

# HPFE TOOLS

A set of command line tools for PalmOS™ raster font convert version 1.3

User's manual

# Contens

INTRODUCTION.....	3
I. INSTALLATION.....	3
II. USAGE.....	4
1. FLUSHFDB.....	4
1. FLUSHFDB.....	4
2. FNT2PRC.....	5
3. FNTTOPDB.....	6
4. FNTSCALE.....	7
5. FNTV1TO2.....	8
6. NFNTAFNX.....	9
7. FLUSHFV2.....	10
8. IX86FRES.....	11

## INTRODUCTION

A set of command line tools **HPFE tools** which allow to do most convert operations for raster fonts and font databases of PalmOS™. Utilities are compiled to use on desktop computer running in Windows® environment. With help of C language compiler and included source files this tools can also be compiled for use on other operation systems.

HPFE tools set include the following executable modules:

- flushfdb** This utility allows to export font from records (pdb) or resources (prc) of PalmOS™ databases.
- fnttoprc** Utility links binary font to a PalmOS™ (prc) resource database.
- fnttopdb** Builds a PalmOS(tm) (pdb) record database from binary font resources.
- fntscale** This utility allows to scale glyphs of PalmOS™ font version type 1 in binary file by percent or predefined value.
- fntv1to2** Program builds binary font resource version type 2 from either one binary font resource version type 1 for the specified density or group fonts of different densities.
- nfntafnx** This tool Converts PalmOS™ raster font binary resources from NFNT to AFNX data format.
- flushfv2** This program separates PalmOS™ raster font version type 2 density parts to a binary nfnt font resources version type 1.
- ix86fres** Converts Intel® x86 raw font data to PalmOS™ font resource.

## I. INSTALLATION

For successful HPFE Tools software installation you have to have desktop computer with Windows® 98-XP or any other operation system with appropriate unpacking utility and optionally installed ANSI C compiler.

To install tools do the following steps:

- a) Download original archive with the latest version of HPFE tools from author's or partners' Internet WEB site.
- b) Extract files with appropriate utility from received archive on the desktop computer. The path for extraction may be either [c:\fetools](#) or **c:\Program Files\fetools** or any other. It is useful to set tools path to the **PATH** environment variable.
- c) The rule of software distribution and use requests to read software license agreement available in the EULA.TXT file.

## II. USAGE

### 1. FLUSHFDB

This tool allows to export raster font binary data from records or resources either from pdb (record databases) or prc (resource database) PalmOS™ files on your desktop computer.

Use the following arguments:

**flushfdb [-n<value>] <fontDatabase.pdb>**

where:

- n<value>** Assign resource ID for output files. (by default - 1000).
- f** Force to extract font resource even it is not a font database.
- <fontDatabase.pdb>** Is a resources (prc) or records (pdb) database obtained from PalmOS™ handheld computer.

Example of tool usage:

Assume that file 'myfont.pdb' consists from font records. To extract them to separated binary font resources which IDs started from 2000 do type at command line prompt the following commands:

**> flushfdb myfont.pdb -n2000**

Program extracts and overwrites font records to NFNTxxxx.bin or nfntxxxx.bin files in current directory and as a result you will have at least one file with name like in the below:

**NFNT07d0.bin**

## 2. FNT2PRC

This tool links binary font resource files to an PalmOS™ resource database. Arguments in the below lets you to control execution:

**fnt2prc <resDatabase.prc> [-h] <[flags] font.bin>...**

Command line arguments are:

**<resDatabase.prc>** Name of existing or new resources database for PalmOS™.

**<font.bin >** Name of binary font file.

Flags are:

**-h, -?** Help screen.

**-c<value>** A four characters value for Database Creator ID. (Default: FOS5).

**-r<value>** Override resource ID number for the following binary file only.

**-t<value>** Override resource type:

**-t1** Resource is a font version type 1, NFNT.

**-t2** Resource is a font version type 2, nfnt.

**-a1** Resource is a font version type 1, AFNX.

**-a2** Resource is a font version type 2, afnx.

Program took the type of a resource from the its file name by default.

### 3. FNTTOPDB

This program builds PalmOS™ (pdb) data base from binary font files.

Use the following arguments for program:

**fnttopdb [flags] <DataBaseFile.pdb> <+fontres.bin>...**

where:

Flags are:

**-n<complete\_name>** Complete name of data base (no spaces) for use on PalmOS™ system.

**-h, -?** Help screen.

Arguments:

**<DataBaseFile.pdb >** Name of database file.

**<+fontres.bin >** Name of binary PalmOS™ format font file to add.

## 4. FNTSCALE

Utility allows to easily scale glyph images of binary font file by percent value.

