



PSP Rhythm 3.0

For use on the Sony PSP with Firmware ver. 1.0, 1.5 and 2.0

PSP Rhythm is a homebrew drum machine for the Sony Playstation Portable.

Inspired by classic drum machines such as the Linndrum and Roland TR-series, PSP Rhythm has been created to use the simple, yet effective 16 step style drum sequencer. PSP Rhythm incorporates the use of audio sample playback instead of drum synthesis. PSP Rhythm has been directly influenced by one of our favorite modern drum machines, the Elektron MachineDrum. The most significant is our use of "parameter locks" (as used by the MachineDrum). Parameter locks enable you to change the pitch, volume, balance, start and end times per step to create moving, changing melodies and effects. This control over your sounds will give you much more creative freedom and allow you to not only use drums, but to use instruments in your music.

The PSP screen is a graphic representation of a 16 step drum machine styled in Elektron fashion with a main display in the center and 16 buttons along the bottom. Each button has an LED light above and a step number below.

FEATURES

Pattern Mode

- 16 Step Pattern Sequencer
 - Flam
 - Reverse
 - Parameter Locks
 - Pitch
 - Volume
 - Balance
 - Start
 - End
- Memory Banks
 - 16 Patterns per bank
- 16 sample sounds
- Mute

Song Mode

- 1 Song per bank
- 512 Pattern Step Sequencer
- Sample Mixer
- Custom Tempo and Swing Settings

System Mode

- Tempo (30.0 - 280.0 BPM)
- Swing (50 - 80%)
- Save Bank (0-3)
- Load Bank (0-3)
- Copy Pattern (current pattern > 1-16)
- Clear Pattern
- Clear Song
- Song Mode - Normal or Loop
- Text Color (For custom skins)
- Audio Channels (1-32)
- Save System
- Bounce song to WAV?
- QUIT? (For PSP OS 2.0 users)

INSTALLATION FOR 1.0 AND 1.5 FIRMWARE

For PSP Firmware 1.0

Copy the "RHYTHM" folder from the "1.0" folder to the "GAME" folder on your PSP's memory stick.

For PSP Firmware 1.5

Copy the "RHYTHM" and "RHYTHM%" folders from the "1.5" folder to the "GAME" folder on your PSP's memory stick.

INSTALLATION FOR 2.0 FIRMWARE

Copy the "Rhythm" folder from the 2.0 folder to the "GAME" Folder on your PSP's memory stick. Cut and paste the contents of the "loader09.cfg.update" file into your "loader09.cfg" file in your "GAME" folder.

Launch the EBOOT loader and run PSPRhythm. If the screen is black and does nothing, hold down the power until your PSP turns off. Then re-launch the EBOOT loader. The EBOOT loader seems more stable after a fresh reboot or power off.

For more information see:

<http://www.iturzaeta.com/PSPRhythm>

<http://www.fanjita.org>

Downgrading your PSP

There is a way to "downgrade" your current firmware to the 1.5 version from version 2.0 (as of this time). There are several sites that have information on the downgrader and process. The downgrader is called MPHDowngrader. Here are two sites with information about it:

<http://www.psp-hacks.com>

<http://www.pspupdates.com>

PATTERN MODE



Pattern mode is the heart of PSP Rhythm. Here, you can create music patterns based on a 16 step sequencer. Each step represents a sixteenth note at a 4/4 time signature. Every 4 steps represents 1 beat, while all 16 steps represents a bar or measure. By activating certain samples on certain steps, you can create rhythms and melodies with your audio samples.

Button Configuration:

UP/DOWN - Select sample

LEFT/RIGHT - Select pattern step

ANALOG UP/DOWN - Modify volume (per step)

ANALOG LEFT/RIGHT - Modify pan (per step)

LEFT TRIGGER - Lowers pitch semitone (per step)

RIGHT TRIGGER - Raises pitch semitone (per step)

TRIANGLE - Selects pattern

CIRCLE - Mutes sample

SQUARE - De-Activates current pattern step

CROSS - Activates current pattern step

START - Plays/stops current pattern

SELECT - Changes mode to SONG MODE

Main Display Information:

MODE (Pattern)

SOUND (sample number and name)

TEMPO (beats per minute)

SWING (percent)

STOP/PLAY

BANK (current)
PATTERN (current)
NEXT (pattern)
PIANO ROLL (pitch in semitone increments)
VOLUME KNOB (percent)
PAN KNOB (percent)
START KNOB (percent)
END KNOB (percent)

Writing a Pattern:

1. Using the UP/DOWN buttons scroll through samples.
2. Select pattern step with the LEFT/RIGHT buttons.
3. Activate the current sample on the current pattern step by pressing the X button.
 - a) a RED LED indicates an active step. The sample will play once.
 - b) a GREEN LED indicates an active step with FLAM. The sample will play twice.
 - c) a BLUE LED indicates the active step will play in REVERSE. Pitch adjust is not available when playing in reverse.
 - d) an inactive LED indicates that the sample will not play.
4. To ERASE an activated step, press the SQUARE button.
5. MUTE/UNMUTE the currently selected sample by pressing the CIRCLE button.

