DiskFactory32 Overview

To learn how to use Help, press F1.

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What is DiskFactory32?

DiskFactory32 is a high-speed 32 bit, multitasking diskette copy/compare/format utility for Microsoft Windows 95. With **DiskFactory32** , the once tedious task of diskette duplication is now a breeze!

- **DUPE DISKETTES IN THE BACKGROUND - SEAMLESSLY**
  Why tie up your entire computer with diskette duplication chores? You can continue to use your system while **DiskFactory32** works its magic! It's time to start spending more time USING your computer and less time waiting for it to complete simple tasks!
- **JUST A SINGLE PASS TO READ OR WRITE**
  Multiple "swapping" of SOURCE and TARGET diskettes is NEVER a part of the **DiskFactory32** process! One pass is all we need to capture a binary image of a diskette, which is then used to make as many copies of your original as needed, one pass per diskette. It's quick and easy!
- **POLITE NOTIFICATION OF WARNINGS/ERRORS**
  Using **DiskFactory32** to copy diskettes in the background is painless thanks to our Polite Notification system! **DiskFactory32** will not pop you out of your work just to get your attention! It simply flashes an icon on the task bar, and waits patiently until you're ready to switch back! This feature helps make **DiskFactory32** one of the most unobtrusive utilities ever developed!
- **X-FORMAT: FULLY AUTOMATIC CROSS-FORMAT DUPLICATION**
  Our cross-format duplication feature, or X-Format for short, allows you to copy any diskette to any other diskette, *as long as the allocated portion of the source will fit on the target*. This feature is perfect for those who distribute the same files in various diskette formats. X-Format is completely automatic and requires no user intervention. Need to copy a 360K diskette to a 720K diskette? Or a 1.44MB diskette to a 720K diskette? It's a snap. Just insert your diskette and go. **DiskFactory32** takes care of the rest.
- **STORE DISKETTES AS "IMAGE FILES" ON YOUR HARD DISK**
  Copy frequently duplicated diskettes to image files stored on your hard disk, for convenient access and faster duplication! No more waiting for the first "read" pass from a master diskette... **DiskFactory32** can access an image file and begin duplication almost instantly!
- **BUILT-IN MINI FILE MANAGER**
  Unsure of whether a particular diskette is actually empty, or whether another is actually the diskette you want to copy? You can view diskette contents, rename, delete, drag-and-drop, run programs, and inspect associated files without ever leaving **DiskFactory32.**
- **SUPPORT FOR NON-STANDARD DISKETTES**
  Unlike our competition, **DiskFactory32** can copy many non-DOS formats, including Unix, Macintosh 1.44MB and Atari ST diskettes.
- **INCREDIBLE EASE OF USE**
  Using **DiskFactory32** is almost entirely self-explanatory! Just about everything you need is presented in a single, user-friendly window, including step-by-step instructions, helpful status messages, and truly informative displays!
- **BACKGROUND COMPARES AND FORMATS, TOO!**
- **TRY BEFORE YOU BUY!**
  DiskFactory32 is distributed as shareware, the software distribution method that allows you to "try before you buy." You may use **DiskFactory32** without cost for a thirty day evaluation period. After that period has expired, you can either register (and receive many registration benefits) or remove the program from your system without further obligation. For more information, see the Registration Information section of

this file!

- **AND SO MUCH MORE!**

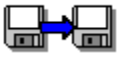
Using DiskFactory32

The basics:

- Copying a Diskette
- Comparing a Diskette
- Formatting a Diskette
- Using Image Files
- Viewing Diskette Directories

Other important stuff:

- Menu Items
- Operation Box
- Progress Report Box
- Copying Non-Standard Diskettes
- X-Format: Cross-Format Duplication
- Red Warning Symbols



Copying a Diskette

DiskFactory32 will create, in a single pass, a temporary, binary image of an entire SOURCE diskette. This image, stored either in RAM or a temporary hard disk file, is then used to produce exact copies of the original, with a single pass per TARGET diskette.

To make a single copy of a diskette...

1. Make sure that the "Copy" radio button is selected in the Operation Box.
2. Select the appropriate SOURCE and TARGET drives in the Operation Box.
3. Insert the SOURCE diskette in the appropriate drive and choose the "OK" button.
4. When prompted, insert the TARGET diskette in the appropriate drive and choose the "OK" button.

See also:

Copying Non-Standard Diskettes
X-Format: Cross-Format Duplication
Multiple Copies of a Diskette

Multiple Operations

Once a source diskette or image file has been read into memory, **DiskFactory32** will Copy and/or Compare it to as many diskettes as you like. You can switch between Copy and Compare if needed, the source will remain in memory.

Note that the caption next to the Multiple Operations checkbox changes to reflect the selected operation, e.g., if Copy is the currently selected operation, the caption reads "Multiple Copies."

To perform multiple operations on a diskette...

1. Make sure that the "Multiple [current operation] check box is set.
2. Select the appropriate SOURCE and TARGET drives in the Operation Box.
3. Insert the SOURCE diskette in the appropriate drive and choose the "OK" button.
4. When prompted, insert the TARGET diskette in the appropriate drive and choose the "OK" button.
5. Go back to step 5 until you decide to stop. At that point, choose the "Cancel" button.

See also:
Copying Non-Standard Diskettes
X-Format: Cross-Format Duplication

Operation Selection Box

The operation to be performed (copying, comparing, or formatting) and diskette drive(s) to be used are selected using the controls in the Operation Box.

Note: After processing begins, some controls in this box will be disabled and grayed until the process is completed or canceled.

Copy / Compare / Format Radio Buttons

The state of this control determines the program operation to be performed - copy, compare, or format.

SOURCE Drive Select

This control lists all available diskette drives and the "img" option for Image Files.

TARGET Drive Select

This control also lists all diskette drives, as well as the "img" option for Image Files.

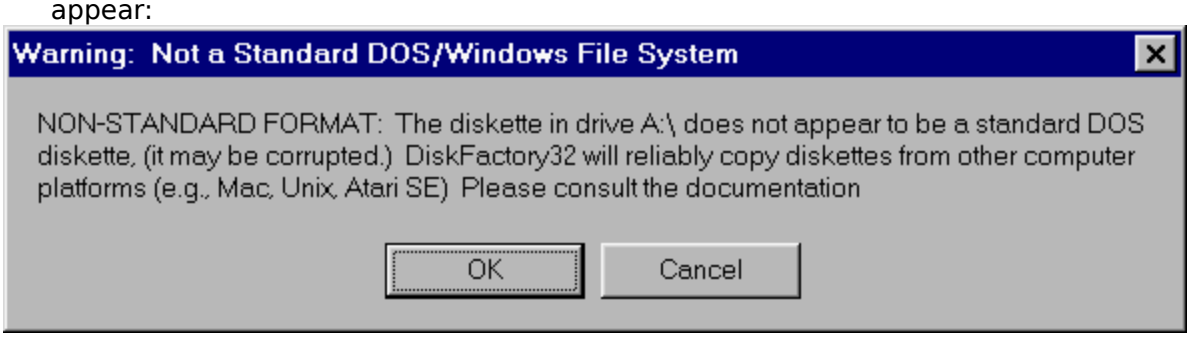
Copying Non-Standard Diskettes

DiskFactory32 was designed to copy standard DOS diskettes -- diskettes that were formatted on a PC according to DOS standards. However, because it uses a "binary" copy procedure, **DiskFactory32** can also be used to copy many non-standard formats.

