

Hopefully you have brought your laptop and gotten a copy from one of the Knoppix CDs I passed out earlier so you can work through the booting process once we have finished the introduction. If you didn't I have a couple copies we can take turns using.

My goal for this class is to have each of you leave with a CD and the instructions you need to boot it and access your DirecWay modem so you can get on line in the event you have Windows problems.

If your Windows system stops working for some reason or becomes infected with something causing you problems using Linux will allow you to access your 6000 or 7000 modem for setup and getting help. It will do this without making any changes to your computer or to your Windows setup.

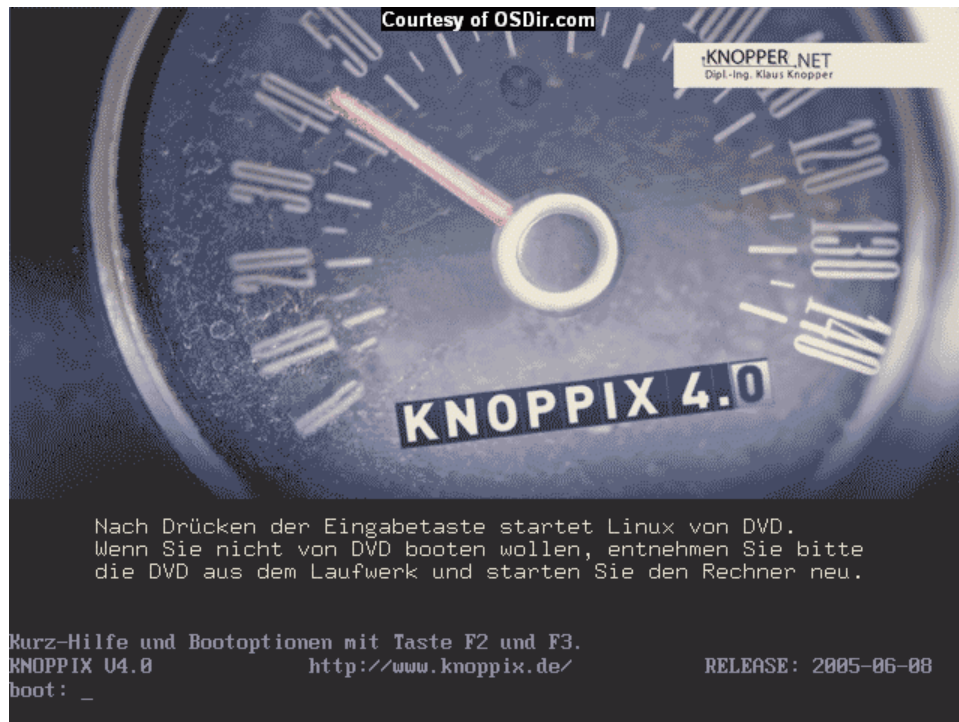
Linux would also be a good option to try if your OPI won't display anything but the 8H8 or 8L8 when you enable it.

Other uses for Linux are when using a WiFi hot spot that you are not sure about or visiting unknown websites. Linux will let you access the Internet without exposing your Windows system to any attacks from the outside world.

Initial booting of the Knoppix Linux CD requires either setting the BIOS to boot from the CD or using the boot menu if your system offers one. Once this is done you will see a graphical welcome screen and be given the chance to change some basic settings at the "boot:" prompt.

Please keep in mind that you are loading and running from the CD and not a hard disk so things will happen slowly when you ask for something not in memory.

If your computer boots from the CD you should see this screen. It offers you a chance to enter options to control the boot process and the F2 and F3 keys to provide help.



Your system should boot into English but the screen shots on the Knoppix site were in German.

For desktop users you can usually just let it boot, laptop users should be prepared to reboot and add a “fb” option if the system does not boot properly. Depending on your screen size pick “fb1280x1024” “fb1024x768” or “fb800x600” usually work, use the largest one that will fit your system.

If you have problems booting even with the fb options you can try “failsafe”. If you have problems getting your computer to boot from the CD you can create boot floppies on another computer that will allow you to boot from them.

The “knoppix dma” option helps speed booting for many systems. If you have one Gigabyte of RAM you can use the “toram” option for much faster operation once Knoppix has loaded which can take several minutes.

