

Your Friendly Guide

PCLinuxOS

Live CD Guide



PCLinuxOS

Radically Simple

PCLinuxOS

Live CD Guide

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Texstar, LexNL, Devnet, Teacher, Helios, OkiE, IKerekes, Sal, Woob, and everybody who helped out.

Visit PCLinuxOS on the web at <http://www.pclinuxos.com>

PCLinuxOS support forums are available at <http://www.pclinuxos.com/forum/>

This guide is also accessible on line via <http://www.pclinuxonline.com/wiki/>

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Disclaimer: When you use any information, hints or tips from this User's Guide, you acknowledge having read, understood and agreed the following. This User's Guide is designed to be a helpful resource for people new to PCLinuxOS. The information here has been created by experienced contributors and normal users of PCLinuxOS alike. We do not take any blame or responsibility for installation errors or changing of setting that you may do to your computer. The information in these pages may have errors, typographical or others.

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Introduction

The development team of PCLinuxOS would like to take a moment and truly welcome you to the world of Linux. Within the pages of this guide, you will find information you need to use and learn PCLinuxOS presented in easy to understand terms and without a lot of geek-speak. You may even find some of it rather humorous.

PCLinuxOS is what's called an operating system. When you start your computer, some software must start working otherwise nothing would happen. Your mouse and keyboard should be enabled; you most likely would want to have access to your personal files, and start other programs. All these activities are done by software called an operating system. Most likely you are already familiar with the operating system called Windows.

Everything you need for day to day home desktop or small business computing is available in PCLinuxOS. From a complete replacement of Microsoft Office to chat and multimedia applications, PCLinuxOS either meets or exceeds a Windows XP system. The software choices alone are staggering and are probably more than anyone could ask for. We think you will find that PCLinuxOS not only exceeds your computing needs, but it also makes using your computer fun again... and that in itself justifies the little bit of effort you may have to expend to learn Linux.

Linux puts enjoyment back into computing without the constant worries of catching a virus or Trojan and preventing spyware from infecting your PC.

PCLinuxOS is the only Linux Distribution written from bottom to top with you, the new Linux User in mind. Who better to help you along your way than someone who is fresh from the journey themselves? Some of our users have been around Linux for a long time, but found PCLinuxOS so complete and friendly; that they began using it as their primary operating system.

Our New Users become proficient at using this distribution in short order simply because our help forums and documentation gives them the opportunity to learn quickly. Now that you have made the decision to use and learn Linux, your choice of PCLinuxOS will prove not only to be an easy move, but a smart one as well. We want your experience with PCLinuxOS to be not only positive but productive and fun... yes fun. All of us at PCLinuxOS welcome you to our family of users.

If you have a suggestion or find something we have left out, you are welcome to submit your idea or contribution via the help forums. We all make a difference at PCLinuxOS, each and everyone of us. All of us at PCLinuxOS welcome you to our family of users.

Getting PCLinuxOS

You have a few choices as to where and how to get your copy of PCLinuxOS. No matter how you get it the end result is the same. You have in your possession a copy of the CD. This can either be an actual CD or it can be a file containing the data of the CD. A file containing the data of a CD is called an ISO image file, and often has the ".iso" extension. With the data in the .iso file you can create a PCLinuxOS Live CD on a CD-R or CD-RW. We'll discuss this below. First we have to download or (at your option) buy it.

PCLinuxOS comes to you free of charge and open source. You can download the CD from multiple servers. We'll explain here how you can download and create a CD of PCLinuxOS. If you prefer an easier low-tech way, you can order a copy of the PCLinuxOS CD.

The Four Versions

The current release is available in four versions. Pick the one that matches your system.

- **PCLinuxOS Standard**

This version will work on all PCs. If you aren't sure which file to download, go with this version.

Then there are also the versions which come pre-configured for specific 3D graphics cards.

- **PCLinuxOS ATI**

The PCLinuxOS Live CD for ATI based graphics cards. This is the version to use for PCs with an ATI graphics card 8500 and up.

- **PCLinuxOS NVidia (7676)**

The Live CD for modern NVidia based graphics cards.

- **PCLinuxOS NVidia Legacy (7174)**

The PCLinuxOS Live CD for older NVidia based graphics cards.

We have added the complete list of NVidia cards where you can see which driver - and thus which Live CD - supports your card as Appendix III - The Complete List of Supported nVidia Cards on page 27.

Downloading a Copy

The current release is available in four versions. Pick the one that matches your system.

- PCLinuxOS Standard: The file to download is for example: *pclinuxos-p92.iso*. If you aren't sure which file to download, go with this file.

Then there are also the versions which come pre-configured for specific 3D graphics cards.

- PCLinuxOS ATI: *pclinuxos-p92-ati8500up.iso*
- PCLinuxOS Nvidia: *pclinuxos-p92-nvidia7676.iso*
- PCLinuxOS NVidia Legacy: *pclinuxos-p92-nvidia7174.iso*

Get both the .iso file *and* if available the small .asc file with the same name.

The PCLinuxOS files can be downloaded from the Internet at no charge. Try the official download page at <http://www.pclinuxos.com>

Download Alternatives

Quite a few people are reporting problems relating to being unable to boot the live CD. The majority of the issues can be attributed to either a failed download or bad CD-burning. Bad burning could be caused by poor media, improper software, or just burning at too high a speed. These issues are very hard to address with a proper solution since the combination of the different media, software, and hardware is almost limitless.

The failed download on the other hand is very easily addressed. The traditional download methods, FTP and HTTP/web, are error prone. There is no built in error checking and most everyone experiences time periods when the main server or the mirrors are so busy, that the download is hardly crawling or the server just keeps refusing your connection.

There are two download methods which are lot faster. In the majority of cases they have lot higher max user limits, and best of all, they guarantee a 100% correct download because of the built-in checksum verification. BitTorrent and Rsync

Using BitTorrent

BitTorrent is the new way of downloading large files. It is a way of sharing bandwidth that often results in faster downloads. As an added bonus, it automatically detects and makes sure your download is completely successful and it corrects any issues it finds. Normal downloads (via the web or ftp) don't automatically get checked and corrected.

First things first: what is a BitTorrent and a torrent?

A .torrent file is a little file holding information on how your BitTorrent client (file sharing software) can download the content from the Internet to your PC. This page has instructions for downloading the PCLinuxOS CD with two of the most common BitTorrent clients: BitTorrent GUI and Azureus. BitTorrent GUI is the default and only BitTorrent program coming along with PCLinuxOS. Azureus can be got easily via Synaptic Software Manager.

Instructions for BitTorrent GUI

Here are the steps:

1. Browse with your Internet browser to <http://linuxtracker.org/index.php?cat=262>
2. Download your preferred PCLinuxOS .torrent file to your PC.
3. Make sure your firewall will let the incoming traffic go through the port range, which start port number is defined in the GUI in: View | Settings | Network | Look for available port. You can change the 'Start at port:' value, if you need to. Normally the port range is 6881-6889, meaning the 'Start at port:' has a value 6881.
You may also need to configure a router or a gateway if you have one (forward the incoming traffic in that port range to your PC). If you do, you can find [instructions on configuring them¹](#)
4. Right-click on the torrent file and select "BitTorrent GUI" . A BitTorrent program opens and it should start downloading the pclinuxos-p9.iso to your PC quite soon. The default download directory is the desktop.

