

Pinnacle InstantCopy

User Guide

Pinnacle InstantCopy – Quick Start Guide

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Chapter 1: Introducing InstantCopy

InstantCopy is an easy-to-use program for copying CDs and DVDs. Despite its surface simplicity, InstantCopy has many powerful features, for example:

- Copy DVD video to either DVD or CD.
- Copy a dual-layer DVD to a single writable DVD using your choice of automatic or user-configured compression.
- Perform copies – even those requiring compression – directly from one disc to another, without having to use your hard drive for intermediate storage.

To install InstantCopy:

1. Switch on your computer.

Windows will start automatically on most systems. If it does not, start Windows manually.

Note: You must log in with administrator rights to carry out the installation.

2. Insert the InstantCopy CD-ROM.

The set-up program will start automatically on most systems. If it does not, double-click the *My Computer* icon on the Windows desktop, open the CD-ROM drive in Windows Explorer, and double-click the “Setup” or “Setup.exe” file.

The language used by the set-up program is determined by your *Regional Settings* in the Windows Control Panel.

3. Follow the instructions provided within the installer program for entering your user information and for setting the directory where InstantCopy should be installed on your system. Click the *Next* button to advance from one screen to the next.
4. After the installation is complete, you should be able to run InstantCopy from your *Start* menu.

Chapter 2: Using InstantCopy

InstantCopy can be started in two different ways:

- With the *InstantCopy* command on your Windows *Start* menu.
- From the local menu of your disc-burner device. To access this, click on the device with the right mouse button and choose *Copy CD/DVD* from the local menu.

The InstantCopy windows appears:



All connected drives are automatically shown in the *Source* and/or *Destination* device selection lists.

Copying a disc

Most disc copies can be performed simply by selecting the source and destination drives and pressing the *Start* button.

There are three possibilities:

- Copying from CD to CD.
- Copying from DVD to CD.
- Copying from DVD to DVD.

In each case, the disc you are copying to must be recordable (CD-R, DVD-R) or rewritable (CD-RW, DVD-RW), but the disc you are copying from can be of any type that is readable in the source drive.

Of course, InstantCopy also provides a number of ways of customizing the copy process for particular requirements. Please see “A closer look at disc copying” (page 6) and “InstantCopy settings” (page 10) for details.

Note: You are responsible for ensuring that your disc copying does not infringe any copyright restrictions on the source material. Copyright considerations aside, many DVD discs include built-in protection that prevents them from being copied.

To copy a disc using default settings:

1. Select a drive on the *Source* side of the InstantCopy window by clicking on the drive name.
2. Select one or more drives on the *Destination* side.
For special considerations that apply when copying to more than one drive, please see “Writing to multiple drives” on page 10.
3. Press the *Start* button to begin copying.

Device menu

If you right-click the name of a disc device in the *Source* and *Destination* lists, a pop-up “context” menu appears:



Eject Disc simply opens the tray on the specified drive if it is currently closed.

Erase Disc erases the current contents of the disc in the drive if that disc is rewritable (RW). See “Erasing CD-RWs” below.

Determine Capacity tests the actual maximum writing capacity of the disc in the drive. This should be somewhat greater than the disc’s nominal capacity, and can be used for “oversize writing” on some recorders when the *disc at once* write method is used.

Properties opens the Device Properties dialog box, which is described in detail beginning on page 25.

Erasing CD-RWs

InstantCopy allows you to erase CD-RW discs. To erase a CD-RW, right click on the CD recorder in the *Source* or *Destination* list and select *Erase Disc* from the context menu. You can specify *Quick* or *Complete*. The erase method you should use depends on your CD-RWs and the CD recorder.

A CLOSER LOOK AT DISC COPYING

As we have seen, the first step in the copying process is to select the source and target drives in the InstantCopy window.

In addition, InstantCopy provides numerous settings that allow you to adjust and customize the copying process. These are available through the *Advanced* button. See “InstantCopy settings” (page 10) for more information.

Copying from a hard drive

If a hard drive is chosen as the source of a copy, the data to be copied must be in one of these formats:

- A disc image file with the extension **pdi**.
- A CUE file.
- In the case of a video DVD, a local copy of the files as they should appear on the DVD. InstantCopy will ask you to choose an **ifo** file that is contained in a folder named “Video_ts”. That folder is created if you use a third-party product to copy a DVD to the hard drive, or if you use InstantCopy to copy a DVD that does not have CSS encryption.

Copying to a hard drive

Copying from CD or DVD to the hard drive creates a **pdi** file, which can be the source for subsequent copies to disc. This is one way to go about making multiple copies of a disc: first create a **pdi** image file on the hard drive, then make the copies from there.

