



**DRUMBOY**

PRO EDITION

USER MANUAL v1.0

# **Welcome**

to the noisy world of Randomwaves

At Randomwaves,  
we believe the best instruments  
are the ones **you bring to life.**

Drumboy Pro  
is made to be built,  
tweaked, and **truly yours.**



<https://github.com/Randomwaves>



<https://discord.gg/5atevNH6UU>



## Feedback & Support

If you have any questions, encounter any issues, or simply want to share your suggestions, you can contact us directly at **hello@randomwaves.io**.

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## Best Power Source

For the cleanest signal, ensure your power source is stable. Noisy wall adapters can degrade audio quality and cause background noise.

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## Headphones First

For the best audio experience, plug in your headphones before connecting USB power — this helps ensure smooth performance with all headphone types.

# CHARGE PAD



Designed for ultimate mobility, **ChargePad** is a detachable, rechargeable power dongle that serves as the primary power source for your DrumboyPro. It delivers up to **5 hours** of continuous playtime on a single charge.

The module features a male USB-C connector that plugs directly into the DrumboyPro to supply power, and a female USB-C port for recharging the internal battery. A power switch on the top-left corner turns the module on or off. Three integrated LEDs provide real-time status updates on battery life and device operation.

- Fully Charged
- Charging
- Low Battery



# QUICK START GUIDE



1. **Insert** the Drumboy Pro SD-Card

2. **Plug in** the Headphones

3. **Connect** to Power Supply

(connect to either the ChargePad or a power source via Usb-C cable)



4. **Power on** the Device



5. **Access** the File Menu

Once the device is on, locate and press the **[F]** key to open the File menu.

6. **Load** the File Menu

Navigate to the **Load** tab, select the file named File\_001 and open it with **[O]** key .

# QUICK START GUIDE



## 7. Reset | Play | Record

On the top left of Drumboy, you have the keys to control the song play.



## 4. M | F | P Keys

You can adjust layer playback settings by pressing **[Layer] key** while holding down the **[M]** (mute), **[F]** (fill), and **[P]** (playmode) keys.



## 5. Start Finger Drummig

You can start generating beats by using the **[Layer] keys**.

**In&Out**  
**Interface**  
**Main**  
**Knob Bank**  
**Song Bank**

# IN | OUT



**Drumboy Pro** features a **USB-C** power port, an **SD** card slot for data and updates, and an **STM32** interface for customization. Audio connectivity includes **Line In/Out** and **Headphone** jacks, while **MIDI** and **Sync** I/O ports ensure perfect synchronization with your other devices.



# INTERFACE



**Drumboy Pro** is designed with a **clean, user-friendly** interface that prioritizes an intuitive workflow. To ensure a smooth experience, the diagram below provides a comprehensive overview of the device's layout.



# MAIN MENU



The **Main Menu** provides a summary of the song, allowing you to check all global parameters at a glance.



Press **[III]** to enter the Overview Menu

## Knob Control

Exclusively in this menu, the bottom-right knob performs your custom assigned function. In all other menus, it is used to change the selected menu item.

	TEM	MEA	BAR	QUA	FL1	FL2	EF1	EF2
	120	04	04	08	ON	OFF	OFF	ON
	Tempo	Measure	Bar	Quantize	Filter 1	Filter 2	Effect 1	Effect 2

# KNOB BANK



**Drumboy Pro** features a macro control system using **8 function assignable knobs**. The device provides **10 knob banks**, allowing for a total of 80 assignable functions. You can monitor the assigned functions and current values for all knobs at the bottom of the display.



## Select a Bank

To activate a specific bank, press the desired **[Layer 1-10]** key while holding down the **[Knob]** key.

## Assign a Function

To map a function, turn the target knob to select the desired parameter while holding down the **[Knob]** key. All assignments are saved instantly and recalled upon power-up.



## Menu Control

When a menu is active, the bottom-right knob automatically controls the active menu item. Upon returning to the Main menu, this knob reverts to its originally assigned function.

## Fast Mode

Hold the **[Add]** key while turning a knob to engage Fast Mode, which doubles the value change rate for rapid adjustments.

# SONG BANK



**Drumboy Pro** is equipped with **5** distinct song banks for each file, allowing for flexible arrangements within a single project.



## Select a Bank

To activate a specific bank, press the desired **[Layer 1-10]** key while holding down the **[Song]** key.

If a bank change is initiated during playback, the device will wait until the current song finishes before switching to the target bank.

