

Knoppix 3.2 'live cdrom filesystem'

Using the knx-hdinstall command to make it run from you hard drive

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1. Before you read the rest

Why?

I tried it and it worked for me – so here is what happened – hope it's of use

Who is this for?

Anyone who experiments with the cdrom-boot linux distro Knoppix and would like to try making a more permanent install of it (=>ver3.2) onto their hard drive. Knowledge of setting bios and setting a network up is most useful – get help while trying it, if you don't think you area able. See last page for kind of questions your asked on install.

What isn't in this

Lots of Linux explanations – I've not time to make this a support paper for Linux there are plenty of others – See a good search engine near you.

Who.

My name is David Harris and I'm a member of Shropshire Linux User Group in England UK. Any comments to { [HYPERLINK mailto:davekh@hotmail.com](mailto:davekh@hotmail.com) } or drop into our Undernet #slug irc channel. For local help, seek your local Linux User Group see <http://www.lugs.org.uk>

About Knoppix

At date of writing May 2003 Knoppix is at version 3.2 – you can read all about it on their website at { [HYPERLINK http://www.knoppix.org](http://www.knoppix.org) } – choose English version if preferred.

Responsibility

“As with any attempt at a Linux install – this document/author holds no responsibility should you mess up big time (or small time). Installing Linux onto a pc can be problematic – only try this if your confident of being able to sort out any problems incurred. This document recognises all logos and copyright where shown. This document holds no claim to accuracy or responsibility derived from its use. It's just a reflection of what I have done, that's all.”

Enjoy, Dave



2. Introduction

What is knoppix

Knoppix is a Linux distribution specifically designed and built to run from a cdrom. To use this you need to make the pc boot up from the cdrom (or a floppy disc which makes the cdrom boot up).

Setting the cdrom as the boot device via the bios settings, if you feel sure enough to try it – you may need advice on accessing and setting this if not.

The version of Linux is based on Debian and uses has tools to update and install software. Although the 'distro' is actually packed tight with many useful tools and packages to start you off.

Whats on offer?

Some examples of what software is on offer

KDE3.1.1, Bochs emulator, Python, Kdevelop, Nedit, Kstars, lots of games, Mozilla 1.3, Xchat, XVNC viewer/server, Remote Desktop, QCAD, Gimp, Audacity, Rosegarden, XMMS, Xine, Koffice, OpenOffice 1.0, Abiword, Kpilot, Acrobat Reader, Korganiser, Wine, Konqueror, and many many more.

Why bother with cdrom booting Linux instead of other normal distros?

Knoppix is easy to use from cdrom – you can prove whether your hardware will work the distro will work with your hardware – configure it – if all else fails or you don't like it, you can just shut down, take out the cd, reboot and back to your old OS – untouched.

I downloaded a copy of Knoppix from their site ([HYPERLINK http://www.knoppix.com](http://www.knoppix.com)) – a 700meg ISO and burnt it to cdrom, it's bootable but a floppy boot config is there should you need it.

Via our local Linux User Group I've been going on about how Knoppix can be installed on a pc to run directly from hard-drive as opposed from the default virtual system running from cdrom. I have, to date, got two separate machine installed and running off hard drive, the second, I documented here. I hope it's of some use of interest to people.

2. Installing Knoppix

I've installed it on a 166MHz mmx with 98meg ram and a 4gb hdd, which struggles a bit, but more successfully onto the Celeron 300mhz with 200meg ram and a 20gig hdd

Spec for a useable Knoppix box, some, thoughts,

About a 3gb hdd – 300mhz cpu and least 64meg ram would really make a useable (not optimum) pc to try Knoppix on.

Get a CDROM (or floppy) boot version going first.

First thing to do is get your pc to boot from the cdrom

- accessing the BIOS by pressing DEL or F1 just after power up – and change the boot up sequence usually gives a clue. At this point, maybe good one to have help if needed. The cdrom needs to be placed at number one, second the floppy disk. This will need changing back after all is finished.

