Installation and User's Guide

Click this link to find the latest version and documentation:
http://www.terabyteunlimited.com/copywipe.html

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Notices

This program was compiled using an unmodified version of Open Watcom, which can be found at http://www.openwatcom.org.

Updates

Be sure to visit http://www.terabyteunlimited.com/copywipe.html to obtain the most current version of this software and its documentation.

Technical Support Policy

Technical support is provided online. If you need help using CopyWipe, please review the support resources detailed on the following web page before requesting support via email:

http://www.terabyteunlimited.com/supportcw.html

In particular, please review the Knowledge Base, and consider posting a message in the public TeraByte-sponsored newsgroup that is dedicated to CopyWipe support.

If the aforementioned support resources do not provide a resolution, users may email their questions to support@terabyteunlimited.com.

TeraByte Unlimited reserves the right to refuse any communication method that would incur a cost.

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What Is CopyWipe?

CopyWipe is a freeware utility for copying and securely overwriting (wiping) entire hard drives. CopyWipe can ease and expedite the transition to a new hard drive, by copying the entire contents of one drive to another. CopyWipe can also help prevent confidential or private data from being recovered, by securely wiping the contents of a drive. A number of options are provided for wiping, allowing the user to choose an optimal balance between security and duration of the wiping operation.

Two versions of CopyWipe are available: **CopyWipe for DOS**, and **CopyWipe for Windows**. As the names imply, each version is designed for use in a different operating system environment. Except as noted, both versions of CopyWipe appear and function identically.

System Requirements

By default, **CopyWipe for DOS** relies on the BIOS for processing disk functions. If your computer's BIOS interface is limiting access to the hard drive, then **CopyWipe for DOS** will also be affected by this limitation. You can have **CopyWipe for DOS** override the BIOS interface on most systems by using the **BIOS HD (direct)** option provided, as explained in this manual.

CopyWipe for Windows relies on Windows to provide drive access, not the BIOS, so the information in the paragraph immediately above does not apply to it.

Hardware	• IBM-compatible personal computer (i386 or newer) • 16 MB RAM
Software	• **CopyWipe for DOS**: None • **CopyWipe for Windows**: Windows NT/2000/XP/Vista

What Is Copying?

When CopyWipe copies a hard drive, it duplicates the entire contents of the source hard drive to the target hard drive. CopyWipe provides options for sizing the partitions on the target hard drive, but regardless of which copy options are selected, the actual content of the target drive will be identical to that of the source drive.

Speaking on a more technical level, CopyWipe will actually only attempt to copy those areas of the source hard drive that are in use. The only exception to this is if the **Raw Sector Copy** option is selected, which will cause all portions of the source hard drive to be copied, whether used or unused.

Copying is not the same as imaging. Typically, imaging involves saving the contents in an image *file*. Imaging is generally something you would do on a recurring basis, to create a backup of certain partitions. Copying is generally something you would do when switching to a new hard drive, as one example.

What is Wiping?

When CopyWipe wipes a hard drive, it overwrites the entire contents of the hard drive, with the sole intent of making the original data unrecoverable by any practical means. CopyWipe provides a variety of options for wiping. Some of these options are designed to make the wipe operation proceed as quickly as possible; others are designed to take longer, but make it harder to recover the data that is overwritten. However, regardless of which wiping options you use, you should consider your data unrecoverable for your own purposes.

Wiping is not the same as formatting. Formatting a hard drive does not *securely* overwrite the previous content of the drive. Rather, the only intent of formatting a drive is to prepare it for use by a particular file system. In other words:

- Wiping is intended to remove all the data on a hard drive, and to help ensure that the data cannot be recovered afterward.
- Formatting makes the hard drive ready to be used by the operating system (e.g. Windows). The data previously on the drive may not be directly accessible, but some of it may still be recoverable by special means.

Wiping Advice

- Generally, the **Random – 1 Pass** wipe option should be sufficient for making the overwritten contents of the hard drive unrecoverable by software, while the **Random – 4 Pass** and **Random – 8 Pass** options may provide a higher level of security.
- When using **CopyWipe for DOS**, the efficacy of the System entropy source option will vary by system. However, the Keyboard entropy source option should always provide a good source of entropy for random data generation. **CopyWipe for Windows** makes use of the Windows Crypto API, so entropy collection is handled automatically.

Installing the Software

Installation Overview

There is no installation, per se, for **CopyWipe for Windows**. To use **CopyWipe for Windows**, you have two main choices:

- Download **CopyWipe for Windows**, extract `COPYWIPEW.EXE` to a directory of your choice, and then run it from a command prompt.
- Use the free BartPE plugin, and then run `COPYWIPEW.EXE` from the PE environment. The BartPE plugin includes documentation of its own.

Please Note: **CopyWipe for Windows** should only be used on drives that are not in use. **CopyWipe for Windows** will not lock the source drive during a copy operation, and any data written to the source drive during a copy operation could result in inconsistencies between the source and target drives.

You have several options for installing **CopyWipe for DOS**:

- If you are using Windows, the recommended installation method is to use the free TeraByte Unlimited utility MakeDisk. MakeDisk is included in the CopyWipe distribution, and instructions on using it are provided below.
- If you are using Linux, then with nothing mounted on /dev/fd0, you can copy the `TBOSIMG3.DAT` file to /dev/fd0, mount it, and then copy `COPYWIPE.EXE` to it.
- Regardless of the platform you are using, you can create a bootable DOS floppy diskette or CD/DVD disc, and copy the `COPYWIPE.EXE` to that media.

Installing CopyWipe for DOS with MakeDisk (Windows only)

1. Download **CopyWipe for DOS**, if you have not done so already.
2. Extract the contents of `COPYWIPE.ZIP` to a directory of your choice.
   - If you are using a version of Windows that has a built-in compressed folders feature (e.g. Windows Me or Windows XP), you can double click the ZIP file and then use the **Extract all files** link shown in the left pane of Explorer to extract the contents. Alternatively, after opening the ZIP file, you can select all the files listed, and copy them to another directory to extract the contents. Please note that whichever foregoing method you use, the contents of the ZIP file *must* be extracted to another directory before proceeding.
3. Run `MAKEDISK.EXE` from the directory of step 2. The MakeDisk welcome screen appears, as shown in Image 1.

