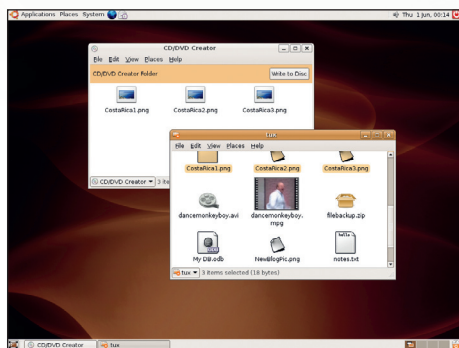




Burning CDs and DVDs

For music, video or essential backups, here's how to burn discs on Ubuntu.



Ideal for copying data to a disc quickly, this is Gnome's CD/DVD Creator tool. The window holds files that you want to burn to the disc.

JUST LIKE Linux itself, disc burning has come a long way in the last few years. It used to be a fraught process, involving dozens of partially completed discs and strange rituals for reducing the overhead on the processor while the disc was burned. Now it's hard to mess up when burning a disc, and any problems are more likely to be the result of a bad CD than user error.

BURNING FROM NAUTILUS

By now, you should be getting used to Gnome's minimalist way of approaching a task, and as you might expect, this philosophy extends to CD and DVD burning. Burning files on to a disc from Gnome works in a similar way to recent Windows methods.

A separate, temporary location acts as a CD/DVD buffer. You can add and remove files from here, and when you're ready, a simple click of the mouse will burn the contents to disc. If you're familiar with the way Windows burns files to disc you'll feel comfortable with *Nautilus's* approach. But if you're more familiar using with a separate application for these things, it might take a bit of getting used to.

To start, look under the Places menu from the desktop, where you'll find an entry for CD/DVD Creator. Click on this, and *Nautilus* will open a window with a special bar under the menu that reads CD/DVD Creator Folder, and a Write To Disc button on the right. This is a special kind of folder where you can burn files and directories to disc by simply clicking on the Write To Disc button. You can either copy and paste files using keyboard shortcuts or drag them from other windows, such as open *Nautilus* folders. It's obviously possible to remove files from the CD/DVD Creator folder, and you can organise your files into directories and sub-directories. Your layout in this window will be the same on the burned disc.

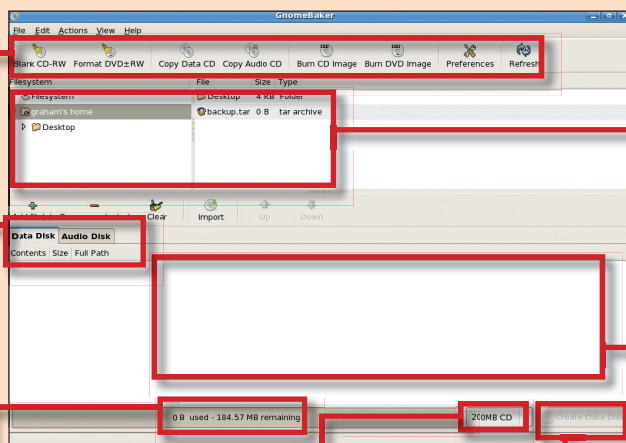
Once you're ready to burn the files, just press the Write To Disc button. Another window will appear (see the image shown above right) asking for a name for the disc, as well as which CD/DVD burner to use – in most cases, stick with the default. You can also select File Image if you'd rather create an image of the disc to burn later. The image will use the ISO format, which is compatible with almost every other disc-burning application.

GNOMEBAKER AT A GLANCE

As well as burning, more functions, such as copying a disc or blanking a rewriteable one, are available from this toolbar.

These tabs switch between data and audio mode. In audio mode, *GnomeBaker* decodes the audio files automatically.

The space you've used, and what's left on the disc, is shown in this bar. It fills up as you add files.



So you know how much space you have free, change this value to reflect the size of the media you are using.

When you're ready to go, just click on this Create Data Disc button and your disc will be burned.

