

DVD burning FAQ's

DVD burning FAQ's.....	1
Q) What is the best brand of DVD burner to buy?	2
Q) Should I get an internal or external DVD burner?.....	2
Q) How should I set my DVD burner up in my P.C.?	2
Q) Which is the best format to use DVD-R or DVD+R?	2
Q) How long will recorded DVD media last?.....	3
Q) What software should I use to create DVD's ?.....	3
Q) What are the basic system requirements for burning DVD's?	3
Q) Can I make copies of a purchased DVD?	4
Q) Will I be able to play DVD's from other countries ?.....	4
Q) I have tried burning a recordable DVD but I get a "power calibration error".....	4
Q) What does the firmware on a DVD burner do?	5
Q) When should I update the firmware?.....	5
Q) How do I update the firmware on my drive?	5
Q) My DVD burner is in an external USB/Firewire case. Can I still update the.....	5
Q) The recording software that I am using can not find the new DVD burner I have installed on my computer. Why?.....	6
Q) My DVD burner in an external USB case will only let me burn at 2 speed even though I am using 8 speed media. Why?.....	6
Q) I have an internal DVD burner and it will only burn at 2 speed when I am using 8 speed media. Why?	7
Q) I have purchased some recordable media as 4.7GB but my recording program states that there is only 4.38GB free space on this disc. What's the deal?.....	10
Q) Burning a DVD fails part of the way through.....	11
Q) I can burn a DVD but during play back the picture is pixelated and is jerky.....	11

Q) What is the best brand of DVD burner to buy?

A) Like buying any thing, you should look at the features you require versus value for money. It's not much good pay a lot of money for something if you are only going to use a few of the features that it offers. A little research is invaluable when making this decision. Look for a good brand from a reputable retailer who will give support after they have sold it to you. Check the web for forums and see what other users think of the make and model you are looking at. Also check the manufactures web site for support on previous models. A rule of thumbs is if the manufacture has updated the firmware for the drive on a regular basis, It ,ay not mean that the original release was buggy, but they are keen to make sure that the drives continue to be compatible with new media for as long as possible.

Q) Should I get an internal or external DVD burner?

A) Do you need a burner that is external? Most external burners are the same as internal ones, fitted in external case. They cost more but do offer the ease of taking it from one PC to another with out major surgery. External drives do not offer a speed/performance advantage over internal drives. Make sure that you have the correct connections on you PC to make full use of an external case.

Q) How should I set my DVD burner up in my P.C.?

A) Most PC's have 2 IDE channels each capable of handling 2 drives and 2 SATA. Ports for hard rives. These IDE channels are called the "Primary" IDE channel and the "Secondary" IDE channel. Each of these can have a "Master" and a "Slave" drive attached. These drive can be a mix of hard drives and optical drives. A typical set up is as follows.

Primary IDE Master===== hard drive (main boot drive)

Primary IDE Slave===== nothing.

Secondary IDE Master==CD/DVD Rom

Secondary IDE Slave==== nothing.

The best way to set up a new DVD burner is to move the CD/DVD ROM to the Primary Slave location (don't for get to change the jumper settings of the drive) and attach the DVD burner as the Secondary Master.

The main idea is that the source and destination of the data you want burn is not on the same IDE channel when burning, as this can cause a bottle neck in the data transfer.

Q) Which is the best format to use DVD-R or DVD+R?

A) Essentially, the best format is the one that you are going to get the best use from. The difference between the two formats can be found here

<http://www.dvdplusrw.org> for +R format

and here

<http://www.dvdforum.org/forum.shtml>, for -R format.

If you have a set top DVD player, check to confirm it will play the format you are thinking of burning. Again, a little research will go along way.

Q) *How long will recorded DVD media last?*

- A) The New DVD recordable media should, in perfect conditions, last anywhere up to 100 years. There are many factors that can determine the longevity of the discs. Do not handle the recordable side of the disc. Return the disc to its storage case as soon as it is finished with. Store the discs in a cool dry place. Do not expose the disc to direct sunlight. Do not use alcohol or solvent based agents to clean the disc. Use clean warm (not hot) running water and rinse the recordable side of the disc and if possible air dry the disc. If the media is looked after correctly, it should last a long time.

