Linux and Psion HOWTO

Table of Contents

Linux and Psion HOWTO....1
Hans Kugler, der.hans@LuftHans.com....1
1.About this HOWTO....1
2.General Information....1
3.Sharing data between the Psion and Linux....1
4.Series 3....1
1.About this HOWTO....2
1.1 Introduction....2
1.2 This Document....2
1.3 Mailing List....2
1.4 Copyright notice and disclaimer....2
2.General Information....3
2.1 What is a Psion....3
2.2 Psion models....3
2.3 Psion Availability....4
3.Sharing data between the Psion and Linux....4
3.1 Hardware connectivity options....4
Serial cable....4
IrDA....4
Builtin programs....5
3.2 Programs for connectivity....5
plptools....5
kpsion....5
p3nfs/p5nfs....6
ncp....6
3.3 Linux utilities....6
Psiconv....6
Psion SDK....6
3.4 Psion utilities....7
hermes....7
perl....7
python....7
E_Shell....7
c2f....8
4.Series 3....8
4.1 Further Information....8
4.2 Programs for connectivity....8
p3nfs/p5nfs....8
4.3 Psion utilities....8
nfsc....8
4.4 Informational Web Pages....9
Disassembling a Series 3a (in German only)....9

Linux and Psion HOWTO

Hans Kugler, der.hans@LuftHans.com

v0.0.6, Nov 1999

This document describes how to use Psion palmtops with Linux, but does not cover running Linux on a Psion palmtop. See the Linux 7k project for that.

1.About this HOWTO

- 1.1 Introduction
- 1.2 This Document
- 1.3 Mailing List
- 1.4 Copyright notice and disclaimer

2.General Information

- 2.1 What is a Psion
- 2.2 Psion models
- 2.3 Psion Availability

3.Sharing data between the Psion and Linux

- 3.1 Hardware connectivity options
- 3.2 Programs for connectivity
- 3.3 Linux utilities
- 3.4 Psion utilities

4.Series 3

- 4.1 Further Information
- 4.2 Programs for connectivity
- 4.3 Psion utilities
- 4.4 Informational Web Pages

1.About this HOWTO

1.1 Introduction

Psion has been making PDA's for years. This document will initially concentrate on the newer Series 5* models, e.g. Series 5, Series 5mx and Series 5mx PRO, but I hope to eventually include info about using older models such as the Series 3* with Linux.

1.2 This Document

The latest version of this document can be found at http://home.pages.de/~lufthans/unix/docs/HOWTO/psion−HOWTO.html and will hopefully be included in the Linux Documentation Project (LDP).

Please send updates, corrections or suggestions to psion@LuftHans.com.

1.3 Mailing List

There is a mailing list dedicated to using Psions with Linux and developing tools to enhance communication between them.

To subscribe, send a message to majordomo@geekstuff.co.uk, containing the message "subscribe Linux−Psion".

There is also a mailing list dedicated to porting Linux to the Psion 5* models at linux−7110@redhat.com

1.4 Copyright notice and disclaimer

(c) 1999 Hans Kugler

This document may be distributed under the terms set forth in the LDP license at http://www.linuxdoc.org/COPYRIGHT.html.

This document is provided ``AS IS", with no express or implied warranties. Use the information in this document at your own risk.

2.General Information

2.1 What is a Psion

Psion is a powerful Personal Digital Assistant (PDA) with pen−based touch screen as well as keyboard. There are several models. This HOWTO currently only covers the Series 5* models, e.g. Series 5, Series 5mx and Series 5mxPro.

2.2 Psion models

There are several models of Psion PDAs. All have a foldout case where the screen is in the cover and opening the Psion causes the keyboard to jut out to a more usable position. They also feature the instant on and instant off capabilities of the EPOC operating system.

Psion 3* are older PDAs that still have a lot of functionality and still get sold new due to their meeting needs and being lower cost. This HOWTO doesn't currently cover the Psion 3* series.

Psion 5* has two main product lines with each having two models. The Psion series 5 has a green limited edition counterpart with no functional difference between itself and the standard Series 5. The series 5mxPro, however, has some fundamental differences from the Series 5mx.

All four of the Series 5* products have: compact flash, serial port, keyboard and stylus (for the touchscreen). They all operate on 2 AA batteries and have a backup battery to maintain state when changing out the main batteries. Check out http://www.aha.ru/~akaev/english/indexe.htm to take a tour of a dissected Series 5 classic.

Both of the Series 5 models as well as the Series 5mx have system ROMs where the EPOC operating system is stored. After boot they operate out of the RAM (8MB for the Series 5 models and 16MB for the Series 5mx). The Series 5mxPro, however, has no ROM and operates entirely out of its 24MB of RAM. This enables software upgrades to the Series 5mxPro, whereas the other 3 models must exchange hardware to update EPOC.

Psion recently released the Series 7, which is set to compete against the subnotebook class of PC, but running EPOC.