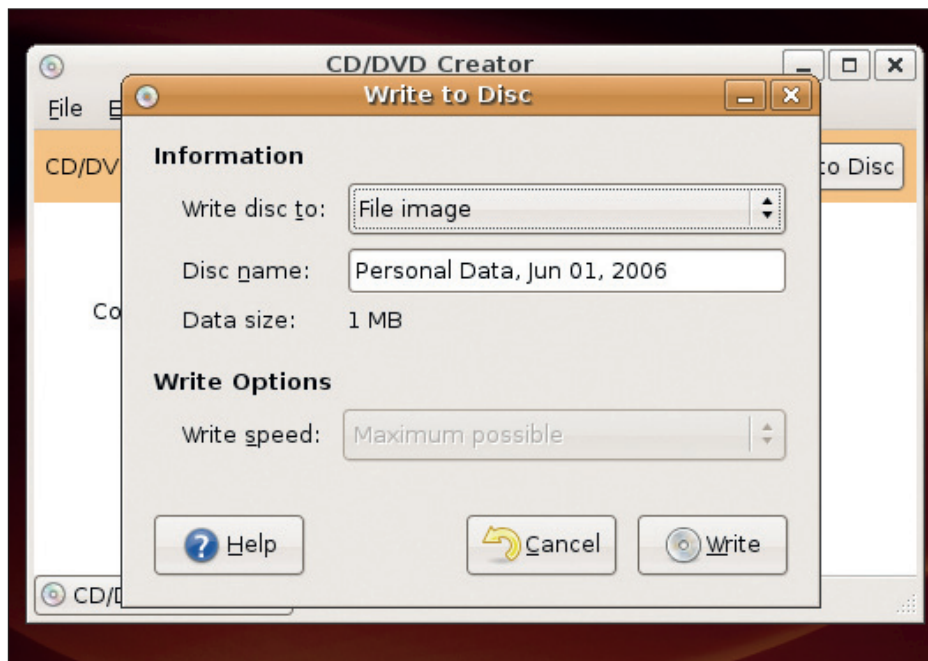
The file browser, for moving through files and folders. Dragging either to the lower panel will add them to the disc.

Added files and audio is listed here. You can also create folders that will exist only on the disc.

THE GNOMEBAKER OPTION

Gnome's built-in CD/DVD burning is a great solution for quickly creating a data disc, but if you need more control over files – or if you want to burn an audio disc – a more serious tool is required. The most popular Gnome application for this is called *GnomeBaker*, and its user interface is an amalgam of *Easy CD Creator* for Windows and KDE's flagship burning tool, *K3b*.

The main feature of *GnomeBaker* is that it can create audio CDs from your audio files. It supports WAV, MP3, FLAC and OGG, and conversion is transparent. It's also a great tool for burning a disc image, such as those that often come on the *Linux Format* DVD, or those created with *Nautilus*.



When you've added all the files you need, click on the **Write** button to start the burn process.

GnomeBaker isn't included in Ubuntu's main distribution, but adding it to your collection couldn't be easier. Go to the System menu and choose Administration, then select Synaptic Package Manager. Here is where new programs are added, and you can search for *GnomeBaker* in the package repository. If you're on the internet, you may need to wait a few minutes while an updated package is downloaded and installed. You should now be able to launch *GnomeBaker* from the Applications > Sound & Video menu.

Unlike *Nautilus*'s integrated burning, *GnomeBaker* uses two panels, split horizontally. The top view is a file manager, from which you can navigate through your files, and add them to your disc. The lower view is where files are dropped – anything listed here will be included on your disc. In the lower frame border, there's a drop-down menu where you select the capacity of your media. Common values are 700MB for a CD, 4.7GB for a single-sided DVD, and 8.5GB for a double-sided DVD. As you add files, this space will be filled and illustrated to the left with a growing progress bar. If you use rewriteable media, then *GnomeBaker* can also erase the discs using the toolbar buttons.

The lower panel has a single tab that switches between data and audio. In Data Disk mode, you simply add your files to the lower panel and click on the Create Data Disk button. Depending on the speed of your drive, and how much data you're burning, within a few minutes you'll have a finished disc. *GnomeBaker* also supports multi-session burning, so you can partially fill a disc then fill the remaining space with other data at a later date. When you insert a disc that contains a previous session, select Actions > Import Session from the menu and the data that's already on the disc will be recognised automatically, letting you add more files in a new session.