Q) *What software should I use to create DVD's ?*

- A) Most retail DVD burners are sold with a basic software suite that is capable of authoring a simple DVD of home movies. Some of these are basic packages of commercially available software with some features disabled or excluded. They are usually a good starting point for learning about DVD authoring. After some use you will have a good idea of what other features you may require for what you want to achieve. You can then decide whether you require a more sophisticated software package.

Q) *What are the basic system requirements for burning DVD's?*

- A) If your PC is less than 2 years old you should have no problem burning DVD's. For basic burning of data to a DVD the minimum requirement is as follows:

CPU.	PIII 700 or greater.
RAM.	128MB.
OS.	Win98SE or greater.
HDD.	approximately 5-9GB of free hard drive space after software installation.
Graphics	32MB graphics card.

If you are planning on capture and editing home movies then the requirements increase quite steeply.

CPU	P4 2.0GHZ or greater.
RAM	256MB or greater.
OS.	Win2000 or XP (software dependant).
HDD	approximately 3 GB free space for every hour of video recorded, plus the same for editing and recompiling.

You may also need some form of input card if you intend to record for your old VHS home movies. There are a number of tuner cards on the market, both internal and external that

will do the job, Make sure that the card you get has that correct input to record from the source you need it to.

Some newer video cameras require either a USB 2.0 port or a Firewire (IEEE 1394) port to connect to the computer. Check to see that your PC has the right one for your camera and that you have the software that will support this type of interface for recording.

Q) *Can I make copies of a purchased DVD?*

- A) While it is possible to copy a commercially available DVD, it is illegal under Australian law (with certain exceptions) any movie or music that you do not expressly own the copyright or have the copyright owners permission.
Please see <http://www.copyright.org.au/> for more information.

Q) *Will I be able to play DVD's from other countries ?*

- A) Most DVD's sold are region encoded for the country that they are sold in.
The regions are

Region	Zone/Country
0	No region encoding.
1	USA Canada
2	Europe (including GB), Greece, Turkey, Egypt,
3	Korea, Thailand, Vietnam, Borneo, Indonesia
4	Australia and New Zealand, Mexico, The Caribbean, South America
5	India, Africa, Russia (including former USSR countries)
6	the Peoples Republic of China
7	Not in use
8	Airlines & Cruise ships
9	Region free

DVD burners and DVD readers for the PC, when bought new, have no region setting. The first time a region encoded disc is placed in the drive you will be asked to select the region you're in. The drives allow you to set the region 4 times from new. The 4th time it is set, the drive becomes locked on that region and can only be reset by either returning the drive to the manufacture or by flashing the firmware on your drive with an unofficial firmware that has been modified. Flashing a drive with a modified firmware will void the warranty of the drive. There are several software utilities available that can bypass the region encoding.

Q) *I have tried burning a recordable DVD but I get a "power calibration error".*

- A) A "power calibration error" is usually reported when the burner tries to implement the wrong "write strategy" to burn the disc. Encoded in every recordable DVD is a "media ID code". When the disc is inserted in the drive, the drive interrogates the disc to determine several things: The media ID code, the type of media, burn speeds, and write strategy for available burning speeds. If the drive cannot match the "media ID codes" with those contained in the firmware, it may try to implement a default "write strategy" to burn the

disc. The drive will test the media in the “pre write” area, in the centre of the disc at the start of a burning session. If the wrong “write strategy” is used, it will report an error.

Updating the firmware of the drive can usually resolve this problem. Drive manufacturers frequently update the firmware for their drive and release them on their support website.

Q) *What does the firmware on a DVD burner do?*

- A) The firmware is special software that contains information for the drive to tell it how to interact with software and how to handle the recordable media that is placed in it. In most modern consumer drives, the firmware resides on an EPROM (Electro Programmable Read Only Memory) chip within the drive. After a new model of a drive has been released on the market, the manufacturer can still develop the drive by rewriting the firmware. They will then release the new version of the firmware to the public so their drives are as up to date as possible. Updated firmware will usually include a revised media code list to let the drive handle media that may have come onto the market after the drive was originally released. It can also contain fixes for bugs that have been reported to the company by end users,

Q) *When should I update the firmware?*

- A) If you are not having trouble with the drive and it is burning DVD's without any problems, then it may not be necessary to update the firmware. However, if you have just changed brands of media and they do not burn correctly, then updating it may resolve the problem.