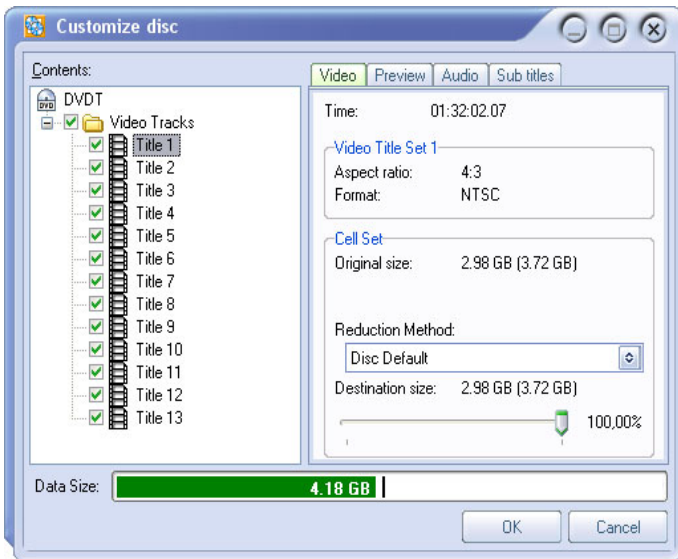
Copying a CD or a data DVD

After you have selected the source and target drives, and perhaps adjusted some settings, simply click on *Start* and follow the instructions in the program.

Copying DVD video to DVD

Start the copying process as usual, by selecting the drives, adjusting any settings as needed, and clicking *Start*.

If you have selected *Customized Resize* in your DVD Settings (see page 13), the Customize Disc dialog box will shortly appear:



This dialog lets you edit and delete DVD content, set up the video quality of the individual titles, and remove audio and subtitle tracks from the list of items to be copied. Omitting unneeded tracks from the copy leaves

more room for video data on the target disc, which in general means higher-quality video.

You can achieve optimum picture quality for the currently selected track by ensuring that the *Data Size* bar is set as high as possible (but remains within the green area) after your adjustments have been made.



You can check the contents of individual video tracks by means of the *Preview* tab.

In order to create DVDs that can be played on stand-alone DVD players, “PCM” or “AC3” audio tracks must be available. Other audio tracks can be deactivated to make way for higher-quality video.

Note: The Customize Disc dialog box may sometimes appear even if you have selected *Automatic Resize* as your copy method. This occurs in those cases where the program needs your input to produce the best copy.

Under either method, the dialog may even appear twice, if InstantCopy’s further analysis of the source disc indicates a need for more user input.

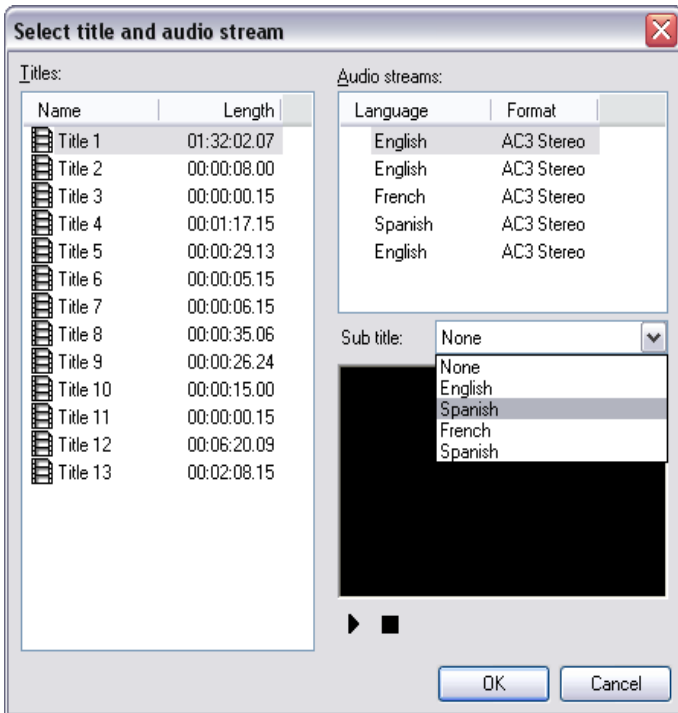
Copying DVD video to VCD or S-VCD

VCD (Video CD) and S-VCD (Super Video-CD) are disc formats for storing video on CD media. This allows you to copy DVD discs even with a CD burner (though you will still need a DVD-ROM drive to read the source disc). Most DVD players will play back VCDs, but S-VCDs are less widely supported.

If you are copying to CD, begin by inserting a blank CD in the target drive and clicking *Start*.

Next, whether you are copying to a CD or to the hard disk, choose VCD or S-VCD as the target format, and click *Start*.

Because it is not possible to include audio tracks or more than one subtitle track in the copy, the Select Title And Audio Stream dialog box is displayed:



This dialog lets you choose one language (if multiple languages are available on the source disk) and one subtitle track (if there is more than one) for each track on the source DVD.

Audio streams

Select which one of the listed audio tracks you wish to copy.