The boot process will display the progress as it loads, once the basic text mode (below) finishes it will bring up a graphic screen and your sound card should indicate it is loading the system. Once you have finished the boot and desktop loading process you will be looking at a very simple screen that works similar to any other windowed GUI.

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Courtesy of OSDir.com

PCI: Cannot allocate resource region 4 of device 0800:08:07.1
audit(1119859597.057:0): initialized

Welcome to the KNOPPIX live Linux-on-DVD!

Scanning for USB/Firewire devices... Done.
Accessing KNOPPIX CDROM at /dev/hdc...
Found primary KNOPPIX compressed image at /cdrom/KNOPPIX/KNOPPIX.
Found additional KNOPPIX compressed image at /cdrom/KNOPPIX/KNOPPIX2.
Total memory found: 514432 KB
Creating /ramdisk (dynamic size=398892k) on shared memory...Done.
Creating unions and symlinks on ramdisk...
>> Read-only CD/DVD system successfully merged with read-write /ramdisk.
Done.
Starting init process.
INIT: version 2.78-knoppix booting
Running Linux Kernel 2.6.11.
Processor 0 is Mobile Intel(R) Pentium(R) 4 - M CPU 2.40GHz 2398MHz, 512 KB Cache
ACPI Bios found, activating modules: ac battery button container fan processor thermal video
PCMCIA found, starting cardmgr.
USB found, managed by hotplug.
Firewire found, managed by hotplug: (Re-)scanning firewire devices... Done.
Autoconfiguring devices... Done.
Mouse is Generic PS/2 Wheel Mouse at /dev/psaux
Soundcard: ES1371 [audioPCI-97] driver=es1371
AGP bridge detected.
Video is VMware Inc|Virtual SUGA, using XFree86(VMware) Server
Monitor is Generic Monitor, H:28.0-36.0kHz, V:50.0-75.0Hz
Using Modes "1024x768" "800x600" "640x480"
Scanning for Harddisk partitions and creating /etc/fstab... Done.
Using swap partition /dev/hda3.
Network device eth0 detected, DHCP broadcasting for IP. (Backgrounding)
Automounter started for: floppy cdrom.
INIT: Entering runlevel: 5
-
```

The following page shows the graphical boot process. By default Knoppix opens a Konqueror window showing some basic system information and help. You can use this same window to access the modem by entering the 192.168.0.1 address or the address for any of the other pages in the modem.

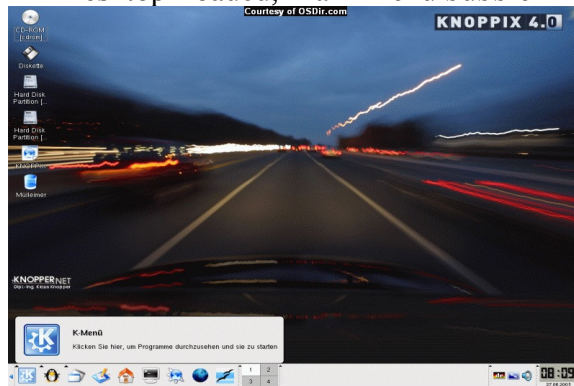
Konqueror works more or less like Internet Explorer or Firefox so you should have no problem using it with your modem or for general surfing. It will not run ActiveX controls so you can't do the initial setup of a new modem with it, once that has been completed everything else I've tried works without problem.

All that is left now is for you to power up your laptops, stick in the CD and boot from it, if you have a problem power-down, reboot and add the “fb” option and try again. If it still doesn't work holler and I'll see if we can get it working. If I don't get everyone up during this session we can continue trying later.