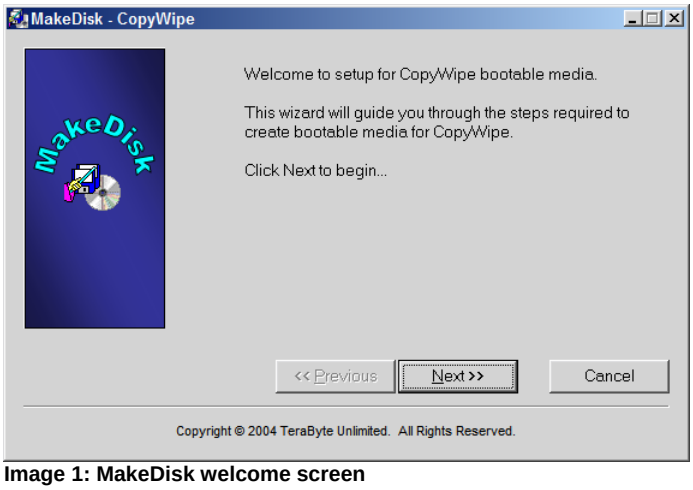


Image 1: MakeDisk welcome screen

4. Click Next on the MakeDisk welcome screen. The CopyWipe license agreement screen appears, as shown in Image 2.

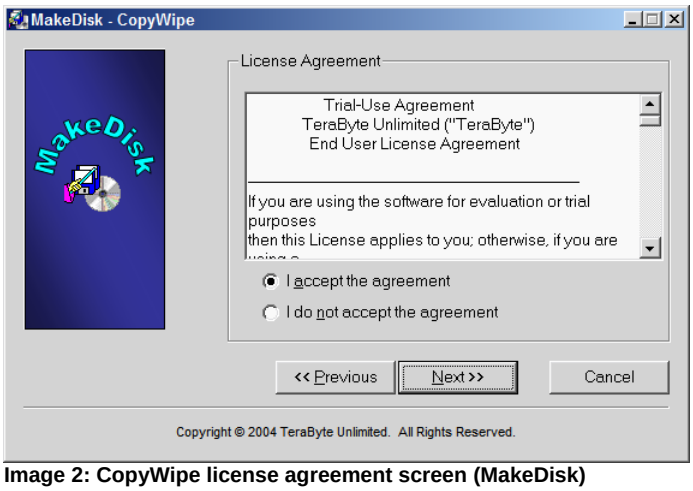


Image 2: CopyWipe license agreement screen (MakeDisk)

5. Read the CopyWipe license agreement, and if you accept it, select the **I accept the agreement** button and click Next. The CopyWipe options screen appears, as shown in Image 3.

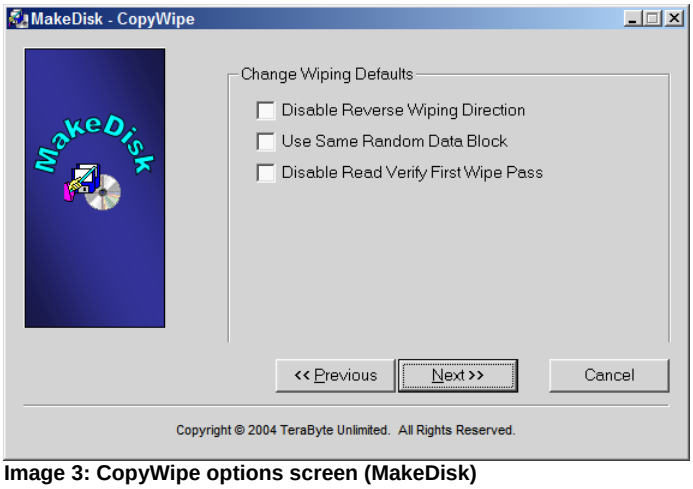


Image 3: CopyWipe options screen (MakeDisk)

6. Please refer to the **CopyWipe Settings** section below for an explanation of the options shown above. Select the options desired, and then click Next. The **Select Target** screen appears, as shown in Image 4.

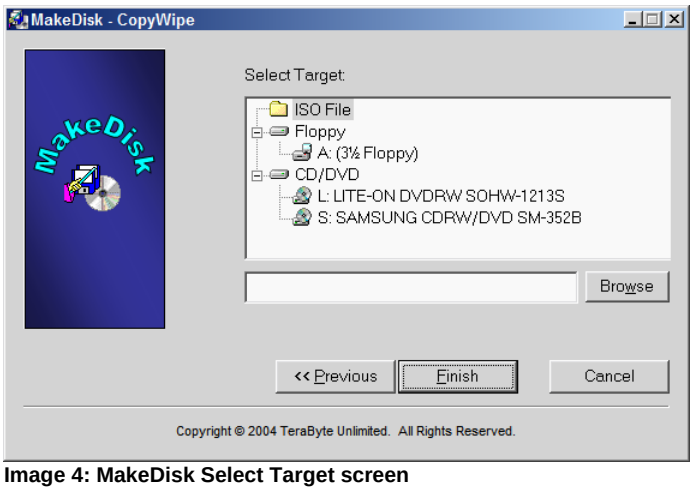


Image 4: MakeDisk Select Target screen

7. Choose the target that MakeDisk should use. If you choose the **ISO File** option, you must supply an ISO file name. Click Finish, and respond to subsequent prompts as necessary. MakeDisk will then create your bootable media or ISO image. When it is done, the success screen should appear, as shown in Image 5.

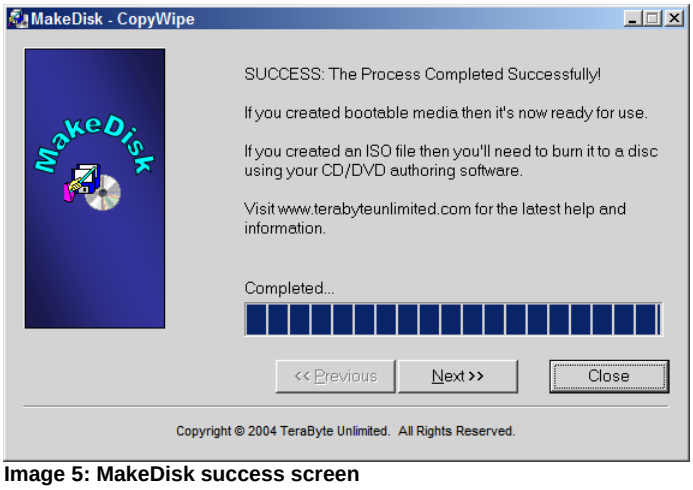
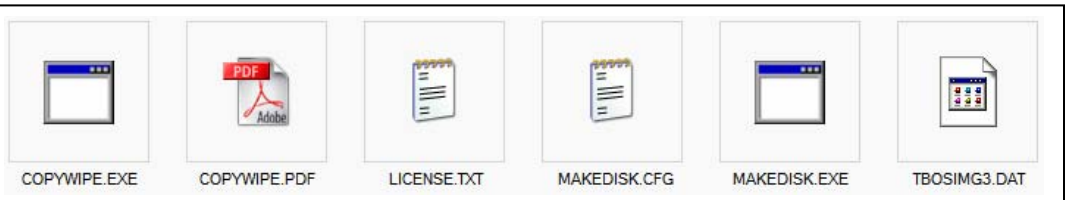


Image 5: MakeDisk success screen

8. If you opted to create bootable media in step 9, you can now use it to boot and run CopyWipe. If you selected the **ISO File** option instead, you will have to use other CD/DVD authoring software to create a bootable disc from the ISO file. TeraByte Unlimited offers a free utility, BurnCDCC, for this purpose.