Subtitle

The subtitles you copy onto VCD or S-VCD are not stored separately as they are on the DVD but are instead inserted directly into the video picture. They can therefore not be turned off. This is why you have the option of *None* when selecting the subtitles to copy.

After you have made your selections on the Select Title And Audio Stream dialog box, click *OK* to begin the copying process. The data from the DVD is converted to the target format and copied onto as many CDs as required.

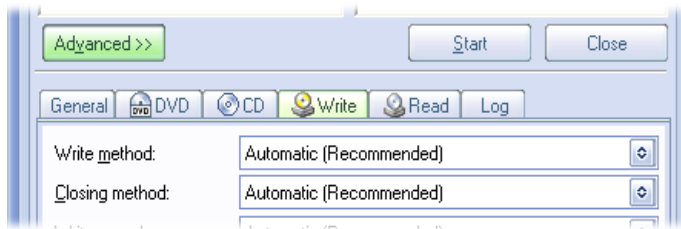
Writing to multiple drives

InstantCopy enables you to write to several drives simultaneously. You can achieve this simply by selecting all the drives in the *Destination* list that you want to write to. The drives must be of the same type and able to write at the same speed. The best results are obtained when the same recorder models are used.

INSTANTCOPY SETTINGS

Although in many cases you should be able to copy discs successfully using just the default settings, InstantCopy lets you adjust numerous options if required.

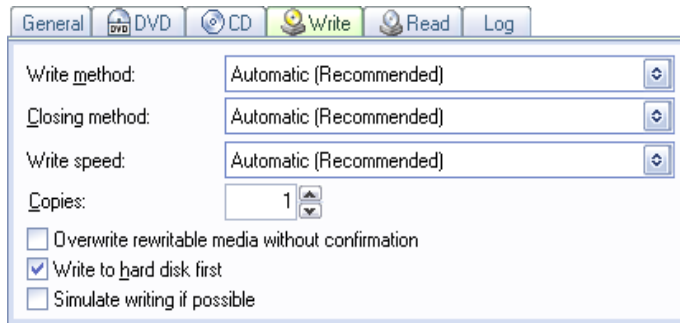
To access all the available settings, click the *Advanced* button in the main InstantCopy window. This opens a new area at the bottom of the window with tabs to select the category of setting that you want to view or adjust.



Open the settings area of the InstantCopy window by clicking the Advanced button. In this illustration, the Write settings are currently selected.

General settings

These are global or miscellaneous settings that affect multiple aspects of the copying process.



Temporary directory

The temporary directory specifies the directory for buffered data. For optimum results, this directory should be located on the fastest hard disk drive on your system, and that drive should have at least enough free space to accommodate a full disc's worth of data (about 800 MB for a CD, and 4.7 GB for a DVD).

After simulation

In cases where there is concern that a copy done under some particular set-up might fail, you have the option of running a *simulated* copy to test the set-up without wasting a disc. See “Simulate writing if possible” on page 22 for more information.

The *After simulation* setting determines how the write process will run after a successful simulation run:

- *Start writing after confirming* means that user confirmation will be requested before the write process is begun.
- *Start writing without confirming* continues into the writing phase without requiring user input.

Programming interface type

This setting specifies how InstantCopy should communicate with the disc hardware. The default choice, *Automatic*, is equivalent to *ASAPI*. The other choices are *Windows SPTI* and *ASPI*.

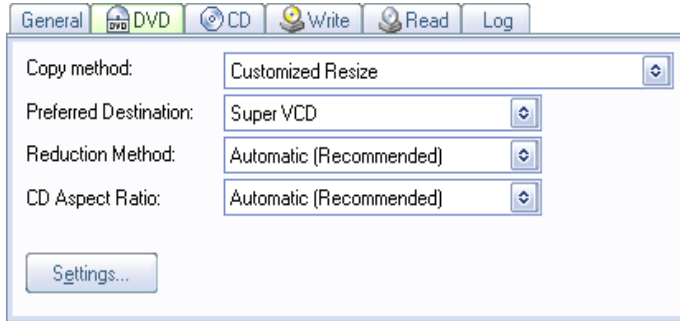
Pinnacle recommends the default setting, but the other interfaces are available for particular circumstances.

Disable screensaver while writing

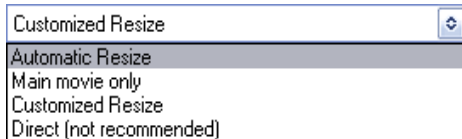
Some screen savers require a lot of system resources while they are running, and can thus interfere with copying if they activate while InstantCopy is writing to the disc. Select this option to prevent your screen saver from activating during the write process.

DVD settings

This group of settings affect the way InstantCopy copies a DVD video disc to a recordable DVD or CD.



Copy method



These options affect the amount of data from the source DVD that will be written to the destination disc(s).