1 <http://www.portforward.com/>

At first the download speed may be slow, but it should get faster in time. Once you have downloaded a while, you start automatically feeding (uploading) other users with the pieces of the file you have downloaded yourself so far. If you have to, you can safely close the program or your whole PC. BitTorrent GUI will start downloading where it left off the next time you start the program.

For more information about the BitTorrent GUI, see <http://www.bittorrent.com/> the BitTorrent homepage.

Instructions for Azureus

Here are the steps:

1. Browse with your Internet browser to:
<http://linuxtracker.org/index.php?cat=262>
2. Download your preferred PCLinuxOS .torrent file to your PC.
3. Make sure your firewall will let the incoming traffic go through the port (note, Azureus needs only **one** port), which is defined in Azureus in: tools | options | Connection | Incoming TCP listen port. You can change the 'TCP listen port' if you need to. You may also need to configure a router or a gateway if you have one (forward that ports' incoming traffic to your PC). If you do, you can find [instructions on configuring them²](#)
4. Open Azureus and select from the menu: File | Open | .torrent file, select the downloaded .torrent file and press Ok
5. Azureus will now ask to where you want to store the file which will be downloaded to your PC (here the PCLinuxOS ISO image). Select the location you want (make sure you have ~650MB free space there) and press Ok.
6. Azureus now starts downloading the file from other BitTorrent users, which currently feed the file to others users. At first the download speed may be slow, but it should get faster in time. Once you have downloaded a while, you start automatically feeding other users with the pieces of the file you have downloaded yourself so far. If you have to, you can safely close Azureus or your whole PC. Azureus will start downloading where it left off the next time you start the program.

For more information about Azureus, see the [Azureus homepage³](#).

Common instructions

After the download is complete, don't close your BitTorrent program yet - unless the share ratio is above 1 (you have uploaded at least as much as you have downloaded) - this will guarantee the BitTorrent network stays healthy. You don't have to check to see if the files downloaded correctly. BitTorrent programs will check automatically the file is not corrupted in any way. To get more information about BitTorrent in general, take a look at these pages: <http://www.wtata.com/faq/> and <http://www.bittorrent.com/FAQ.html>.

² <http://www.portforward.com/>

³ <http://azureus.sourceforge.net/>

Using Rsync

Rsync is an improved way of downloading files from ftp-sites that support it. It is used for downloading and mirroring ftp-servers, but it also makes a good way for downloading PCLinuxOS images! The same as BitTorrent , Rsync also automatically checks and corrects any errors it finds. Unlike BitTorrent it does not share bandwidth. If you know how to use Rsync already, connect to and find out which ISO's are available from "distro.ibiblio.org::texstar/pclinuxos/live-cd/english/preview/". We have a web page with information about [Getting PCLinuxOS via Rsync⁴](#) if you are new to using Rsync.

Upgrading an earlier copy of PCLinuxOS

You don't have to download and install the latest live CD if you already have a copy of PCLinuxOS installed. You don't have to change anything. In Synaptic just click Reload-Mark all Updates-Apply and you will be up to date with all the same packages as the latest live CD. Don't forget to update your kernel when doing the upgrade. For more information about this, see our [Upgrading an existing PCLinuxOS installation⁵](#) web page.

4 <http://www.pclinuxonline.com/wiki/UsingRsync>

5 <http://www.pclinuxonline.com/wiki/UpgradingInstall>

Burning a PCLinuxOS ISO Image to Disc

When you download a copy of PCLinuxOS it will be an .iso file. The ISO image file holds the data of your PCLinuxOS CD to be created. To create an actual CD with the .iso file, you must copy the data in the ISO image to a CD. Do not, however, create a normal data CD holding the .iso file.

All CD burning applications have the ability to correctly burn an ISO image to a CD. You may even be surprised at how easy it is. If you are using Linux already, you'll probably have K3B installed to burn an ISO to a disc. If you are using Windows, chances are your CD-burning application is Nero.

Do not unRAR the ISO image or extract files in any other way from the ISO file. In some Windows setups WinRAR is associated with .iso files. Do not use WinRAR on .iso files.

If you are using Windows and you don't have any CD burning software that can burn ISO images, try the free [ImgBurn⁶](#) program. Follow these steps to burn the ISO image to disc.

1. Insert Disc in Burner.
2. Select Image to burn.
3. Click 'Write' button.

Alternatively, follow the [instructions on LinuxQuestions⁷](#).

General Hints and Tips

Before we jump in-depth to explain how to burn a disc yourself, we provide you with some general hints and tips.

Do The Media Check

Once you have burned your disc, you can verify that the creation of the disc succeeded. Make sure the disc is back in the drive and reboot your PC to start your computer from the disc. Once the computer start your PC from the disc, more about that later, you'll see sort of a menu. You can type *mediacheck* there and it'll check the live CD to make sure you have a good burn. More about boot options is explained starting on page 17.

The mediacheck will see if the data got to the disc correctly. Some of the time this is not the case because of either bad media or the combination disc and drive isn't good. Bad media means the disc isn't that good a quality and the created disc will not work correctly.

Some drives really are picky at what they'll read and what not. You could have a good disc on one computer, but not on another. The mediacheck can only test if the disc is correct on that computer. It could well happen that the verified disc works on one drive, but not on another. Or that it partly works, but other parts of the disc show errors. This isn't something PCLinuxOS can solve. The mediacheck indication is a good way to see if the disc/drive combination is correct, or not, and can save you quite a headache and hours of bug hunting.

⁶ <http://www.imgburn.com/>

⁷ http://www.linuxquestions.org/linux/answers/LQ_ISO

CD Burning Hints

Some CD burning hints:

- Burn at a moderate speed. With cheap CDs, sometimes the indicated speed is the read speed. Just because it says it can do 52x doesn't mean it actually can with good results. And even if your burner can burn at 52x, that doesn't make it a good idea. At the same time, don't go VERY slow, modern media won't like that either. 8-12x is quite fast enough! You'll get a better burn.
- Rewritable media is often better. Remember, the next version of the ISO will be out a few months down the line...
- Just because it is advertised as a CD image, doesn't mean you can't use a DVD. They're fairly cheap these days, and will actually spin a lot quieter during your install and they generally are of better quality. Rewritable DVD's are great for this sort of job.
- Don't keep repeating something that doesn't work. If your CD/DVD won't work properly, review what you did and make sure it's right. If it was right, then reburn on a different brand/type of media.

If you want more information about burning .iso files and checking md5 checksums, check out the [LinuxQuestions ISO⁸](#) page. This page also includes instructions for using Roxio for burning ISO images.

Flash Quiz!