Booting from floppy – if your machine will not boot from cdrom

Make a boot floppy first

- Boot up your normal operating system, put the cdrom in (it may auto-run to folder to read about Knoppix) – navigate to the cdrom folder d:\knoppix\ and find a floppy disk you don't mind reformatting.
- run the program mkfloppy.bat, which will reformat and write a set of file to the floppy – this, once finished, this will be your boot floppy.
- Leave it in the drive.

- Reboot your machine & as this happens set the bios to boot from floppy first or second. Save settings and reboot, with cdrom in place and floppy in place.
- Once the machine begins booting from floppy – the boot screens will get to the same point as if you booted from cdrom.

Continue from here as if it were from cdrom or floppy/cdrom boot

- don't forget to remove the cdrom on next reboot. (*after install finishes*).

Starting Knoppix

First screen you will see is a nice graphical screen – you can set some options here:

press F2 to enter the options

Knoppix used to default to German, so if you prefer English enter the following

- `knoppix lang=us` and press Enter

You can queue up instructions, for example on a laptop

- `knoppix lang=us fb1024x768` (and press enter)

or to call back saved configurations (more later) from a floppy disk

- `knoppix floppyconfig` (and press enter)

Notes at this point:

You must type knoppix at the start of this command set in one go, or it doesn't work – you can ignore it and after a time it will boot anyway. You might find your pc talking German though.

For the rest of the boot up sequence your not required to make any input (except to save a little time – or do an 'expert' install) so you could go get a cuppa or whatever.

periods of strangeness occuring while booting up & setting up Xwindows.

Don't worry, your Knoppix os will try various setting for the resolution and periods of blank screen or hazy image may occur.

Boot ended? – a graphical Xwindows user interface is awaiting you – this is the KDE 3.1.1 which you can play around with – run things and test things. To your hearts desire – if you break something or misconfigure – a reboot later and you can start again.

Keeping what you set – to reload next time:

- Click on the K at the bottom left corner.
- Find 'Knoppix' in the menu – make your network settings and whatever else.
- Click 'Save Configuration'

Clicking on this and following the instructions you can save your hours of tweaking and setting to floppy —so when you reboot cdrom boot version you can call back these instantly. At the boot point do the following:

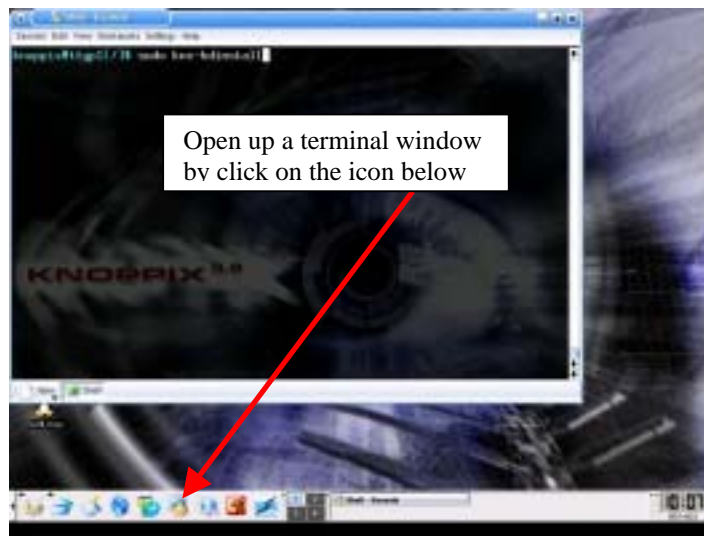
F2 then type in "**Knoppix floppyconfig**" then press **Enter**

Sometime it doesn't work - so give it a try before you spend long hours getting stuff just right.

So – your happy – you now want to install to hard drive.

After all you playing and trying you know that what your have will work with knoppix and you now want to make you pc naturally boot straight into Knoppix from hard drive. See next.

