

FAQ of ATAPI/IDE CDROM, CD-R and CD-RW Drives

Q1: I am looking for a Windows driver for my CD-ROM, CD-R and CDRW drive. Is there a Windows driver and do I need to install it for the operating system?

You do not need a special driver for Windows 95/98/Me/NT/2000/XP. Windows 95/98/Me/NT/2000/XP ships with all drivers needed for ATAPI/IDE CD-ROM and CDRW drives. So Windows 9X/Me/NT/2000/XP automatically recognizes the drives after connecting it properly. Please see below on how to verify if your CD-ROM or CDRW drive is being detected:

- Use right Button of Mouse click on the "My Computer" icon
- Click on the "Properties"
- Click "Hardware" (for Windows 2000 and Windows XP)
- Click the "**Device Manager**" tab
- Double Click on the "+" to expand the CD-ROM folder.
- Find the model of CDROM or CDRW

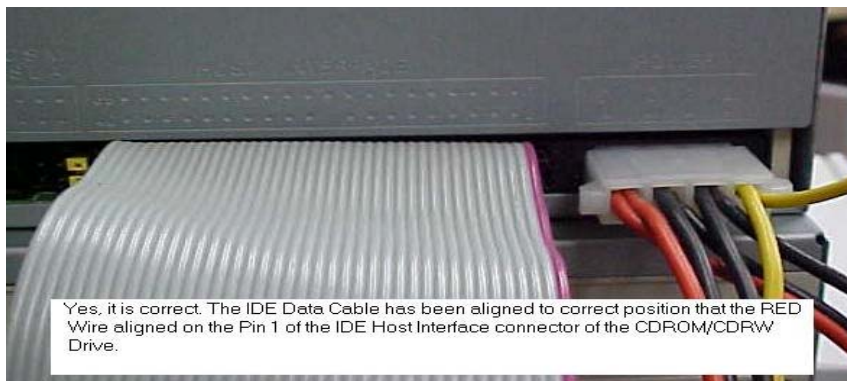
If the device is not functioning or Windows OS doesn't recognize the device, the cause of this symptom may be related to the previous installed drives on your system. Please try to follow below steps.

- Go to "Start" on window95/98 which is located in left-bottom of screen.
- Select "RUN"
- type "regedit"
- select "HKEY_LOCAL_MACHINE"
- select "ENUM"
- select "SCSI"

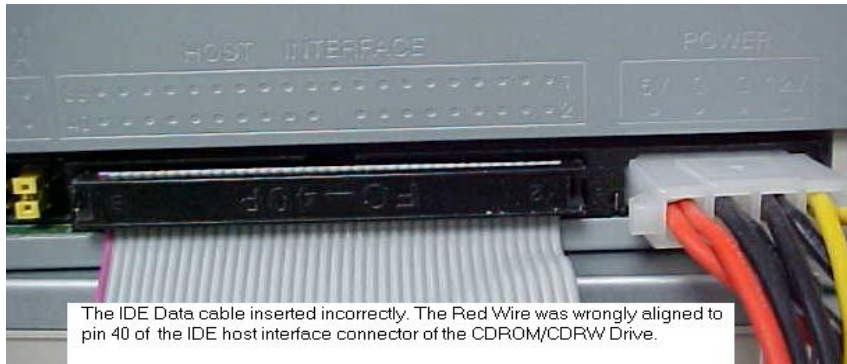
You can find CDROM or CDRW model & revision there. You should get rid of all lists and reboot Win95/98 with connected CDROM or CDRW drive.

Other possible causes of the ATAPI type (IDE) CDROM or CDRW failing to be recognized by Windows OS is that the System may set the IDE port of connecting CDRW as "None" on its "BIOS SETUP". Please correct this by entering the BIOS SETUP (STANDARD CMOS SETUP), please set the Type and Mode of all four IDE ports (Primary Master, Primary Slave, Secondary Master and Secondary Slave) as Auto.

