Note that scrolling the kit numbers will automatically change type as this is a complete kit list. As the pattern is now playing, the kit selected will be used with the 4 tracks in the beat pattern. Try selecting kit 'Classic 1' as an example. If an individual track is selected while browsing, then only the kit for the individual track selected is replaced.

6. When editing is completed in song view, the displayed page will automatically time out and revert to displaying the tempo, FX, pattern and lock state.

## Anatomy of a Song

A song consists of all the elements of a project. Patterns and parameter settings are all contained within a song and can be saved and loaded as required. Songs are autosaved. Up to 1000 songs can be stored. Composing will always be performed within a Song. Song View is the default mode but if a track 1-4 is selected then Track View will be active.




Song

Open a Song: In Song View, Press or Turn (Song) knob to open the song browser. Turn to navigate to an existing song. The song is immediately loaded when highlighted. An ‘opening song’ message is displayed on the screen

Song

Creating a Song: In Song View, Press or Turn (Song) Encoder to open the song browser. Turn to navigate to an ‘empty’ song slot. The song is immediately created and loaded when highlighted. A ‘creating new song’ message is displayed on the screen. Default name is ‘New Song’ but this can be edited.

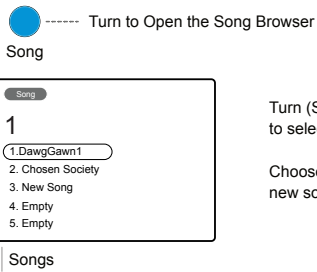
Next Pattern

Songs can also be changed with the {Next Pattern} Footswitch. Press & Hold {Next Pattern} to change the song.

## Managing Songs

Songs can be selected, created, and saved directly from within the song function. In addition, a set of editing options for each song exists in the main menu under the ‘song’ sub-menu. This allows renaming, saving, and locking songs to prevent saving.

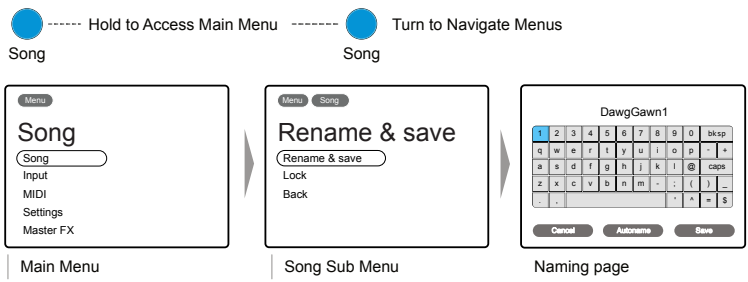
**Song Function Options**




Turn (Song) to Navigate and Press (Song) to select the highlighted option.

Choose an ‘Empty’ song slot to create a new song or choose an existing song.

**Main Menu - Song Options**




Turn to navigate and then Press (Song) knob to choose an option

The ‘Rename & save’ option opens the naming page. Turn (Song) to navigate then Press (Song) to choose a character. Turn to navigate access to the lower option Autoname, Save or Cancel buttons.

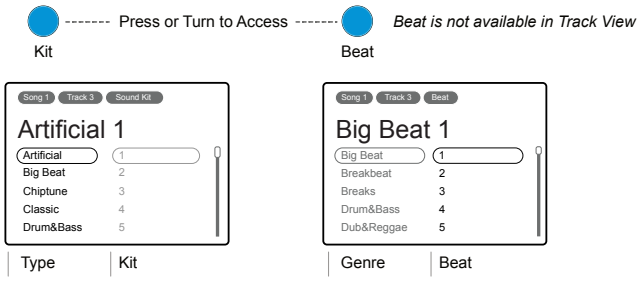
The Lock option will prevent accidental overwriting a song. This is good for ad libs and improvisations without losing any defined settings.

## Beats & Kits

A beat is a pre-programmed pattern sequence based on a specific genre. Think of it as a library of pattern presets used to speed up workflow and get things started.

While the beat adds the rhythmic steps to a pattern, a kit adds the sounds. A kit is a collection of four sounds, each represented by a track. In Song View, kits can be loaded to all four tracks simultaneously. If a track is selected and track view is active, only the track kit is changed.