Q) *How do I update the firmware on my drive?*

- A) When a new firmware has been released by the manufacturer, they usually post it on the website for downloading. There are usually two files required to update the firmware on the drive: A flash utility and the firmware itself. Always read the instructions provided by the manufacturer BEFORE trying to update the firmware because if it goes wrong, a bad flashing can render the drive unusable and may void the warranty. There is a few of golden rule for flashing the firmware for any make of drive.

Always make sure that there is no disc in the drive to be updated.

Close as many applications and services as possible before the flashing.

This includes screen savers and antivirus programs and any program that may access the drive.

Make sure that the power to the computer remains on during the flashing process. If the power goes off, it can render the drive useless.

Q) *My DVD burner is in an external USB/Firewire case. Can I still update the firmware?*

- A) Most Flash Utilities for Windows will be able to flash a drive in an external case, either USB 2.0 or Firewire. Try flashing the drive. The worst that can happen is that the Flash Utility will not find the drive and abort the process. If this happens then you will have to connect the drive to an IDE port on the motherboard and then flash the drive.

Q) *The recording software that I am using can not find the new DVD burner I have installed on my computer. Why?*

A) There are a couple of possibilities why this may happen

- 1) If you have software installed on your PC from a CD burner that is a couple of years old, the software may be too old to recognise the drive. The solution is to update the software to the latest version. It should resolve the problem
- 2) You have used a copy of software that was bundled with a different brand of burner that you are using now. As part of the OEM licences from the software company, the software may be crippled so that it will only work with the Brand of drive that it was bundled with. If this is the case uninstall the old software and install a new copy, either the software that came bundled with the new drive, or a new retail version of the software.

Q) *My DVD burner in an external USB case will only let me burn at 2 speed even though I am using 8 speed media. Why?*

A) The PC may not be communicating with the case correctly. DVD burning requires high data transfer rates to burn faster than 1 speed and needs a USB 2.0 port to operate correctly. Some motherboard manufacturers allow the settings of the USB ports to be set in the BIOS. There may be 3 settings for the USB ports.

USB 1.0 or low speed = transfer rates of 1.5Mb/s (Megabits per second).

USB 1.1 full speed = transfer rates of 12 Mb/s.

USB 2.0 High speed = transfer rates of 480 Mb/s.

The setting must be on HIGH speed for the DVD burner to operate at its full potential. Consult your motherboard manual on how to adjust these settings.

You may also need to update the USB drivers in windows for the ports to function correctly.

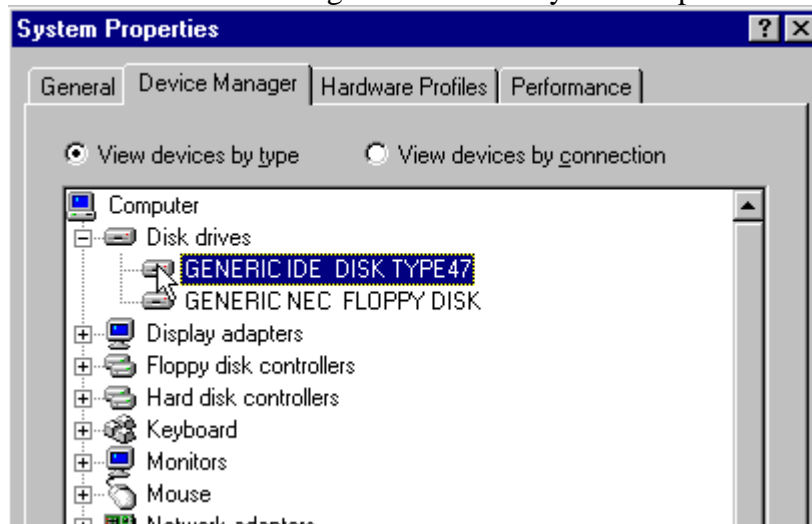
If your motherboard is only fitted with USB 1.1 ports you can add an extra card that will give you up to 5 USB 2.0 ports. These cards are relatively cheap and are easy to fit in a spare PCI slot on your motherboard.