Most commercial DVDs are “dual-layered”, meaning that there can be up to 8.4 GB of data on one side of the disc. The laser in the DVD player reads the first layer, which can be up to 4.7 GB, then refocuses deeper into the disc to read the second layer. Because the capacity of a blank DVD recordable disc is 4.7 GB, it would ordinarily be impossible to copy a dual-layer DVD onto one layer. However, the sophisticated technology built into InstantCopy is able to compress the dual-layer DVD onto a single layer with minimal loss of quality. To increase the quality still further, InstantCopy allows you to remove unwanted material

such as trailers, special features and extra audio language tracks.

Automatic resize: With this option, InstantCopy automatically reduces the size of the source data on a dual-layer DVD to fit within the storage capacity of a recordable blank DVD (4.7 GB).

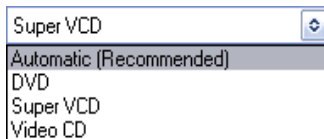
Main movie only: Only the main movie track and the main audio track are copied. Other video on the source disc, including menus and other short items, is ignored.

Customized resize: This option lets you manually optimize the methods used to reduce the size of the video and audio data that will be copied. See “A closer look at copying” on page 6 for details.

Direct: This option creates an unmodified copy of the source DVD. A successful copy under this method requires that the amount of data on the source DVD is no larger than the capacity of the target DVD.

When is a GB not a GB? Please see “Measuring storage” on page 33 for details about the units of storage, and why your 4.5 GB computer file is too large for your 4.7 GB DVD disc.

Preferred destination



The *Automatic* option sets the output disc type to *DVD*. The choice of destination disc will be reflected in the disc customization dialogs (see page 6). You have many more customization options for DVDs than for the other types of disc.

Reduction method

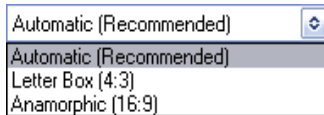


This option specifies the approach that InstantCopy should use when compressing a dual-layer disc onto a single recordable DVD.

The *Automatic* (default) choice is *High Quality*. When *High Speed* mode is selected, the compression will be up to four times faster, but you may expect slightly lower quality.

Note: If you have selected the *customized resize* copy method (see above), you will have the opportunity to set the reduction method on a track-by-track basis.

CD aspect ratio

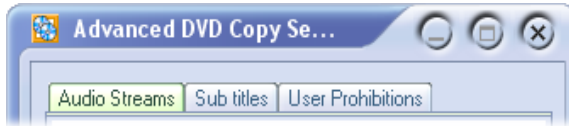


This setting only applies to copies from DVD to VCD or S-VCD. It lets you specify how the wider frame-size of the DVD video should be adapted to the squarer (four to three) format of the target disc.

The *Automatic* option is equivalent to selecting the *Letter Box* option, which creates a letterbox copy with a side ratio of 4:3. The *Anamorphic* option is suitable for playing back on televisions that support the 16:9 widescreen format.

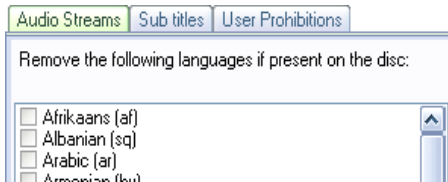
Settings

The *Settings* button provides access to the Advanced DVD Copy Settings dialog box, with three additional tabs that you can use to further customize your DVD copying.

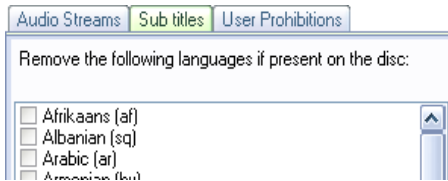


Each tab lets you control which components, if any, of the indicated type of additional content you want to include in the copy.

Audio streams: Many DVDs include audio content in multiple languages. Check or uncheck the boxes on this page according to whether or not you want content in the corresponding language to be copied.

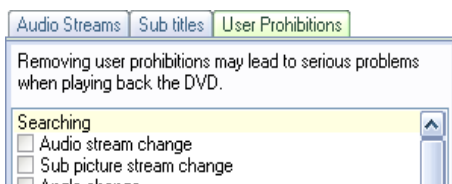


Sub titles: The *Subtitles* page is organized in exactly the same way, but this time you're specifying whether subtitle tracks in the given languages will be copied.



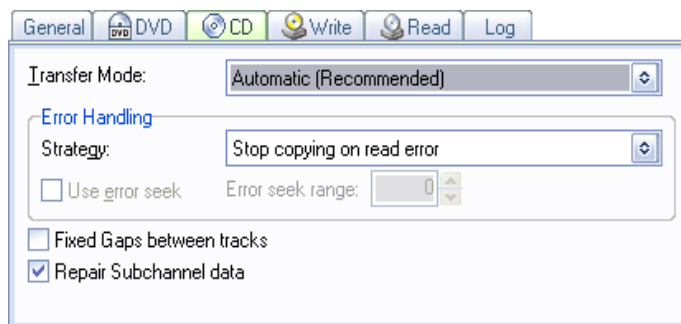
User prohibitions: Among the information stored on a DVD disc is a set of *user prohibition* codes. These tell playback equipment to disallow particular options or

navigation actions. In most cases, the prohibited actions simply don't apply to the content, making it at best pointless to cancel the prohibitions. When the capability is needed, however, checking the boxes will remove chosen prohibitions from the copy even if they occur on the source disc.