*Please remove everything from your desk but a number two pencil... *

When burning an ISO image, it is important to:

- a. Pray to the great volcano god that the burn goes right?
- b. Occasionally slap the side of your computer to make sure the disc is seated correctly?
- c. See how many programs you can open and movie clips you can watch while it is burning?
- d. Find out just how quick burning at 52 speed is, and how many coaster you can make in a day?

8 http://www.linuxquestions.org/linux/answers/LQ_ISO

Burning a PCLinuxOS Disc Using Windows

The example here involves using Nero Express/StartSmart, but the principle is the same for any burner under Windows and any variant of Nero.

Avoid This Mistake

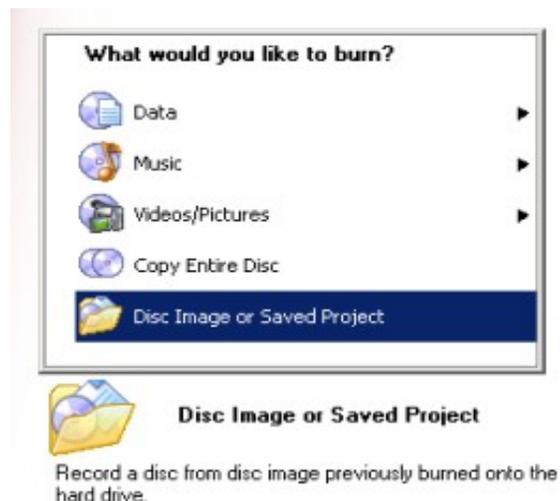
An *.iso file is an image of a CD or DVD. It is NOT a usable file. If you open up a data disc, and copy the *.iso file to it, it will not boot your computer. In fact you may as well get some nice colored markers and make a pretty coaster out of it.

Burn it as an Image!

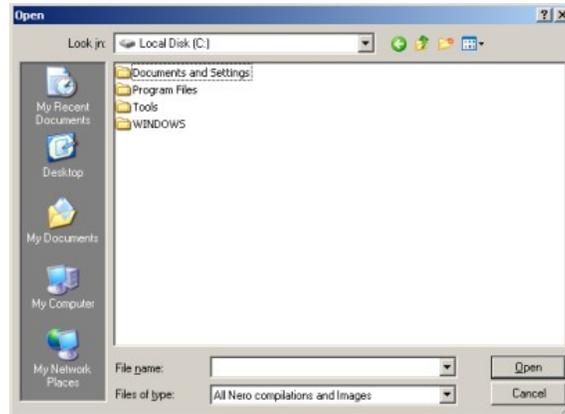
If Nero runs as "StartSmart", then highlight the large icons in a horizontal row near the top right of its window. Select the one that says "Copy and Backup", and then click the "Burn Image to Disc" icon.



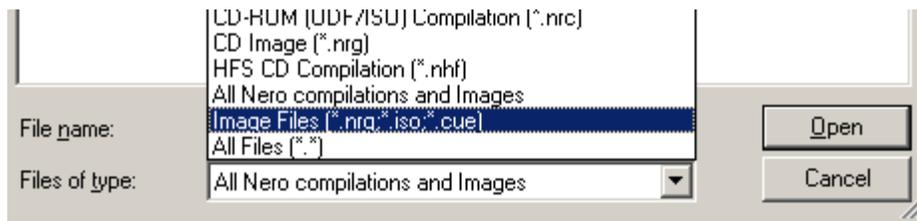
If Nero runs as Nero Express, select "Disc Image or Saved Project" option.



Either way, in the resulting "Open" dialog box, navigate to your saved *.iso file.



As you navigate to find your iso file, you may be wondering, "What the heck, I KNOW I downloaded that file to this folder...where is it?" Don't worry, it's there. Look at the bottom of your "Open" dialog and at the very bottom there is a field with "Files of type" to the left of it. Choose "Image Files (*.nrg;*.iso;*.cue)" and your iso's will show up nicely.



Select your saved *.iso file and click "Open". Nero will now show you what it is about to do.

Verify that you have selected your correct CD-writer (if you have more than one) and you can select which speed to burn as well. Defaults are usually fine, though burning at 52x speed doesn't always get the best result, 8-12x is usually a good speed.

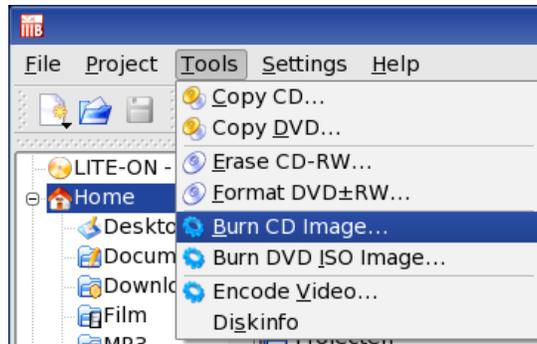
Provided a suitable disc is in the drive, it will start burning. If not, the drawer will open and you will have a chance to put one in.

Once burnt, that's your PCLinuxOS disc, ready to boot!

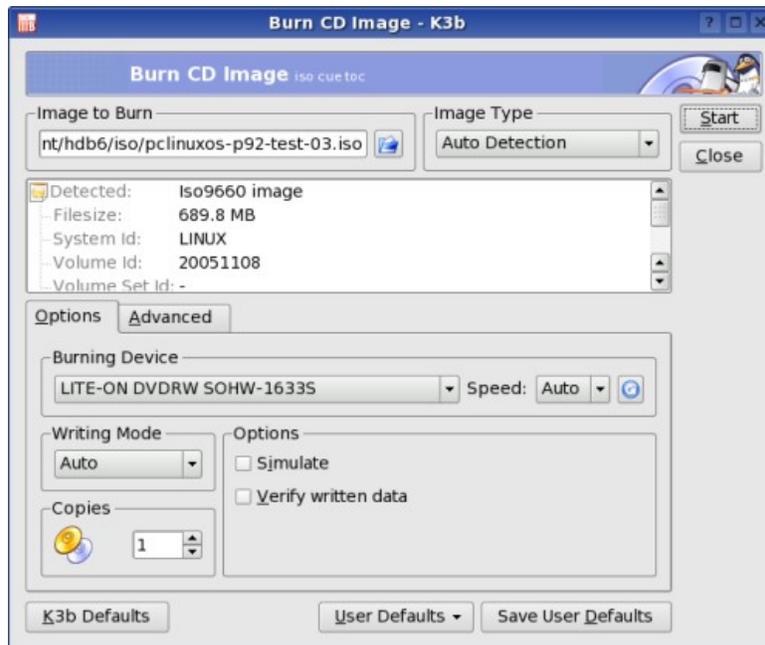
Burning a PCLinuxOS Disc Using Linux

You sometimes see files named .iso or read about ISO images. For example: when you have downloaded a copy of PCLinuxOS it will have been an .iso file. The ISO image file holds the data of your CD to be created. To create an actual CD with the .iso file, you have to copy the data *in* the ISO image to a CD. You should *not* however, create a normal data CD holding the .iso file. With the data in the .iso file you can create a CD on a CD-R or CD-RW medium.