Installing CopyWipe for DOS Manually (all platforms)

1. Download **CopyWipe for DOS**, if you have not done so already.
2. Extract the contents of `COPYWIPE.ZIP` to a directory of your choice.
    - If you are using a version of Windows that has a built-in compressed folders feature (e.g. Windows Me or Windows XP), you can double click the ZIP file and then use the **Extract all files** link shown in the left pane of Explorer to extract the contents. Alternatively, after opening the ZIP file, you can select all the files listed, and copy them to another directory to extract the contents. Please note that whichever foregoing method you use, the contents of the ZIP file *must* be extracted to another directory before proceeding.



`COPYWIPE.EXE` is the **CopyWipe for DOS** program.
`COPYWIPE.PDF` is a copy of this manual.
`LICENSE.TXT` is the CopyWipe license agreement.
`MAKEDISK.CFG` is the MakeDisk configuration file for CopyWipe installation (please refer to the **Installing CopyWipe with MakeDisk (Windows only)** section for instructions on using MakeDisk).
`MAKEDISK.EXE` is the MakeDisk application.
`TBOSIMG3.DAT` is a boot disk image, to be used in place of DOS, where desired.

The other files included in `COPYWIPE.ZIP` are generally not of concern to most users.

3. Create one of the following:
    - A bootable DOS floppy diskette, using the instructions provided under **Creating a Startup Diskette**, or using the distribution available from the FreeDOS site.
    - A bootable CD/DVD compilation, using the CD/DVD authoring software of your choice. TeraByte Unlimited offers a free utility, BurnCDCC, for this purpose.
4. Copy the files from `COPYWIPE.ZIP` to the bootable DOS floppy diskette, or the bootable CD/DVD compilation.
    - If you are creating a bootable CD/DVD, proceed with the creation of the bootable disc at this point.

The bootable floppy diskette or CD/DVD disc can now be used to boot from and run **CopyWipe for DOS**.

Creating a Startup Diskette

If you do not have a copy of Windows XP or Windows 95/98/Me, then you can visit the FreeDOS site to download a free DOS clone.

Creating a DOS Boot Diskette from Windows 95/98/Me

1. Insert a floppy diskette to format.
2. Click **Start**, then **Settings**, then **Control Panel**.
3. Double-click **Add/Remove Programs**.
4. Click on the **Startup Disk** tab.
5. Click the **Create Disk** button.

Creating a DOS Boot Diskette from Windows XP

1. Insert a floppy diskette to format.
2. Click **Start** and select **My Computer**.
3. Right-click the A: drive and select **Format**.
4. Check the box next to **Create an MS-DOS startup disk**.
5. Click **Start**.

To have **CopyWipe for DOS** run automatically when booting from diskette, use a text editor (e.g. Notepad) to create a file with only one line in it, as follows:

```
COPYWIPE.EXE
```

Save this file as `A:\AUTOEXEC.BAT`.

If your diskette already has an `AUTOEXEC.BAT` file on it, add the line above to the end of the current contents of the file.

Running CopyWipe for DOS from Windows 95 or 98

1. Download **CopyWipe for DOS**, if you have not done so already.
2. Extract the contents of `COPYWIPE.ZIP` to a directory of your choice.
3. Create a shortcut to `COPYWIPE.EXE` on your Windows Desktop.
4. Right-click the shortcut and select **Properties**.
5. Select the **Program** tab.
6. Click the **Advanced** button.
7. Check the box next to **MS-DOS Mode**.
8. Click OK until you return to the Windows Desktop.
9. The shortcut can now be used to run **CopyWipe for DOS**.

Using CopyWipe for DOS/Windows

When CopyWipe is run without command line parameters, it presents the main screen:

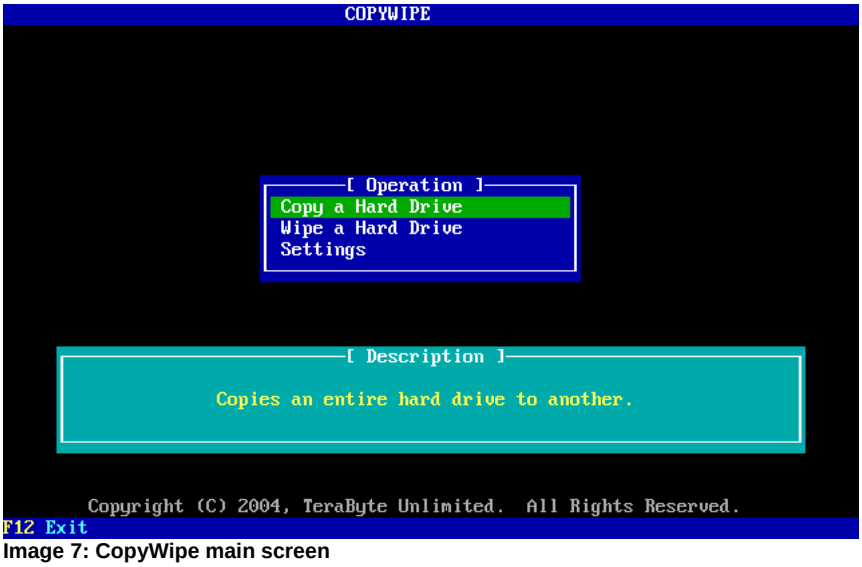


Image 7: CopyWipe main screen

The main screen of CopyWipe offers three menu options:

- Select **Copy a Hard Drive** to copy the contents of one hard drive to another.
- Select **Wipe a Hard Drive** to securely overwrite (wipe) the contents of a hard drive.
- Select **Settings** to change CopyWipe configuration options.

Each of these menu options will be explained below.

Copying a Hard Drive

Please note: **CopyWipe for Windows** should only be used for copying drives that are not in use. **CopyWipe for Windows** does not lock the source drive during a copy operation, and any data written to the source drive during a copy operation could result in inconsistencies between the source and target drives. This restriction does not apply to **CopyWipe for DOS**.