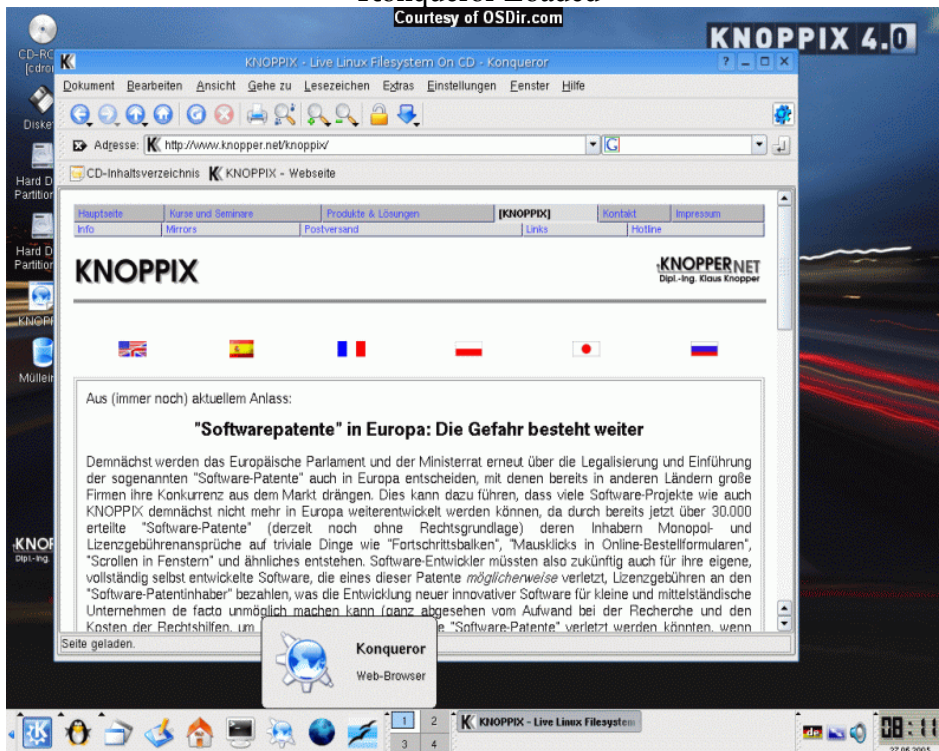
Desktop Loading, Voice Prompt



Desktop Loaded, Main Menu bubble



Konqueror Loaded



Q: Ok, I've booted Knoppix, now how do I rescue the data?

A1: See Computer First Aid Using Knoppix (<http://www.shockfamily.net/cedric/knoppix/>), System Recovery (<http://www-128.ibm.com/developerworks/linux/library/l-knopx.html?ca=dgr-lnxw01-obg-SysRecover>) and OSCON 2005-08-04 System Rescue with Knoppix (<http://www.greenfly.org/talks/knoppix/rescue-oscon05.html>).

A2: One of the best ways to recover your files is to plug in a USB drive of some sort.

- When the desktop loads, you will see at least two hard drive icons on the desktop (one for your hard drive and one for the USB drive).
- Click on the hard drive icons to open them up and figure out which drive is which.
- Right-click the USB drive icon and choose "Actions > Change read/write mode" so you can write to the drive (it's read-only by default for security reasons).
- Now find the files you want to back up and drag and drop them to the USB drive. When you are finished, shut down the system and remove the USB drive.
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Tips on Finding Files

The "My Documents" folder is typically found in one of the following places:

Windows 2000, XP: Documents and Settings/your username/My Documents/

Windows 2000: Documents and Settings/Administrator/My Documents/

Windows XP: Documents and Settings/Owner/My Documents/

Windows NT: winnt/Profiles/your username/My Documents/

Windows NT: winnt/Profiles/Administrator/My Documents/

Windows 95, 98, ME: My Documents/

The Desktop is typically found in one of the following places:

Windows 2000, XP: Documents and Settings/your username/Desktop/

Windows 2000: Documents and Settings/Administrator/Desktop/

Windows XP: Documents and Settings/Owner/Desktop/

Windows NT: winnt/Profiles/your username/Desktop/

Windows NT: winnt/Profiles/Administrator/Desktop/

Windows 95, 98, ME: windows/Desktop/

- `fdisk -l` displays all partitions on all hard drives.
- `lspci -v` gives detailed information about every device and chipset connected to the PCI bus.
- `cat /proc/cpuinfo` tells exactly what CPU is installed.
- `ifconfig` displays, and also manipulates, network interface settings. Most commonly Ethernet cards and ppp, the modem interface.
- `iwconfig` is like `ifconfig`, but for wireless network cards.
- `dmesg` is interesting. `man dmesg` isn't all that helpful if you're not a kernel hacker. Just using `dmesg | grep <device>` is a useful troubleshooting and system discovery tool. To see everything, run `dmesg` with no options.

And of course KDE provides a nice GUI to see all this; go to System > Info Center.