# File Drumkit Rhythm

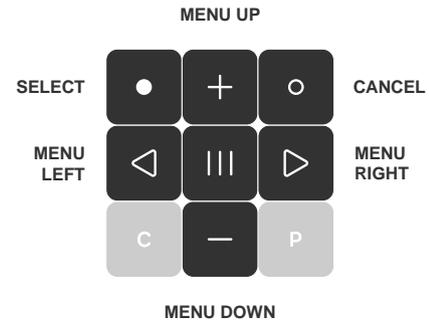
# FILE MENU



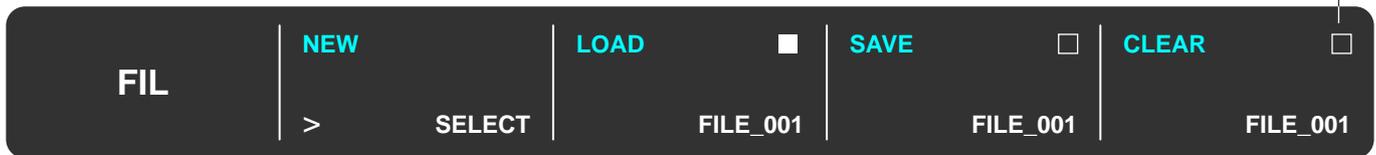
You can **reset, load, save** and **delete** the files you have created using the **File Menu**. The file library consists of **100** files and is stored in the **System/File** folder on the SD card.



Press **[F]** key to enter the File Menu



Indicates whether the file is full or empty



## NEW

Opens a new file.  
(Press **O** to select)

## LOAD

Loads the selected file.  
(Press **O** to select)

## SAVE

Saves the current work to the selected file.  
(Press **O** to select)

## CLEAR

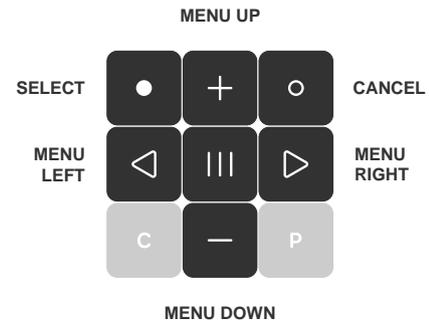
Clears the contents of the selected file.  
(Press **O** to select)

**Layer Song, Layer Instrument, Lfo, Rhythm, Eq, Filter, Effect** and **Reverb** settings are stored in each File.

# DRUMKIT MENU

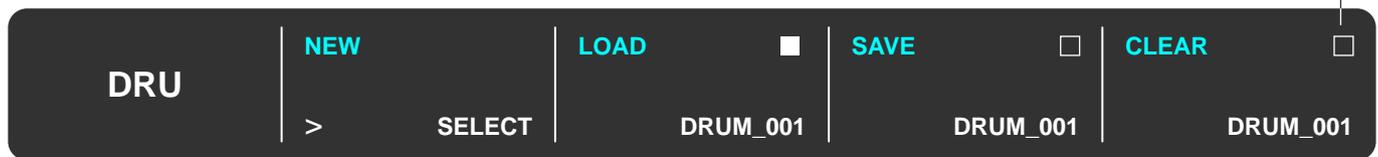


You can **reset**, **load**, **save** and **delete** the drumkits you have created using the **Drumkit Menu**. The drumkit library consists of **100** drumkits and is stored in the **System/Drumkit** folder on the SD card.



Press **[D]** key to enter the Drumkit Menu

Indicates whether the file is full or empty



## NEW

Opens a new drumkit.  
(Press **O** to select)

## LOAD

Loads the selected drumkit.  
(Press **O** to select)

## SAVE

Saves the current work to the selected drumkit.  
(Press **O** to select)

## CLEAR

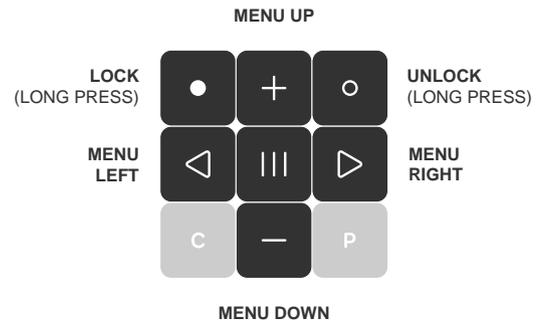
Clears the contents of the selected drumkit.  
(Press **O** to select)

**Layer Instrument**, **Lfo**, **Eq**, **Filter**, **Effect** and **Reverb** settings are stored in each Drumkit.

# RHYTHM MENU



You can define the structural and timing elements of your song using the **Rhythm Menu**. Changing bar, measure & quantize settings, make permanent adjustments to the timing of the beats in the song and cannot be undone.



Press **[R]** key to enter the Rhythm Menu

Press and hold **Unlock** key to edit the parameters

RHY	TEMPO	BAR	MEASURE	QUANTIZE
	> 120	04	04	1/16

## TEMPO

Tempo of the song  
60 < Tempo < 160

## BAR

Number of beats in each measure  
1 < Bar < 8

## MEASURE

Number of measures in the song  
1 < Measure < 8

## QUANTIZE

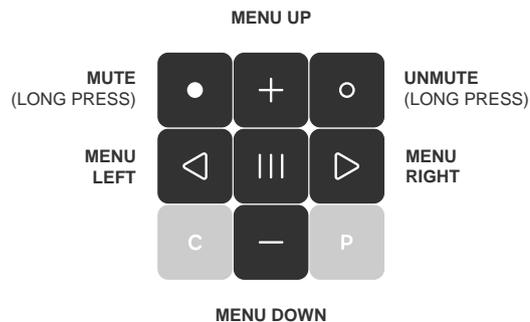
Grid value of the quantization  
1/64 < Quantize < 1/1

# Amp Metronome Sync

# AMP MENU



You can adjust the **global**, **headphone**, **line out**, and **line in** levels, set the **line in** pass mode, and configure **pan** and **normalize** values using the **Amp Menu**.