1. From the main screen (see Image 7), use the arrow keys to select **Copy a Hard Drive**, and then press Enter. If you are using **CopyWipe for DOS**, the first of two **Source Hard Drive** screens appears, as shown in Image 8a. If you are using **CopyWipe for Windows**, skip to step 3.

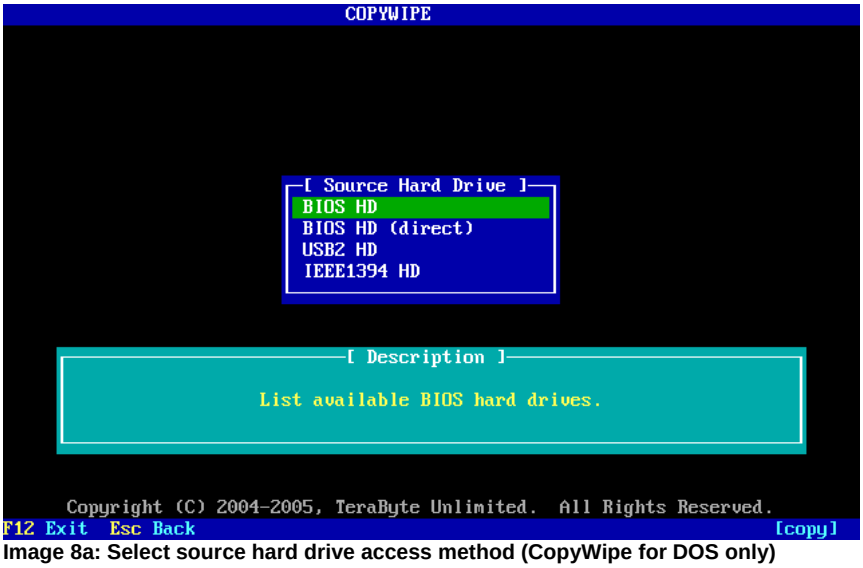


Image 8a: Select source hard drive access method (CopyWipe for DOS only)

2. (**CopyWipe for DOS** only) Select the access method you wish to use for the source hard drive:

   - **BIOS HD --** Locates and accesses drives using the system BIOS. Please note that any problems or limitations inherent to the system BIOS will apply.
   - **BIOS HD (direct) --** Attempts to locate the hard drive using the system BIOS, but then attempts to access it directly, bypassing the BIOS. This can sometimes be helpful in cases where performance with the **BIOS HD** option is very poor.
   - **USB2 HD --** Examines the attached USB 2 controller, if any, for available high-speed hard drives.
   - **IEEE1394 HD --** Examines the attached IEEE 1394 controller, if any, for available hard drives.

   Once you make a selection, press Enter. The second **Source Hard Drive** screen appears, as shown in Image 8b.

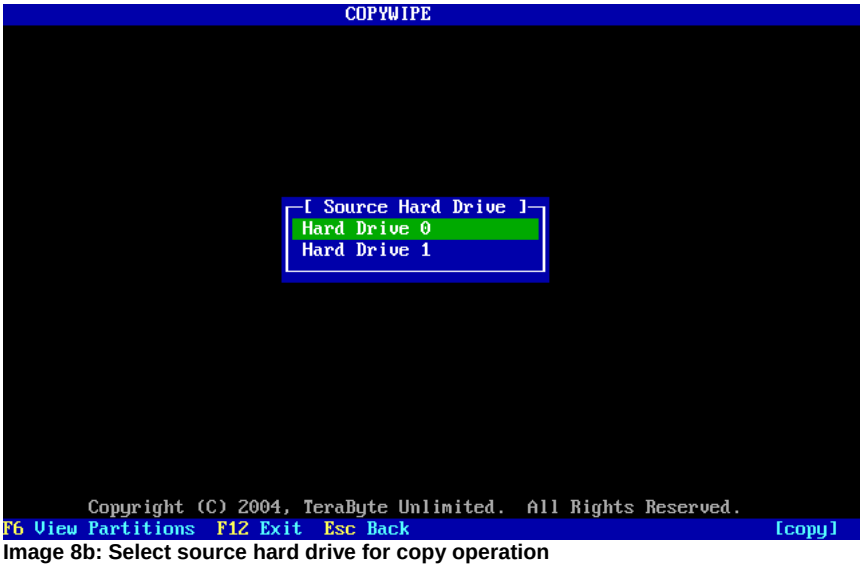


Image 8b: Select source hard drive for copy operation

3. On the **Source Hard Drive** screen depicted in Image 8b above, use the arrow keys to select the hard drive you wish to copy. You may press F6 to view the partitions on the selected hard drive, which can help ensure that you have the correct hard drive selected. (After pressing F6, you may also press F4 to delete a selected partition, if desired.) When you have the desired source drive selected, press Enter. If you are using **CopyWipe for DOS**, the first of two **Target Hard Drive** screens appears, as shown in Image 9a. If you are using **CopyWipe for Windows**, skip to step 5.

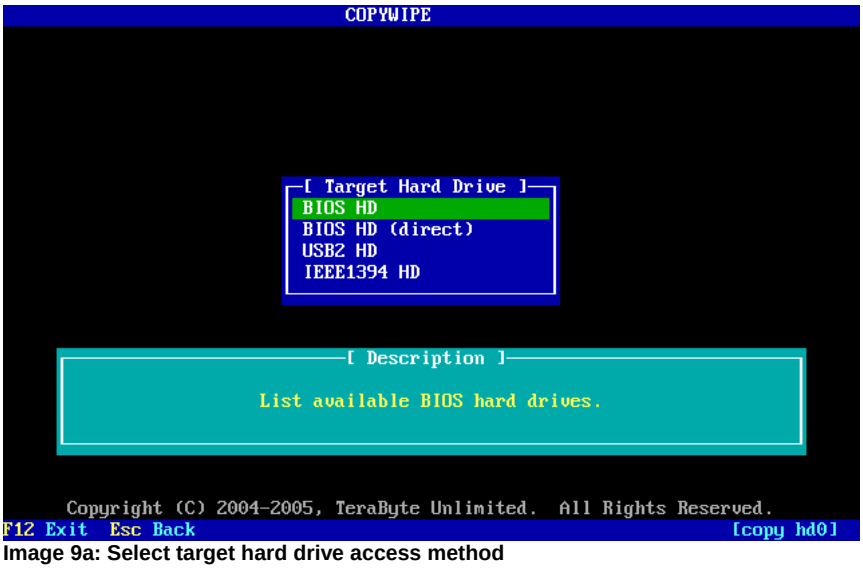


Image 9a: Select target hard drive access method

4. (**CopyWipe for DOS** only) Select the access method you wish to use for the target hard drive. The options are the same as those for the source hard drive:

   - **BIOS HD --** Locates and accesses drives using the system BIOS. Please note that any problems or limitations inherent to the system BIOS will apply.
   - **BIOS HD (direct) --** Attempts to locate the hard drive using the system BIOS, but then attempts to access it directly, bypassing the BIOS. This can sometimes be helpful in cases where performance with the **BIOS HD** option is very poor.
   - **USB2 HD --** Examines the attached USB 2 controller, if any, for available high-speed hard drives.
   - **IEEE1394 HD --** Examines the attached IEEE 1394 controller, if any, for available hard drives.