Playing a Pattern:

Press START to STOP/PLAY current pattern.

During pattern playback, it is possible to edit the current pattern.

To select a different Pattern, use the LEFT/RIGHT button to select pattern (via numbered button at bottom of screen) and press the TRIANGLE button.

Selecting a different pattern while playing a pattern will display the current pattern number and the NEXT pattern number. Once the current pattern is finished playing, the NEXT pattern will play and will become the current pattern.

PARAMETER LOCKS



Parameter locks are used to control the PITCH, VOLUME, BALANCE, START or END of each activated step. Once you change the value of PITCH, VOLUME, BALANCE, START or END, it is locked to that position for that step. For ease of use, when you activate a step and change a parameter, the last parameter values you selected will be used for the next step you activate. Each parameter is represented by an on-screen keyboard octave or rotary knob.

Pressing the LEFT/RIGHT TRIGGER buttons allow you to select a parameter lock to adjust. The parameter selected will have an inverted graphics color. Use the ANALOG stick to adjust the selected parameter.

PITCH

Pitch is controlled by moving the ANALOG UP/DOWN. Moving the analog stick up will transpose the sample up. Moving the analog stick down will transpose the sample down.

The PIANO ROLL for pitch is based on middle C (C 0). The pitch of the sample can be transposed up 2 octaves or down 2 octaves. If your sample is not the note "C 0", there is a semitone value (Sem #) below the PIANO ROLL for reference.

VOLUME

Volume is controlled by the ANALOG UP/DOWN. Moving the analog stick up will raise the sample volume and moving the analog stick down will lower the sample volume.

BALANCE

Balance is controlled by the ANALOG LEFT/RIGHT. Moving the analog stick left will pan the sample left and moving the analog stick right will pan the sample right.

START

Start Time is controlled by the ANALOG UP/ DOWN. Moving the analog stick up will increase the position in the sample it will start playing on. Moving the analog stick down will decrease the time it starts. For example, 0 starts the sample at the beginning and 50 starts the sample in the middle. Start Time is based on percent of the sample selected.

END

End Time is controlled by the ANALOG UP/ DOWN. Moving the analog stick up will increase the position in the sample it will stop playing on. Moving the analog stick down will decrease the time it stops. For example, 50 stops the sample in the middle and 100 starts the sample at the end. End Time is based on percent of the sample selected.

SONG MODE



Song mode is used to chain the current bank patterns to create full-length songs. Song mode includes a mixer function which will help you get more use out of every pattern you make. The mixer consists of a series of vertical bars across the screen. There are 16 bars representing the volume for the 16 samples. The currently selected sample is displayed below the mixer bars. By muting and changing the volume of each sample per SONG STEP, you can get a great number of pattern variations without having to use your limited number of patterns available to get the same effect.

Button Configuration:

- UP/DOWN - Raise/lower selected sample volume
- LEFT/RIGHT - Select pattern step/select sample
- ANALOG UP/DOWN - Not used
- ANALOG LEFT/RIGHT - Not used
- LEFT TRIGGER - Increases selected SONG STEP
- RIGHT TRIGGER - Decreases selected SONG STEP
- TRIANGLE - Preview current song step pattern with current mixer volume settings
- CIRCLE - Mutes/unmute currently selected sample
- SQUARE - Clear Step (first press will mute all sounds, second press will erase current pattern step)
- CROSS - Activates current SONG STEP with the currently selected pattern (second press will unmute all sounds)
- START - Plays/stop current song
- SELECT - Changes mode to SYSTEM MODE

Main Display Information:

- MODE (Song)
- SOUND (sample number and name)
- TEMPO (beats per minute)
- SWING (percent)

STOP/PLAY
BANK (current)
PATTERN (current)
NEXT (pattern)
MIXER VOLUME (bars indicated volume level for each sound)
SONG STEP (1-256)
PATT (pattern used for song step)

Writing a Song:

1. Using the LEFT/RIGHT buttons scroll through patterns.
2. Select song step with the LEFT/RIGHT triggers.
3. Activate the current pattern on the current step by pressing the X button. The current SONG step and activated pattern will be displayed in the box labeled STEP/PATT
4. To ERASE an activated step, press the SQUARE button.
5. MUTE/UNMUTE the currently selected sample by pressing the CIRCLE button.
6. Change VOLUME levels with the UP/DOWN buttons for fine tuning.

Playing a Song:

1. Press START to STOP/PLAY current song.
 2. Playback will begin on currently selected song step.
- Note: During song playback, it is not possible to edit current song.

SYSTEM MODE



System mode controls global variables and memory management.