Press **[METRO]** key to enter the Metronome menu

Press and hold **Mute/Unmute** keys to control audio channels

AMP	MASTER	HP	LO	LI	LI	PAN	NOR
	VOL	MUTE	MUTE	MUTE	BYP	LR	ACT
>	ON	DB	DB	DB	FIL1	LR	ON
	LPF	1K	00				

## ACTIVE

Enables/disables filter channel.

## TYPE

Filter Type

## FREQ

Filter Cutoff Frequency

## RES

Filter Resonance

## SLOPE

Filter Slope

## DRY

Dry Signal Level

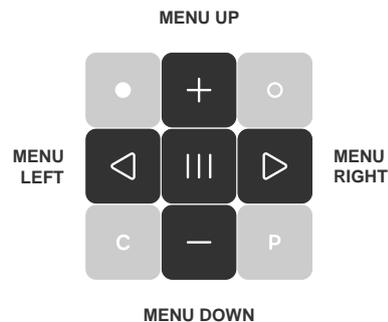
## WET

Wet Signal Level

# METRONOME MENU



You can activate metronome, define its **precount state**, **sample sound** and **volume level** using the **Metronome Menu**.



Press **[METRO]** key to enter the Metronome menu

MET	ACTIVE	PRECOUNT	SAMPLE	VOLUME
	>	ON	ON	KNOCK
	075			

## ACTIVE

Enables/disables metronome while recording

## PRECOUNT

Enables/disables precount before recording

## SAMPLE

Metronome sample sound

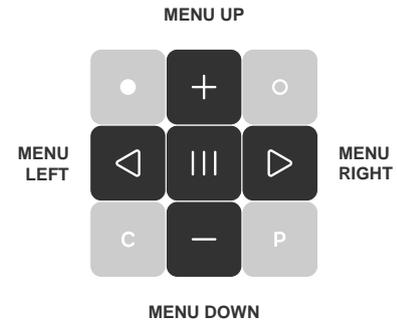
## VOLUME

Metronome volume level

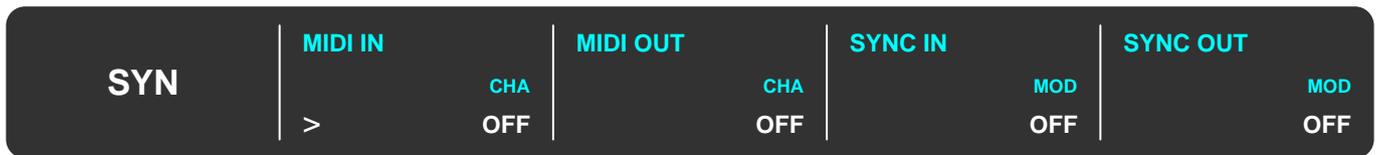
# SYNC MENU



You can configure the device's connectivity properties by adjusting the **MIDI** settings and **synchronization** options using the Sync menu.



Press [**SYNC**] key to enter the Sync Menu



## MIDI IN

Midi In channel selection

01 < Channel < 16

## MIDI OUT

Midi Out channel selection

01 < Channel < 16

## SYNC IN

Sync In mode selection

## SYNC OUT

Sync Out mode selection

# MIDI IN | OUT



To **synchronize** Drumboy with another device via midi, follow these steps:

## For Midi\_In Mode:

In the **Sync Menu**, set the **Midi\_In** option to preferred midi channel (1-16).

Connect a mono/stereo cable to the **Midi\_In** port of the device.

(C -> Layer 01, C# -> Layer 02, D -> Layer 03, D# -> Layer 04, E -> Layer 05,  
F -> Layer 06, F# -> Layer 07, G -> Layer 08, G# -> Layer 09, A -> Layer 10)

## For Midi\_Out Mode:

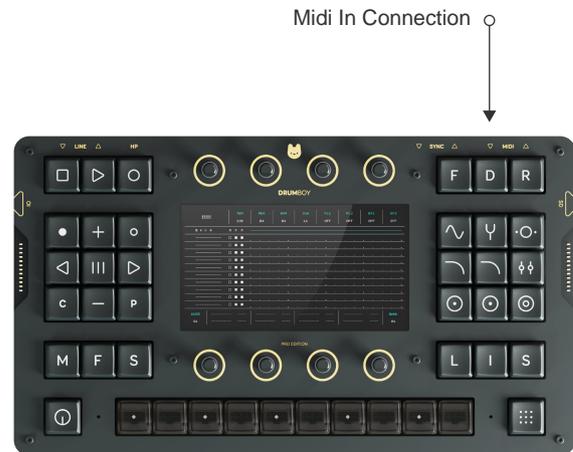
In the **Sync Menu**, set the **Midi\_Out** option to preferred midi channel (1-16).

Connect a mono/stereo cable to the **Midi\_Out** port of the device.