Bring K3b up and look to the top of the program. If image burning is not an option along with audio and data file burning, you must go to “Tools” and then choose “Burn CD Image” if you want to burn to a CD. If you would want to burn to a DVD disc, please make sure to pick “Burn DVD ISO Image.”



Once you click “Burn CD Image”, your dialog box will open with many of the same options you are probably already familiar with.



The first item you need to pay attention to is the field at the very top titled “Image to Burn.” If this is the first time you have used the iso burn feature, the field is probably blank. Click on the small folder to the right of the blank field and it will open your file manager. Navigate through the folders until you find the iso you want to burn.

One of those little things that's good to know

Once you have used the burn iso feature in K3b, the “Image to Burn” field will hold the last iso file you burned. When you start a new iso project, you may get a red error message under the field saying “file not found”. Don't panic. That will go away when you put the new iso file into the “Image to Burn” field.

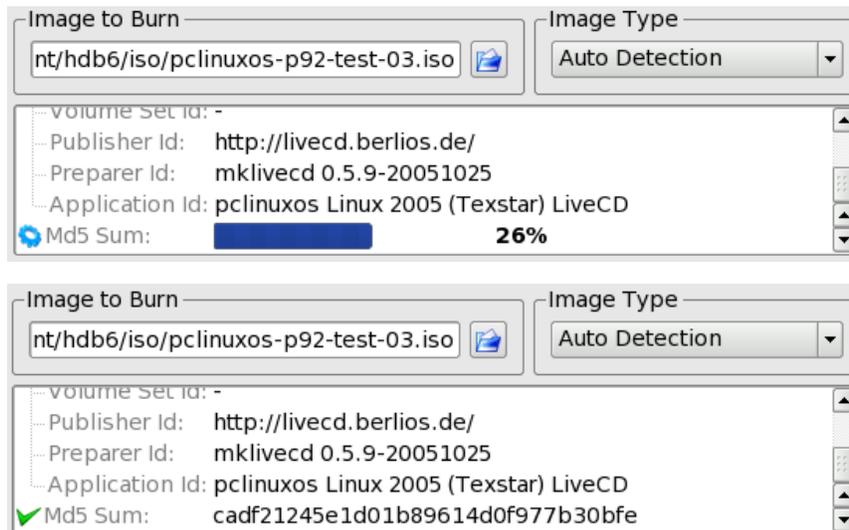
And another thing: As you navigate to find your iso file, you may be wondering, “What the heck, I KNOW I downloaded that file to this folder...where is it?” Don't worry, it's there. Look at the bottom of your file manager and at the very bottom there is a field with “filter” to the left of it. Drop the arrow down and choose “iso9660 image files. Then try again and your iso's will show up nicely.

Back to the Image Burning

The next field to the right of “image to burn” is “image type” it should be set at “auto detection”. Leave it just like that and you will have no problems.

The Checksum

You will notice that when you chose an iso file to be burned, there was some activity from a progress bar in the large white field. What you saw happening was K3b calculating the “checksum” data.

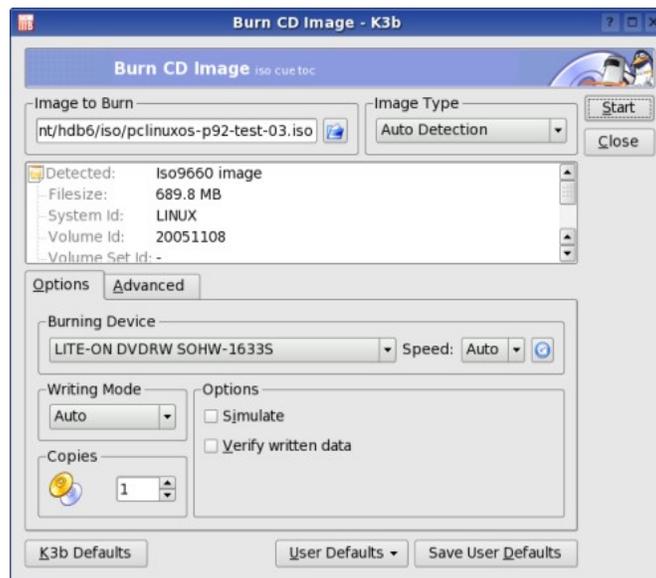


When someone creates an iso file from data, a checksum algorithm begins and assigns a number to the file. Sometimes when we download data from the Internet, the files can become corrupted for one reason or another. The MD5 sum or checksum is calculated and assigned to a particular iso file so when you burn it, K3b will calculate the checksum as well and you can compare the two sums. If there is a single digit difference between the checksum you got with your iso download and the one K3b calculates, it means you have a corrupted iso file and it is worthless.

Usually, re-downloading the file will fix the problem. If you receive conflicting checksums on the second attempt, then find another source to download the file because it is probably corrupt. MD5 checksums are usually available for download as a separate file in the download directory where your iso file is located. In the case of PCLinuxOS, they are the .asc files with the same filename as the .iso files. They are small and only take seconds to download. The checksum shown in the screen shot is just as an example. Verify the checksum you get with the one in the .asc file by comparing them and seeing if they match.

Ladies and Gentlemen, Start Your Burning!

Once you've verified the checksum and thus know the iso is correct, it is time to start the burning.



You might want to tune down the burning speed a little bit at this point. Using a speed of 8x - 12x is usually a good speed for burning, as it'll generally have a higher chance of success. Put in an empty CD-R, CD-RW or even DVD+/-R or RW and press the "Start" button at the top-right of the "Burn CD Image"-window.

It will now open a new window showing the image burning status and progress. The data in the iso file is now copied to the CD. Once it is done, it'll pop open the CD-tray automatically and your brand new PCLinuxOS Live CD is done! Literally hot off the press.

Purchasing a Copy of PCLinuxOS

If you would rather not download and burn your own CD, you may order the latest version of PCLinuxOS from On-Disk.com.

Cost (as of March 24, 2006) - \$4.99US plus Shipping and tax where applicable. The price covers the time and materials to create the disc and a portion to help fund the PCLinuxOS project!

Shipping and Delivery

Up to 2 discs will ship in a square, black plastic case similar to a DVD case.

- USPS First-Class Mail to **US addresses - \$1.76US**. Delivery for most addresses is within 4 business days. Military and addresses to outlying possessions may be longer.
- Air Mail Letter Post to **Canada - \$2.03US**. Usually within 7 business days, but has been known to take upward of two weeks.
- Air Mail Letter Post to the **World - \$3.53US**. Most orders will arrive within a week, but consideration should be given to the distance and the postal service in your country.

If ordering more than two discs, the shipping method and price will vary.

Forms of Payment

On-Disk.com accepts all Major Credit Cards, Personal Check, Money Order and Paypal.com

Questions

Questions about ordering a disc should be directed to On-Disk.com via their "Contacts" page. More information about the work they do for Developers can be found on their "More about us" page.