Beats can be changed to try out different patterns with the same kit, or a beat can remain in place while experimenting with other kits. These combinations and the ability to manually edit patterns offer almost endless options yet keeps the workflow quick and straightforward.



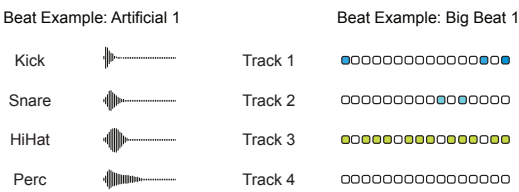

Press (Kit) knob to choose between ‘Type’ and ‘Kit’ options.

Turn (Kit) to navigate & select.

Press (Beat) knob to choose between ‘Genre’ and ‘Beat’ options.

Turn (Beat) to navigate & select.

A Beat or Kit is selected and loaded immediately when it is highlighted during navigation. The list of Beats and Kits is a long and complete list and will automatically navigate through the Genre and Type categories while scrolling the list.

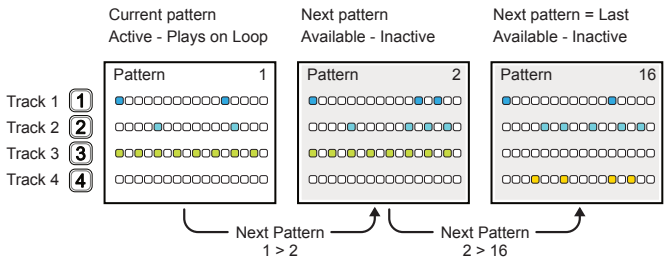


## Working with Patterns & Tracks

Each of the four tracks has a 16-step sequence that, when combined, forms a pattern. Think of this as a kit of four drums, for example, a Kick, Snare, Hat, and Tom, across the four tracks with a rhythm created by triggering the steps in the pattern. A pattern can be manually created or generated using a beat preset. Each song has 16 patterns, and switching between patterns enables variations and progressions to be introduced throughout a song. Patterns created in Polyend Play can also be used in Step.

### Managing Patterns

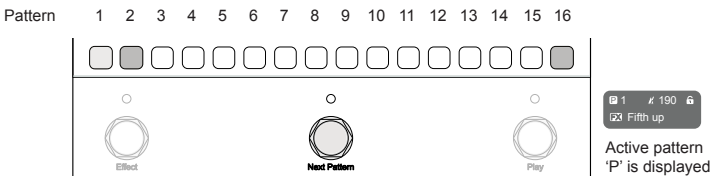
Example has 3 patterns 1, 2 and 16. Pattern 1 currently active as a starting point.




Selecting any Pattern: Tap [Pad] 1-16. Must be in Song View, no track selected.

Selecting the Next Pattern: Tap {Next Pattern} Foot Switch.

*Selects only the next available pattern (lit dimly) and skips empty (unlit) patterns. The currently selected pattern is shown with the brightly lit pad. Use the foot switch while playing or stopped. If a pattern is playing the next pattern is cued (footswitch LED Flashes) until the current pattern ends.*




+ Copying a Pattern: In Song View, Keep Hold [Pad] for the Source to copy until it turns blue, then Press [Pad] for the destination to paste the pattern. Then release holding the first pad.

Sequencing of patterns is performed in track view. This means one of the 4 tracks must be selected to edit and create steps in the pattern manually. Note that turning the beat and song selection knobs are inactive in track view. Add steps to create a pattern. Using a beat is an alternative, quick method of making patterns and a good starting point. A beat is a preset pattern that can be loaded from the list of beat genres. Loading a beat is performed in Song View and cannot be performed in Track View.

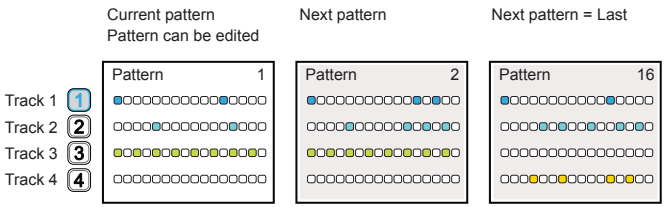
### Creating Patterns

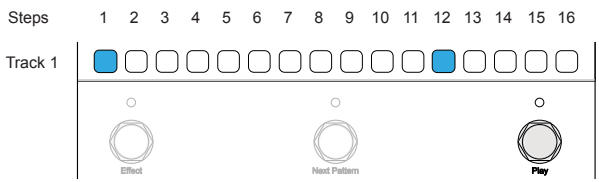
Load a Beat: Turn (Beat) to open the browser. Tap (Beat) to switch between the Genre category or beat option. A beat is loaded immediately it is selected.