People may make the mistake of connecting the IDE Data cable at a wrong direction. Please make sure to align the colored wire (usually Red color) of the ribbon cable to Pin1 of the IDE Host Interface Connector of the CDROM or CDRW.



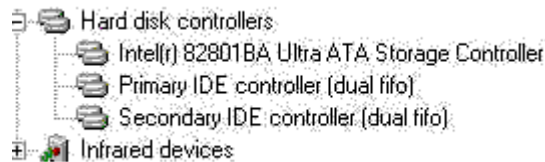
Correct Connection of IDE Cable



Incorrect Connection of IDE Cable

Note: When replacing your older CDROM with a new CDROM/CDRW by keeping/using the original IDE Cable, or adding a new CDROM/CDRW by using original IDE Channel shared with the older CDROM, in both cases, you must check if the original CDROM was set as CS (Cable Selection) position. If the original CDROM is set as CS, it means that the Cable is a special CS type Cable (not a regular IDE Cable), you must set the new one as CS as well.

Finally if you are still in trouble, please check Hard disk Controller on the **Device Manager**. There should be three normal devices under Hard disk controller:



The first device: Intel®82801BA Ultra ATA Storage Controller is a device from Intel 815 chipset (DO NOT be alarmed if you see another name appearing—If your motherboard's main chipset is not Intel or of a different Intel chipset model, this will show another name).

Besides the Controller mentioned above, the Primary IDE Controller and the Secondary IDE controller are from Microsoft Operating System and could be consider as Child device of the Intel (or VIA, or SIS) Hard disk controller device. If there is a "!" or "?" mark on these device, it means some crash or conflict has occurred on it. You may have to reinstall or recover Windows 95/98/Me before the CDRW will work.

Windows 2000 and XP have quite similar features that you may need to check the Hard disk controller of Device manager to find out why your CDROM or CDRW has failed to be detected.

Q2. Should the CD-RW drive be connected with the same IDE cable of the hard drive or the CD-ROM?

In order to prevent slowdown performance of the hard drive, user should not connect CD-ROM or CD-RW drives on the same IDE cable as the hard drive. The best way is to connect the CD-ROM or CD-RW drives on the second IDE cable.

Q3. Which IDE connection should the CD-RW drive be connected?

You can set up the CD-RW drive in any IDE port (exclude the Primary Master IDE connection). Usually, we suggest user to connect the hard disk on the Primary Master, and the CD-RW drive can be connected to either the Secondary Master or Secondary Slave connection. This is the best connection setting to prevent the CPU loading traffic to increase access time.



Note : If you add the new CDRW and share IDE cable together with your original CDROM, Please check the original CDROM's setting.

	Setting	Setting	Setting
Original CDROM	Master	Slave	CS
Add new CDROM/CDRW	Slave	Master	CS

When set both two CDROM as CS position, you must make sure that the Cable used is a Cable Select (CS) type. The Pin 28 connector of the Slave END (Device 1 END) of the CS type cable should be left open and not be connected to Pin 28 of the Host Controller End of the cable.

Q4. Why my software can't recognize the new CD-RW drive?

Please check the Compatibility Lists of the Drive from web site of CD Burning Software.

Burning Software	URL link
B's Recorder Gold	http://www.bhacorp.com
Adaptec Easy CD and Direct CD	http://www.roxio.com/en/jhtml/cdrdatabase/compatibility.jhtml
Nero	http://www.nero.com/en/recorder.htm http://www.ahead.de/en/helptool/index.htm http://www.ahead.de/en/driver.asp

A version updating is always the first thing to do to fix above problem, you can download the latest version of patch files from the web site of these software companies.

However, some OEM version of Burning software may not allow you to use update from Web site, if you encountered any problem after update, please uninstall the update and back to use the original one from the product Package.

Q5. Why does "Buffer Underrun" appear on the screen when recording is preceded?

To avoid a situation where a temporary slowdown in the computer causes the write process to fail, the makers of CD recorders put a write buffer in the drive, usually between 512K and 4MB in size. Data read from the hard drive, tape, or another CD is stored in the buffer, and pulled out as needed by the recorder.