(Layer 01 -> 36, Layer 02 -> 37, Layer 03 -> 38, Layer 04 -> 39, Layer 05 -> 40,  
Layer 06 -> 41, Layer 07 -> 42, Layer 08 -> 43, Layer 09 -> 44, Layer 10 -> 45)



MASTER



SLAVE

# SYNC IN | OUT



To **synchronize** two **Randomwaves devices**, follow these steps:

## For the master device:

In the **Sync Menu**, set the **Sync\_Out** option to **Mode\_RW**.

Connect a stereo cable to the **Sync\_Out** port of the master device.

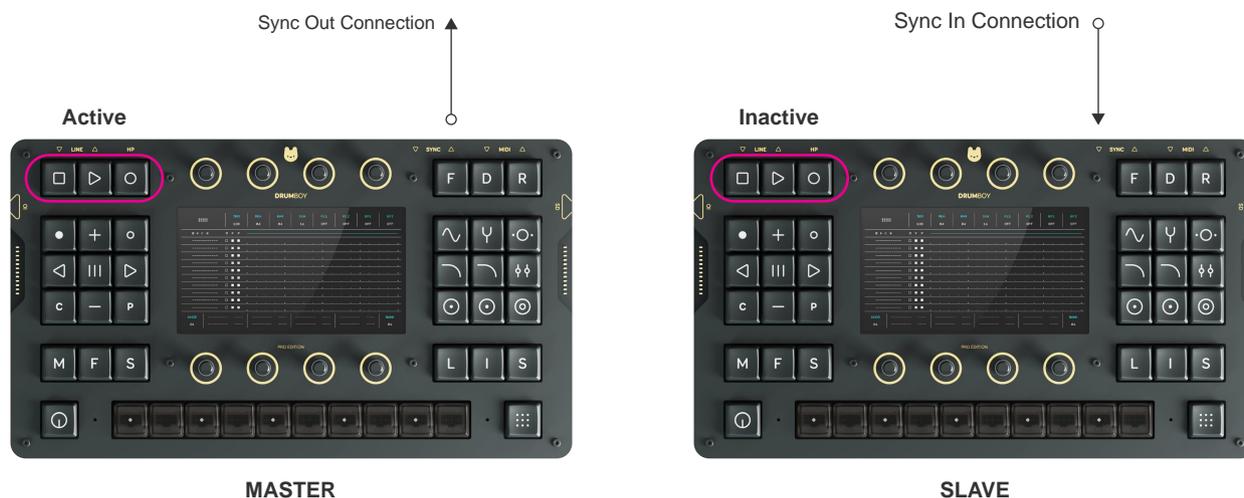
## For the slave device:

In the **Sync Menu**, set the **Sync\_In** option to **Mode\_RW**.

Connect the other end of the stereo cable to the **Sync\_In** port of the slave device.

In **Sync Mode**, only the play buttons on the master device will be active.

You can **synchronize** more than two devices using the aforementioned principle.



# SYNC IN | OUT



Drumboy does not operate in a step sequencer format. It can only be synchronized as a **master device** with **third-party devices**. To **synchronize** Drumboy as **master**, follow these steps:

## For the master device: (Drumboy)

In the **Main Menu**, set the **Sync\_Out** option to **Mode\_ST**.

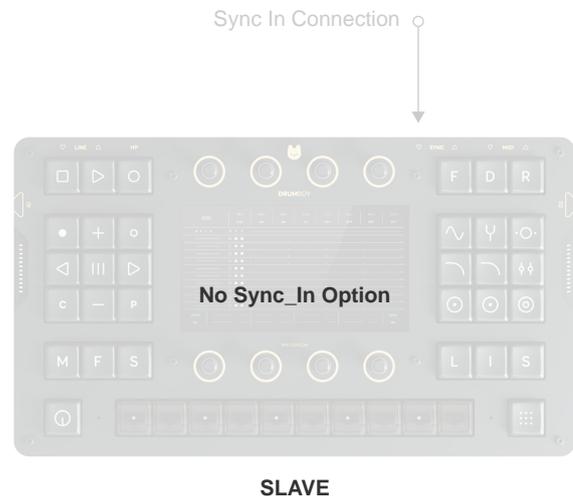
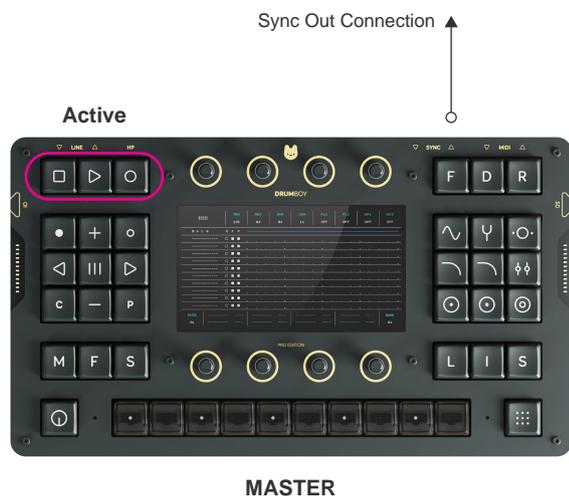
Connect a mono/stereo cable to the **Sync\_Out** port of the master device

## For the slave device: (Third Party)

Make the necessary settings for the device to function as a slave.