*Beats apply a preset pattern across a selection of tracks. The beat can then be used directly or edited for further use. Beats cannot be loaded in Track View. Steps can be manually added to a blank pattern to create a pattern from scratch*

Select Track View: Tap [Track 1] or another track to select for editing.

*When in track view, the 16 Pads represent the steps in the track pattern. The currently selected pattern can be edited. Only one track can be selected at a time.*



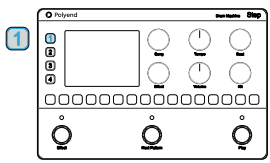

Apply a Step Trigger: Tap [Pad] to add or remove a step trigger.
*Active steps are lit by the same colour as the selected track*

Play: Tap {Play} Foot Switch to start or stop pattern playback.

## Track / Step Parameters.

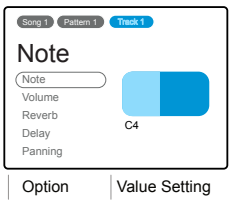
The behavior for the steps in each track can be edited when in Track View. A track must be selected, and the (Effect) Knob can be used to edit the step parameters for the track. Steps placed in the pattern will apply these settings. Note that existing steps will remain with the settings as originally placed unless edited. Some options can be set for the entire track.

Press [Track X] to select 'Track View' for tracks 1 to 4 to edit.




*Button and pads are lit in the track color when track view is selected.*

Press or Turn to Access Effect

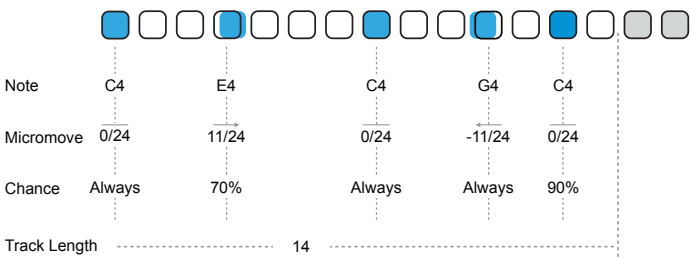



Press (Effect) knob to choose between 'Option' and 'Value Setting'

Turn (Effect) to navigate and select an option or adjust a value. Press & Hold the knob to reset some values.

When creating a pattern, steps will be placed with the parameter assignments that are currently active. The parameters can be set prior to placing steps. These can also be edited post-placement individually to create variations in a pattern by holding a step and adjusting the value. For example, the volume level can be varied for a Hi-Hat run.

Examples: Track 1 - Pattern 1




+ Copying a Step: Keep Hold [Pad] Source until it turns white, then Press [Pad] for the destination.

**Track Parameter and Effect Options**

Parameters are available when a Track is selected in Track View. Parameters can be edited for a selected step by Pressing or Turning the (Effect) Knob. Applies to defined steps or track.