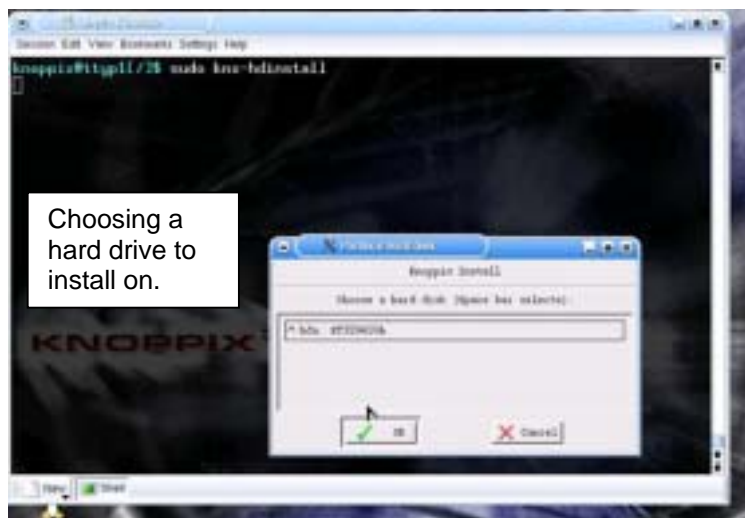
2. Installing to hard-drive



Type the instruction below into the terminal as shown in the above screen grab.

```
sudo knx-hdinstall
```

This will start off a script which will do all the hard work for you.



First thing it will ask is what hard drive you want to install on – not a problem for most people, but if you have more than one – choose the right one!