DiskFactory32 has been successfully tested with many diskette formats including Macintosh 1.44MB, Atari ST, and several types of Unix diskettes. Macintosh 800K diskettes and some bootable Unix diskettes are not supported. Other types may or may not work properly. (If you come across a diskette that **DiskFactory32** will not copy please let us know. A future version of **DiskFactory32** will have more direct support for non-standard diskettes.)

*** **WARNING** *** Before relying on **DiskFactory32** for duplicating any non-standard diskette, be sure to make a test run. Copy the diskette and then carefully check it on the native machine to ensure that the diskette has copied properly.

When you attempt to copy a readable but non-standard diskette, this message will appear:



Choose "Ignore" to ignore this warning and attempt the copy. To prevent this warning from appearing in the future, check "Use Non-DOS Diskettes" from the Warnings Property Sheet

Comparing a Diskette

DiskFactory32s compare facility will compare two diskettes to determine if their contents are the same. The terminology used is still "SOURCE" (for the first diskette) and "TARGET" (for the second), although nothing is actually copied. Neither diskette will be modified during this process.

A binary image of the SOURCE diskette is stored in RAM, and then each track is compared to those on the TARGET diskette. **DiskFactory32** will notify you each time a mis-match is located, and you will have the opportunity to continue or cease comparing.

1. Make sure that the "Compare" radio button is selected in the Operation Selection Box.
2. Select the appropriate SOURCE and TARGET drives in the Operation Selection Box.
3. Insert the SOURCE diskette in the appropriate drive and choose the "OK" button.
4. When prompted, insert the TARGET diskette in the appropriate drive and choose the "OK" button.

X-Format

X-Format, shorthand for our cross-format diskette duplication feature, allows you to copy any diskette to any other diskette. The only restriction is that the capacity of target diskette must be sufficient to hold all files and directories stored on the source.

X-Format is completely automatic and requires no user intervention. **DiskFactory32** will determine the diskette types and analyze storage requirements for the files on the source

(**DiskFactory32** does not currently support 2.88MB diskettes.)

Red Warning Symbols

Before **DiskFactory32** performs any diskette operation that will destroy any previously existing data, red warning symbols will be displayed. The main program icon (on the Task Bar) and the icon in the Diskette Parameters Box are shown in red to indicate the risk of potential data loss associated with the following operation.

WARNING: Any existing data on the TARGET diskette will be destroyed as it is over-written. Clicking 'OK' while a Red Warning Icon is displayed verifies your intent to over-write the TARGET diskette.

Use appropriate caution at any time a Warning Symbol is displayed.

Formatting a Diskette

DiskFactory32 will automatically format new diskettes (or all diskettes if you wish) when making copies. It is also capable of just formatting diskettes, as explained below...

1. Make sure that the "Format" radio button is selected in the Operation Selection Box.
2. Select the appropriate TARGET drive in the Operation Selection Box.
3. Insert the diskette to be formatted and click the 'Ok' pushbutton.

Remember: Any and all data on the diskette will be lost.

Alternatively, choose "Format Diskette" from the "Disk" menu. The "Format Diskette" dialog box will appear. (This is consistent with previous versions of Disk Factory.)

Using Image Files

Diskettes can be stored as image files on your hard disk, for convenient access to your most frequently duplicated diskettes. There are now several ways to load an image file:

Using an Image file as the Source:

1. **DiskFactory32** drive selectors list an extra, dummy drive named "img." Selecting this "img" drive from the Source list opens the standard File Open common dialog, allowing you to find and select an image file. If a valid file is selected, it is loaded immediately.
2. Alternatively, the **Open Image File...** menu item under the **File** menu provides a more conventional interface to identical functionality. (This menu item is disabled if no Source has been loaded into memory.)
3. Also under the **File** menu, the four Most Recently Used (MRU) image files are listed. Selecting a file from the MRU list causes it to be loaded immediately.
4. An image file may be loaded by specifying a valid image file name as the only command line argument, when executing **DiskFactory32**, e.g., DSKFAC32 C:\MYIMAGE.DFI.
5. If you allow **DiskFactory32** to register itself as the handler for image files, **DiskFactory32** will automatically execute and load an image file if/when that image file is opened (e.g., by double-clicking on an image file from within Explorer.)
6. The shell will execute **DiskFactory32** to load an image file when that file is dragged and dropped onto a **DiskFactory32** icon, or a shell link (aka, Shortcut) to **DiskFactory32**.
7. The Source Image drive select box is a drop-file target, which means that an image file will be loaded when a file is dragged and dropped onto the Source Drive area of the **DiskFactory32** Operations dialog.

No matter which way you choose to load an image file, it may be used exactly as if it had been read from an actual diskette.

Using an Image file as the Target:

1. Selecting the "img" drive from the Target list works much as it does from the Source list: it opens the standard File Save common dialog. If you specify an image Target before loading the Source into memory, the Source will be written to the image file as it is read. If you specify an image file after loading the Source into memory, the image file will be created immediately.
2. Also similar to the Source load interface, the **Save Image File As...** menu item under the **File** menu provides a more conventional interface to identical functionality.

For Copy or Compare operations, image file Targets may be used without restriction.

Acknowledgments (in alphabetic order)