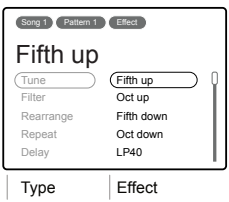
| Option | Range | Description |
|---|---|---|
| Note | No Note, C#-1 to B8 | Sets the note value for the step. C4 default. |
| Volume | -Inf dB to 12 dB | Sets the volume level for the step. 0dB default. |
| Reverb | 0-100% | Reverb send amount. Master Effect. 0% default. |
| Delay | 0-100% | Delay send amount. Master Effect. 0% default. |
| Panning | 100L - Center - 100L | Panning position in the stereo field. Center is default. |
| Filter Cutoff | No Filter, 0-100 for HPF and LPF | High Pass or Low Pass Filter Cutoff. No filter is default. |
| Filter Resonance | 0-100% | Filter resonance amount. 0 is default. |
| Bit Depth | 4-16 Bits | Bit depth setting. 16 Bits is default. |
| Overdrive | 0-100% | Overdrive effect. Amount applied. 0% is default. |
| Sample Start | Based on sample | Position of sample start in ms. Default is 0. |
| Sample End | Based on sample | Position of sample end in ms. Default is highest ms. |
| Microtune | -100 to +100 | Note pitch micro tuning adjustment. Default is 0. |
| Sample Fade In | 0.0% to 100.0% | Amount of fade in applied at sample start. Default is 0.0%. |
| Sample Fade Out | 0.0% to 100.0% | Amount of fade out applied at sample start. Default is 0.0%. |
| Repeat Type | Options | Selects from a collection of repeat styles. Default is Off. |
| Repeat Grid | Options | Selects from the ‘X Hits \| Y Steps’ grid models. Default is Off. |
| Chance | Options | Probability of step playing. Default is ‘Always’ |
| Action | Options | Assigns a playback action to a step. Default is ‘Play Step’ |
| Micromove | -11/24 to 11/24 | Moves step timing earlier or later. Default is 0/24 - On grid |
| Track Length | 1-16 Steps | Adjusts number of steps used in the track. Default 16. |
| Track Speed | Note Intervals | Adjusts the note resolution / speed for the track. Default is 1. |
| Track Swing | 25% to 75% | Swing setting for the track. Default is 50% - No Swing. |
| Track Volume | 0-100% | Volume level for track. Default is 100%. |

## Pattern Punch-In Performance Effects.

A set of punch-in performance effects is provided, which can be triggered while playing a pattern. The pattern performance effects can be punched in and out using the {Effect} footswitch and are applied to all tracks. An effect can be loaded from the effect browser accessed using the (Effect) Knob and is assigned per pattern.

The behavior of effects will depend on the current state of the track view. Track View is on when a track is selected. When no track is selected, Step defaults to Song View. The pattern punch-in effects described here are available for editing when Step is in Song View and not in Track View, where the effect is applied across all tracks in the current pattern. Playback operates in any mode. It is possible to carry over the effect to the next pattern or only use it in a single pattern while it plays.

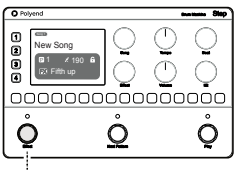
Press or Turn to Access Effect




Press (Effect) knob to choose between ‘Type’ and ‘Effect’ options.

Turn (Effect) to navigate and select an effect for the pattern, all tracks.

While Playing use the {Effect} switch to punch in / out.




Punch In - On or Off
Hold {Effect} to apply while held.
Tap {Effect} to Latch effect on/off.

Only applies during playback

*LED is lit when the effect is on.*

An Effect is only applied when the {Effect} footswitch is activated. If a new effect is selected in the browser list, the effect must be re-triggered by pressing {Effect} off and on to activate. The list of effects is a long, complete list of options and will automatically navigate through the Types while scrolling through the list.

Note: if Step is not playing, the effect footswitch will operate as a tap tempo entry button.

In any track view, the effect punch-in and punch-out playback control can be applied. There are several applications, each of which affects how the effect is used. Control orientates around using the {Effect} footswitch and the behavior of each effect, assigned per pattern.

**Playing Back**

Toggle Punch In - On or Off


Tap {Effect} Foot Switch to Punch In.
Tap {Effect} again to Punch Out

Temporary Punch In


Hold {Effect} Foot Switch to Punch In.
Release {Effect} to Punch Out.

Current Pattern Punch In


Tap {Next Pattern}, then Tap {Effect}.
Effect is active only while current pattern plays.
Effect & LED turns off at the pattern change.

*LEDs flash while the effect is on.*

Next Pattern Punch In


Tap {Effect}, then Tap {Next Pattern}.
Current Effect continues to the next pattern as long as the {Effect} switch is latched. Press {Effect} again to restore the original effect for the pattern.

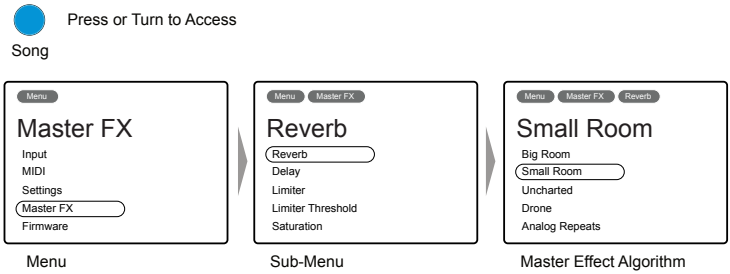
**Playback Stopped**

Tap Tempo x4 Presses


Tap {Effect} Foot Switch to capture a BPM.