Q) I have an internal DVD burner and it will only burn at 2 speed when I am using 8 speed media. Why?

- A) IDE channels on your mother board also can be set for different data transfer modes. High speed DVD burners require the IDE channels to be set in DMA (Direct Memory Access) mode. Your PC may have it's IDE channels set to PIO (Programmed Input/Output) mode. DMA mode transfers data from one device to another without the data passing through the CPU of the PC. You may have to check whether this feature is selectable in the BIOS of your PC. Check the motherboard manual to confirm. If the IDE channels are set to DMA in the BIOS you may need to check the feature in the device manager in Windows to confirm the setting. For Win98 users use the following steps.

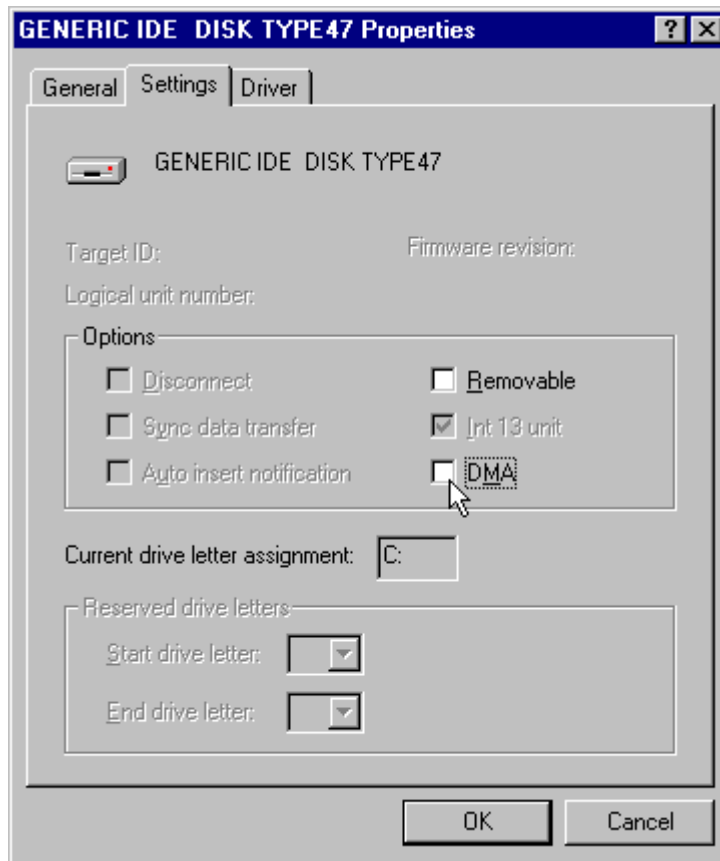
Left click on the “my Computer” icon on the desk top and select the “System Properties” option from the menu.

Select the “Device Manager” tab in the “System Properties” window like this.



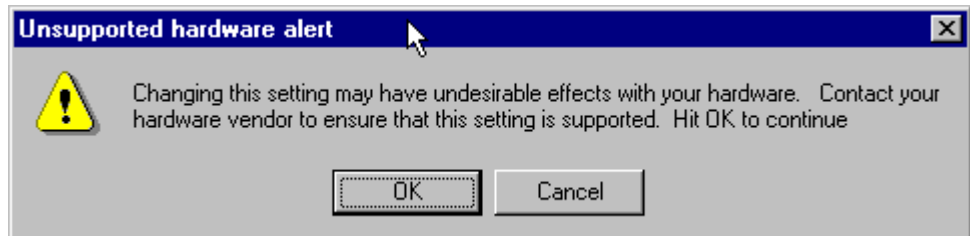
Click the + beside “Disk drives” then double click on your hard drive to get to the properties screen.

Click on the middle tab labelled “Settings”, you will see a screen like this



Click on the DMA box to check it and click “ok”

You will get a warning message like this one.