Connect the other end of the mono/stereo cable to the **Sync\_In** port of the slave device.

You can **synchronize** more than two devices using the aforementioned principle.



**Eq**

**Filter**

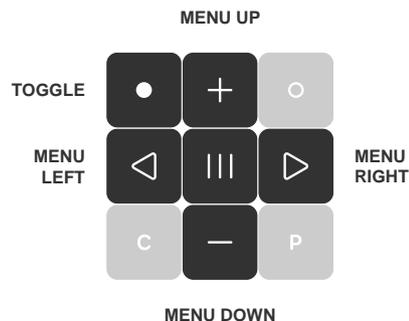
**Effect**

**Reverb**

# PARAMETRIC EQ MENU



You can activate parametric eq, define its filters' **center frequency, gain & quality factor** using the **Parametric Eq Menu**. You can use the **[Toggle]** key to switch between frequency, gain and Q values.



Press **[EQ]** key to enter the Eq menu

Indicates smooth transition during eq parameter changes.

PEQ	ACTIVE	PASS	LS	P	P	P	P	HS
	ON		Q 01					
			HZ 50	HZ 100	HZ 250	HZ 1K	HZ 3K	HZ 5K
			DB +04	DB +02	DB +00	DB +00	DB -02	DB -04

## ACTIVE

Enables/disables parametric eq.

## LOW SHELF

Frequency & gain of low shelving filter.

## PEAK

Center frequency, gain and quality factor of peaking filter.

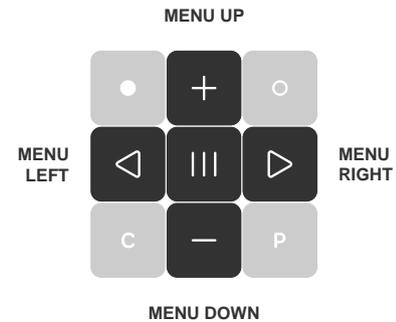
## HIGH SHELF

Frequency & gain level of high shelving filter.

# FILTER 1-2 MENU



You can activate filters, define its **type**, **center frequency**, **resonance**, **slope** and **dry&wet levels** using the **Filter Menu**.



Press **[FIL]** keys to enter the Filter menus

Indicates smooth transition during filter parameter changes.

<b>FIL</b>	<b>01</b>	<b>ACTIVE</b>	<b>PASS</b>	<b>TYPE</b>	<b>FREQ</b>	<b>RES</b>	<b>SLO</b>	<b>DRY</b>	<b>WET</b>
					<b>HZ</b>	<b>%</b>	<b>DB</b>	<b>%</b>	<b>%</b>
		>	ON	LPF	1K	00	12	00	100

## ACTIVE

Enables/disables filter channel.

## TYPE

Filter Type

## FREQ

Filter Cutoff Frequency

## RES

Filter Resonance

## SLOPE

Filter Slope

## DRY

Dry Signal Level

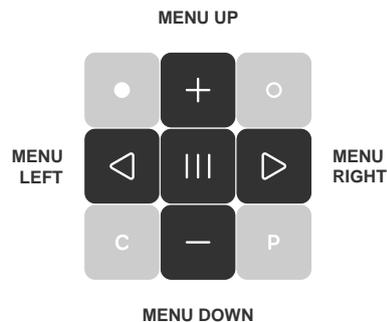
## WET

Wet Signal Level

# EFFECT 1-2 MENU



You can activate effects, define its **type, parameters and dry&wet levels** using the **Effect Menu**.



Press **[EFF]** keys to enter the Effect menus

Indicates smooth transition during effect parameter changes.

EFF	01	ACTIVE	PASS	TYPE	RESO	SAMP	THRE	DRY	WET
		>	ON	BIT	BR	%	DB	%	%
					08	01	00	25	75

## ACTIVE

Enables/disables effect channel.

## TYPE

Effect Type

## DRY

Dry Signal Level

## WET

Wet Signal Level

# EFFECT 1-2 MENU



EFF	ACTIVE	TYPE	TIME	LEV	FEED	DRY	WET
	>						
			50	05	25	100	50
DELAY			Delay Time	Delay Level	Delay Feedback	Dry Signal Level	Wet Signal Level

EFF	ACTIVE	TYPE	TIME	FEED	RATE	DRY	WET
	>						
			10	25	1.0	75	75
CHORUS			Chorus Delay Time	Chorus Feedback	Chorus Rate	Dry Signal Level	Wet Signal Level

EFF	ACTIVE	TYPE	TIME	FEED	RATE	DRY	WET
	>						
			2.5	25	1.0	75	75
FLANGER			Flanger Delay Time	Chorus Feedback	Chorus Rate	Dry Signal Level	Wet Signal Level

EFF	ACTIVE	TYPE	STAR	END	RATE	DRY	WET
	>						
			1K	5K	1.0	100	50
PHASER			Phaser Start Freq	Phaser End Freq	Phaser Rate	Dry Signal Level	Wet Signal Level