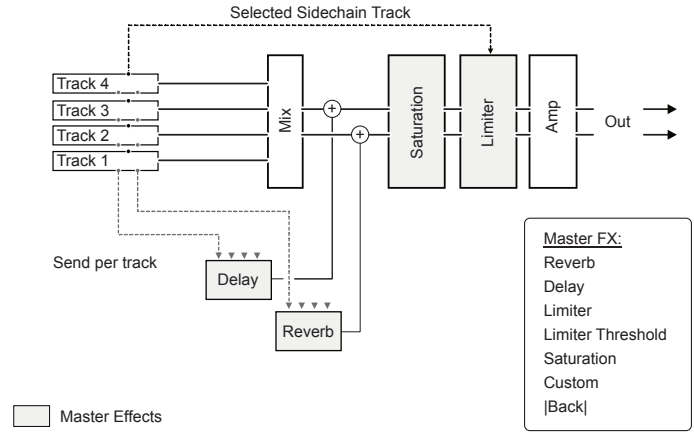
## Master Effects.

The master effects consist of several functions, including delay and reverb. They are presented with a number of preset algorithms for quick setup. A custom parameter option is also available, which can be set in the Main Menu settings. The delay and reverb effects operate in a Send / Return arrangement. Tracks or individual steps can route an amount of audio to the reverb or delay algorithm, and the affected audio is fed back into the main mix.



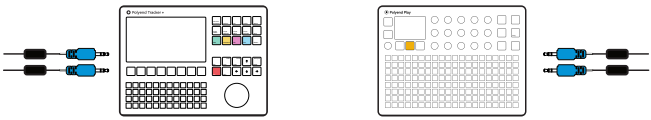

Navigate and select within the menu structure using the (Song) knob

The selected algorithm will process any audio sent to the effect. The Step parameter controls the amount of audio sent to the delay and reverb Master FX. Other Master FX, such as the limiter, operate in line with the main audio signal path. The effect algorithm parameters can be edited using the custom parameter option in the Master FX menu.

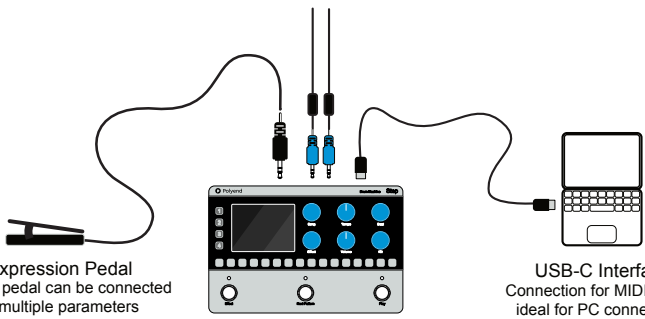


## MIDI Interface.

Step can send and receive MIDI messages through the MIDI 3.5mm Jacks. MIDI Type A or B can be used for MIDI In and Type B for MIDI Out or the USB-C interface can send and receive MIDI Messages. Step responds to Program Change, PC Messages to switch Songs and Control Change, CC Messages to change patterns. Also clock and transport can be managed internally or by using an external  MIDI controller.



MIDI TRS
In/Out Interface to other audio gear.



Expression Pedal
Analog pedal can be connected to multiple parameters

USB-C Interface
Connection for MIDI In/Out, ideal for PC connections

Clock and Transport

To control Step Play Start / Stop and Tempo, configure the external MIDI settings for the port connected which sends the respective messages. Also Step can send clock and Transport out to other devices, also set up in the MIDI configuration.

Step will react to MIDI messages received on any of the 16 standard MIDI Channels.

Changing Songs with PC Messages

A MIDI PC Message received by Step will change the song. This selection of song is based on the MIDI Channel and the PC number* received. The following calculation is used to determine which song to select: 1-1000. The PC message will either select an existing song or create a new song in the song location chosen.