CD settings

The settings on this tab apply when the source disc for the copy is a CD.



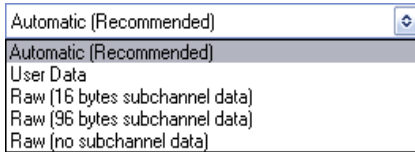
Transfer mode

The transfer mode defines which data from the CD are read and written. The available modes are *User Data* and *Raw*.

In *Raw* mode, which is not supported by all drives, all the information stored on the disc is transferred in unmodified form, including control and other data that are not ordinarily passed on. In the *User Data* mode,

which should work with every drive combination, the extra data is not transmitted.

Raw mode, when available, is the recommended setting only if an exact copy is required. For normal copies, *User data* is preferred.

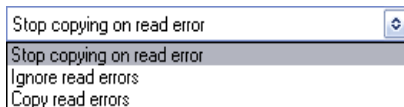


The *Automatic* option defaults to *User Data* as the transfer mode. For copy-protected disks, you may be able to achieve a working copy using one of the other options.

Error handling

Strategy: InstantCopy can handle errors reported by the source drive in three different ways:

- Errors abort the process.
- Error reports are ignored: the copy operation continues as though no error had been detected.
- Errors are copied: the same error is reproduced at the equivalent location on the target disc.



When you choose *Ignore read errors*, these further settings become available:

Use error seek and Error seek range: When an attempt is made to read data from defective or protected areas of a disc, it can take a long time to read a sector. To speed up this process, InstantCopy can test

for defective sectors in steps whose size is set by the *Error seek range* control. If a good sector is reported, InstantCopy seeks back to find the first available readable sector and continues to copy. The higher the step width, the faster the process becomes, but the greater the chance of missing smaller readable areas. Useful values for the step width generally lie between 100 and 1000.

Fixed gaps between tracks

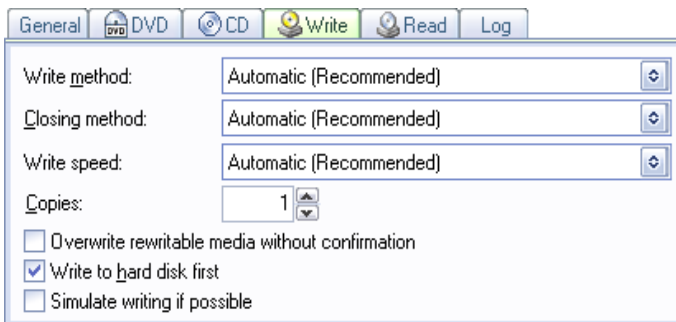
Check this box to set the pause between CD tracks to two seconds instead of the original pause length. This can be used to compensate for a drive that can't reliably detect the original pause.

Repair subchannel data

Subchannel data are pieces of information in addition to the data on the disk. In the case of copy-protected disks these may intentionally be a disk ID, for example. In this case, you should deactivate this check box.

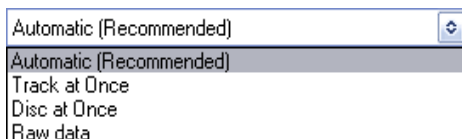
Write settings

The *Write* tab gives you control over settings that affect the way writing to disc is carried out by InstantCopy.



Write method

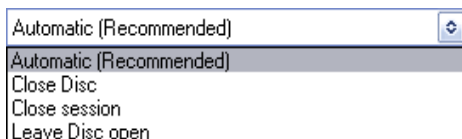
The write methods available to you depend on your disc burner hardware and drivers. See “The Write Methods” on page 31 for more information.



If you choose the *Automatic* option, the default write method – *Disc at Once* – will be used.

Closing method

This setting defines how the writing process is finished. See “The Closing Methods” on page 32 for more information.



The *Automatic* option defaults to *Close session*. However, if you have selected *Automatic* or *Disc at Once* as the write method, the *Close Disc* method will always be used.

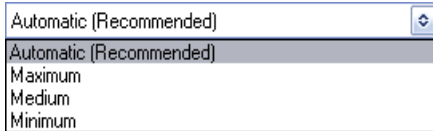
Copies

Enter the number of copies of the source disc you wish to create. InstantCopy will prompt you to insert new blank discs as required.

Write speed

InstantCopy normally selects the highest writing speed allowed by your disc-burning hardware. However,

sometimes it can be useful to choose a lower speed, whether to decrease the demands on your system, or to allow for speed limitations in the device being copied from. This may be of particular value when reading from a CD-ROM, where even small errors can lead to a significant deterioration in the reading speed.