Dick Bryant

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Intense Beta Tester

Joe Hazard

Interface consultant
Financial backer
Binary commando

Don Gates

Tech Weanie at large
Wanna-be marketeer

Bonnie Little

Docs and Promo Adviser
Terminal Optimist
[sometimes] Painfully objective critic

Stephie & Becky McGinty

Patience teachers
Fun Consultants
Majorly cute kidlets

Jeff Mefford

Support BBS Sysop
Hitchhiker on the Information Highway

Robin Ragan

Technical Writer
Marketing Assistant
Programmer Groupie

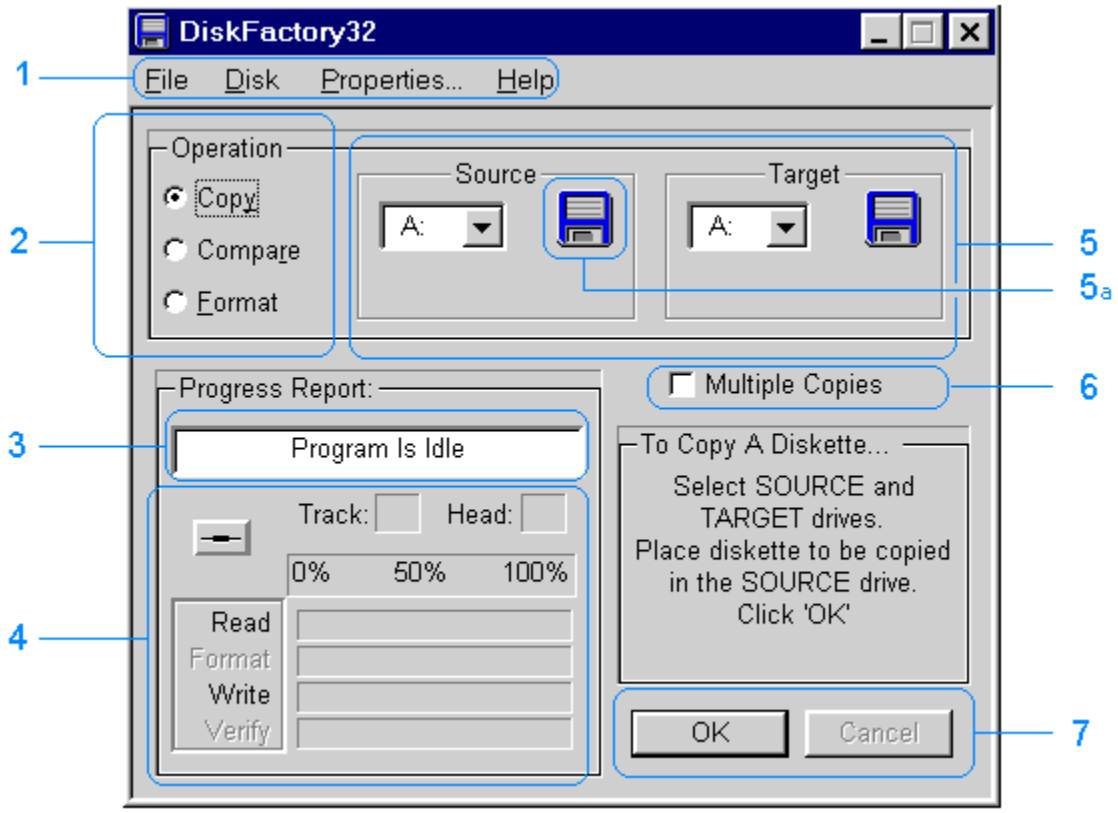
Disk Factory 1.x Image Support

Due to the number of software packages now using .IMG as a file specification, **DiskFactory32** image files are now named with the file spec .DFI (Disk Factory Image) by default.

DiskFactory32 does provide seamless support for image files created with previous versions of Disk Factory. It utilizes the data in it's native format, and does not alter the original image.

You may wish to convert old version image files to take advantage of new **DiskFactory32** capabilities (for example, storing it in allocated-only format.) To do so, load the old image file as the source, then write it to a new file, using the File->Save menu item, or the IMG selection in the Target Select combo-box.

User Interface Map



1. Main Menu
2. Operation Selection Radiobuttons
3. Operation Status Marquis
4. Progress Indicators
5. Source and Target Drive Selection lists

5a. Source Drive Icon

6. Multiple Operations checkbox
7. Ok and Cancel pushbuttons

The portion of a diskette that is currently being used by files and/or sub-directories.

Experienced Users Overview

If you are familiar with diskette duplication terms and concepts then **DiskFactory32** should be a very simple application to use. (If you disagree, please let us know!)

The only real complexity involves the number of properties that control procedures and application behavior. A quick scan of Properties Reference is probably worth the time, and will give you an idea of **DiskFactory32** capabilities and flexibilities.

Legal Information

DiskFactory32 is distributed via the shareware distribution method. Users are granted a license to use this software for evaluation purposes for a period not to exceed thirty days. After this period, users must either register (purchase a license for continued use and other benefits) or cease using the software and remove all copies from their system. More information on registration can be found in the Registration Information section of this file.

SHAREWARE LICENSE AGREEMENT

This is an agreement between you (either an individual or an entity) and Accurate Technologies By using or distributing copies of the shareware evaluation version of the **DiskFactory32** package in any way, you are agreeing to be bound by the terms of this agreement. If you do not agree to the terms of this agreement, you must cease using or distributing this software immediately.

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Technical Support and Customer Service

Accurate Technologies is dedicated to the complete and total satisfaction of our customers. If you have any questions about or problems with this software, you are encouraged to contact us. We will do our absolute best to help you. We can be reached through the following channels...

Mail:

Accurate Technologies,
P.O. Box 4943
San Diego, CA 92164-4943 USA

E-Mail:

CompuServe:	70711,527
InterNet #1:	70711.527@compuserve.com
InterNet #2:	mmcginty@adnc.com

World Wide Web:

http://www.sandiego.sisna.com/mmcginty/df32.html

Registration Information

About Shareware

The shareware distribution method is an innovative way to market - and obtain! - exciting new software like **DiskFactory32.** Users like yourself are given the opportunity to test-drive software for free or a nominal disk charge, and independent software companies like Accurate Technologies, are offered the freedom to publish their software titles with minimal overhead. Low overhead helps keep prices down and spurs a brand of creativity and dedication found only in the shareware market. Shareware distribution relies upon the support of those who use shareware programs: Please feel free to give copies of **DiskFactory32** to your friends and colleagues. And if you use **DiskFactory32** beyond the evaluation period, please register.

Why Register?

Users are granted a license to use this shareware evaluation version of **DiskFactory32** for a thirty day evaluation period without cost. After this period, you must either register the program or remove it from your system. We certainly hope that you will find the program useful and register it!

As a registered user, you will receive...

* * * A license for continued use of **DiskFactory32.**
* * * A printed manual. *
* * * A disk containing: the latest version of **DiskFactory32...** *
* * * Unlimited free technical support and customer service.
* * * Free updates to any and all future version 2.x releases.

Minimal disk and shipping charges may apply. Updates to subsequent major versions will be available to you at reduced cost.

Please register today and support the further development of **DiskFactory32** and other shareware products. The shareware concept can only work with your support.

How much does it cost?

Only $35.95! (U.S. Funds)

* Plus optional booklet and 3.5'' or 5.25'' diskettes by mail if desired (see Green License Policy)

For ordering information, please click one of these topics:

How To Register By Check (Cheque) Or Money Order
How To Register Via CompuServe

Interested in purchasing a site license for your company or organization?
Please call or write for details:

Registration Via CompuServe

You can easily register **DiskFactory32**, no matter where you live, if you are a member of the CompuServe Information Service. CompuServe now offers a special area dedicated to shareware registrations... Use it to register **DiskFactory32** and the purchase price, in U.S. funds - or the current exchange value in your local currency - will be added to your next CompuServe bill. It's a quick and easy way to register all of our shareware packages.