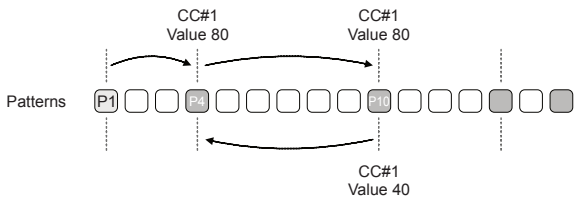
**Song = ((MIDI Channel # - 1) x 128) + PC Value Received)**

Example: Channel 1, PC 5 = ((1-1) x 128) + 5 = Song 5

Example: Channel 2, PC 3 = ((2-1) x 128) + 3 = Song 131

Changing Patterns with CC Messages

A MIDI CC Message received by Step will change the pattern. This selection of pattern is based on the value received on MIDI CC #1. Values >= 67 will increment to the next pattern. A Value < 67 will switch to the previous pattern.




* Note that the PC number issued from a device should be checked with respect to its alignment with Step. Some devices start PC numbering at 0 while others start at 1. It is good practice to test the gear set up to ensure the values match.

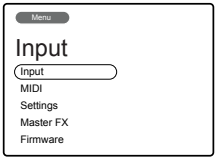
## Main Menu Options.

Several global options are available in the main menu, accessible by holding the (Song) Knob. Navigation and selection are performed by turning or pressing the (Song) knob. Selecting a menu option may specify a parameter to edit or navigate into a sub-menus. A ‘Back’ option to backup in the menu structure or an ‘Exit’ option may also be available in the menus.

Song

Hold to Access Main Menu.

Turn (Song) to navigate and Press to select an a sub-menu or option.




Song

| Option | Range | Description |
|---|---|---|
| Rename & save | | Opens the naming screen and allows renaming and saving. |
| Lock | Select | Sets lock mode on. Disables autosave. |
| | Deselect | Deselects lock mode. Autosave is active. |
| Humanize | Off | No variation is applied |
| | Low | A low amount of variation is applied to the song velocity and timing |
| | Medium | Medium variation is applied to the song velocity and timing |
| | High | A low amount of variation is applied to the song velocity and timing |
| Back | | Command to back up to the main menu level in the structure |

Input

| Option | Range | Description |
|---|---|---|
| Mode | Instrument | Sets the input ready for a instrument input i.e. Guitar |
| | Line | Sets the input ready for a line input i.e. Synth |
| Channels | Mono | Sets the ‘Stereo Input’ source to accept Mono TS signal. |
| | Stereo | Sets the ‘Stereo Input’ source to accept a Stereo TRS signal |
| Expression Pedal | Off | A connected expression pedal is not assigned to a parameter |
| | Volume | Expression pedal input is assigned to control global volume level |
| | Filter | Expression pedal input is assigned to control filter cutoff |
| | Tune | Expression pedal input is assigned to control pitch range |
| | Tune+ | Expression pedal input is assigned to control pitch - wide range |
| | Overdrive | Expression pedal input is assigned to control overdrive amount |
| | Reverb | Expression pedal input is assigned to control delay send amount |
| | Delay | Expression pedal input is assigned to control delay send amount |
| Back | | Command to back up to the main menu level in the structure |