Under the *Automatic* setting the write speed will be set to *High*. If you have already inserted a disc into the drive, only the speeds that are actually available for the target disc will be displayed.

Overwrite rewritable media without confirmation

By default, InstantCopy warns you before it begins to copy if the target CD or DVD is rewritable (as opposed to “write-once”), since any files that are already on the disc will be destroyed in the process. It is recommended that you keep the default setting. However, if you *don't* want to be warned, check this box.

Write to hard disk first

Optical drives are usually not as fast as hard disks, and the effective read speed may be further reduced if errors occur. If it falls too low, the data will not be delivered to the target device quickly enough, and write errors will occur.

Selecting *Write to hard disk first* causes the data to be buffered to the hard disk drive before being copied to the target device.

Simulate writing if possible

Successful writing to a CD or DVD depends on an uninterrupted flow of data from the source drive. If an interruption does occur (due to a read failure, for example), the write process cannot continue.

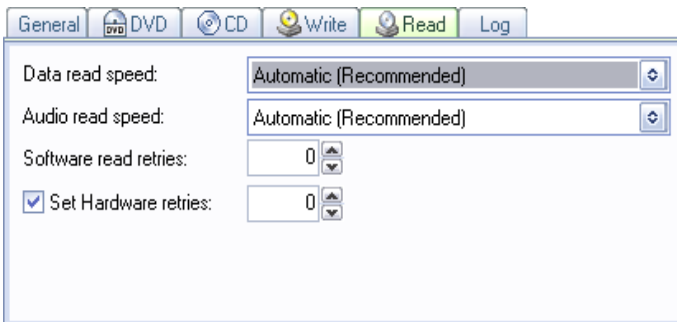
If you anticipate possible problems with a disc copy, you can perform a simulated write first by checking this box before starting the copy. During the simulation, all read and write operations are executed normally, but the write laser is switched off. If the writing procedure is discontinued, the destination disc is not affected and can be used after correcting the error.

If you are not sure about the performance of your system you should always try a simulation before the actual write.

Note: Not all disc burners support switching off the laser as required for simulated writing.

Read settings

The *Read* tab lets you control settings relating to reading from a source drive.



Data read speed

This setting controls the speed at which data tracks are read. We suggest using the highest available speed, because drives will automatically move down to a lower speed if read errors occur. The *Automatic* (default) read speed therefore corresponds to *Maximum*.

If you have already inserted a disc into the drive, only the read speeds that are actually available for that disc will appear in the list.

Audio read speed

Use this setting to set the speed at which audio tracks are read. The optimum speed depends on your drive. With some drives, for instance, the audio quality gets worse at higher speeds. For direct copying from one optical disc device to another, the read speed should be at least double the write speed.

If you choose the *Automatic* option, the read speed will be set to *Maximum*.

Software read retries

This value specifies how many attempts the software should make to read a sector when read errors are reported by the drive. A normal value is 10 attempts. For special uses like copying discs with known read errors, you can decrease the value to speed up the process. The recommended minimum value is 3.

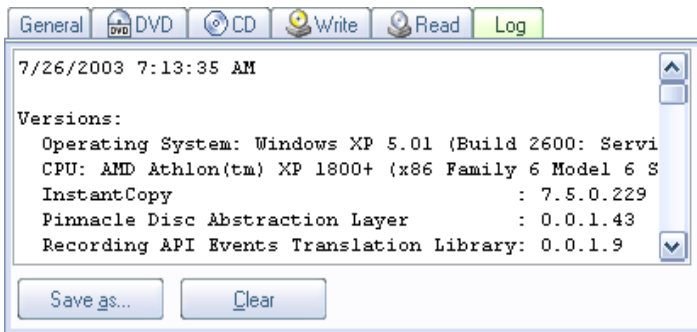
Hardware read retries

This value specifies the number of times the hardware will read a sector until a read error is reported. A normal value is 10 attempts and, as with *Software read*

retries, you can try decreasing the value to speed up the process. A reasonable minimum value for typical drives is 3.

Activity log

Here you will find a report of InstantCopy's activities during the current session.



Chapter 3: Advanced options

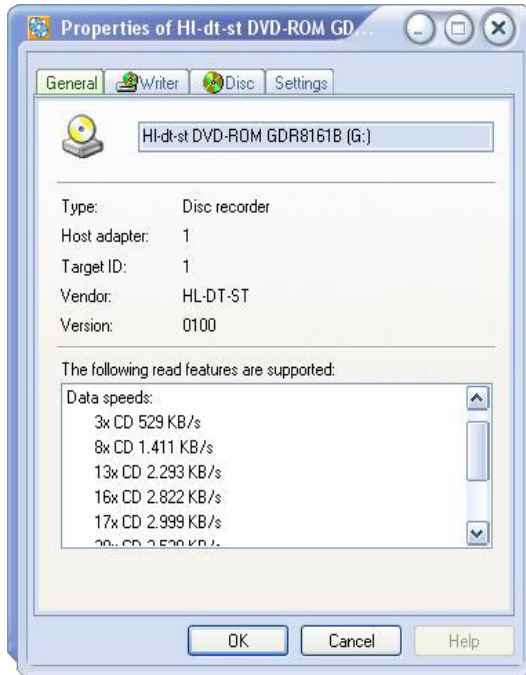
In most circumstances, you should be able to operate InstantCopy successfully without having to modify the settings described here for your optical disc drives. When required, however, you can access these settings for the devices listed in the InstantCopy window.