If the recorder requests data from the write buffer, but there's none there, it's called a "Buffer Underrun". Or called as "loss of streaming". The disc is still spinning, but there's no data to write, so the recording process aborts.

The CD recording process can't be interrupted in mid-session. Once the laser starts writing, any interruption would create a physical gap on the disc that could confuse CD readers. The recorder must always have data to write; from the moment the recording starts until the session ends.

Solutions:

- Record at a slow speed - it takes longer to empty the buffer when recording at slower speed, say, 1x or 2x.
- Stop all other running programs before recording. Don't record from a file server.
- Defrag your HD, especially if you're doing on-the-fly recording.
- Record from a disc image file rather than on-the-fly. (Copy Source CD to your Hard Drive first)
- Please connect the CDR or CDRW drive and your hard drive on separate IDE Ports. As a suggestion, connect your hard drive to IDE1 (primary IDE) as master, connect your CDRW or CDR to IDE2 (Secondary IDE) as master. If you have one more CDRW, connect it as Secondary IDE as Slave.
- Keep your CD-R or CDRW cool. Sometimes the drives fail when they overheat.

Also watch out for things like anti-virus programs that wake up, virtual memory settings that cause swapping, screen savers that activate during the CD creation process, unusual network activity, and

background downloads of data or faxes.

Some game discs use a form of copy protection where bad sectors are deliberately placed on the original CD. Attempting to copy one of these discs on the fly may fail, because some CD-ROM drives slow down and repeatedly try to read the "damaged" blocks. The slowdown may result in a buffer underrun before the CD-ROM drive reports an error.

Q6. When is the Buffer Underrun Prevention Option Used?

The later version Roxio CD-RW Burning Software has an option of "Buffer underrun prevention"

Select this option to help prevent a buffer underrun. Usually, CD-R or CD-RW drives with large memory buffers have this option available in the software.

Not all CD-R or CD-RW drives support buffer underrun prevention. If this option is unavailable or you cannot select it, the drive does not have this support, regardless of memory buffer size.

Q7. What is JustLink

JustLink, one of the buffer underrun prevention technologies, relies on its ability to monitor the state of the buffer & at a predetermined level to stop recording.

JustLink works in the following method:

1. The amount data accumulated in the buffer memory is always monitored during writing.
2. If, for some reason, the data transfer speed from the computer falls below the writing speed, the amount of data accumulated in the buffer memory falls.
3. When the amount of data in the buffer memory falls below a certain level, and the possibility of a buffer underrun error is predicted, then writing is intentionally suspended for the time being.
4. During the time that writing is suspended, data transferred from the computer accumulates in the buffer memory.
5. When enough data has accumulated, writing is resumed from the point directly after the point where it was suspended, and monitoring of the amount of data in the buffer memory is recommenced.

Ricoh and AOpen CDRW products have used and are still using JustLink Technology.

Q8. How to check the firmware version of my CD-RW drive?

Windows 9X/ME:

My Computer>Control Panel>System>Device Manager> CDROM>Device of Your CDROM/ CDRW >Setting

Windows 2000:

My Computer>Control Panel>System>Hardware>Device Manager>DVD/CDROM-Devices> Device of Your CDROM/ CDRW >Setting

Windows XP:

Control panel>Performance and Maintenance>Administrative Tools>Computer Management>Storage>Removable Storage>Libraries>Device of your CDROM/CDRW>Right Click the Mouse>Properties>Device Information>Revision

Q9. How can I upgrade firmware of my CD-RW drive?

Please access the web site of the CDR or CDRW manufacturer or link to following URL:

<http://www.nero.com/en/firmware.htm>

Q10. Why do I have trouble playing an copied audio CD in a home or car player

There are a few possibilities. First, and foremost, is media compatibility. Not all players get along with all brands of CD-R media. You need to find a combination of recorder, media, and player that get along. A CD-R media identifier can help you be sure that you're trying discs from different manufacturers. A free CD-R media identifier program can be downloaded from the Internet.

If you're trying to use CD-RW media, your odds are even worse. CD-RW discs simply won't play on most CD players.

