

Linux on the Ipaq

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Linux on the Ipaq

- Distros
 - Familiar
 - Intimate
- GUI's/GUE's
 - Opie
 - GPE
- Window Managers
 - icewm
 - blackbox

Distributions

- Familiar
 - Entirely based on XFree86's/keithp's Tiny-X server, which includes the latest RENDER extension.
 - Anti-Aliased True-Type Font support in rxvt-aa, matchbox, and fltk (this is extended to any X application using the Xft APIs).
 - Dropbear sshd included by default.
 - The latest releases include JFFS2 support, which enables you to have read/write access to the iPAQ's Flash.

Distributions

- Familiar cont'd
 - Integrated Python v2.3 w/ PyGtk and PyGDKImlib.
 - Binary and Library compatible w/ Debian's ARM distribution. In most cases, programs (as long as their dependencies are met) can be taken from Debian and executed on the iPAQ w/out issue.
 - Full package support based on ipkg.
 - Many system programs are implemented using busybox, saving much space.

Distributions

- Intimate
 - Based on Familiar
 - Full blown Debian package management
 - Needs 140MB for base image
 - KDE

Graphical User Environments

Opie



GPE



Window Managers



Familiar Installation

- Familiar 0.7.2
- Models Supported
 - H3100, H3600, H3700, H3800, H3900, H5100, H5400, and H5500
- Prerequisites
 - Need CF card and sleeve or serial connection
 - Internet connection is nice but not needed
 - Need a Windows box
- Download files

Familiar/Opie Installation

- Install bootloader
 - Copy BootBlaster and bootldr files to Ipaq
 - Extract from downloaded .tar
 - ActiveSync, Synce, CF/MMC/SD, FTP, Pocket IE
 - Follow directions
 - Keep Ipaq plugged in
 - Make backup of WinCE
 - Flash ROM
 - Follow instructions

Familiar/Opie Installation

- Installing Linux image
 - Need serial connection
 - USB/serial cradle best option
 - hyperterminal or minicom
 - 115200 8N1 serial configuration
 - no flow control
 - no hardware handshaking
 - At the "boot>" prompt
 - 'load root'
 - ymodem upload jffs2

Familiar/Opie Installation

```
boot> load root
loading flash region root
ready for YMODEM download..
Erasing sector 00140000
Erasing sector 00180000
Erasing sector 001C0000
Erasing sector 00200000

...
addr: 00360000 data: 781590DB
addr: 00370000 data: 642637AE
addr: 00380000 data: E0021985
addr: 00390000 data: 15DA97EC
Erasing sector 00FC0000
writing flash..
```

Familiar/Opie Installation

```
addr: 00100000 data: E0021985
addr: 00110000 data: E3BAD617
addr: 00120000 data: 0FA1F57B
addr: 00130000 data: 9343AEEB
.
.
.
addr: 00600000 data: E0021985
addr: 00610000 data: FFFFFFFF
addr: 00620000 data: FFFFFFFF
addr: 00630000 data: FFFFFFFF
verifying ... formatting ... done.
boot>
```

- 'boot'

Post Install

- Default l:p
 - root:rootme
- Get Ipaq on the Internet
 - WiFi
 - USB Networking
- `ntpdate -b time.handhelds.org`
- `ipkg update`
- `ipkg upgrade`

Cool Addons

- Kitchensync
 - Sync anything with anything
 - Supposed to be in KDE 3.2
 - Currently slightly broken
 - <http://www.handhelds.org/~zecke/kitchensync.htm>
- QtopiaDesktop
 - Can't print in v1.6
 - <ftp://ftp.trolltech.com/qtopia/source>
- Wellenreiter
 - wireless network discovery and auditing tool
 - <http://www.wellenreiter.net>

Cool Addons

- Opie-sh
 - “Opie-sh is an app designed to let you use QT dialogs from the shell. It is especially useful for writing interactive shell scripts.”
 - <http://www.rit.edu/~tfs1812/cgi-bin/document.pl?c>
- OpieQuest
 - OpieQuest is a Perl/Tk script that extracts the driving directions from mapquest.com (.de, .fr, or .co.uk) and then sends them to your PDA running Opie.
 - <http://www.linuxnotes.net/wiki.pl?OpieQuest>

URL's of Interest

- <http://familiar.handhelds.org>
- <http://opie.handhelds.org>
- <http://intimate.handhelds.org>
- <http://handhelds.org>