# EFFECT 1-2 MENU



EFF	ACTIVE	TYPE	THRE	RATE	ATT	REL	MIX
	>						
			-06	04	01	100	100

## COMPRESSOR

Comp. Threshold    Comp. Rate    Comp. Attack Time    Comp. Release Time    Wet Signal Mix

EFF	ACTIVE	TYPE	THRE	RATE	ATT	REL	MIX
	>						
			-12	04	01	500	100

## EXPANDER

Expander Threshold    Expander Rate    Expander Attack Time    Expander Release Time    Wet Signal Mix

EFF	ACTIVE	TYPE	GAIN	THRE	TONE	DRY	WET
	>						
			12	-06	5K	25	100

## OVERDRIVE

Overdrive Gain    Overdrive Threshold    Overdrive Tone    Dry Signal Level    Wet Signal Level

EFF	ACTIVE	TYPE	GAIN	THRE	TONE	DRY	WET
	>						
			12	-06	5K	25	75

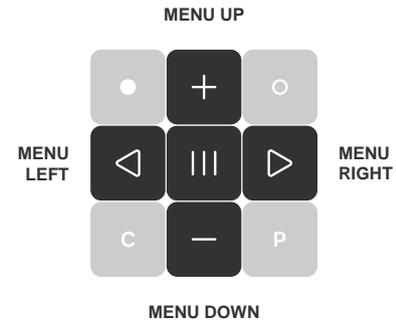
## DISTORTION

Distortion Gain    Distortion Threshold    Distortion Tone    Dry Signal Level    Wet Signal Level

# REVERB MENU



You can activate reverb, define its **room size**, **decay level**, **pre-delay time**, **surround level** and **dry&wet levels** using the **Reverb Menu**.



Press **[REV]** key to enter the Reverb menu

Indicates smooth transition during effect parameter changes.

REV	ACTIVE	PASS	SIZE	DEC	PRE	SUR	DRY	WET
			%	%	MS	%	%	%
>	ON		25	50	05	25	100	50

## ACTIVE

Enables/disables parametric eq.

## SIZE

Room Size

## DEC

Decay Level

## PRE

Pre-delay Time

## SUR

Surround Level

## DRY

Dry Signal Level

## WET

Wet Signal Level

**Lfo**

**Layer Inst**

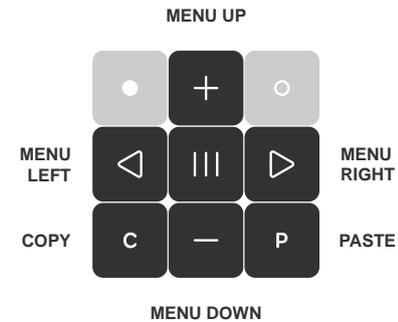
**Layer Song**

**M F P**

# LFO MENU



Drumboy Pro features **10 global LFOs** that function independently of the layers. You can activate these LFOs and configure their **settings** using the **LFO Menu**. To apply the modulation, you must assign the configured LFO to a target parameter within the desired layer instrument.



Hold **[L]** and press **[Layer]** to enter the LFO menu

<b>LFO</b>	<b>ACTIVE</b>		<b>TYPE</b>	<b>RATE</b>	<b>PHA</b>	<b>DEP</b>
	>		ON	CUR SIN	BAR 1/1	DEG 00

## ACTIVE

Enables/disables Lfo.

## GRAPH

Lfo Graph

## TYPE

Lfo Type

## RATE

Lfo Rate

## PHASE

Lfo Phase

## DEPTH

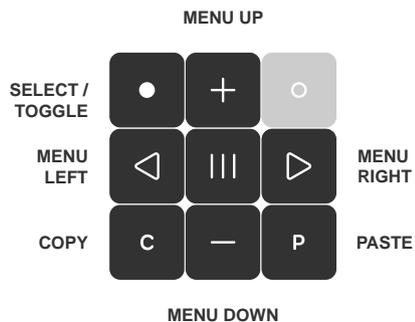
Lfo Depth

You can copy an LFO to another by long-pressing the copy and paste buttons.

# LAYER INST MENU



You can define **instrument & sample type** and configure its **parameters** and **bypass settings** using the **Layer Inst Menu**. You can assign the desired global LFO to any of the sample's parameters.



Hold **[I]** and press **[Layer]** to enter the Layer Inst menu

## INST MENU 1

Press **[O]** to switch to LFO selection

<b>INS</b>	<b>01</b>	<b>INST</b>	<b>0001</b>	<b>SAMPLE</b>	<b>0001</b>	<b>LEV</b> <	<b>PIT</b>	<b>DIR</b>	<b>RES</b> >
		>	<b>BASS</b>	44KHZ-24-M		--	--	--	--
				<b>ALTAIR</b>	<b>0.75</b>	<b>1.00</b>	<b>FORW</b>	<b>ON</b>	

### INSTRUMENT

Instrument type of the selected layer  
(Press **[O]** to select)

### SAMPLE

Sample type of the selected layer  
(Press **[O]** to select)

Sample Level

Sample Play Speed

Sample Play Direction

Sample Play Resolution

You can copy an inst to another by long-pressing the copy and paste buttons.