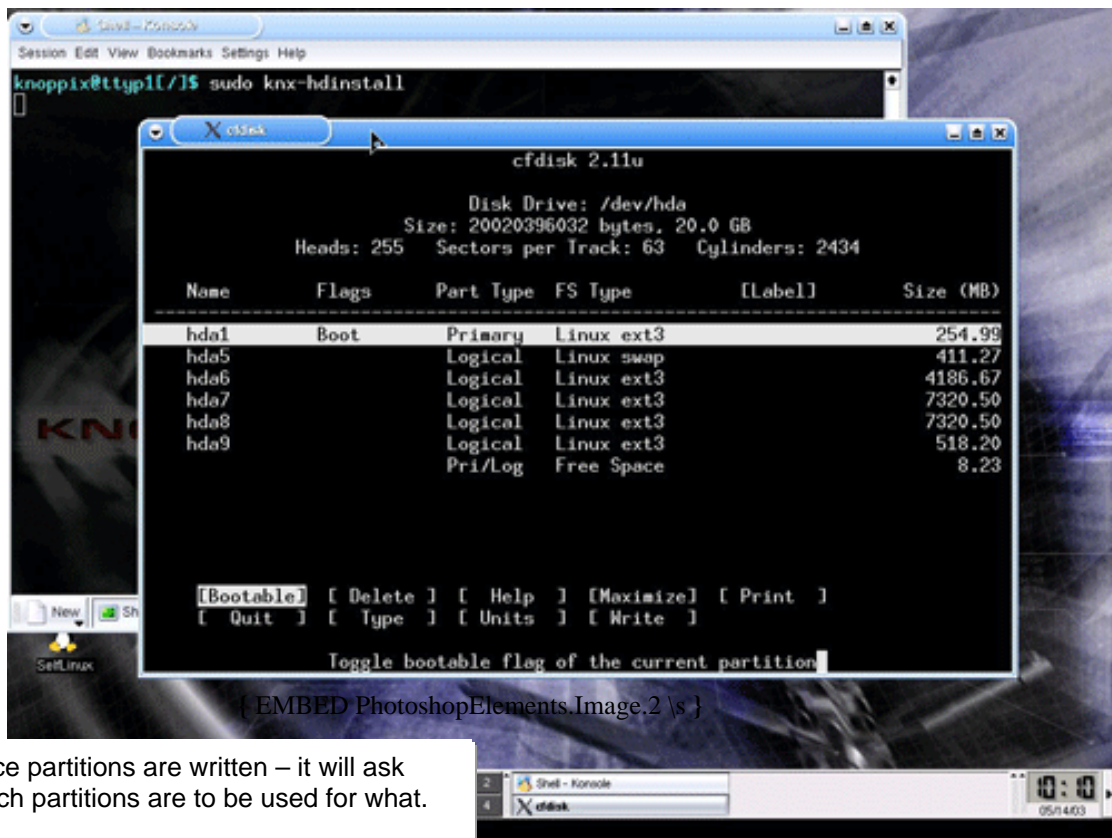
Partition program Cfdisk

An important stage next – setting the partitions – as Linux needs to work from a variety of partitions. This install requires 2200meg to be free or it will just complain at you and stop the install.

The version below is mine and the various partitions are not what others might use .
Comments

- /swap partition is the accepted standard as 2 times size of the Ram in your machine
- the partition type – Ext3 is my choice – there are others, but this gives Journaling (quick, safer restarts after power-outs, lock ups or crashes).
- Cfdisk program was a new one on me – controls are via TAB buttons and up/down arrows

Don't forget to choose Write when your finished with setting the partitions or nothing will happen.



{ EMBED PhotoshopElements.Image.2 \s }

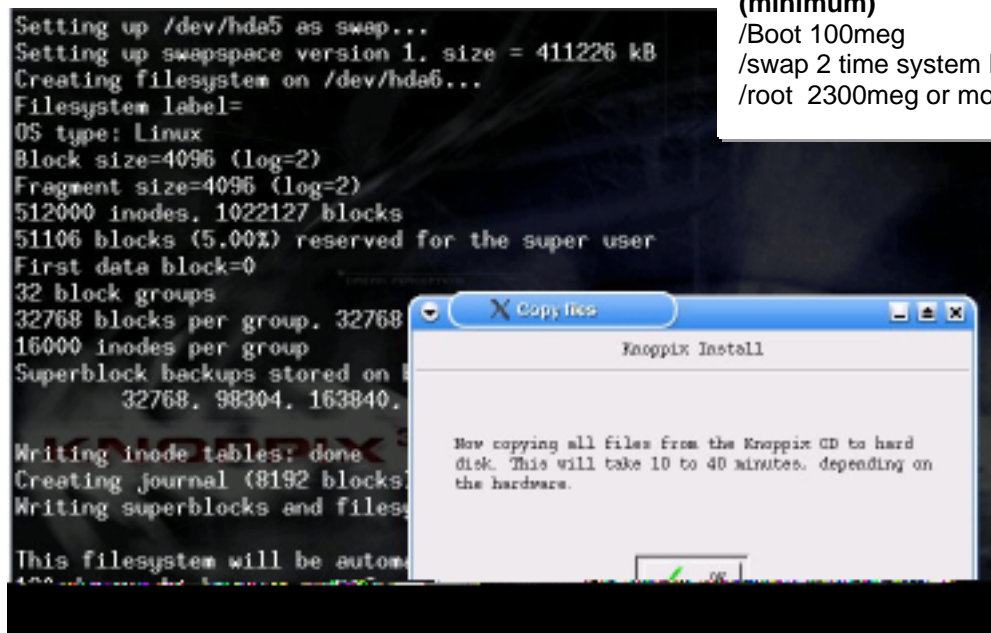
Once partitions are written – it will ask which partitions are to be used for what.

It labours the point a little about Swap. Remember it's the partition which is 2* ram. And type = Swap.

Root should be bigger than 2300MB or Knoppix will refuse to install

Recommend Partitions (minimum)