THE DEVICE PROPERTIES DIALOG BOX



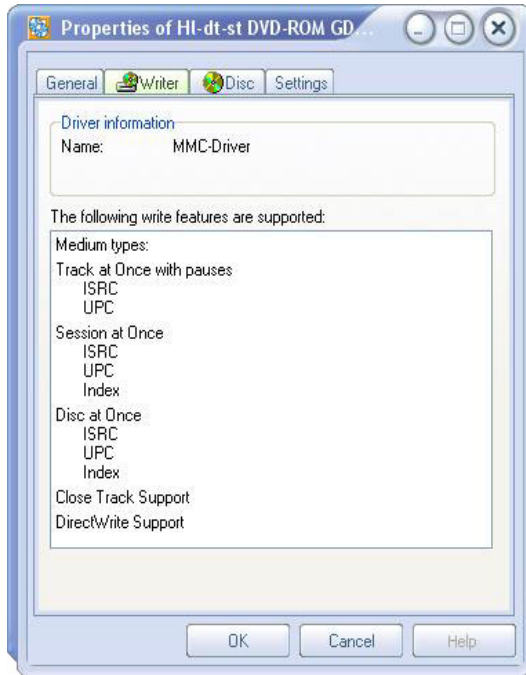
Access the property settings for an optical disc device by clicking the drive in the *Source* or *Destination* device lists with your right mouse button and selecting *Properties* from the local menu. The settings are in groups, accessed by tabs across the top of the dialog.

General



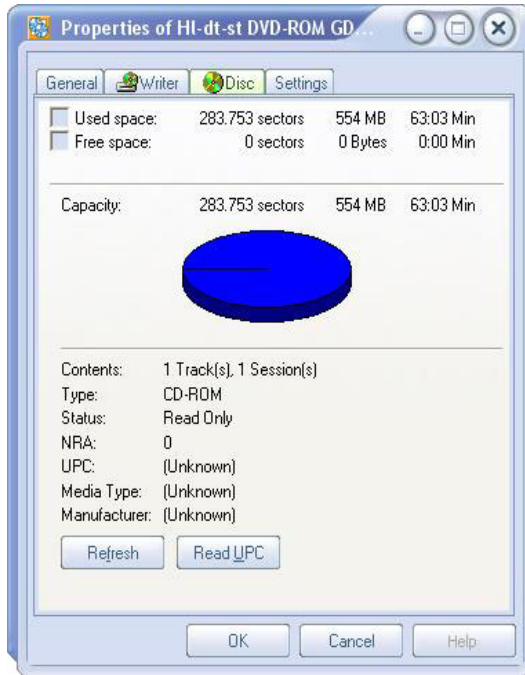
The *General* tab of the Device Properties dialog box displays the type of device along with version and manufacturer information. The list of read features shows the disc types and speeds supported, and additional features like the ability to read ISRC (International Standard Recording Code) and UPC (Universal Product Code).

Writer



This tab of the Device Properties dialog box provides driver and feature information about the currently-selected disc writer device.

Disc



The *Disc* properties tab provides information about the disc currently in the drive. Click the *Refresh* button if you insert a new disc while the properties dialog is displaying. The *Read UPC* button lets you read the disc's UPC (Universal Product Code) if your drive supports this feature.

Settings



Some of the settings on this page are the same as those provided on the InstantCopy *Read* tab (see “Read settings” on page 22). It doesn’t matter which location you access them from.

Read data speed: This is the same as *Data read speed* on the *Read* tab.

Read audio speed: This is the same as *Audio read speed* on the *Read* tab.

Software read retries: This is the same as *Software read retries* on the *Read* tab.

Set hardware retries: This is the same as *Set hardware retries* on the *Read* tab.

Use DirectWrite: Oversize writing – that is, writing more data on a CD-R(W) than the guaranteed capacity of the disc – is possible if this option is checked. However, the option only works with *disc-at-once* recording and only with some CD recorders. Depending on the brand of disc you choose, up to 20MB of extra space may be available for copying.

If you are not sure whether the disc size is sufficient, you can find out by right-clicking the drive and selecting *Determine capacity* (but be prepared for a somewhat lengthy operation). In any case, InstantCopy has an internal database that includes capacity information for most CD-R(W)s, so this step is not usually required.