# LAYER INST MENU



## INST MENU 2

Press [O] to switch to LFO selection

INS	01	INST	0001	SAMPLE	0001	STA <	END	TIM	PRO >
			BASS	44KHZ-24-M	--	--	--	--	--
				ALTAIR	> 00	100	00	100	

Sample Play Start Point    Sample Play End Point    Sample Play Timing    Sample Play Probability

## INST MENU 3

INS	01	INST	0001	SAMPLE	0001	EQ <	FIL	EFF	REV >
			BASS	44KHZ-24-M	ON	1+2	1+2	ON	
				ALTAIR	> ON	1+2	1+2	ON	

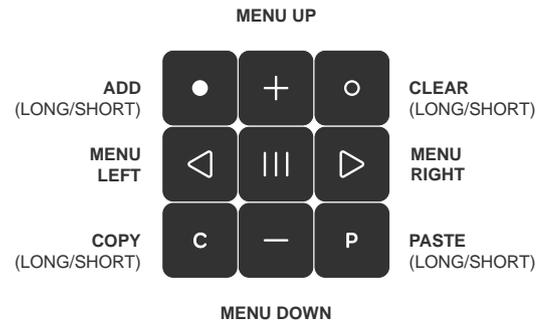
Eq Pass    Filter Pass    Effect Pass    Reverb Pass

There are **3** layer inst menus. You can switch between them by navigating **left** or **right**, or by pressing the **[Layer] key** while holding the **[I] key**.

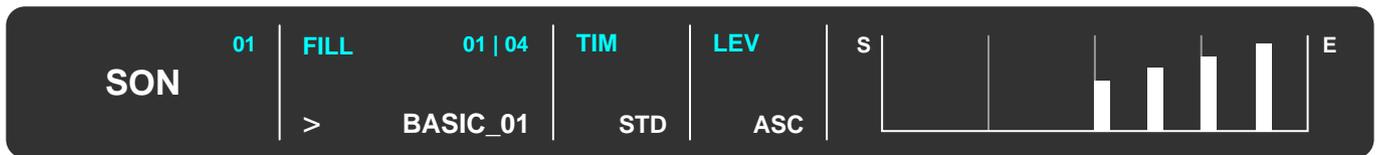
# LAYER SONG MENU



You can arrange the beats for each layer, define the associated fills, and adjust the fill parameters directly via the **Layer Song Menu**.



Hold **[S]** and press **[Layer]** to enter the Layer Song menu



## FILL

Fill type of the selected beat.

## TIM

Fill timing mode

## LEV

Fill level mode

## GRAPH

Fill Graph

[ Control timing and level with the 2 bottom-right knobs ]

You can copy a song to another empty layer by long-pressing the copy and paste buttons.

# LAYER SONG MENU



The chart below presents an in-depth overview of each key, highlighting their specific roles and functionalities in the **Layer Song Menu**.



## LEFT / RIGHT

You can use the **left&right** keys to navigate between beats, or hold the **Add key** to shift them.



## UP / DOWN

You can select the fill type of the selected beat using the **up and down keys**.



## ADD

Long press of the **Add key** adds repeated beats on empty layers. The intensity of the beats increases with the length of the key press.



## COPY

Short press of the **Copy key** copies the fill of the selected beat, long press copies the beats of the whole layer.



## CLEAR

Short press of the **Clear key** clears the selected beat, long press clears the whole layer.



## PASTE

Short press of the **Paste key** pastes the copied fill to the selected beat, long press pastes the beats to the selected empty layer.

# M | F | P KEYS



You can instantly adjust layer playback settings using the M, F, and P keys. The **M key** enables or disables the mute function, the **F key** toggles fill playback on or off, and the **P key** activates or deactivates the playmode settings (such as pitch, direction, and resolution).



Mute	<b>M + Layer</b>
Fill	<b>F + Layer</b>
PlayMode	<b>P + Layer</b>

Press [**Layer**] while holding down **M | F | P** keys

# Sd Card Firmware

# SD CARD FORMAT



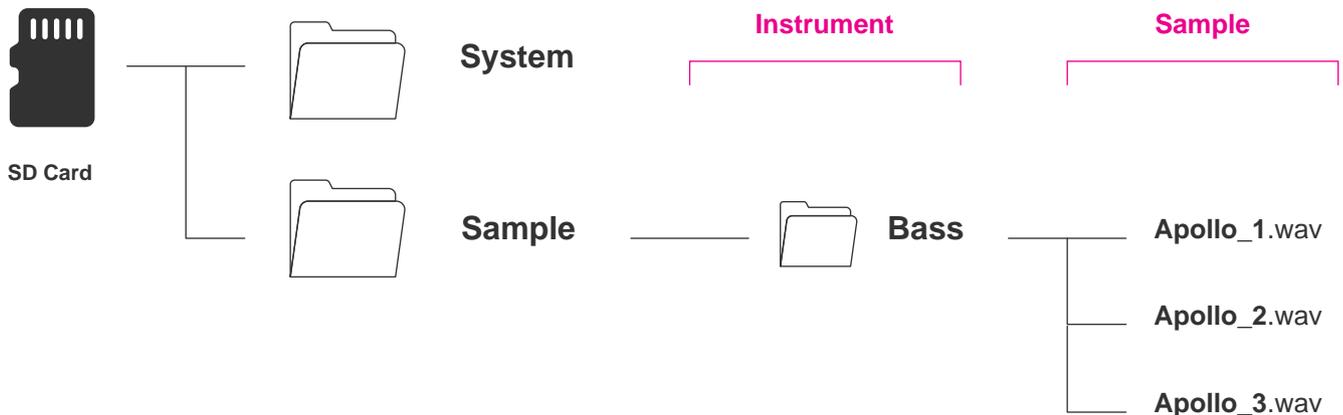
On your **SD Card**, you will find two primary folders: **System** and **Sample**.