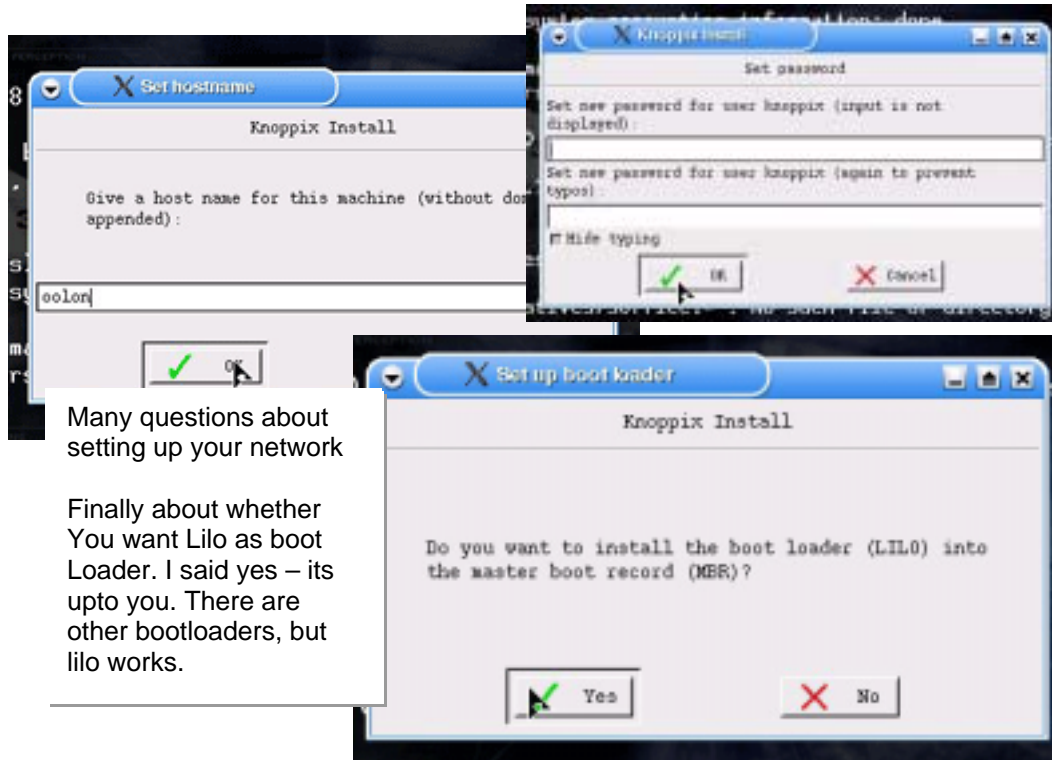
- /Boot 100meg
- /swap 2 time system Ram
- /root 2300meg or more.