   Once you make a selection, press Enter. The second **Target Hard Drive** screen appears, as shown in Image 9b.

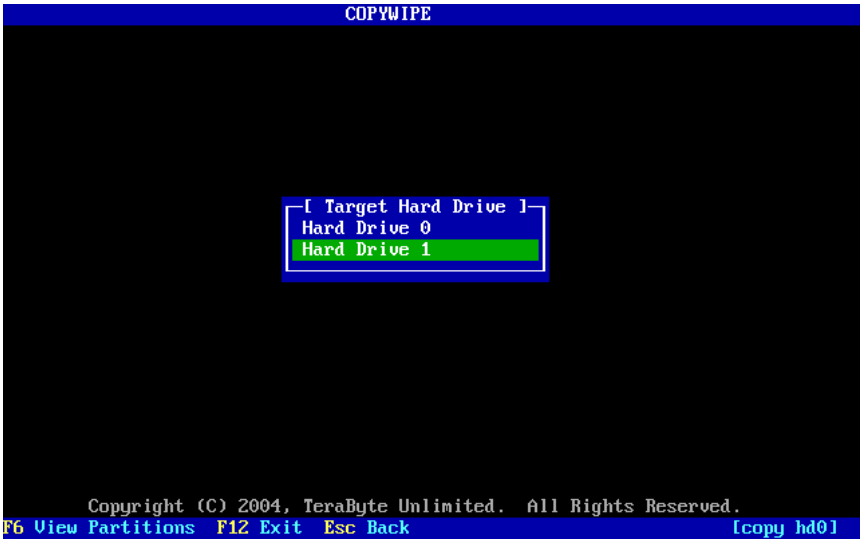


Image 9b: Select target hard drive for copy operation

5. Notice that the status area (in the lower right corner of the screen) is updated to reflect the operation being performed, and the number of the source hard drive. On the **Target Hard Drive** screen, use the arrow keys to select the hard drive to which you wish to copy the contents of the source hard drive. (As in step 3, you may press F6 to view the partitions on the selected hard drive.) When you have the desired target drive selected, press Enter. The copy options screen appears, as shown in Image 10.

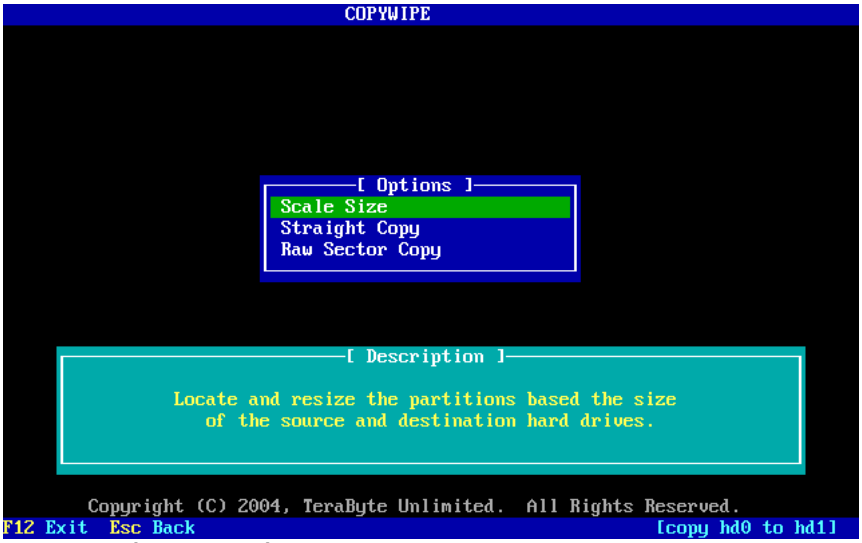


Image 10: Select copy option

6. The status area is once again updated to reflect the options you have selected. On the copy options screen, select the copy option you would like to use. Each copy option is explained in further detail in Table 1, **Copy Options Explained**.
7. You will be prompted before the copy operation is executed. Enter Y to proceed, or N to go back to the copy options screen. Once you allow the copy operation to proceed, the copy progress screen appears. You may press the Esc key at any time during the copy operation to cancel it.

Copy Options Explained

Scale Size	Automatically sizes the copied partitions on the target hard drive so that they each take up the same proportional amount as on the source hard drive. 1. If the source file system is FAT, FAT32, NTFS, XFS, EXT2, EXT3, or ReiserFS, then only used sectors on the source drive are copied to the target drive. For other file systems, both used and unused sectors will be copied from source to target. While copying every sector of unknown files systems ensures the data is transferred, it does not guarantee the file system will be bootable. 2. Only resizes extended, FAT, FAT32, and NTFS partitions. Other partition types will be copied, but not resized.
Straight Copy	Copies each partition to the target hard drive so that its size and position are identical to that of the source hard drive. This copy option requires that the source and target hard drives have matching geometry, and CopyWipe will notify you if this option is invalid for the current copy operation. • If the source file system is FAT, FAT32, NTFS, XFS, EXT2, EXT3, or ReiserFS, then only used sectors on the source drive are copied to the target drive. For other file systems, both used and unused sectors will be copied from source to target.
Raw Sector Copy	Copies the contents of the source hard drive to the target hard drive without regard to the contents. Both used and unused sectors on the source drive are copied to the target drive.

Table 1: Copy options explained

Wiping a Hard Drive

1. From the main screen (see Image 1), use the arrow keys to select **Wipe a Hard Drive**, and then press Enter. If you are using **CopyWipe for DOS**, the first of two **Hard Drive** screens appears, as shown in Image 11a. If you are using **CopyWipe for Windows**, skip to step 3.