MIDI

| Option | Range | Description |
|---|---|---|
| Clock In | Internal | Time based functions e.g. Tempo, use the internal clock. |
| | Jack | Time based functions e.g. Tempo, use an external clock connected to the MIDI Jack input. Tempo displays ‘Ext’ if clock is recognised |
| | USB | Time based functions e.g. Tempo, use an external clock input connected to the USB. Tempo displays ‘Ext’ if clock is recognised |
| Transport In | Off | External transport functions e.g. Play are off and ignored. |
| | Jack | Transport functions e.g. Play, are controlled from an external device connected to the MIDI Jack input. |
| | USB | Transport functions e.g. Play, are controlled from an external device input connected to the USB. |
| PC In | Off | External Program Change functions are off and ignored. |
| | Jack | Program Change messages to change the song are controlled from an external device connected to the MIDI Jack input. |
| | USB | Program Change messages to change the song are controlled from an external device input connected to the USB. |
| | USB & Jack | Program Change messages to change the song are controlled from an external device input connected to the MIDI Jack or the USB. |
| CC In | Off | External Control Change functions are off and ignored. |
| | Jack | Control Change messages to change the pattern are controlled from an external device connected to the MIDI Jack input. |
| | USB | Control Change messages to change the pattern are controlled from an external device input connected to the USB. |
| | USB & Jack | Control Change messages to change the pattern are controlled from an external device input connected to the MIDI Jack or USB. |
| Clock Out | Off | The internal clock is not transmitted out. |
| | Jack | The internal clock is transmitted out from the MIDI Jack output. |
| | USB | The internal clock is transmitted out from the USB output. |
| | USB & Jack | The internal clock is transmitted on the MIDI Jack and USB output. |
| Transport Out | Off | The internal transport controls are not transmitted out. |
| | Jack | The internal transport play/stop controls are transmitted out from the MIDI Jack output. |
| | USB | The internal transport play/stop controls are transmitted out from the USB output. |
| | USB & Jack | The internal transport play/stop controls are transmitted on the MIDI Jack and USB output. |
| Back | | Command to back up to the main menu level in the structure |

### Settings

| Option | Range | Description |
|---|---|---|
| Leds Brightness | High | Brightest setting for LEDs |
| | Medium | Medium LED Brightness |
| | Low | Lowest setting for LEDs |
| Knob Preview | Off | Audio preview is muted when changing knobs or selecting steps |
| | Stopped | Audio is previewed when selecting tracks, steps, and changing step parameters if playback is stopped. |
| | Playback | Audio is previewed when selecting tracks, steps, and changing step parameters only when playing. |
| | Always | Audio is previewed when selecting tracks, steps, and changing step parameters both when playing or stopped. |
| Back | | Command to back up to the main menu level in the structure |

### Master FX

| Option | Range | Description |
|---|---|---|
| Reverb | Options | Collection of reverb algorithm presets. |
| Delay | Options | Collection of delay algorithm presets. |
| Limiter | Options | Collection of limiter algorithm presets. |
| Limiter Threshold | 0dB to -90dB | Sets the threshold level of the limiter |
| Saturation | Options | Collection of saturation algorithm presets. |
| Custom Params | Reverb | Customisable parameters for reverb damping, size, diffusion and predelay |
| | Delay | Customisable parameters for delay sync rate, feedback, ping pong, Ping Pong Ratio and Filter Frequency, |
| | Limiter | Customisable parameters for limiter attack, release, sidechain and sidechain track, |
| Back | | Command to back up to the main menu level in the structure |

### Firmware

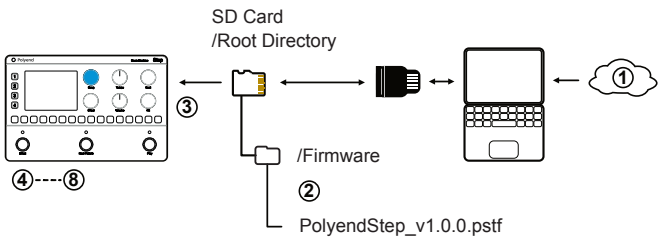
| Option | Range | Description |
|---|---|---|
| Update Firmware | Command | Initiates the selection of a firmware file from the SD Drive in order to update the firmware version. |
| Version | Indicator Only | Information of current firmware version |
| Build | Indicator Only | Build version of current firmware version |

## Firmware Update.

Polyend may periodically provide firmware updates to fix bugs or add new features. The updating process can be performed in several ways. You are strongly advised to follow the Polyend instructions supplied with each update when performing updates. The instructions here are a generic guide only. Register your product and subscribe at the Polyend site to access updates and further information.

### FIRMWARE UPDATE

1. Download the latest firmware from your Polyend account.
2. Copy the downloaded .pstf firmware file into the /Firmware folder. This can be found in the root directory of the SD Card.
3. Insert the SD card into Step and power up.
4. Hold (Song) knob to open the main configuration and settings menu.
5. Navigate through to highlight the ‘Firmware’ sub-menu. Open the ‘Update Firmware’ function, highlight the firmware version to install.
6. Press (Song), knob to select firmware.
7. The firmware will install and the on screen prompts provided will guide. The install process is typically less than 1 minute.
8. Step will restart automatically when complete.



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