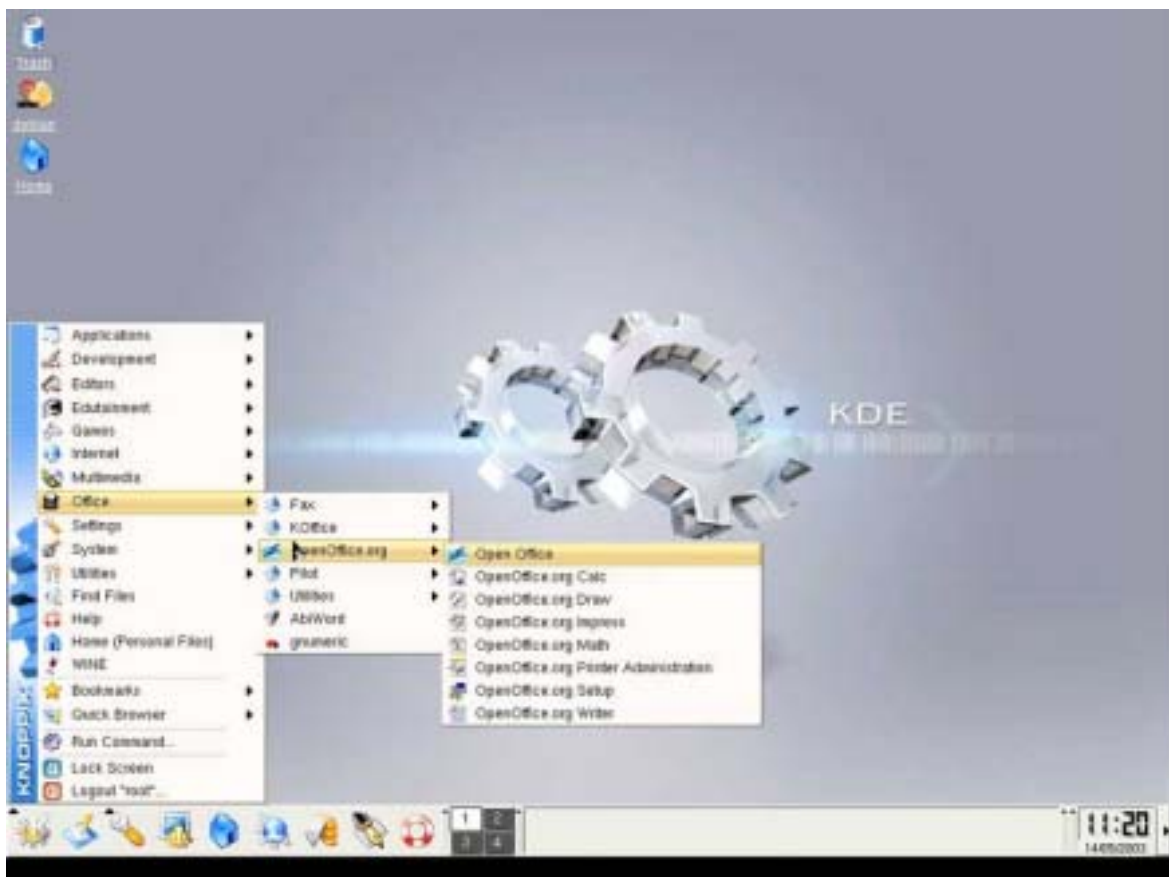
Now for a wait

Drop into our Linux User Group channel #slug on Undernet & say Hi while your waiting for the files to copy over from the cdrom to the hard-drive.

Once this is all finished, you get to put in a few details – here's another place where mistakes can be made (I did)



Last Stages – reboot – logging in as root. **Success!**



What Next?

After a successful install – you will need to **create a user**, currently you have two on the system, Root and Knoppix. Make another for yourself.

Click on “K” then choose “system” then look about half way down for “Kuser” to setup another user on your system

When this new user logs in thwy can configure the Xwindows manager to just how they want it – they can have a variety of KDE settings or Unix style, Window or Mac style interface.

Now – its ready for use.

Anything gone wrong?

In my example install I typed in the wrong name server IP address and the pc could see the firewall web page (IPCOP { [HYPERLINK http://www.ipcop.org](http://www.ipcop.org) }) but would not see out of the local network onto the internet – unable to resolve addresses. I ended up editing with Nedit the file /etc/resolv.conf to alter the ip address to what it should be – I had to log in as Root or become root to do this.

If too much is wrong or you can't work it out – at least you can restart it all over if need be.

What Questions did I get asked during install?

Do I want?

- Emailserver to run at boot?
- Secure shell to run at boot (SSHd)?
- Samba server (SMB, NMBD) to run at boot?
- Printer system (Cups) to run at boot?
- Graphical or textual login at boot?
- Network questions
- Hostname
- Dhcp or fixed ip
- Ip address
- Broadcast address
- Default gateway
- Dns
- Root password
- Knoppix user password
- Do I want Lilo to run on MBR
- Do I want a boot floppy or not

Recommend Partitions (minimum)

/Boot 100meg

/swap 2 time system Ram

/root 2300meg or more.

Final note – EU Software patent law effecting website addresses.

With the current threat of European Software patent law hanging over us, Knoppix have 'closed' their website with a note on the front page – but have included a link to the 'old' site which has information & download links as per usual.

See

Normal Knoppix front page	{ HYPERLINK "http://www.knoppix.org" }
'old' site (go here)	{ HYPERLINK "http://www.knopper.net/knoppix/index-old-en.html" }
Knoppix distro mirror listing	{ HYPERLINK "http://www.knopper.net/knoppix-mirrors/index-en.html" }
EU patent threat info.	{ HYPERLINK "http://swpat.ffii.org/index.en.html" }