## **System** Folder:

This folder contains all the essential files necessary for the operation of the Drumboy software. It is crucial not to delete or modify any files within this folder, as they are required for the proper functioning of your device.

## **Sample** Folder:

Within this folder, you will see various subfolders, each categorized by different instruments. You can organize and store your desired samples (.wav, 8-32 bit, mono-stereo) within these instrument subfolders.



You can **download** all **SD Card** files from [www.randomwaves.io](http://www.randomwaves.io) whenever you require them.

# UPDATE FIRMWARE



To **update** your Drumboy firmware, follow these steps:

Visit **www.randomwaves.io** website and download the latest Drumboy firmware.

**Turn off** your Drumboy device to ensure it is safely powered down.

Carefully **remove** the SD card from the device.

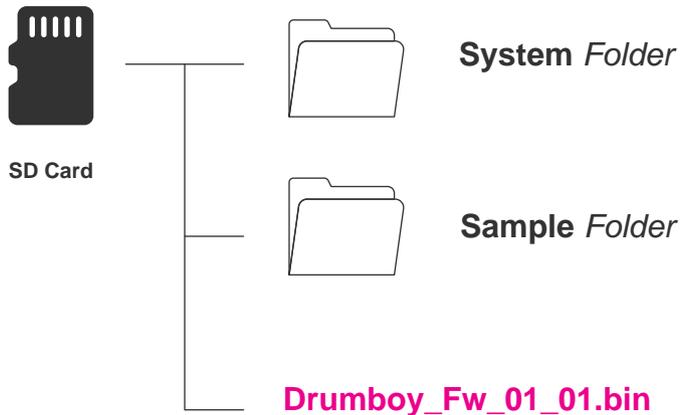
**Connect** the SD card to your computer, then **locate** the root directory of the SD card.

**Copy** the downloaded Drumboy firmware to this root directory.

Safely **eject** the SD card from your computer and **re-insert** it into your Drumboy device.

**Power on** your Drumboy device.

The device will automatically detect and load the new firmware.



# CUSTOMIZE FIRMWARE

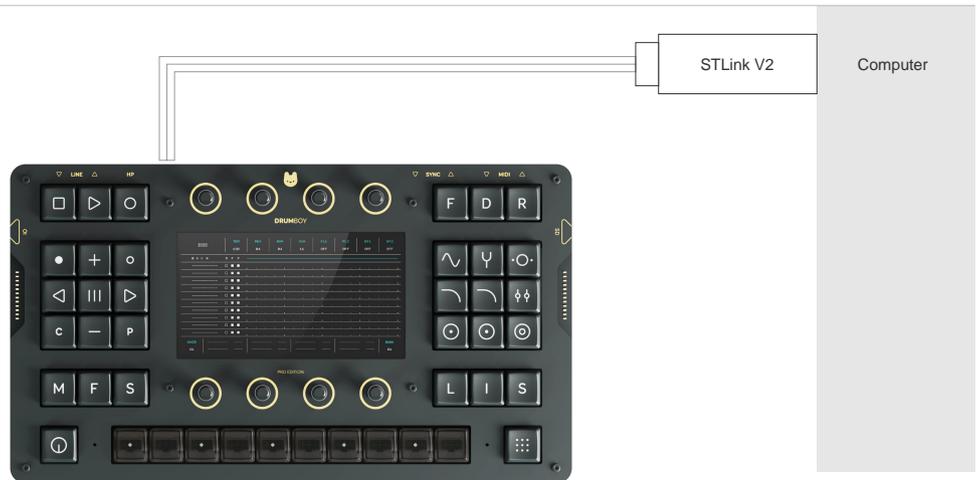


To **customize** your Drumboy Pro firmware, follow these steps:

Visit [www.randomwaves.io](http://www.randomwaves.io) website and download the latest Drumboy source code files. Install **STM32CubeIDE** to your computer and open Drumboy project folder in this software.

Wire the **SWDIO**, **GND**, and **SWCLK** pins from the DrumboyPro to the matching pins on the STLink V2. Once connected, plug the STLink V2 into your computer's USB port.

You are ready to upload your **customized firmware** to Drumboy.



For any questions or suggestions,  
**feel free to email us at [hello@randomwaves.io](mailto:hello@randomwaves.io).**  
Stay musical!