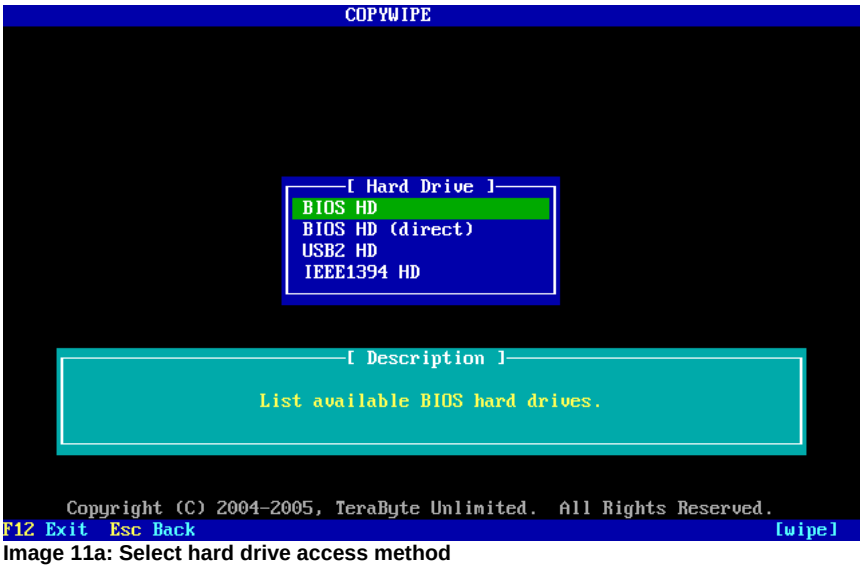


Image 11a: Select hard drive access method

2. (**CopyWipe for DOS** only) Select the access method you wish to use for the source hard drive:

   - **BIOS HD --** Locates and accesses drives using the system BIOS. Please note that any problems or limitations inherent to the system BIOS will apply.
   - **BIOS HD (direct) --** Attempts to locate the hard drive using the system BIOS, but then attempts to access it directly, bypassing the BIOS. This can sometimes be helpful in cases where performance with the **BIOS HD** option is very poor.
   - **USB2 HD --** Examines the attached USB 2 controller, if any, for available high-speed hard drives.
   - **IEEE1394 HD --** Examines the attached IEEE 1394 controller, if any, for available hard drives.

   Once you make a selection, press Enter. The second **Hard Drive** screen appears, as shown in Image 11b.

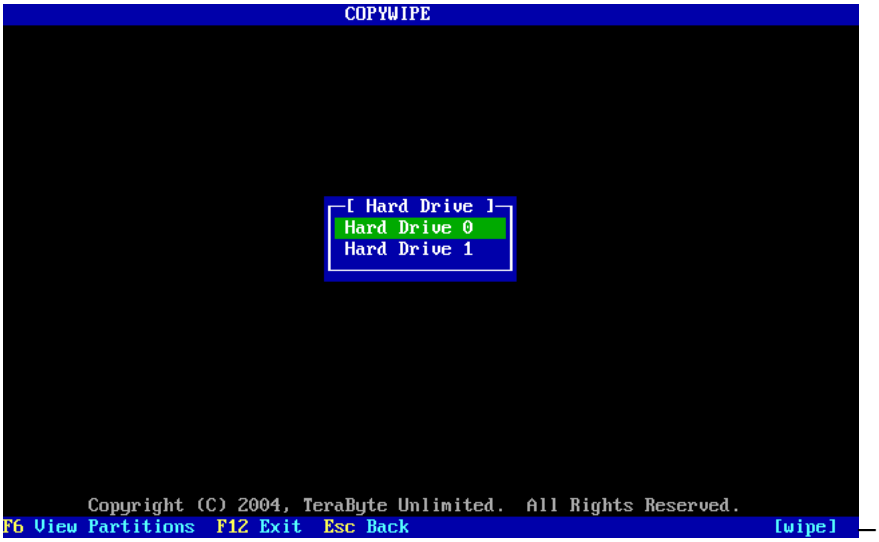


Image 11b: Select hard drive for wipe operation

3. On the **Hard Drive** selection screen, use the arrow keys to select the hard drive you wish to wipe. You may press F6 to view the partitions on the selected hard drive, which can help ensure that you have the correct hard drive selected. When you have the desired hard drive selected, press Enter. The wipe options screen appears, as shown in Image 12.

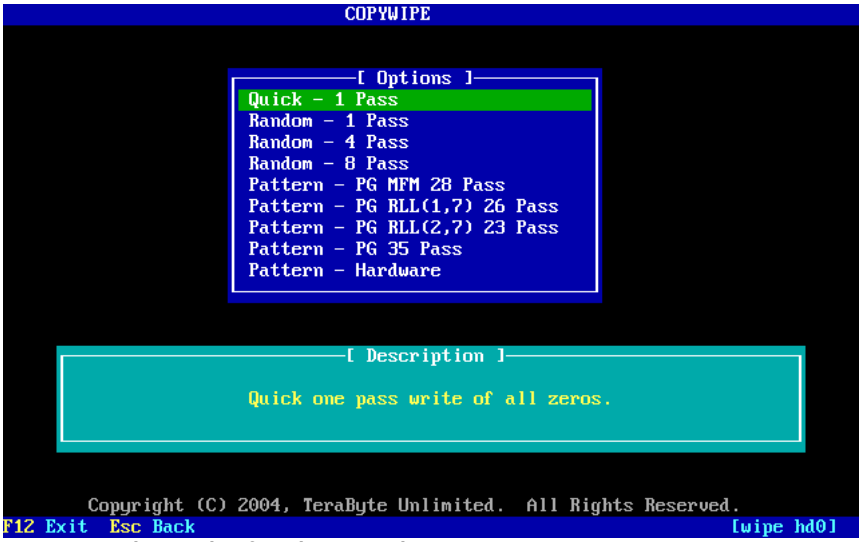


Image 12: Select option for wipe operation

4. Notice that the status area (in the lower right corner of the screen) is updated to reflect the operation being performed, and the number of the selected hard drive. On the wipe options screen, use the arrow keys to select the type of wiping you wish to perform, and then press Enter. Each wipe option is explained in further detail in Table 2, **Wipe Options Explained**. If you are using **CopyWipe for DOS**, the **Entropy Source** screen will appear, as shown in Image 13. If you are using **CopyWipe for Windows**, skip to step 6. (When using **CopyWipe for Windows**, entropy collection is handled directly by Windows, using the Crypto API.)