Interested in ordering your copy from On-Disk?

http://on-disk.com/index.php/manufacturers_id/19

Please don't buy PCLinuxOS from eBay!

Orders from On-disk help fund the PCLinuxOS project, this is often not the case with orders from eBay.

Using the PCLinuxOS Live CD

Simply place the PCLinuxOS Live CD into your CD ROM drive and reboot the computer. Without altering or touching your hard drive or your data, the CD boots into the complete PCLinuxOS operating system. You do not have to install anything to use PCLinuxOS, but you can still get to use all its software and try out all the features!

Minimum Requirements

The most basic requirement of the PCLinuxOS is 256 megabytes of memory recommended. As always, more memory does make things go more smoothly. Besides memory requirements, there is one other requirement that must be met. Some computers cannot boot directly from a CD ROM drive. If you've bought your computer in the last four or so years, you are probably fine. If not, see the chapter "Troubleshooting the Live CD."

Logging in

During the loading of the Live CD, you will have to log in. You can log in as either the "guest" user or as administrator user named "root". It is unusual to actually log in as root, so go with the guest account.

Log in with this user name and password:

Username: guest

Password: guest

The administrator account has the following credentials

Username: root

Password: root.

Do not log in as root user. You will be asked for the root password for administration activities.

You may browse, email, compose letters, print and perform almost any function you would normally perform on your computer. When you are done using or exploring PCLinuxOS, restart your computer, remove the CD and you will boot back into your regular computer environment.

The Live CD Boot Options

In most situations you will not have to use the boot options. Put in the CD, restart your computer and just press Enter when it prompts for input. There are a few situations however where you might want the live CD to start differently. In those situations you can change how the live CD starts by using the boot options. There are several different options that can be given to the live CD to change how it handles the boot process and the hardware detection. Some of these are detailed below.

First of all, the special boot options that don't start with "livecd":

- **mediacheck** - check the live CD to make sure you have a good CD
- **memtest** - runs the built in memory (RAM) diagnostic program
- **safeboot** - turns off everything at boot. (Equivalent to entering "livecd acpi=off vga=normal keyb=us noapic nolapic noscsi nopcmcia nomce unionfs=no")

Now the boot options which require the "livecd" listed first:

- **livecd debug** - go into debug mode. This helps with booting in rare cases when even safe boot fails because safe boot does not include it.
- If you find that the boot process hangs "**livecdnousb noscsi**" might get you through.
- Some of the laptops, or older cup's can't handle the power controls too well, so entering **livecd noapic nolapic** can get you through this.
- If the hardware detection has a problem with your video card detection you can try **livecd xdrv=vesa**, or as a last ditch effort you can try **livecd xdrv=fbset**.
- The hardware detection tries to guess the optimal resolution for your screen. You can overwrite it with **livecd xres=1024x768 xbpp=24**. For 1024x768 and 24 bpp (bits per pixel) or 24bit color-depth / truecolor.
- To save changes and store settings on a USB memory stick/pen, use **livecd home=usb** or **livecd changes=/dev/sdaX**. This allows you to use the guest account to save and store settings.

More information about the available boot-options is available from [the boot-options page](#)⁹ in the online new user guide and in Appendix II – The Boot Option List on page 27.

9 <http://www.pclinuxonline.com/wiki/CheatCodes>

Saving Your Work

You can imagine that running an OS requires some files to be written. You know it is not that easy to make changes to files on a CD. How come you can change files and install software while you are running the entire operating system content from a CD? Something has to be responsible for this, the purest of magic!?

Recent versions of the PCLinuxOS live CD use UnionFS (union file system) for performing the magic of "changing" files on a live CD system. The UnionFS software is a magician as it joins multiple file systems to look as one. It creates a union of a read-only file system (the CD) and a read-write file system, called ramfs, located in your PC's memory. The union of memory with the CD makes *the union* readable *and* writable. It's all a slight-of-hand trick which makes you *think* you are writing to the CD.

The live CD and UnionFS work great and you can make changes to files, but when you reboot everything is back as it was. Bookmarks you've set, settings you've made, files you've created.... gone! There are three ways of saving your work when you are working from the live CD.

Saving Your Files

You can just save your files just before you reboot! USB keys hold more data than a floppy, so get a USB key. Just plug in your USB key and open it by clicking on its icon. Copy all your files to the USB key. When done copying, remember to safely remove your USB key. Right mouse click on your USB key icon and select "Safely Remove".

You can also just store all your files on your USB key and work from there. This saves the copying and makes document version management quite a bit easier. You'll always have the latest version on your USB key.

You can store your files on the hard drive as well. Depending on circumstances, a good option would be to just access a hard drive and work with your files from there. Click on "My Computer" then "Storage Media" and select a good drive to store your files on.

Saving Changes

Just like other live CD's, PCLinuxOS gives you the capability to save the changes you make during the execution of the live CD to almost any read-write file system, including USB keys! As of yet, it doesn't support writing to Windows NT/XP file systems using NTFS.

An example: if you are using a USB key partition `/dev/sda1` then the live CD will create a `/changes` folder on the USB key. It will then write all the changes you make to files on the live CD to the folder on your USB. On the next reboot of the live CD it will remember *all* your modifications (they are stored on the USB key) from the previous sessions. This includes bookmarks, settings, documents you wrote, software you installed and more.

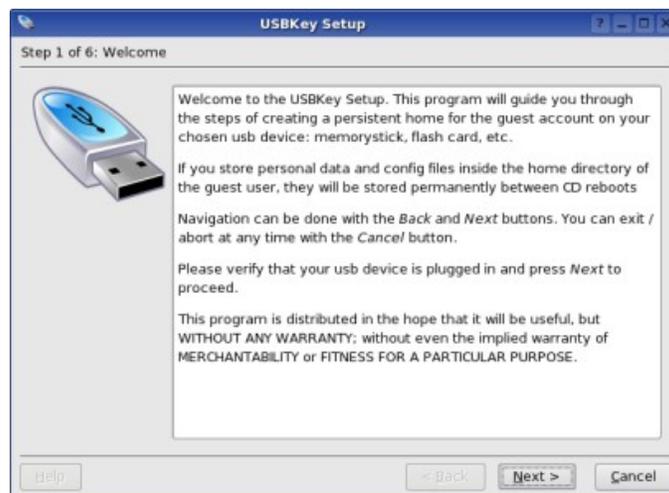
To use this feature you have to boot the live CD with the `"changes=/dev/<partition>"` boot option, in our example: `"changes=/dev/sda1"`.

Saving Your Home-folder

Instead of the 'changes=' option, you can also set up a persistent home-folder on your USB key. This way only your personal home-folder is saved to the USB key. This includes all bookmarks, settings, wallpapers, documents and personal files. Only your home-folder, not the hardware settings and software you installed.

The persistent home-folder method is somewhat more limited, but also more flexible than the 'changes=' solution. You can easily start and stop this service at will. You can also use it on more different setups and machines, seeing as the basic PCLinuxOS remains unchanged between sessions.