All **DiskFactory32** license option packages are available through CompuServe
How do you use it? Just **GO SWREG** and follow the instructions as they appear. The Registration ID number for this product is **13115**

Make a note of it before connecting.

Our SWREG processing system automatically generates validation codes. Register **DiskFactory32** on CompuServe SWREG, and you'll receive a validation code via e-mail within 72 hrs of registering.

Thank you for your support! It is appreciated!

DiskFactory32 -- Only $35.95;

To Register and receive the latest version

print and mail the form below:

ACCURATE TECHNOLOGIES

P.O. BOX 4943
SAN DIEGO, CA 92164-4943
"SATISFACTION GUARANTEED",

DiskFactory32 Order Form

Name: _____
Company: _____
Address: _____
City, ST: _____

Zip Code: _____
Home Phone #:(_____) _____ - _____
Work Phone #:(_____) _____ - _____
E-Mail: _____

QUANTITY:
_____ at $35.95 Single User Licenses
_____ at $89.95 Site License Six Packs

_____ optional booklet and 3.5'' or 5.25'' diskettes by mail (see Green License Policy) for details)
(circle size, 3.5 shipped if none specified.)

(CA residents add 7.75 % sales tax)
Total Enclosed: $_____

Supported Operating Systems

DiskFactory32 2.0 was developed MS Windows 95, using the Win32 API. A Windows NT version is planned, and should be available 2Q97.

OS/2 and/or Unix support is unlikely, due to similar utilities currently available for those platforms.

For Mac release announcements monitor meteorological reports for notice of freezing weather in places that are ordinarily extremely warm!

Upgrade Registration/Pricing Information

As a registered user of a previous version if Disk Factory, you are eligible for an upgrade license at a preferred price of only $15.95 US. (Site license upgrades only $48.95 US.) Please note that these are Green License prices.

CompuServe users may use the Shareware Registration Forum (GO SWREG). Single-user upgrade is SWREG product number 13158. Site license upgrade is SWREG product #13159.

Non-Green SWREG upgrade licenses are not currently available, but will be made so upon request.

Thank You, for you past and continuing support of this product!

How To Register By Check (Cheque) Or Money Order
How To Register Via CompuServe

Eligibility For Upgrade Pricing

In order to qualify for the upgrade license offer, you must currently be registered user of a previous version of Disk Factory. This help topic should only be displayed if you have purchased an Upgrade license, but do not have a previous version of Disk Factory installed.

If you are not a registered user of a previous version of **DiskFactory32**, then you have purchased this upgrade by mistake. You will need to either contact Accurate Technologies, so that we can arrange a credit (and then you may register the full license), or register the previous version of Disk Factory (SWREG product #3204.) The validation code that is issued via e-mail for #3204 will satisfy the "nag notice."

If you are a registered user, DiskFactory32 needs your validation code in order to fully disable the "nag notice." If your registered version 1.11 is still fully installed, **DiskFactory32** should have found the validation code. It is stored in the file DISKFAC.INI, in the Windows directory. This file was also included on the distribution diskette (v.1.11.x).

DiskFactory32 is designed to find existing validation codes in either the Windows directory or the current working directory, each time it is started. It will automatically incorporate that code if found. If you have a 1.11 validation code in a DISKFAC.INI file, copy that file to the **DiskFactory32** executable directory and restart **DiskFactory32**.

Alternatively, you may enter your name and validation code in the registration dialog (File Menu, Register... menu item.)

If you registered via Checkbox Software, or have any other difficulty, please contact Accurate Technologies for a replacement validation code.

Green License

To us the term "Green License" means that registration is fulfilled only by delivery of a validation code. The "Green License" does not include a diskette and/or booklet by mail.

Background:

The executable file that is distributed world-wide as shareware is identical to the executable file distributed on diskette to fulfill registrations. The only difference is the inclusion of a validation code. Further, the printed booklet that accompanies the diskette is derived from the help file – the online help is actually more complete than the booklet, due to format dynamics applicable to printed media.

Shipment of a diskette and booklet represents an ecological strain that we feel is largely unnecessary in most cases. Nearly everyone that registers this product has a working copy of it, and/or the ability to obtain the latest version electronically.

For more than two years, a "Green" license option for Disk Factory 1.11 has been available at a discounted price. We have incorporated this philosophy into the **DiskFactory32** pricing structure to an even greater degree.

New Policy:

Effective immediately all stated license prices are assumed to be for Green Licenses. Diskette and abbreviated printed reference are still available at an additional cost (amount dependent upon your location.) This charge applies to single user, site license and upgrades alike, as shown in the table below.

We invite you comments and/or criticism regarding this policy, as well as any other Accurate Technologies policy.

United States	$10.00
Canada/Mexico	$11.00
Europe	$13.50
Asia/Pacific Rim	$14.00
Central/South America	$14.00
Africa	$15.00
Middle East	$15.00
Australia/New Zealand	$13.50

DiskFactory32 Upgrade-- Only $15.95;

To Register and receive the latest version

print and mail the form below:

ACCURATE TECHNOLOGIES

P.O. BOX 4943
SAN DIEGO, CA 92164-4943
"SATISFACTION GUARANTEED",

DiskFactory32 Upgrade Order Form

Name: _____
Company: _____
Address: _____
City, ST: _____
Zip Code: _____
Home Phone #:(_____) _____ - _____
Work Phone #:(_____) _____ - _____

E-Mail: _____

QUANTITY:
_____ at $15.95 Single User License Upgrades
_____ at $49.95 Site License Six Pack Upgrades

_____ optional booklet and 3.5" or 5.25" diskettes by mail (see Green License Policy for details)
(circle size, 3.5 shipped if none specified.)

(CA residents add 7.75 % sales tax)
Total Enclosed: $_____

DiskFactory32 Application Properties Reference

Media Errors/Flaws Properties

Error Recovery

Read Errors
Write Errors
Remap Clusters around Target flaws

Preserve existing Bad sectors on Targets and new Formats

Exclude Bad Cluster map from Images

Media Detection Properties

I/O service (used by detection process)
Rely on existing boot sector
Warn if boot sector is suspect

Process Properties Page

Redundant Operations / Data Safety

Read-After-Write Verify
Always Format Target

Copy/Compare Optimization

All Tracks
Allocated Only

Format Properties Page

Default Format Type Overview

Quick Format
Complete Format
Verified Format
Preserve Bad Sectors

Interface Safety

Don't Automatically Unselect Format

Format Prompts and Warnings Overview

Bypass Format Control Dialog
Disable 'Are You Sure' Warning

Note: *Except where otherwise noted, all properties on this page pertain only to the Format Operation,, not to the formatting that is performed as part of a Copy Operation.*

User Interface Properties Page

Detect Diskette Change Overview

- Continue On Change Detected
- Tray Icon Notify

Auto Hide/Show Main Dialog

- Hide at Start of Operation
- Show at End of Operation

Diskette Done Prompt

Audible Alert

Cancel Button Closes when Idle

Warnings Properties Page

Disable Data Warnings

Disable Non-DOS Source Disk Warning
Disable Target Safety Check Warning

Disable Process Warnings

Disable Source In Memory Warning
Disable Incomplete Write/Format Warning
Disable User Cancel Confirmation

Polite Notification

Format Prompts and Warnings Overview

Under previous versions of Disk Factory, the Disk->Format menu item was used to open the "Format Control Dialog." After pressing the "Format" button, a confirmation warning was displayed. If the pending format was then confirmed by pressing the "Ok" button, a format was performed on the diskette in the selected drive.