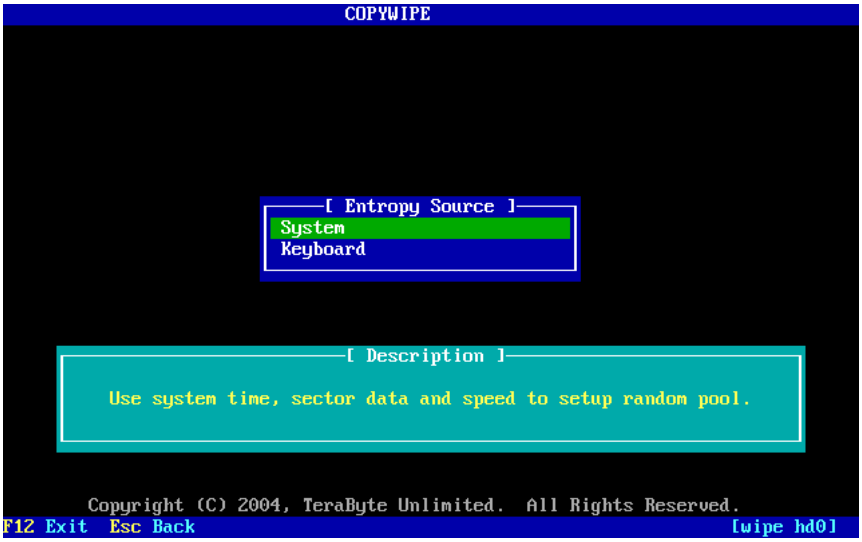


Image 13: Select entropy source

5. (**CopyWipe for DOS** only) Use the arrow keys to select an entropy source. If you select the Keyboard entropy source option, you will be prompted to press random keys on the keyboard, in order to generate enough entropy (i.e. “randomness”) for the wipe operation.

6. You will be prompted before the wipe operation is executed. Enter Y to proceed, or N to go back to the previous screen. Once you allow the wipe operation to proceed, the wipe progress screen appears. You may press the Esc key at any time during the wipe operation to cancel it.

   Please note: Canceling the wipe operation will not recover any data that has been wiped up to that point!

Wipe Options Explained

Quick – 1 Pass	Overwrites with 1 pass of zeros.
Random – 1 Pass	Overwrites with 1 pass of strong random data, followed by 1 pass of zeros.
Random – 4 Pass	Overwrites with 4 passes of strong random data, followed by 1 pass of zeros.
Random – 8 Pass	Overwrites with 8 passes of strong random data, followed by 1 pass of zeros.
Pattern – PG MFM 28 Pass	Overwrites a total of 29 times, including specific patterns for MFM encoding: • 4 alternating passes of strong random data. • 20 passes using data designed specifically for MFM-encoded drives. • 4 alternating passes of strong random data. • 1 pass of zeros.
Pattern – PG RLL(1,7) 26 Pass	Overwrites a total of 27 times, including specific patterns for RLL(1,7) encoding: • 4 alternating passes of strong random data. • 18 passes using data designed specifically for RLL(1,7)-encoded drives. • 4 alternating passes of strong random data. • 1 pass of zeros.
Pattern – PG RLL(2,7) 23 Pass	Overwrites a total of 24 times, including specific patterns for RLL(2,7) encoding: • 4 alternating passes of strong random data. • 15 passes using data designed specifically for RLL(2,7)-encoded drives. • 4 alternating passes of strong random data. • 1 pass of zeros.
Pattern – PG 35 Pass	Overwrites a total of 36 times, including specific patterns for MFM, RLL(1,7), and RLL(2,7) encoding: • 4 alternating passes of strong random data. • 27 passes using a variety of patterns designed specifically for RLL(1,7)-, RLL(2,7)-, and MFM-encoded drives. • 4 alternating passes of strong random data. • 1 pass of zeros.
Pattern – Hardware	Overwrites using the enhanced secure erase feature built into the hard drive. This option will not work with all hard drives, and CopyWipe will notify you if the selected hard drive does not support this feature.

Table 2: Wipe options explained

CopyWipe Settings

CopyWipe settings are accessed from the main screen (see Image 1). Use the arrow keys to select Settings, and then press Enter. The Settings screen appears, as shown in Image 14. Each CopyWipe option is explained in Table 3 below.

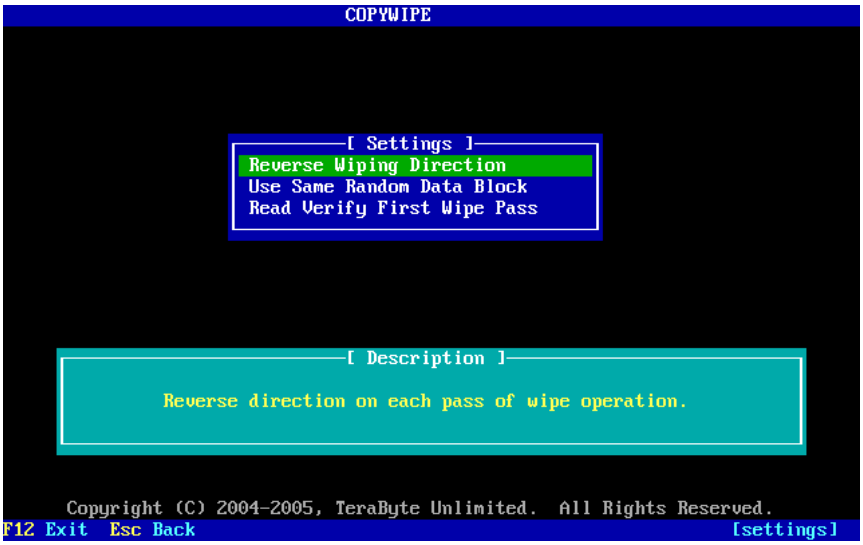


Image 14: CopyWipe settings

CopyWipe Options Explained

Reverse Wiping Direction Default: Enabled	Enabling this option will force CopyWipe to alter the direction of travel of the hard drive write head each during each wiping pass. This option will not disable the drive's write cache; as a result, if the drive makes use of built-in elevator sorting, some writes may still occur in the forward direction. (Disabling the write cache results in a performance degradation of a full order of magnitude or more.) `COPYWIPE.INI` default value: `WRD=1`
Use Same Random Data Block Default: Disabled	Enabling this option causes CopyWipe to reuse the same block of random data for each wiping pass that is performed. (The block of random data will be <= 64 KB in size.) Enabling this option sacrifices some security in favor of speed. `COPYWIPE.INI` default value: `KRB=0`
Read Verify First Wipe Pass Default: Enabled	Enabling this option causes CopyWipe to verify the entire content of the first wiping pass, using the MD5 hash algorithm. Enabling this option sacrifices some speed in favor of security. `COPYWIPE.INI` default value: `WRV=1`
Mount Target After Copy (CopyWipe for Windows only) Default: Disabled	Enabling this option allows Windows to access the new partition(s) of the target drive after a copy operation completes, without rebooting. This allows Windows to assign drive letter(s) to the partition(s), but it may also result in the target drive's disk signature being changed. If this option is disabled, target drive partition(s) cannot be assigned drive letter(s) until after a reboot. `COPYWIPE.INI` default value: `NOS=0`

Table 3: CopyWipe options explained

To enable or disable any of the options listed:

1. Use the arrow keys to highlight the option you wish to enable or disable, and then press Enter. An Enable/Disable submenu will appear.
2. Use the arrow keys to select either Enable or Disable, and then press Enter.
3. Press Esc to return to the main screen.