Another common problem is failing to close the disc at the end of writing. You can't play an audio CD on a common CD player until the session has been closed. You may be able to play it back with the CD recorder though.

Also, don't forget that you have to write all of the audio data into the first session of a multisession CD. CD players don't know how to find the later sessions, so tracks written there won't get played.

Sometimes the CD player will spin the disc up but won't start playing it. Sometimes it will have no problem playing the tracks, but will have a great deal of difficulty seeking between tracks or moving fast-forward. Using a different brand of media or a different CD player may produce better results.

If you're getting skips and jumps, make sure that you don't have anti-skip protection enabled. This is usually only available on portable or car players, and you may not be able to disable it on car players.

Some media works better at 1x, 2x, or 4x than it does at other speeds. You may find that slowing down or speeding up the recorder helps.

Finally, remember that you have to write the disc in CD-DA format! If you just write a bunch of .WAV files to a disc in CD-ROM format, it's not going to work in your home stereo.

Q11. Why would my copied Audio CD (using CDR/CDRW media) not work on a CDROM drive of another Computer?

As with audio CDs, discussed in the previous section, there are several possibilities. The media compatibility issues mentioned above applies to CD-ROM Drive as well.

If you're using CD-RW media rather than CD-R media, you have to be sure that the CD-ROM drive in question is MultiRead compliant. Some older drives are able to read CD-RW media, but most are not.

If the disc was written using a packet writing application like DirectCD (where you format a disc and then copy files directly to it, instead of creating a disc layout and recording a whole bunch of stuff at once), some CD-ROM drives will stumble on packet boundaries.

If a packet-written disc was closed in ISO-9660 Level 3-format, it won't be usable on systems that don't support ISO-9660 level 3 (e.g. DOS). If the disc was *not* closed as ISO-9660, and is still in UDF, you will need a UDF driver.

Q12. What's the track-at-once?

"Track-at-once" is when the CD-RW drive writes the data first and then finishes Lead-in & Lead-out last. It will allow you to write multiple passes. But it will cause some gaps between tracks. Usually, the recordable disc has bigger size than the original one.

Q13. Why the CD-R discs in the CD-ROM drive that has just been made from the writer is not readable?

Possible reason of causing this problem is the CD-R media was not finalized. The disc can be read from the recordable drive but not on a CD-ROM drive because the TOC (Table of Content), a starting point to find data, was not completed. Some old CD-ROM drives can not read multi-session discs, which has combination of MODE-1 and MODE-2 format.

Q14. How many times can a CD-RW disc be rewritten?

The number of times that a CD-RW disc can be rewritten depends upon the disc itself. The higher quality discs will be able to re-write more than lower quality discs. Some CD-RW discs maker stated that a CD-RW disc could be rewritten up to 1000 times. Again, the statistic depends upon the disc quality and the care that it is being taken.

Q15. Why do I always get "write protection error" while burning into my CDRW media?

It could be the cause if your CDRW media disc has a "High Speed CD-RW" Logo but your CDRW drive has none.

A CDRW Media with "High Speed CD-RW" Logo must be written or rewritten by a CDRW drive having a minimum 8X-10X Rewritable speed.



Q16. Why my CDROM cannot get the maximum Speed as marked?

Most likely the DMA mode of the CDROM/CDRW drive was disabled, which can cause this problem. To make sure enabling DMA mode on CDROM or CDRW, go to CDROM category of Device Manager using same path shown on Q8 above, find your CDROM or CDRW device, select setting, and check the DMA.

For Windows XP and Windows 2000,
Control Panel>(Switch to Classic View)>System>Hardware>Device Manager>IDE ATA/ATAPI
Controllers>Secondary IDE Channel (if your CDROM or CDRW connected on Secondary IDE
Channel)>Advanced Setting

Check the Device 0 if the CDROM or CDRW set as Master
Check the Device 1 if the CDROM or CDRW set as Slave.

If the CDROM connected as Primary Slave, please go to Primary IDE channel and check the Device 1.

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