*A Format Operation radio button has been added to **DiskFactory32**, to make the task of formatting more intuitive, and consistent with the **DiskFactory32** user interface. (The old menu interface has been retained as well, for historical reasons.)*

Default Format Type Overview

When Format is the currently selected Operation (the Format radio button, in the "Operation" group box is selected,) a "Default Format" is initialized when the 'Ok' button is pressed. Controls in this group box set the default format properties, which determine how the Format will be performed.

The properties for a given format may be over-ridden from within the Format Control Dialog. If the "Bypass Format Control Dialog" property is set, Format will be performed using default settings.

Detect Diskette Change Overview

DiskFactory32 *is now able to monitor the target drive, to determine when/if a diskette has been removed and replaced. This behavior, when configured, is performed during the "Prompt for Target" phase, as an interface automation extension of that prompt.*

The target drive is monitored for 90 seconds, after which the monitor/detect function times-out. Also, any user input to, or interaction with the Operations Dialog cancels the monitor/detect function. In either of these cases, the pending operation must be started by pressing "Ok." Time-out and cancellation apply only to the current target phase. The monitor/detect function will be re-invoked for each target prompt, if so configured.

Read-After-Write Verify

☐ Redundant target read feature is disabled. *(default)*

☑ After it has been written, target diskette will be read back into memory, and compared to it's source. This step provides the best assurance of exact duplication possible.

Verify Interval for Multiple Copies:

The input directly below the Read-After-Write Verify checkbox (enabled only when this checkbox is set) specifies the interval at which to verify the target, when Multiple Copies are being made.

When Read-After-Write is enabled, and Multiple Copies is set as well, **DiskFactory32** can be configured to verify only a sample of the targets. This allows you to monitor quality, without spending the time to verify every single target diskette.

A value of one (1) (the default) causes each target to be verified. A value of four (4) causes **DiskFactory32** to verify every fourth target, etc.

Always Format Target

- Target diskettes will be formatted before written.
- Target diskettes will only be formatted if necessary, before written. *(default)*

All Tracks

 Every diskette track will be read/written, regardless of file system allocations. (This ensures a true bit-for-bit copy of the source.) *(default)*

Allocated Only

Causes **DiskFactory32** to read or write only the portions of a diskette that are allocated to files. This optimization can save considerable time, especially if only a small portion of a given diskette is in use.

Note: *If a diskette is to be formatted as part a target process (either automatically or user-specified) all tracks of the diskette will be formatted, regardless of the Allocated Only property setting.*

Technical note: ***DiskFactory32*** *is designed to read/write entire tracks. As such, for any track containing any portion of one or more clusters that is/are allocated by the file system, that entire track is considered to be in use by the Allocated Only feature.*

Read Errors

- If errors occur while reading data from a diskette, **DiskFactory32** attempts to recover the data by reading one sector at a time from the track with errors. (Ordinarily a track can be read in one pass.) *(default)*

  Often the entire track can be read successfully using this technique. However, if some portion of the track is beyond recovery, **DiskFactory32** will read the FAT to determine whether or not the unreadable portion was being used by any files. If so, **DiskFactory32** displays a warning, otherwise the operation proceeds as usual.

- Any read errors encountered cause an error message to display. Recovery behavior is disabled.

Write Errors

- If Write Errors for a given track, **DiskFactory32** re-formats that track and attempt to re-write it one time. If it subsequently fails, an error message is displayed.

- Any write errors encountered cause an error message to display. Recovery behavior is disabled (default.)

Re-map around Target Flaws

- If a Target diskette has areas of it that have been marked as unusable, DiskFactory32 will preserve these areas, and relocate Source data to an unused area of the diskette if necessary. *(default)*

- DiskFactory32 ignores marked flaws on the Target.

Exclude Bad Cluster map from Images

If portions of a diskette's media are flawed, the file system (usually during format) marks those portions as 'bad' (unusable) to prevent unreliable file/data storage and possible data loss.

When DiskFactory32 reads a Source diskette, it [necessarily] reads these 'bad cluster' markings (if any) along with the file data. The only 'problem' with this is that the 'bad cluster' markings are only meaningful to the original Source diskette. If transferred during a copy process, typically all they will do is waste perfectly good diskette space

- Causes DiskFactory32 to filter 'bad cluster' markings from the in-memory image. *(default)*
- DiskFactory32 will preserve

Quick Format

- Creates initial file system data (empty root directory and FAT[s],) only. If Quick Format is selected, the operation does not format or verify each track of the diskette.

Complete Format

- Formats all tracks on the diskette, and creates initial file system data (empty root directory and FAT[s].) If “Verified Format” is set, each track is verified as it is formatted. *(default)*

Verified Format

- Verifies each track as that track is formatted. During a Format Operation, if verify errors occur and thus a track cannot be formatted properly, all clusters on that track will be flagged as ‘bad’ in the FAT. *(default)*

- Performs a “blind” format, assuming newly formatted tracks are valid if no errors occur during formatting.

  Note that this is the only property that affects formatting performed on a Copy Operation target. During a Copy Operation, if the target is being formatted and verify errors occur, an error message will be displayed. Note that for Copy Operations this is a redundant step, as the process of writing the diskette verifies it’s validity.

  Note also that this property (and it’s related behavior) should not be confused with “Read-After-Write Verify” property.

Preserve Bad Sectors

- Causes any bad-cluster flags from the previous format to be retained, and any such clusters will be flagged as ‘bad’ in the newly created FAT for the diskette. *(default)*

- All tracks will be assumed to be viable, and will be flagged as ‘bad’ only if errors occur during formatting.

Don't Automatically Unselect Format

- The Format Operation will remain selected, following completion of the current Format Operation. Users that choose to set this property (and thus disable default behavior intended as a safety precaution) are assumed to realize the potential for accidental formatting.

- When the current Format Operation has completed, Format will automatically be unselected (by automatically selecting Copy.) This behavior is intended as a safety precaution, to prevent inadvertent formatting. *(default)*

Note: If the Multiple [Operations] checkbox is set, this property has no effect.