Please note: In order for CopyWipe settings to be remembered between runs, the settings must be stored in `COPYWIPE.INI`, which resides in the current directory of the DOS environment.

- If you used MakeDisk to install **CopyWipe for DOS**, the settings you specified at that time will be reflected in `COPYWIPE.INI`, unless you subsequently change them within CopyWipe.
- CopyWipe can only update `COPYWIPE.INI` if the media you are running CopyWipe from is writable. This means that if a floppy diskette is used, it must not be write protected. If a CD/DVD disc is used, `COPYWIPE.INI` cannot be modified at all, since CopyWipe cannot write to CD/DVD media.
- You can manually create and/or update `COPYWIPE.INI` before running CopyWipe, with the appropriate settings and values specified. Refer to Table 3, **CopyWipe Options Explained** for the applicable settings and values.
- You can use subdirectories, if you like, to automatically use different CopyWipe settings. For example, you could create the following two files, each with different CopyWipe settings specified inside:

  ```
  A:\ATA0\COPYWIPE.INI
  A:\ATA1\COPYWIPE.INI
  ```

  In this case, assuming that `COPYWIPE.EXE` resides in `A:\`, you could invoke the desired settings by first making either `A:\ATA0\` or `A:\ATA1\` the current directory in the DOS environment, and then entering the command `A:\COPYWIPE.EXE` or `..\COPYWIPE.EXE`.

- If you will be using **CopyWipe for Windows** in the PE environment (e.g. using the BartPE plugin), you may want to use the `NSP=1` setting in `COPYWIPE.INI`. This setting specifies that there will be **N**o **S**ettings **P**rompt, meaning that if you change settings and `COPYWIPE.INI` cannot be written to, no error message will be displayed. (Even if `COPYWIPE.INI` is not updated, changed settings will remain in effect until **CopyWipe for Windows** is exited.)
- **CopyWipe for DOS** does not require a section name in `COPYWIPE.INI`. However, **CopyWipe for Windows** requires the section name `[CopyWipeW]`. Simply place `[CopyWipeW]` at the top of `COPYWIPE.INI`. For example:

  ```
  [CopyWipeW]
  NSP=1
  ```

Command Line Options

CopyWipe accepts a variety of command line options. These command line options may be invoked from the command line itself, or from a batch file.

If you use CopyWipe with command line options, the options must be separated by spaces and entered in the order shown in the following examples. Use the /? command line option to view these command line options at any time.

CopyWipe for DOS Basic Command Line Format

copywipe copy [a|f|u]**S** [a|f|u]**D** [copytype] [control options]
copywipe wipe [a|f|u]**D** [wipetype] [control options]

Table 4a: CopyWipe for DOS basic command line format

The options listed in [brackets] above are optional.

S = Source hard drive number (0 - 9)
D = Target hard drive number (0 - 9)

a = Use BIOS (direct) device
f = Use IEEE 1394 device
u = Use USB2 device

The valid copytype parameters are SCALE, STRAIGHT or RAW. If you do not supply a copytype parameter, SCALE will be used by default. For an explanation of the various copytype options, see Table 1: **Copy Options Explained**.

The valid wipetype parameters are QUICK, R1, R4, R8, MFM, RLL17, RLL27, PG, or HW. If you do not supply a wipetype parameter, QUICK will be used by default. For an explanation of the various wipetype options, see Table 2: **Wipe Options Explained**.

Control options are explained in Table 5 below.

CopyWipe for Windows Basic Command Line Format

copywipew copy S D [copytype] [control options]
copywipew wipe D [wipetype] [control options]

Table 4b: CopyWipe for Windows basic command line format

The options listed in [brackets] above are optional.

S = Source hard drive number (0 - 9)
D = Target hard drive number (0 - 9)

The valid copytype parameters are SCALE, STRAIGHT or RAW. If you do not supply a copytype parameter, SCALE will be used by default. For an explanation of the various copytype options, see Table 1: **Copy Options Explained**.

The valid wipetype parameters are `QUICK`, `R1`, `R4`, `R8`, `MFM`, `RLL17`, `RLL27`, `PG`, or `HW`. If you do not supply a wipetype parameter, `QUICK` will be used by default. For an explanation of the various wipetype options, see Table 2: **Wipe Options Explained**.

Control options are explained in Table 5 below.

CopyWipe for DOS/Windows Command Line Control Options

The control options are a series of letters with no spaces that control what actions to take:

Control Option	Usage	Explanation
s	Copy/wipe	Start the operation without confirmation.
o	Copy/wipe	Automatically overwrite existing data on the target drive.
o-	Copy/wipe	Do not automatically overwrite existing data on the target drive.
i	Copy/wipe	Ignore any surface errors found on the drive.
i-	Copy/wipe	Abort operation if surface errors are found on the drive.
n	Copy/wipe	Do not show completion messages.
c	Copy/wipe	Disable the cancel key.
r	Copy/wipe	Do not prompt to reboot after the operation.
h	Wipe	If directly accessing the hard drive and a host-protected area is found, attempt to remove it.
h+	Wipe	If directly accessing the hard drive and a host-protected area is found, attempt to remove it. If the host-protected area cannot be removed, abort the operation.

Table 5: Command line control options

Command Line Usage Examples:

```
copywipe copy 0 1 SCALE so
```

The command line above will instruct **CopyWipe for DOS** to copy the contents of hard drive 0 to hard drive 1, and to scale the partition(s) proportionately on hard drive 1. The operation will start without confirmation (s), and the existing data on hard drive 1 will be overwritten (o).

```
copywipe copy f0 2 RAW i-r
```

The command line above will instruct **CopyWipe for DOS** to copy the contents of IEEE 1394 hard drive 0 to hard drive 2, using the raw sector copy method. The operation will abort if surface errors are encountered (i-), and the prompt to reboot after the operation completes will be suppressed (r).

```
copywipew wipe 1 R8 sr
```

The command line above will instruct **CopyWipe for Windows** to wipe the contents of hard drive 1 using 8 passes of random data, followed by one pass of zeros (R8). The operation will start without confirmation (s), and the prompt to reboot after the operation completes will be suppressed (r).

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