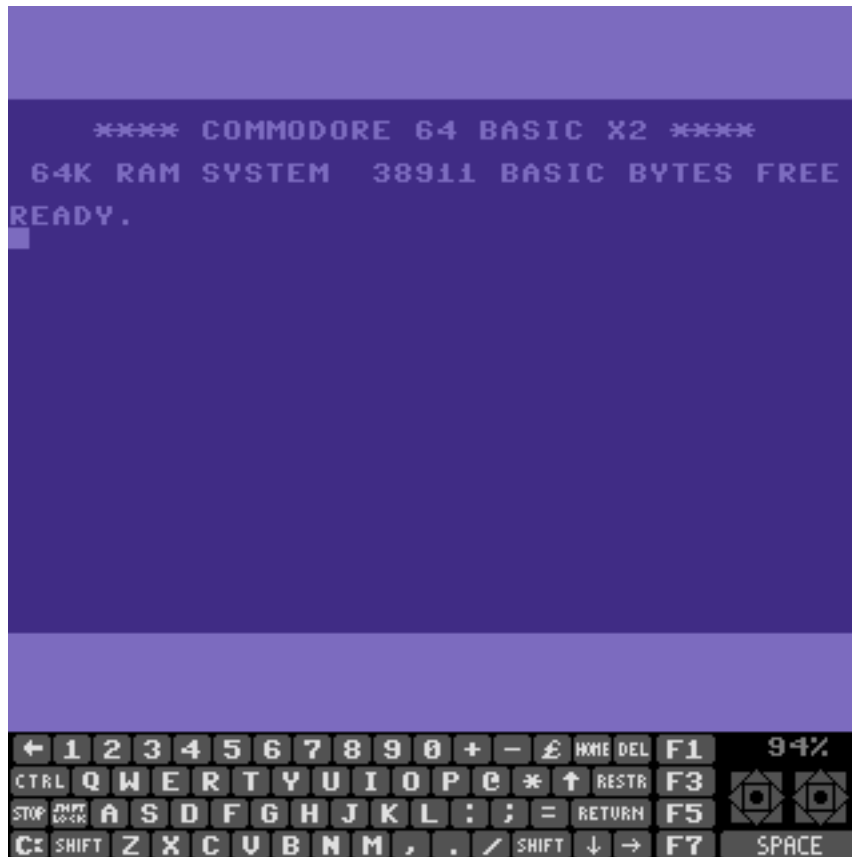


# Frodo for PalmOS User Manual



## Document history:

Version	Date	Author	Comment
1.0	16.01.2006	Thomas Borris	Document created, based on documents from Johan Forsberg and Christian Bauer

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## 1 Overview

**Frodo** is a freeware C64 emulator for BeOS, Unix, MacOS, AmigaOS, Win32, RiscOS systems and PalmOS.

Frodo comes in three flavors: the "normal" Frodo with a line-based emulation, the improved line-based emulation "Frodo PC", and the single-cycle emulation Frodo SC that is slower but far more compatible.

For PalmOS, only "normal" Frodo is available.

To reduce size and improve performance, following changes are done in PalmOS version:

- Only one disk drive instead of four
- Removed SAM
- Removed REU
- No support of host directories as disk drives

## 2 Installation

Install main application Frodo.prc to your Palm device using QuickInstall.

### 2.1 *Install .d64/.t64*

Use the supplied "Pippin" java program to create PDB-files with your .d64/.t64 images. It should run if you double-click the Pippin.bat batch file, or by just double-clicking Pippin.app in the MacOSX version. If all else fails, you can run it with "java -jar pippin.jar".

Pippin will display an "In" and an "Out" column. Drag files (.d64, .t64, zipped .d64/.t64 or entire directories) into the in area. Alternatively use the "Open" menu item. Files will be parsed, converted, and added to the output side. Converted? Yes, .d64 (disk images, 160 kB) that contain a sole file will be converted into .t64 (<60 kB).

Push the "Make pdb" button, or choose the corresponding menu item. Double-click the resulting .pdb to transfer it to your palm device.

You can also place .d64/.t64/.p00 files or PDBs created with Pippin to your expansion card to folder "/Palm/programs/Frodo/".

## 3 Menu Program

### 3.1 *File manager*

Open snapshot or select file for disk emulation. Files marked with "X" at the beginning are stored on SD-Card.

### 3.2 *Save as new*

Save snapshot to new file.

### 3.3 *Save to last*

Save snapshot to last used file.

### 3.4 *Load last*

Load last saved snapshot.

### 3.5 *Pause*

Pause entire emulation.

### 3.6 Reset

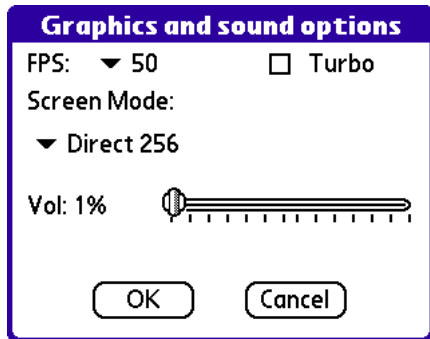
Reset C64.

## 4 Menu Options

### 4.1 Swap joysticks

If you have only one joystick selected in joystick option dialog, you can switch with this option, which C64 joystick is used.

### 4.2 Graphics and Sound



#### 4.2.1 FPS (frames per second)

Select, how many frames drawn per second. 50 means every frame of C64 is drawn. If you select adaptive, Frodo tries to draw as many frames to run C64 at 100% of it's original speed.

#### 4.2.2 Turbo

Select turbo to run emulation as fast as possible.