There are rumors of a Series 6 coming out before the end of 1999. No formal indication of what type of product the Series 6 will be.

2.3 Psion Availability

Psion products are no longer available at retail stores in the US. They are available from retail shops in Europe as well as through mail order. Psion maintains a list of mail order firms by country on their web site.

3.Sharing data between the Psion and Linux

3.1 Hardware connectivity options

The Psions have both serial and infra red ports. Either can be used for connectivity, but most connectivity programs currently only have features for the serial port connection.

Serial cable

Armin Podtschaske x−rayed the "honda" connector. His page has an explanation of the pin out in German.

Here it is for those who don't speak German :).

Pin 1 is on the top and pin 15 is on the bottom. Only pins 2 through 8 and 15 are connected.

- Pin 2: RTS
- Pin 3: DTR
- Pin 4: TXD
- Pin 5: DSR
- Pin 6: DCD
- Pin 7: CTS
- Pin 8: RXD
- Pin 15: GND − Signal and Power ground
- Frame: GND − Shield frame ground

IrDA

See the IrDA HOWTO for information about using the Linux IrDA driver with a Psion. It is possible to beam files from Psion 5 (mx) via Linux−IrDA to a Linux System. The irda−utils include a special client psion5.c which can beam files between them.

Builtin programs

There are two builtin software methods to use the communications ports. The first is the *remote link*, `<ctrl>-l` from the main file menu, which can be set to serial, infrared or off.

EPOC also provides the program comms. The remote link must be set to off for the `comms` program to have access to the serial port.

3.2 Programs for connectivity

plptools

Description

plptools (current releases from Matt Gumbley) was originally developed by Fritz Elfert, who had merged plp and p3nfs/p5nfs. plptools is currently being worked on by members of the Linux−Psion mailing list.
plptools comprises of 3 different programs. ncpd provides a socket connection to the Psion. plpnfsd provides mounted filesystem access to the Psion and plpftp provides ftp access to the Psion.
See ftp://ftp.to.com/pub/psion/ for Fritz' original releases.

Usage

ncpd [−V] [−v logclass] [−d] [−p <port>] [−s <device>] [−b <baudrate>]
plpnfsd [−v] [−V] [−p port] [−d mountdir] [−u user]
First start ncpd get it to listen on a port (7501 by default) for connection requests. Then, start either plpnfsd or plpftp. plpnfsd defaults to mount the Psion under /mnt/psion.

kpsion

Description

kpsion is available under unstable/apps/utils/ at your favorite KDE mirror.
It provides a method to use kfm (KDE File Manager) to directly access files on the Psion via a serial link. Psion files can be opened by using 'psion:' or 'epoc:' URLs. It uses ncpd from the plptools package, which must be running to use kpsion, to handle the serial connection. kpsion also has a Psion Word−>HTML/Text viewer/ converter built from psiconv to allow viewing documentation created with Psion Word under Linux.

kpsion is currently ALPHA support for connecting to a Psion Series 5*. It is only available in source and only builds against KDE 1.1 and KDE 1.2. Please read the README and INSTALL files that come with the tarball.

p3nfs/p5nfs

Description

p3nfs mounts the psion drives over the serial cable at /psion.stand/mnt, by default.

ncp

Description

Matt Gumbley originally started ncp for use with his Psion Series 3. Now that he's working on plptools, you should use that :). However, ncp might still be of interest to users of a Psion Series 3, which this HOWTO doesn't cover :). Matt's ncp page also has information about the plp protocol.

3.3 Linux utilities

Psiconv

Description

Psiconv translates Psion Word documents to HTML (3.2 or 4.0) or plain text.

Psion SDK

Description

The EPOC SDK works on Linux via WINE, see Olaf Flebbe's web page for instructions on

how to get it working.

3.4 Psion utilities

hermes

Description

hermes is a fully featured vt100 emulator.

perl

Description

Olaf Flebbe has perl running under EPOC.

python

Description

Duncan Booth has python running under EPOC.

E_Shell

Description

E_Shell is a DOS−like shell environment. It provides ways to launch programs from a command line; to check for file system corruption; to create, edit and display plain text files; to check on currently active processes and threads.

c2f

Description

c2f converts the Psion contact file to a comma delimited format.

4.Series 3

4.1 Further Information

As I said earlier, this HOWTO doesn't cover the Series 3 (e.g. 3/3a/3c/3mx/Sienna), however, as I run into information, I will try to place it here anyway. This section will probably never be organized (unless someone else keeps it uptodate), but it still might contain useful information.

4.2 Programs for connectivity

p3nfs/p5nfs

Description

p3nfs, referenced above mounts the psion drives over the serial cable at /psion.stand/mnt, by default.

4.3 Psion utilities

nfsc

Description

nfsc is a vt100 emulator.

4.4 Informational Web Pages

Disassembling a Series 3a (in German only)

Zerlegeanleitung Psion Serie 3a