Button Configuration:

- UP/DOWN - Select system function
- LEFT/RIGHT - Changes system function value
- CROSS - Activates current system mode function if applicable
- SELECT - Changes mode to PATTERN MODE

Main Display Information:

- MODE (System)
- FUNCTION (name and value)
- TEMPO (beats per minute)
- SWING (percent)
- BANK (current)
- PATTERN (current)
- NEXT (pattern)

System Functions:

- Tempo (30.0 - 280.0 BPM) Music tempo measured in Beats Per Minute
- Swing (50 - 80%) Swing variation measured in percent
- Save Bank (0-3) Save current bank by pressing the X button (saves current Tempo and Swing)
- Load Bank (0-3) Select current bank by pressing LEFT/RIGHT. Activate current bank by pressing X
- Copy Pattern (current patt. > 1-16) Select target pattern by pressing LEFT/RIGHT.
- Copy current pattern to target pattern by pressing X.
- Clear Pattern - Erase current pattern by pressing X.
- Clear Song - Erase current song by pressing X.

Song Mode - Normal: Stop at end of song or Loop: Start over from first song step when song ends

Text Color - Change text color by pressing LEFT/RIGHT

Available Colors: Black, Dark Blue, Blue, Light Blue, Dark Green,
Green, Light Green, Dark Red, Red, Pink, Purple,
Yellow, Orange, White, Light Gray, Dark Gray

Audio Channels (1-32) Changes the number of samples playable at one time (used to tune sequencer)

Save System - Saves system settings (Audio Channels, Song Mode and Text Color)

Bounce Song to WAV? Saves your song to a .WAV file. Every song you Bounce will be named Rhythm1.wav, Rhythm2.wav, etc... Files are save to the root of your memory stick. Speed of rendering is based off the speed of your memory stick. Sony = Slow, SanDisk = Fast.

QUIT? - Quits program when you confirm by hitting X again.

APPENDIX A: SAMPLES

The sample kit provided is for your use, but it is by no means the only sounds that you can use. Feel free to use your own samples to create your own music. The default kit is a 'house' music kit. We will also archive all of the older kits used in previous versions along with user kits submitted to us. You can find additional kits at <http://www.iturzaeta.com/PSPRhythm>.

The default kit consists of:

01. MonoMachine Kick
02. MonoMachineSnare
03. MonoMachine CHH
04. MonoMachine OHH
05. Disco Kick
06. Disco Snare
07. Disco CHH
08. Disco Hit 1 Dist
09. Disco Hit 2 Dist
10. Disco Hit Clean
11. Disco Hit 1 Fltr
12. Disco Hit 2 Fltr
13. Moog Synth + FB2
14. High Conga
15. To A Nation Rock
16. Bass Dist

Edit the sample names:

To edit the sample names, edit the "DRUM" file with a text editor. Please note the name must be 17 characters in length with an X at the end.

The default "DRUM" file looks like this in the text editor:

```
MonoMachine KickX
MonoMachineSnareX
MonoMachine CHH X
MonoMachine OHH X
Disco Kick      X
Disco Snare     X
Disco CHH       X
Disco Hit 1 DistX
Disco Hit 2 DistX
Disco Hit Clean X
Disco Hit 1 FltrX
Disco Hit 2 FltrX
Moog Synth + FB2X
High Conga      X
To A Nation RockX
Bass Dist       X
```

The X at character 17 is very important! Don't worry, the X will not be displayed so you have a total of 16 usable characters for your sample name.

Use your own samples:

Audio samples are stored in the SAMPLES folder.

There are 16 total samples. The file names look like this:

sample0.wav ~ sample15.wav

sample0.wav is sample 1, sample 1.wave is sample 2, etc.

Samples must be named in this fashion to be recognized by PSP Rhythm. It is recommended that you use 16 bit 44.1 kHz wav files. Samples are automatically loaded in the audio buffer, so if the sample is too big, the program may not load. Also, if you are playing a pattern and there are a lot of samples playing and overlapping (Selectable in SYSTEM mode), samples may drop out during playback if the audio buffer is full.

Use your own graphics:

Replace these files with your own to use your own skin. All files are 32 bit .PNG files. Change the Text color in the System Menu.

gfxbea.png	30x30	Beat Light Graphics
gfxbkg.png	480x272	Background Graphics
gfxflm.png	30x10	Flam Indicator Light
gfxrev.png	30x10	Reverse Indicator Light
gfxhit.png	30x10	Single Drum Hit Indicator Light
gfxsel.png	30x30	Selector Indicator
gfxstb.png	30x10	Sequencer Strobe Indicator Light

Contact

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Credits

Programming, Graphics: Louie Iturzaeta

Documentation, Sounds, Debugging: Billy Iturzaeta

Thanks

Jessica – For understanding why I spend so much time on this and being great.

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Stefano Maini – For sharing his drumpiler code.

YOU – For using this and giving me such great feedback and ideas!!!

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