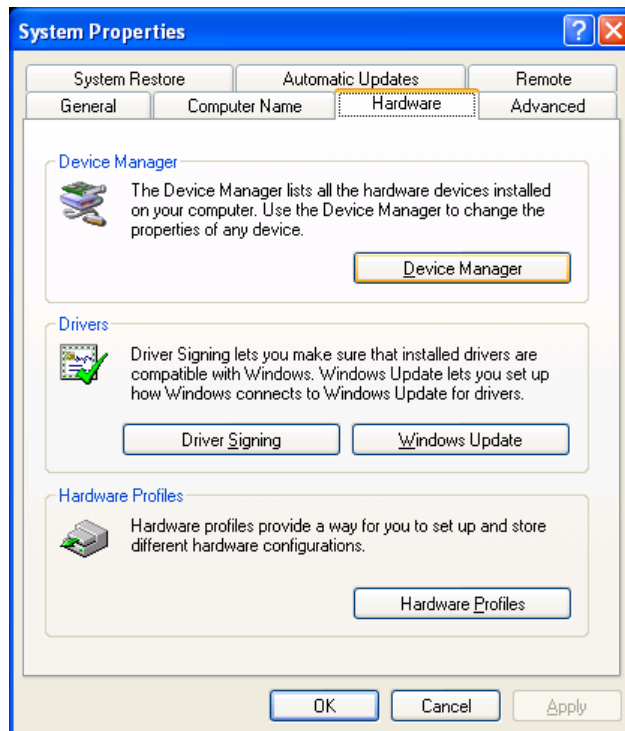


Click the OK box and then reboot the PC. Repeat these steps for all drives on your PC.

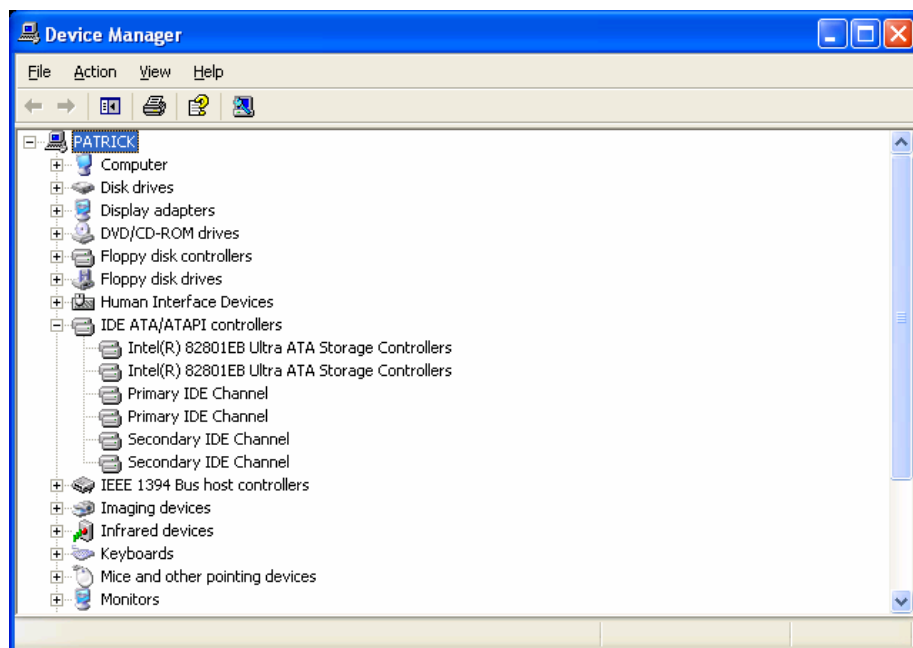
For Windows 2000 and XP users use the following steps.

Call up the System properties window by right clicking ion the “My Computer” icon on the desktop or from the control panel.