Interested? Start the program kusbhome (or KDE USB Key Setup) from the Start menu -> Configuration. This will open the program showing the welcome page with some information. Read it.



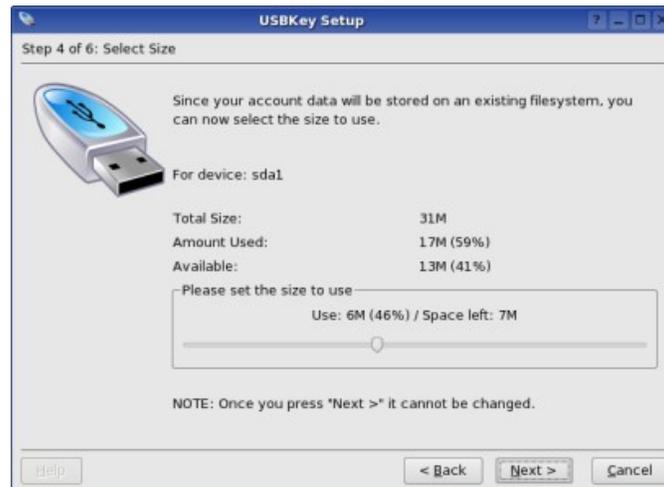
Make sure you have plugged in your USB key. Free up some files if necessary. If you feel like continuing, press Next.



Select your USB device by clicking on it once. Press Next.



You can now select if you want to format your USB key (removing all files) or add the information. You are discouraged from formatting your USB key. You'll want to go with the "Keep present data and just add the account" option. Press Next.



It'll now show how much room there is on your USB key for the persistent home folder. You can select how much room you'd like to use for your persistent home-folder. Please be aware though, that the room you select for use can not be used by Windows or Mac OS X. However, you also want to make sure you can store quite a bit of information and files, seeing as your complete home-folder will be stored in it.

Use the slider (the horizontal line, pick up the thing in the middle by dragging it to the left or right) to select your size. Generally: more is better. When you press Next, it'll create the home-folder. Depending on things, this might take a while.

When it is done, you can press Next. You'll have to choose if you want to start the USB home service now. Go with Yes. Log out now, Start menu -> Log Out... and back in ("guest", password "guest") and you'll be working from your USB key! That easy!

This procedure created a file called "guest.img" on your USB key. *Do not remove this file!*

Starting & Stopping the Persistent Home-folder

To immediately start using the persistent home-folder during boot-up, start PCLinuxOS with the boot option "livecd home=usb". You can also switch on and off the persistent home-folder service manually. Start the kusbhome tool (KDE USB key Setup) again from Start menu -> Configuration.

When you are running the usbhome service when you start the kusbhome tool, it'll ask if you want to *stop* running it. When you start kusbhome and it detects you have a USB key with a persistent home plugged in, it'll ask if you want to *start* it.

Troubleshooting the Live CD

If the live CD doesn't work at once, don't fear. There are quite a few ways to get it going. We'll give you a few points in this section.

Minimum Requirements

The most basic requirement of the PCLinuxOS is 256 megabytes of memory. As always, more memory does make things go more smooth. Besides memory requirements, there is one other requirement that must be met. Some computers cannot boot directly from a CD ROM drive. If you've bought your computer in the last 4 or so years, you are probably fine. You might, however, have to tell your computer to check out your CD ROM drive during the startup procedure of your computer. You do this by entering into the computer Bios settings and forcing it to do so.

Bios Settings

Sometimes a computer is not set up to boot from the CD-ROM drive. If the CD is being bypassed and the computer is just booting the OS that is installed on your hard drive, there are two issues to keep in mind. You will either have to change some settings in your computer's bios, or you haven't used the boot-menu that is available on some PCs. On some PCs you can press a button (for example, F12) to enter a boot-menu where you can select how to boot: from floppy disk, CD-ROM, USB or hard drive. During the initial power up, pay close attention to the displayed messages to find out if this is the case.

If no such boot-menu exists or booting from CD-ROM is not an option, you will have to change some settings in your computer's bios. To access the bios, on most computers press the delete key, insert key, or F2 during the initial power up of the computer. If you watch the screen as the computer starts you will see a message that says something along the lines of press del to enter setup. The key listed might be different but the effect will be the same. Press this key and the bios setup screen should appear.

Once inside the bios settings, check to ensure that the CD ROM is listed before the hard drive. There will be a section with the name "boot order" or "boot devices". This list will need to be changed to place the CD ROM as one of the devices before the hard drive of the machine. For example, your boot order should be correct when set as: First: A-drive. Second: CD-Drive. Third: Hard drive. Once this is done, save the bios settings and exit the settings screen (usually by pressing the F10 key). The computer will then reboot and the live CD in the CD ROM drive should have control of the system, without making any changes to your hard drive.

Boot Options

If you do get your live CD loading, but it fails, you can configure exactly how the live CD loads. This sounds complicated, but it really isn't. An explanation of the boot options is found on page 18, Appendix II – The Boot Option List on page 27 has a list of available boot options.

Appendix I - Live CD FAQ

What is the password for root and guest?

The password for root is root. The password for guest is guest.

What does PCLinuxOS do to my Windows?

The live CD doesn't write to your hard drive and it doesn't make any changes to Windows. In fact, once you reboot your computer after using the live CD, everything will be **exactly** as before starting the live CD.

What happens with the documents I create with PCLinuxOS?

The live CD doesn't write to hard drive. You can make it do that, but by default this doesn't happen. You might have noticed that when you restart your computer, it returns completely to its original state and all documents you've written, bookmarks you've created, email you downloaded, are gone. You can very easily (just plug it into your computer) use your USB key to store your files, and even your settings. When you plug in your USB key, an icon will appear on the desktop. You can use this icon to access your USB key. Read more about this in the Saving your work chapter on page 19.

How is it possible I can make changes to the files on the CD?

As we all know, it's not that easy to make changes to files on a CD. So how come you can change files and install software when you are running everything from a CD? If you burn the PCLinuxOS to a CD-R, you can't rewrite files but you can install software and edit files while running the CD. Pure magic? Yes. Interested in how it works? See: <http://www.pclinuxonline.com/wiki/UnionFS>.

Why bother installing PCLinuxOS if it works perfectly fine from CD?

Starting the operating system and loading programs is quite a bit faster when you install it to your hard drive. Software available to PCLinuxOS users is being constantly improved and updated. While the programs on the live CD installing to the hard drive is truly advantageous, as some of the software updates really are amazing. Our resident expert in drive partitioning and installation will give you easy to understand instructions on how to do so.

If I take my CD and my USB key, I can work on my files everywhere?

We get this question a lot. ;) Yes, if you take the PCLinuxOS Live CD and your USB key with you, you can have a personalized working environment and your files on most PCs you come across.

When I boot PCLinuxOS the CD hangs when probing USB?

You might be able to get past this by typing `livedcd nouseb` at the boot prompt.