Bypass Format Control Dialog

- Bypasses the Format Control Dialog, if a Format Operation is initialized by selecting the Format Operation radio button, and pressing the "Ok" button. If this property is set, the Default Format Type is used to determine how the format will be performed.

- Causes the Format Control Dialog to be displayed prior to each format operation. *(default)*

  Note: This property does NOT affect the behavior of the Disk->Format menu item. The Format Control Dialog is always displayed when a format operation is initialized using the menu-based interface.

Disable 'Are You Sure' Warning

- Prevents a final warning just before formatting begins, from being displayed. Even if the Format Control Dialog has been bypassed, this warning will still be displayed unless this property is set

- Causes the Format Control Dialog to be displayed prior to each format operation. *(default)*

> *Note: This property DOES affect the behavior of the Disk->Format menu item. The warning display is always controlled by this property, regardless of how the Format Control Dialog was opened*.

Continue On Change Detected

- Enables the monitor/detect functionality, and causes **DiskFactory32** to automatically proceed with the target operation when diskette change has been detected.

- Disables the monitor/detect functionality.

  Note that detection is only performed for the Format Operation if the Multiple [Operations] option is set (i.e., the Multiple Formats checkbox is set.) Further, the monitor/detect function will not be invoked immediately after an image file is loaded as the source, nor will it be invoked immediately after selecting a different Operation (while a source is in memory,) even though both of these actions result in a target prompt phase

Tray Icon Notify

- An icon is flashed in the system tray, to indicate that **DiskFactory32** is waiting for a target diskette, monitoring the target drive, and will continue automatically if/when a diskette change in the target drive is detected. *(default)*

- Tray Icon notification mechanism is disabled.

  Note: *The Tray Icon Notification option is only available when Continue After Change is enabled. It is intended to provide a visual cue that* ***DiskFactory32*** *is ready for the next disk, when multiple disks are to be copied, compared, or formatted. It will only be displayed when both Detect Change and Tray Icon Notification are enabled Further, it will only be invoked if Multiple [Copy/Compare/Format] is set, (i.e., it is only displayed when there is another pending target operation.)*

Hide at Start of Operation

- Causes the **DiskFactory32** window to be minimized at the start of an operation.
- **DiskFactory32** window is displayed normally after starting operations. *(default)*

Show at End of Operation

- Causes the **DiskFactory32** window to be restored and/or activated at the end of an operation.
- **DiskFactory32** window is displayed normally after operations ending. *(default)*

Diskette Done Prompt

- Causes **DiskFactory32** to behave as did the previous version, at the end of target operations. The user is prompted to "Click Ok to [copy/compare/format] another diskette." It waits to initialize the next operation until Ok is thus clicked. Essentially, the Done Prompt is an intermediary step between finishing an operation and releasing the in-memory diskette data.

- Disables Done Prompt behavior. On completion of each operation, **DiskFactory32** continues to the next logical phase without this extra prompt. *(default)*

  Note: *From a functional viewpoint the Done Prompt provides one last chance to click the Multiple Operations checkbox, ostensibly preventing a needless diskette re-read . This feature is implemented for essentially historical reasons, and provides an option to mimic old behavior. that if Multiple Operations is checked, the "Done Prompt" is bypassed, which is consistent with DF 1.11 behavior.*

Audible Alert

- Causes the defined SystemAsterisk sound to be played when each operation completes. Also causes either the SystemExclamation, SystemHand, or SystemQuestion defined system sound to be played when an error or warning is displayed. The sound played is dependent on the severity of the error or warning.

- No system sounds are used by **DiskFactory32** warning, error or process notification mechanisms.

Cancel Button Closes when Idle

- When it is idle, clicking the Cancel button causes **DiskFactory32** to exit.
- The Cancel button is disabled while **DiskFactory32** is idle (consistent with previous version behavior.) *(default)*

Disable Non-DOS Source Disk Warning

- Non-DOS (or Non-standard) will be copied without any user warning to this effect.
- User will be warned about any source diskette that does not have standard PC boot sector data written to it's first physical sector (cyl 0, head 0, sector 1). *(default)*

Disable Target Safety Check Warning

- Before writing to a target diskette, the FAT and root directory are read from that target, and compared to the source FAT and root. If the target FAT and root matches the source, a warning to this effect is displayed.

- Target Safety Check is bypassed. The target is written without analysis of existing file system data. *(default)*

Disable Source In Memory Warning

- Disables user warning displayed when either the Cancel button is pushed, or **DiskFactory32** is about to be closed while a Source is currently loaded in memory.
- User warning is enabled. *(default)*

Disable Incomplete Write/Format Warning

- Disables user warning displayed when a format operation in progress is canceled, either by pushing the Cancel button, or by closing **DiskFactory32**.

- User warning is enabled.

Disable User Cancel Confirmation

- Disables user warning displayed when an operation in progress is canceled, either by pushing the Cancel button, or by closing **DiskFactory32**.

- User is warned and must confirm cancellation of any operation in progress. *(default)*

Polite Notification

- If a warning or error message needs to be displayed at any time that **DiskFactory32** does not own system input focus, **DiskFactory32** will flash it's task bar icon until it is activated by the user. (User messages will not take input focus from the active application.) *(default)*

- User messages are displayed subject to typical Windows 95 message box behavior, taking focus from the active application, activating the message box's parent window.

File Types Registry Property Sheet

By default, **DiskFactory32** will register itself with the Windows 95 shell, as the Handler for files with .DFI (Disk Factory Image) and .IMG extensions. These registry entries provide many convenient interfaces:

1. Files of a registered type can be *executed* by double-clicking them (actually, the handler for that type is executed, and instructed to open the file that was double-clicked.)
2. A handler may provide an icon to be displayed for files that it handles.
3. A file can be dragged to it's handler's icon or shortcut, which causes it to execute identically to double-clicking.

Enabled file type registry is recommended, however, this feature may be disabled if you wish. Clear the settings in this sheet, and the registry entries will be removed immediately when the Properties dialog is closed (though some of the graphical associations may not be restored until you restart your system.)

I/O service (used by detection process)

(Windows 95 only, not displayed under Windows NT)

- **DOS INT 25h (safest, recommended)** If set, **DiskFactory32** uses the 32 bit equivalent to DOS sector-level read/write functions. *(default)*

  Note that this setting only affects the media analysis phase. **DiskFactory32** always uses DOS-equivalent i/o when reading or writing the diskette, because the alternative proved to be unstable under moderate-to-heavy system work loads.

  The drawback to using DOS-equivalent i/o is that it does not provide for a high degree of process control, particularly when any degree of confusion as to diskette media type exists.

  As a result, media flaws on the first cylinder may cause **DiskFactory32** to 'mis-identify' high-density diskettes. Further, it may take an irritating amount of time to determine that a diskette is unformatted.