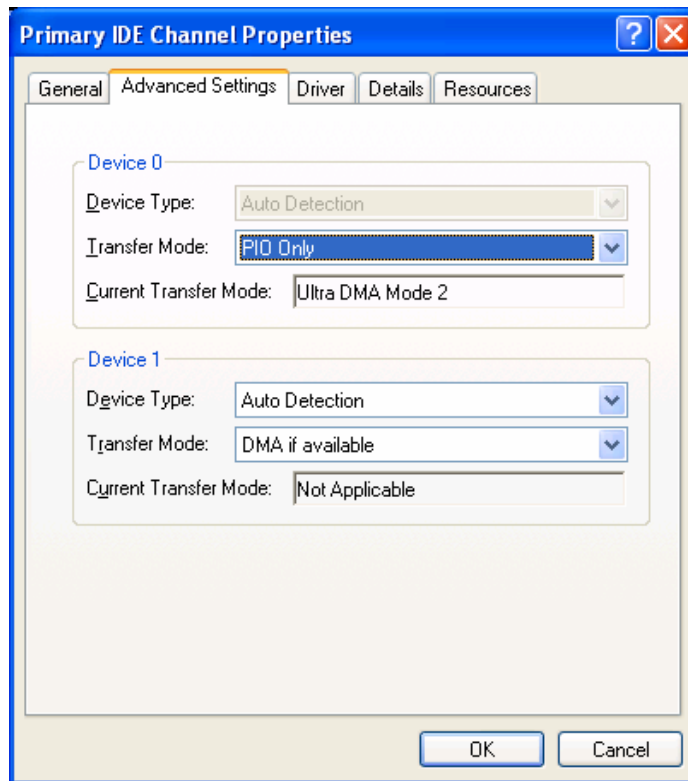
Select the “Hardware” tab and then the “Device Manager” button as shown below.



Click on the cross next to “IDE ATA/ATAPI controllers” to expand the list.



Right click on the “Primary IDE channel” and select properties from the options. When the “Primary IDE channel Properties” window appears, select the “Advance Settings” tab.



Each window will display the “transfer mode” for each device attached to that channel. If the Transfer mode is set to “PIO only” use the pull down menu and select the “DMA if available” option. Click the “OK” button at the bottom of the window. Changing this option will require a reboot of the PC. Repeat this step for each device attached to the IDE controllers.

Q) I have purchased some recordable media as 4.7GB but my recording program states that there is only 4.38GB free space on this disc. What’s the deal?

- A) Manufactures of storage media often quote the sizes in base 10 i.e. 1 GB (Gigabyte) = 1000 MB (Megabyte). Computers storage space in base 2. I.e. 1GB = 1024 MB so the reported size of blank DVD recordable is as follows

Blank DVD-R = 4,706,074,624 bytes = 4,489 MB = 4.38 GB.

Blank DVD+R = 4,700,372,992 bytes = 4,483 MB = 4.377 GB.

The same discrepancy in reported size can also be seen in hard drives.

Q) *Burning a DVD fails part of the way through.*

- A) If the media ID code of the disc does not match the ID codes in the firmware the drive may try to implement an incorrect write strategy for the disc. Burning may start alright and seem to burn OK but the longer the Laser travels along the track, the more out of alignment the laser will become to the track until the errors are so great, the burn process will fail. Updating the firmware may resolve this problem.

Another cause may be that the burn speed selected to burn the disc may be too great. Try dropping the burn speed and try again. This is a common fault if you are using a “modified” or “hacked” firmware to burn media faster than their rated speed.

This fault may also be a symptom of the CPU or memory being over stressed in “over clocked” computers. If your PC is “over clocked” try resetting the CPU clock speed to standard and try again. Burning DVD can put a high demand on the CPU and memory.

Q) *I can burn a DVD but during play back the picture is pixelated and is jerky.*

- A) This can be caused by a number of things.
- 1) Poor encoding of the source video before the transfer to disc
Confirm the encoded video file plays well before committing to disc.
 - 2) Poor encoding of the source video during the transfer to disc.
Check the software you are using has all the latest updates and that the computer is not doing anything else during the encoding/burning process such as, virus scanning, file transfer, screen savers, or anything that may be reading/writing data to the hard drive.
You may also want to check there is enough free hard drive space. You should keep about 10 to 15 percent of each hard drive free for the Windows swap file.
 - 3) Contamination of the recordable surface of the media prior to the burning process.
Ensure that you do not handle the under side of the disc. Any dirt or grease on the surface may distort the laser during the burning process causing data to become corrupted.
 - 4) Trying to fit too much data on the disc.
Some times there is a discrepancy between the reported file size to be transferred to the disc and the actual space the data may take on the disc. As well as the data you’re burning to the disc, a “lead in” track and “lead out” must be written to the disc so the disc can be read when it has been completed. For both DVD-R and DVD+R formats try to keep the amount of data to 4.30 GB.