Audio files need to be treated a little differently from standard data, which is the reason for the

Audio Disk tab. To be able to play on a standard audio CD player in your hi-fi, the audio needs to be in a specific and uncompressed format.

MAKING MUSIC

When you add an audio file to the lower panel, *GnomeBaker* will uncompress and decode the audio as long as the format is supported. If the original audio file includes metadata that describes the song, artist and album, that too will be extracted and placed alongside the audio in the panel. It's also possible to import an entire playlist, such as those used by media players like *Rhythmbox*.

GnomeBaker will fill the CD in the order that the tracks appear. As with data discs, you need to select the required length of the CD in the drop-down menu in the lower bar (74 minutes is the most common). When you're finished, click Create Disc.

And that's that! With a choice of two great tools, disc burning couldn't be easier. ●

DISC BURNING JARGON

The biggest problem with writing CDs and DVDs is that the software seems to use an impenetrable language all of its own. This short list should help to make things a little easier.

Burnfree Only supported on certain hardware, this ensures that a disc will burn without errors, even under heavy system use.

Burn speed The speed of reading or burning process. The higher the burn speed, the better.

DAO Disk at once – a burning mode where the recording laser burns the disc continuously from start to finish.

Finalised Writing the final table of contents to a disc and finishing the burning process.

ISO A virtual image of a disc stored as a single file. It's often convenient to store an image on your hard drive so you can easily reproduce the disc at a later date.

ISO-9660 The standard that defines a CD filesystem to ensure compatibility. It doesn't provide for long filenames (see *Joliet* and *RockRidge*).

Joliet Microsoft's extension to the ISO-9660 format to allow for longer filenames on a data disc.

Multi-session Using multi-session enables you to burn files on to a disc without using all the disc in one go.

You can burn further files on to the same disc by creating another session, but a multi-session disc may not work on other system until it's been 'finalised'.

Recordable You can write to this kind of disc only once, but the disc produced will last almost as long as a commercially pressed CD.

Rewriteable You can erase or re-format the data that's already on the disc. For CDs, you need to select Tools > CD > Erase CD-RW, while rewriteable DVDs manage this automatically.

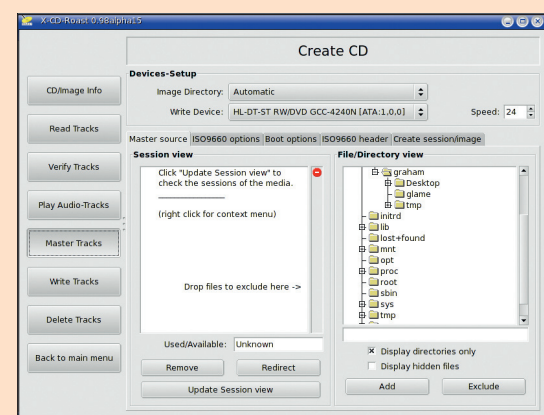
RockRidge A Unix filesystem extension to the ISO-9660 standard, mainly used to allow long filenames on a data disc.

TAO Track at once. Another burning mode, most often used with audio, but this time the laser pauses before each track. This can cause problems if you need one track to lead seamlessly to another (as with a live concert, for example).

UDF Universal Disk Format. This is the latest format for writing data, and is mostly used with DVDs. It brings the ability to transparently add and remove files from rewriteable media.

OR TRY: X-CD-ROAST

If you find *GnomeBaker* a little too cumbersome for simple backup and data tasks, there are alternatives. One of the more popular is called *X-CD-Roast*, and provides a subset of what KDE's *K3b* tool is capable of, but with the advantage of being easier to use. All of *X-CD-Roast*'s capabilities are listed on the left of its main window in a group of vertical buttons, and when you select one, the panel on the right is updated to reflect the action. For example, for burning files directly off your hard disk, just click on the Master Tracks button. You can then drag files from the filesystem into the Session view, select Create Session/Image followed by Master And Write On-the-fly, and the burn process will start. That's all there is to it.



X-CD-Roast has been around for a long time and as a result is an extremely stable and mature application.