- **BIOS INT 13h (fastest, most accurate, *dangerous*)** If set **DiskFactory32** uses the 32 bit equivalent to BIOS disk i/o functions. This setting may be useful in situations where media integrity and/or pre-existing non-standard formats make use of the default i/o scheme tedious.

  DANGER: This setting ***may cause applications to hang***, or ***may even cause your system to crash***. It has proven to be unstable when the system is busy – ***PARTICULARLY when starting applications*** **while *dangerous*** i/o is taking place (during media analysis only).

  USE THIS SETTING AT YOUR OWN RISK!

Rely on existing boot sector

(Windows 95 only, not displayed under Windows NT)

- .If a diskette is already formatted, this setting causes **DiskFactory32** media analysis to trust file-system data used by the previous format, rather than attempt physical media identification. Typically, use of this setting is quite safe, and results in accurate media identification, as well as a slight performance enhancement.

- Full media analysis, including physical media identification is performed for every diskette, regardless of previous format. *(default)*

Warn if boot sector is suspect

(Windows 95 only, not displayed under Windows NT)

- .**DiskFactory32** displays a warning if existing file-system data used by the previous format appears to be inaccurate. *(default)*

- The above warning is suppressed.

(This setting is enabled only when the Rely on existing boot sector property is set.)

Volume Tracking Control

(Windows 95 only, not displayed under Windows NT)

Overview
VolTrack Control Strategy
What Damage does VolTrack Do?

Properties:

Don't Ignore Volume Tracking Field when Comparing
Never wipe Target Volume Tracking Field
Retain Exclusive Lock on Drive until 'Ok' is clicked

Don’t Ignore Volume Tracking Field when Comparing

(Windows 95 only, not displayed under Windows NT)

- All diskette data is used for comparison, including the VolTrackID (a.k.a. OEM ID) field. Note that, since Windows 95 re-writes this field each time it mounts a diskette, setting this property will typically cause Compare to indicate a mismatch in the first sector.

  Also, when this property is set, the Safety Check is effectively disabled in almost all cases.

- The VolTrackID (a.k.a. OEM ID) field is excluded from comparison data. (*default)*

See Also: Retain Exclusive Lock, What Damage does VolTrack Do?

Never wipe Target Volume Tracking Field

(Windows 95 only, not displayed under Windows NT)

- Disables **DiskFactory32** control of Target VolTrack ID fields.
- Enables **DiskFactory32** control of Windows 95 Volume Tracking. *(default)*

See Also: Retain Exclusive Lock, What Damage does VolTrack Do?

DiskFactory32 Strategy to Control VolTrack

(Windows 95 only, Windows NT does not employ volume tracking)

BEHAVIOR: By default **DiskFactory32** will alter the VolTrackID (a.k.a. OEM ID) field of Target diskettes as follows:

IF The VolTrackID field of a given Source diskette has **previously** been over-written by Windows 95 (i.e., safe to alter)

THEN **DiskFactory32** writes zeros to the VolTrack field of any Targets made from that Source.

OTHERWISE

DiskFactory32 does **not** alter the VolTrack ID field on any Targets made from that Source.

EXCEPT: When the Never wipe Target Volume Tracking Field property is set.

EFFECT: This behavior forces the system to consider a new Target as a diskette that has never been previously mounted by Windows 95.

REASON: This technique effectively avoids potentially severe operating system confusion, created when the system discovers an inexplicable change in the VolTrack ID of a mounted diskette.

Further, through normal use of **DiskFactory32**, the possibility exists for two diskettes to be in *different drives*, with *identical VolTrack IDs* at the *same time*!

The system, of course, considers the VolTrack ID value to be valid for the session, and would never itself write the same value to two diskettes during a session. The resulting confusion cause anything from a series of ever-annoying blue-screen errors, to a system crash!

By writing zeros to the entire field, **DiskFactory32** effectively forces the system to consider the newly-created Target to be a diskette that has never been previously mounted by Windows 95.

At the same time, **DiskFactory32** respects and preserves diskettes that have not been altered by Windows 95 for this purpose.

See Also: Retain Exclusive Lock, What Damage does VolTrack Do?

Retain Exclusive Lock on Drive until 'Ok' is clicked

(Windows 95 only, Windows NT does not employ volume tracking)

- Following successful completion of an i/o operation, **DiskFactory32** maintains a lock on the last drive used, pending user confirmation (clicking any enabled button or menu item.) This provides an opportunity to remove a given diskette used by **DiskFactory32**, *before* Windows 95 is able to alter it's VolTrack ID (a.k.a. OEM ID) field

- Usual **DiskFactory32** User Interface conventions are implemented. *(default)*

See Also: What Damage does VolTrack Do?

Operation Select Radiobuttons

The selected control in this group determines the current operation to be performed. While diskette i/o is in progress, these controls are disabled until either the i/o completes or is canceled.

Note: You may switch freely between operations at any point that these controls are enabled. If a Source has been loaded, it will remain in memory.

Copy - The Source phase will read a diskette or image file, and the Target phase will write a copy of the Source (destroying any existing data on the Target diskette.)

Compare - The Source phase will read a diskette or image file, and the Target phase will read Target and compare it's data to that of the Source. Neither diskette will be written during either phase of a Compare operation.

Format - The Target phase Formats the Target diskette (destroying any existing data on the Target diskette.) There is no Source phase of the Format operation.

Choosing a Source

A Source (either diskette or image file) must be chosen before starting a Copy or Compare operation. If a diskette drive is selected as the Source, the diskette in that drive will be read into memory when the Ok button is clicked. (Also see Using Image Files.)

Choosing a Target

The Target may be chosen before or after loading the Source into memory. (When Multiple Operations are enabled, the Target may be changed between Operations.)

Warning: All data on the Target diskette will be destroyed during the Target phase, (except during Compare operations.)

Media Information

Both Source and Target diskettes are represented by individual icons, next to their respective selection lists. These icons indicate the diskette type(s) (3.5 or 5.25). Beneath the icons, diskette capacity is indicated as well.

When a Source has been loaded, detailed information about the Source media is available by displaying the media property sheet. Right-click the Source Icon to display the context menu, and select the Image Properties menu item.

The Multiple Operations checkbox

Setting this control enables Multiple Operations mode, causing **DiskFactory32** to repeat Target Prompt phase after completing the Target diskette. The diskette data in-memory is retained and the target phase will repeat until either the Multiple Operations checkbox is cleared, or the operation is canceled.

This setting now affects all **DiskFactory32** operations, multiple Copy, Compare and/or Format are made simple with **DiskFactory32**. In fact, this feature is so flexible, you can switch between operations without needing to reload the source! You can load a diskette image into memory, and then copy or compare it to any number of other diskettes – alternately if you like!

This setting streamlines jobs that involve many copies of the same disk[s]. We think you'll agree, **DiskFactory32** takes flexibility to the extreme!