Usage:

**fntscale** *<binaryfont.bin>* *<flags>*

Command line arguments:

**<binaryfont.bin >** Name of binary PalmOS™ font file to scale glyph images.

Flags:

**-h, -?** Help screen.

**-%<value>** Scale percent value in the range (1...1000). Instead of percent value use predefined scale factor:

**-StO** To scale from **Single Density** to **One and a Half Density**.

**-StD** To scale from **Single Density** to **Double Density**.

**-StT** To scale from **Single Density** to **Triple Density**.

**-StQ** To scale from **Single Density** to **Quadruple Density**.

**-OtS** To scale back from **One and a Half Density** to **Single Density**.

**-DtS** To scale back from **Double Density** to **Single Density**.

**-TtS** To scale back from **Triple Density** to **Single Density**.

**-QtS** To scale back from **Triple Density** to **Single Density**.

**-o<altfilename>** Alternate name of scaled font file for output.

**-v** To verbosely output scaled glyphs in the PilRC text format on screen.

## 5. FNTV1TO2

Utility to build font with multiply density support<sup>1</sup> type version 2 of PalmOS™ from font version type 1.

**fntv1to2 [flags] <fntV2ToBuild.bin> <+density<fntVersion1.bin>>**

Flags:

- v5** Build font with PalmOS™ version 5.x header format. (Default).
- v6** Build font with modified Cobalt™ header format.
- h, -?** To display help screen.

Arguments:

**<fntV2ToBuild.bin>** The name of font file version type 2 to build .

Densities:

- +SD,+1D,+BD** Use the images of font in the following file to build as a **Single Density** in font version type 2.
- +OH,+OD** Use the images of font in the following file to build as a **One and a Half Density** in font version type 2.
- +DD,+2D** Use the images of font in the following file to build as a **Double Density** in font version type 2.
- +TD,+3D** Use the images of font in the following file to build as a **Triple Density** in font version type 2.
- +QD,+4D** Use the images of font in the following file to build as a **Quadruple Density** in font version type 2.
- <fntVersion1.bin>** File name with binary PalmOS™ font version type 1.

---

<sup>1</sup> Font version type 2 of PalmOS™ allows to include a set of fonts densities to display on different screen resolutions.



## 6. NFNTAFNX

This tool converts PalmOS™ raster font binary resources between NFNT and AFNX data formats.

Usage:

**nfntafnx <font.bin> [flags]...**

**<font.bin>** File name for font data format convert. File will be overwritten if '-o' option is not used.

Flags:

**-h, -?** To display help screen.

**-o<fileName>** Specify alternate name of output binary font file.

## 7. FLUSHFV2

This tool separates PalmOS™ font version type 2 to parts of densities. Every separated density saved to single binary nfnt font resources version type 1.

**flushfv2 [flags] <font.bin>...**

**<font.bin>** File name with PalmOS™ font data version type 2.

Flags:

**-n<IDvalue>** Assign decimal number to count resource ID in the names of output files. (by default: 1000).

**-h, -?** Show help screen.

**Note:** Saved files may have names explained in the below:

**nfsdxxxx.bin** Name of file which consists from images of font of **Single Density** part of original font. **xxxx** – resource id in the hexadecimal counting system.

**nfohxxxx.bin** Name of file with **One and a Half Density** part.

**nfddxxxx.bin** Name of file with **Double Density** part.

**nftdxxxx.bin** Name of file with **Triple Density** part.

**nfqdxxxx.bin** Name of file with **Quadruple Density** part.

## 8. IX86FRES

Converts Intel® x86<sup>2</sup> raw screen font data to PalmOS(tm) font type version 1 resource file.

### **ix86fres [flags] ...**

where:

**<ix86fonts>** File name with screen font data in Intel® x86 format. Font resolution can be recognized by file size.

- 8x8** - 2048 bytes.
- 8x14** - 3584 bytes.
- 8x16** - 4096 bytes.
- 8x19** - 4864 bytes.

Flags:

**-n<value>** Resource ID in decimal system (by default 1000).  
**-h, -?** Show help screen.

---

<sup>2</sup> Fonts for text screen mode of Intel® x86 systems have fixed characters sizes. This fonts have no headers and their resolutions determined by file size. On most linux systems screen font files are located in **/lib/kbd/consolefonts/** directory as **.gz** archives.