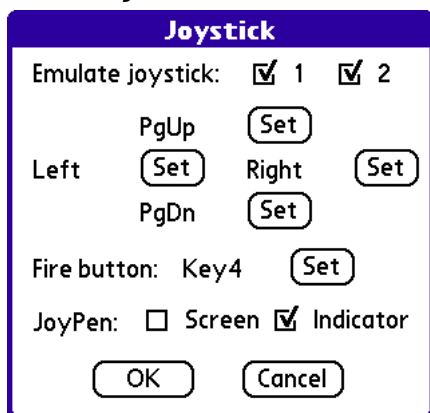
#### 4.2.3 Screen Mode

- Direct 256: draw direct to graphics adapter
- Buffered 256: draw to bitmap and use API call to copy bitmap to graphics adapter (more compatible)

#### 4.2.4 Vol

Select volume of sound (mute or 1% to 100%).

### 4.3 Joystick



### 4.3.1 Emulate joystick

Select, which joystick to emulate (1 and/or 2).

### 4.3.2 Map directions and fire button to Palm keys

Select „Set“ to open dialog for mapping of a Palm key to the direction or fire button.

### 4.3.3 JoyPen

Select area to use pen as a joystick.

- Screen: entire screen of Frodo
- Indicator: only joystick indicator

## 4.4 Keyboard

**Map Palm key to C64**

1 Unset	H Unset	Y Unset	F5 Unset
2 Unset	I Unset	Z Unset	F7 Unset
3 Unset	J Unset	← Unset	SPACE Unset
4 Unset	K Unset	+ Unset	HOME Unset
5 Unset	L Unset	- Unset	DEL Unset
6 Unset	M Unset	£ Unset	CTRL Unset
7 Unset	N Unset	Ⓞ Unset	RSTO Unset
8 Unset	O Unset	* Unset	STOP Unset
9 Unset	P Unset	↑ Unset	SHIFT LOCK Unset
0 Unset	Q Unset	: Unset	RET Unset
A Unset	R Unset	; Unset	C: Unset
B Unset	S Unset	= Unset	LEFT SHIFT Unset
C Unset	T Unset	, Unset	RIGHT SHIFT Unset
D Unset	U Unset	. Unset	CUR DOWN Unset
E Unset	V Unset	/ Unset	CUR RIGHT Unset
F Unset	W Unset	F1 Unset	
G Unset	X Unset	F3 Unset	

OK

Select C64 key to open dialog for mapping a Palm key to the specified C64 key.

## 4.5 Obscure

**Obscure options**

Normal cpl: 63    Bad line cpl: 23

CIA cpl: 63    1541 cpl: 64

☒ Sprites    ☒ Sprite collisions

☐ Fast reset    ☐ CIA hack

☐ Detailed 1541 emulation

Write back to SD-Card: ▼ Never

OK    Cancel

If a program is showing flickering lines or graphical flaws you should try to slightly alter "Normal cpl" and "Bad line cpl". For "Bruce Lee" you must enter "62" for the "Normal cpl".

#### **4.5.1 Normal cpl**

Number of CPU cycles per line for normal lines.

#### **4.5.2 Bad line cpl**

Number of CPU cycles per line for bad lines.

#### **4.5.3 CIA cpl**

This value controls the speed of the CIA timers. Entering a higher value increases the frequency of cursor blinking and key repeat. Some programs don't run correctly with the default value (e.g. "Ballblazer" which needs a value of 65).

#### **4.5.4 1541 cpl**

Number of CPU cycles per line for 1541 CPU. There is normally no need to change this value. This setting has no effect if 1541 processor emulation is turned off.

#### **4.5.5 Sprites**

Switch the display of sprites on and off. Turning them off speeds up the emulation a little when there are a lot of sprites on the screen.

#### **4.5.6 Sprite collisions**

Determines whether collisions between sprites and between sprites and graphics should be detected. Turning off collisions will make you invincible in some games (sadly, your enemies are likely to become invincible, too).

#### **4.5.7 Fast reset**

You can disable the memory test, that is normally performed by the C64 on a reset. Under emulation, the memory test is not necessary and the reset becomes much faster when it is disabled.

#### **4.5.8 CIA hack**

This hack is necessary to make some programs (such as the games "Gyruss" and "Motos") run that would otherwise hang in an endless interrupt loop because they use an unusual technique to acknowledge CIA interrupts (sometimes even without the programmer knowing it). It should normally be turned off.

#### **4.5.9 Detailed 1541 emulation**

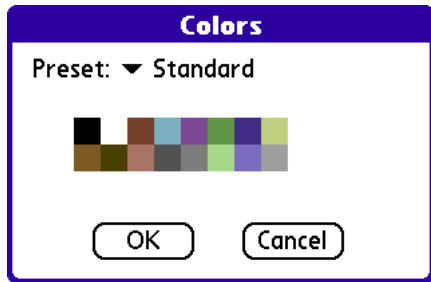
If you turn this emulation on, only .d64 files are allowed to be used, but Frodo emulates the 1541 processor and is compatible with about 50% of all fast loaders. However, it slows down the emulation considerably. If you have a .d64 with a program that doesn't load with the normal emulation, you may have better luck with the 1541 processor emulation instead.

Writing to disks is only possible, if detailed 1541 emulation is turned on.

#### **4.5.10 Write back to SD-Card**

If you use a .d64 file in detailed 1541 emulation mode from SD-Card, a copy of this file is used in main memory. You can choose with this setting, if Frodo should write back the file to your SD-Card on exit or when you select a different .d64 file.

## 4.6 Colors



### 4.6.1 *Preset*

Select a predefined set of C64 colors.

### 4.6.2 *Modify color*

Tap on a color to open dialog to change the color.