When I booted PCLinuxOS all I got was a black screen with a prompt?

The hardware detection (hwdetect) could not determine the correct video driver for your video card. You might be able to boot by typing "livecd xdrv=fbdev", without the quotes, at the boot prompt. fbdev is a generic driver that should work with most video cards.

When the live CD fails to detect your video driver you will probably see a message on how to proceed. This implies logging in as root (password: root) and starting video configuration by typing: "video", without the quotes. On versions before P0.92 you have to login as root, and type "XFdrake", case sensitive and without the quotes, to set up your video card. When you are done with configuring your video, start X by typing either "kdm" (for the graphical login) or "startx" to start KDE as root-user. Don't forget to log out the root when you start KDM!

After booting all I see is a black screen saying "login:"

See point above.

I logged in but all I see is "[root@localhost root]#"

See point above.

Why does live CD hang at starting non-interactive mode and nothing else happens?

This usually indicates a bad CD burn. Try another brand of CDR or burn the CD at a lower speed. I have had very good success at 8-12x speed

Can I install software while running the live CD?

On recent live CD's you can install software from our repository. Once you restart your computer however, installed software is gone again. Also, you have to be running the unionfs functionality which in recent live CD versions is turned on by default.

With the changes= boot option you can make changes to the live CD persistent. Not only the home folder, but any file modified during your live CD session. The changes can be saved to any partition (block device), except NTFS file systems from Windows NT/XP/Vista. Once you've installed PCLinuxOS on your hard drive, installed software is kept between restarts.

Why does my computer freeze when trying to boot the live CD?

Some motherboards require additional kernel options passed at the boot prompt. You may be able to boot by typing livecd noapic nolapic acpi=off at the boot prompt. More information can be found in the section Using the PCLinuxOS Live CD on page 17.

I'm not setup on broadband, how do I stop the live CD from trying to start the network?

Type "livecd nonetwork" at the boot prompt.

I've setup my USB key but when I log in as guest it doesn't have my previous settings?

When booting the live CD type livecd home=usb to let the live cd know you have a key plugged in. Continue reading the chapter "Saving your work" on page 19 for more information.

Where is the installer and the USB key setup routine?

Log in as guest, not as root, and click the icons on the desktop.

How do I set my computer to boot from CD-ROM?

This is a bios setting. When starting your computer you will see output on the screen such as Press Delete, F2 or F10 to enter setup. This will take you into the bios configuration screens. What you want to do is set the first boot device as CD-ROM and the second boot device as the hard drive. More information can be found in the section called "Using the PCLinuxOS Live CD" on page 17.

How do I set up my desktop to see my other drives and partitions?

Type "livecd fstab=auto,rw" at the boot prompt

My live CD won't boot!

Make sure you have configured your system as discussed in "Using the PCLinuxOS Live CD" on page 17. If you still find your CD is ignored, make sure you've correctly burned the ISO to a CD, as described in "Getting PCLinuxOS" on page 5.

Appendix II – The Boot Option List

Boot options are known as "cheat codes" as well. Cheat codes allow you to override the Live CD defaults to modify the boot process for your specific needs. The codes can be used on their own or they can be combined to specify more than one listed option, e.g. "livecd xres=800x600 keyb=fi" (takes in use resolution 800x600 and a Finnish keyboard layout). The latest list will always be available from the Live CD website (CVS) which can be accessed from: <http://livecd.berlios.de>

The following tables shows the cheat codes that are available.

<i>Cheat Code</i>	<i>Explanation</i>
initrd	Only boot the initrd, not the actual CD. This option is (mostly) only useful to Live CD developers. livecd debug Prints useful information (for developers) from the various scripts while loading the Live CD.
livecd fstab=<opts>	Override the default generation of the fstab. Valid options, combined with "," are the following: auto or noauto and ro or rw.
livecd home=usb	For use with a USB memory stick/pen device when attached. Allows you to use the guest account to save and store settings.
livecd noeject	Disable the ejection of the CD on shutdown (power-down) or reboot.
livecd noscsi	Disable the probing of SCSI devices at boot. Do not use this option when booting from a SCSI device since the boot will fail.
livecd nousb	Disable the probing of USB devices at boot. Do not use this option when booting from a USB device since the boot will fail.
livecd nopcmcia	Disable the probing of PCMCIA (laptop) devices at boot.
livecd nonetwork	Disable probing for network at boot.
livecd nosound	Disable probing for sound card at boot.
livecd xdrv=<drv>	Specify the xdriver such as fbdev or nv
livecd xbpp=<depth>	Specify the bitdepth for X. <depth> can be one of 8, 15, 16, 24 or 32.
livecd xres=<res>	Specify the resolution for X.<res> can be one of 800x600, 1024x768, 1280x1024 or 1600x1400.
livecd hwdetect=no	Don't run the hardware detection script, booting with the default hardware configuration as stored on the LiveCD.
livecd keyb=<mapping>	Use a different keyboard layout mapping from the one the LiveCD was built with. Valid values for mapping can be found in the first column of the following table.

Keyboard Mapping Table

al Albanian	kr Korean keyboard
am Armenian (typewriter)	la Latin American
am_old Armenian (old)	lao Laotian
am_phonetic Armenian (phonetic)	lt_b Lithuanian "number row" QWERTY
ar Arabic	lt Lithuanian AZERTY (old)
az Azerbaidjani (latin)	lt_new Lithuanian AZERTY (new)
be Belgian	lt_p Lithuanian "phonetic" QWERTY
ben Bengali	lv Latvian mal Malayalam
bg Bulgarian (BDS)	mk Macedonian mm Myanmar (Burmese)
bg_phonetic Bulgarian (phonetic)	mng Mongolian (cyrillic) mt Maltese (UK)
br Brazilian (ABNT-2)	mt_us Maltese (US)
bs Bosnian	nl Dutch
by Belarusian	no Norwegian
ch_de Swiss (German layout)	ori Oriya
ch_fr Swiss (French layout)	pl2 Polish (qwertz layout)
cz Czech (QWERTZ)	pl Polish (qwerty layout)
cz_qwerty Czech (QWERTY)	pt Portuguese
de German	qc Canadian (Quebec)
de_nodeadkeys German (no dead keys)	ro2 Romanian (qwertz)
dev Devanagari	ro Romanian (qwerty)
dk Danish dvorak Dvorak (US)	ru Russian
dvorak_no Dvorak (Norwegian)	ru_yawerty Russian (Phonetic)
dvorak_se Dvorak (Swedish)	sapmi Saami (norwegian)
ee Estonian	sapmi_sefi Saami (swedish/finnish)
es Spanish	se Swedish
fi Finnish	si Slovenian
fr French	sk_qwerty Slovakian (QWERTY)
ge_la Georgian ("Latin" layout)	sk Slovakian (QWERTZ)
ge_ru Georgian ("Russian" layout)	sr Serbian (cyrillic)
gr Greek	syr_p Syriac (phonetic)
gr_pl Greek (polytonic)	syr Syriac
guj Gujarati	tel Telugu
gur Gurmukhi	th Thai keyboard
hr Croatian	tj Tajik keyboard
hu Hungarian	tml Tamil (ISCII-layout)
ie Irish	tr_f Turkish (traditional "F" model)
il Israeli	tr_q Turkish (modern "Q" model)
il_phonetic Israeli (Phonetic)	tscii Tamil (Typewriter-layout)
ir Iranian	ua Ukrainian
is Icelandic	uk UK keyboard
it Italian	us_intl US keyboard (international)
iu Inuktitut	us US keyboard uz Uzbek (cyrillic)
jp Japanese 106 keys	vn Vietnamese "numeric row" QWERTY
kan Kannada	yu Yugoslavian (latin)