Write CD Text: CD-Text is optional added text information included on some CDs and readable by some players. Check this box if your drive is able to write CD-Text and you want to use this feature.

Write UPC Code: Check this box if your drive is able to write UPC (Universal Product Code) codes and you want to use this feature. Be sure to use valid UPC numbers, as invalid codes can cause the write process to fail.

Write ISRC Code: Check this box if your drive is able to write ISRC (International Standard Recording Code) codes and you want to use this feature. Invalid ISRC codes can cause the write process to fail.

Use Burnproof/Justlink: Burnproof and Justlink are technologies for preventing write errors due to “buffer underruns”. Such errors occur when the destination drive requests data faster than the source drive can supply it. If your disc burner supports either technology, you can enable it by checking this box.

Appendix A: Reference topics

These topics provide additional details on the “write methods” and “closing methods” that are available to you when creating discs.

The write methods

InstantCopy provides three standard methods of writing data onto the destination disc. Not all disc-burners support all three.

Track at once

This method is available for nearly all recorders. The tracks are written one by one and the table of contents is written after the last track.

Until you finalize the disc you can add more sessions after the first as long as there is enough space left on the disc.

Please note that an Audio CD player can only detect the first session on such a “multi-session” disc. If you want to write additional audio tracks, do not close the session after the first write.

A disadvantage of the *Track at once* write mode is that there will be a brief pause between tracks (up to two seconds) and there may be some hiss or crackle. Because of this, the *Disc at once* mode is suggested for audio discs.

Disc at once

Using this write method, all the data that will eventually appear on the disc are written in one pass. This makes it possible for the software to control the pauses between tracks. You cannot add data to a disc written with this method. Its main advantage is the optimum utilization of space, the option of using DirectWrite (when supported by the recorder) and the absence of glitches between audio tracks. Tracks can be appended to one another without pauses if desired.

Raw

Using this write method, the data are written to the disc in one pass. Unlike *Disc at once*, where some of the data written to the disc are created by the burner itself, in *Raw* mode all data are controlled by the program, making it possible to write data to the disc which otherwise couldn't be written. With this feature, InstantCopy is able to duplicate the source data exactly.

The closing methods

The closing method defines how the write process is finished. Your choice of closing method determines whether you can write more data to the disc or not – unless your write method is *Disc at once*

Leave disc open

This method finishes the writing of the track. The current session stays open, however, and more tracks can be added to it. CD-ROM drives and Audio CD players are not able to use these CDs until they have been finalized.

Close session

Once the session has been closed, or *finalized*, most drives are able to read the disc. Of course the medium itself must be readable. Not all CD-ROM drives can read CD-RWs, while a normal CD player is not capable of reading multi-session discs and will detect only the first session on your CD. If you are creating an Audio CD, all the tracks should therefore be written one session: don't finalize the disc until all your last track has been written.

Close disc

This option is a kind of write protection for the disc. If you select this option, no one can change the content of the disc (although the disc can still be erased if it is rewritable).

Measuring storage

A blank DVD is often said to hold 4.7 GB of data. Unfortunately, even that seemingly simple statement is rather misleading, because the “GB” unit is used to mean two different things. The result is that the 4.5 GB file on your hard drive will *not* fit on your 4.7 GB disc – it's too big!

Computer storage is almost always organized in powers of two, so “round numbers” of bytes are quantities like 1024 (two raised to the tenth power). One common way to refer to the size of a computer file, or a chunk of computer memory, is in terms of how many 1024-byte “slices” it contains. Those slices are usually called *kilobytes* (abbreviated KB or Kbyte) simply because of the accident that 1024 is quite close to 1000, which is given the prefix “kilo” in the SI system of measurement used by scientist and engineers.

For instance, 4096 bytes is equivalent to exactly four kilobytes, and not 4.096 kilobytes as normal SI usage would indicate.

With larger quantities, this small but manageable confusion of terms becomes more tangled. What do we mean by a *megabyte* (MB or Mbyte)? One might suppose it to be any of these:

- A million bytes exactly, after the SI “mega” prefix;
- 1000 KB, or 1,024,000 bytes;
- 1024 KB, or 1,048,576 byte.

In fact, and again because of the way storage is actually organized, the third of these is generally preferred.

The same reasoning holds true when we move up to the next SI prefix and talk about *gigabytes* (GB or Gbyte). Rather than exactly one billion (one thousand million) bytes, we generally use “gigabyte” to mean 1024 MB, or 1,073,741,824 bytes.

The file sizes reported by Windows (in Windows Explorer, for example) are “correct” according to this normal usage. Unfortunately, the manufacturers of DVDs have chosen to use the SI meaning of “giga”, so a “4.7 GB” disc in fact has a capacity of 4,700,000,000 bytes – which corresponds to only about 4.37 GB in terms of computer storage.

Appendix B: License Agreement

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