Appendix III - The Complete List of Supported nVidia Cards

Use the nVidia 7174 (legacy) ISO if you have one of these cards,

NVIDIA chip name Device PCI ID

RIVA TNT 0x0020	GeForce DDR 0x0101
RIVA TNT2/TNT2 Pro 0x0028	Quadro 0x0103
RIVA TNT2 Ultra 0x0029	GeForce2 GTS/GeForce2 Pro 0x0150
Vanta/Vanta LT 0x002C	GeForce2 Ti 0x0151
RIVA TNT2 Model 64/Model 64 Pro 0x002D	GeForce2 Ultra 0x0152
Aladdin TNT2 0x00A0	Quadro2 Pro 0x0153
GeForce 256 0x0100	

Use the nVidia 7676 ISO if you have one of these cards,

NVIDIA chip name Device PCI ID

GeForce 6800 Ultra 0x0040	GeForce2 Go 0x0112
GeForce 6800 0x0041	Quadro2 MXR/EX/Go 0x0113
GeForce 6800 GT 0x0045	GeForce 6600 GT 0x0140
GeForce 6800 GT 0x0046	GeForce 6600 0x0141
Quadro FX 4000 0x004E	GeForce 6600 LE 0x0142
GeForce 7800 GTX 0x0091	GeForce Go 6600 0x0144
GeForce 6800 0x00C1	GeForce 6610 XL 0x0145
GeForce 6800 LE 0x00C2	GeForce Go 6600 TE/6200 TE 0x0146
GeForce Go 6800 0x00C8	GeForce Go 6600 0x0148
GeForce Go 6800 Ultra 0x00C9	GeForce Go 6600 GT 0x0149
Quadro FX Go1400 0x00CC	Quadro FX 540 0x014E
Quadro FX 3450/4000 SDI 0x00CD	GeForce 6200 0x014F
Quadro FX 1400 0x00CE	GeForce 6200 TurboCache(TM) 0x0161
GeForce 6800/GeForce 6800 Ultra 0x00F0	GeForce Go 6200 0x0164
GeForce 6600/GeForce 6600 GT 0x00F1	GeForce Go 6400 0x0166
GeForce 6600 0x00F2	GeForce Go 6200 0x0167
GeForce 6200 0x00F3	GeForce Go 6400 0x0168
Quadro FX 3400 0x00F8	GeForce4 MX 460 0x0170
GeForce 6800 Ultra 0x00F9	GeForce4 MX 440 0x0171
GeForce PCX 5750 0x00FA	GeForce4 MX 420 0x0172
GeForce PCX 5900 0x00FB	GeForce4 MX 440-SE 0x0173
Quadro FX 330/GeForce PCX 5300 0x00FC	GeForce4 440 Go 0x0174
Quadro NVS 280 PCI-E 0x00FD	GeForce4 420 Go 0x0175
Quadro FX 330 0x00FD	GeForce4 420 Go 32M 0x0176
Quadro FX 1300 0x00FE	GeForce4 460 Go 0x0177
GeForce PCX 4300 0x00FF	Quadro4 550 XGL 0x0178
GeForce2 MX/MX 400 0x0110	GeForce4 440 Go 64M 0x0179
GeForce2 MX 100/200 0x0111	Quadro NVS 0x017A

Quadro4 500 GoGL 0x017C	Quadro FX 1000 0x0309
GeForce4 410 Go 16M 0x017D	GeForce FX 5600 Ultra 0x0311
GeForce4 MX 440 with AGP8X 0x0181	GeForce FX 5600 0x0312
GeForce4 MX 440SE with AGP8X 0x0182	GeForce FX 5600XT 0x0314
GeForce4 MX 420 with AGP8X 0x0183	GeForce FX Go5600 0x031A
GeForce4 MX 4000 0x0185	GeForce FX Go5650 0x031B
Quadro4 580 XGL 0x0188	Quadro FX Go700 0x031C
Quadro NVS with AGP8X 0x018A	GeForce FX 5200 0x0320
Quadro4 380 XGL 0x018B	GeForce FX 5200 Ultra 0x0321
Quadro NVS 50 PCI 0x018C	GeForce FX 5200 0x0322
GeForce2 Integrated GPU 0x01A0	GeForce FX 5200LE 0x0323
GeForce4 MX Integrated GPU 0x01F0	GeForce FX Go5200 0x0324
GeForce3 0x0200	GeForce FX Go5250 0x0325
GeForce3 Ti 200 0x0201	GeForce FX 5500 0x0326
GeForce3 Ti 500 0x0202	GeForce FX 5100 0x0327
Quadro DCC 0x0203	GeForce FX Go5200 32M/64M 0x0328
GeForce 6800 0x0211	Quadro NVS 280 PCI 0x032A
GeForce 6800 LE 0x0212	Quadro FX 500/600 PCI 0x032B
GeForce 6800 GT 0x0215	GeForce FX Go53xx 0x032C
GeForce4 Ti 4600 0x0250	GeForce FX Go5100 0x032D
GeForce4 Ti 4400 0x0251	GeForce FX 5900 Ultra 0x0330
GeForce4 Ti 4200 0x0253	GeForce FX 5900 0x0331
Quadro4 900 XGL 0x0258	GeForce FX 5900XT 0x0332
Quadro4 750 XGL 0x0259	GeForce FX 5950 Ultra 0x0333
Quadro4 700 XGL 0x025B	GeForce FX 5900ZT 0x0334
GeForce4 Ti 4800 0x0280	Quadro FX 3000 0x0338
GeForce4 Ti 4200 with AGP8X 0x0281	Quadro FX 700 0x033F
GeForce4 Ti 4800 SE 0x0282	GeForce FX 5700 Ultra 0x0341
GeForce4 4200 Go 0x0286	GeForce FX 5700 0x0342
Quadro4 980 XGL 0x0288	GeForce FX 5700LE 0x0343
Quadro4 780 XGL 0x0289	GeForce FX 5700VE 0x0344
Quadro4 700 GoGL 0x028C	GeForce FX Go5700 0x0347
GeForce FX 5800 Ultra 0x0301	GeForce FX Go5700 0x0348
GeForce FX 5800 0x0302	Quadro FX Go1000 0x034C
Quadro FX 2000 0x0308	Quadro FX 1100 0x034E