Ok Button

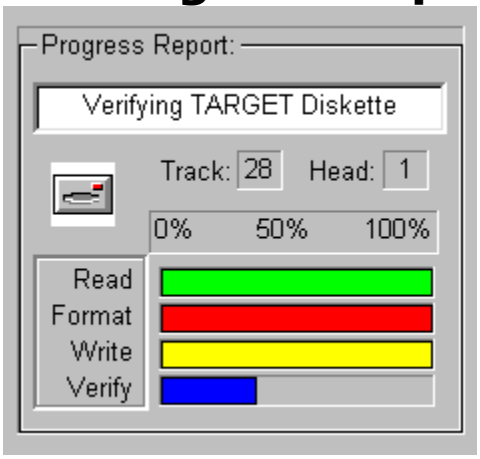
This is the default pushbutton, click it (or press <Enter>) to start and/or resume all phases of operations. The Operation Status Marquis will indicate the nature of the pending phase.

Note: The Operation Status Marquis message is displayed in red type any time the pending phase involves writing to the Target diskette. Be aware that, when red type is used, all data on the Target diskette will be destroyed when Ok is clicked.

Cancel Button

Click this pushbutton (or press <Esc>) to cancel any i/o phase in progress, or to unload a Source image from memory when **DiskFactory32** is waiting for a Target.

Progress Report Box



The Progress Report box consists of the following elements...

Operation Status Marquis

This marquis displays important messages. Click here for a list.

Track/Head Indicators

These numbers indicate the current physical location of the drive heads.

Diskette Activity Indicator

When the drive icon appears with a yellow background, the drive is currently in use.

Progress Bar Graphs

These graphs express progress in the read, format, write, and verification stages.

Operation Status Marquis Messages

Program Is Idle
The program is idle and awaiting your commands...

Initializing Diskette Drive
Displayed while establishing format type or setting drive parameters.

Reading SOURCE Diskette
Displayed while reading data from the diskette.

Ready For TARGET Diskette
Prompts user to insert the TARGET diskette into the selected drive. (Shown in red when existing data on the Target will be destroyed by the pending phase.)

Safety Checking TARGET
Displayed while comparing the first track of the proposed TARGET diskette against that of the SOURCE. If they are identical, a warning message is displayed.

Formatting TARGET Diskette
Displayed while formatting the TARGET diskette.

Testing Media
Before completely formatting, the program tests to make sure that the media is viable and of the correct density.

Writing TARGET Diskette
Displayed while transferring SOURCE data to the TARGET diskette.

Verifying TARGET Diskette
Displayed while verifying the TARGET diskette.

Diskette Copy/Compare Complete
Indicates that the copy or compare operation has completed.

Source Drive Icon

When there is a source image loaded in memory, right-click this icon to display a context menu, enabling you to view image properties or access files stored inside the image.

Image File System View

Read-only access to files stored in diskette images is provided through this interface. Individual files, sub-directories or the entire diskette may be extracted to another storage medium.

There are two image file system access options: **Copy** and **Explore/Execute.** In actuality a copy must be created in either case, however that copy is considered to be temporary if created for Explore/Execute, and is always created under the system Temp directory. **DiskFactory32** will automatically deleting the temporary files and directories after prompting for confirmation.

Explore/Execute an item in the Tree View, and it behaves similarly to Explorer. If the item is a directory, all files and sub-directories under it are copied to a temporary directory (created in your system TEMP directory) and Explorer is opened on that temporary directory. If the root item is double-clicked, the entire contents of the diskette are copied.

If the item is a file, Explore/Execute creates a copy and then attempts to execute it. If it is executable, or there is a registered handler for it's type, it (or it's handler) is executed by the shell.

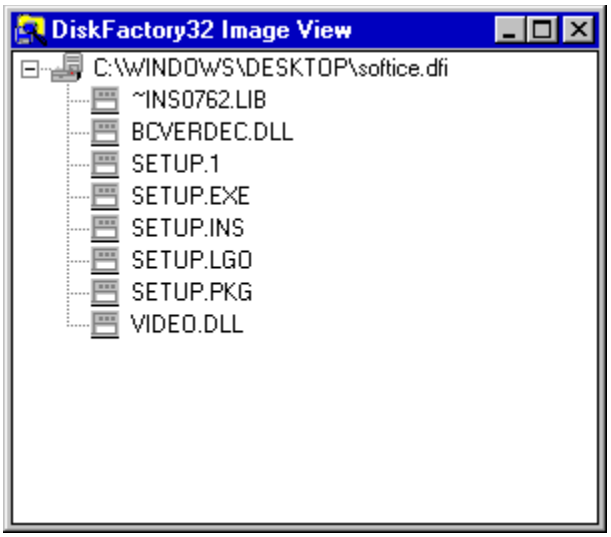
When input focus is returned to the Image File System View window, **DiskFactory32** prompts to confirm that the temporary files should be deleted automatically. Note that if any errors occur when deleting the files (for instance, if one of them is still open or running), the files must be removed manually.

Copy first prompts for a target directory into which to copy the selected item. **DiskFactory32** will not delete files copied under this option

A context menu is available by right-clicking inside the Image File System View window. (This will also select the nearest item in the Tree View.)

The menu varies slightly depending on whether the selected item is a file or a directory. In either case, the lower half of the context menu always provides Explore and Copy options for the entire diskette image. The upper half provides the options for the selected item, and either shows Explore (if the item is a directory) or Execute (if the item is a file.)

Additionally, double-clicking an item invokes Explore/Execute on that item, consistent with the Windows Explorer's behavior.


DiskFactory32 Image View
C:\WINDOWS\DESKTOP\softice.dfi
~INS0762.LIB
BCVERDEC.DLL
SETUP.1
SETUP.EXE
SETUP.INS
SETUP.LGO
SETUP.PKG
VIDEO.DLL

Extracting Files stored in Images

Very Fast way to copy a diskette to hard disk

Menu Items

File Menu:

New Image File...
Open Image File...
Save Image As...
Close Image
MRU(most recently used) List
Exit

Open Image File...

DiskFactory32 supports several image file open/load interfaces. As in previous versions, choosing IMG in the source drive list initiates the standard File Open common dialog. **DiskFactory32** also provides Image Open and Image Save As... menu items, under the File menu.

Further, **DiskFactory32** registers itself as the class handler for .DFI files. Double-clicking a .DFI image in any shell window will cause **DiskFactory32** to execute and load the .DFI image automatically. Shell handlers for executables and shell links (shortcuts) also make it possible to drag and drop a .DFI image onto a **DiskFactory32** icon or shortcut.

Also, when **DiskFactory32** is already running, the Operations dialog supports Drag and drop (drag any image file to the Source Drive group box.) Note that only one image may be opened at a time. This feature is disabled any time an image is already loaded. If multiple files are dropped, the first file in the drop list is loaded and the rest are ignored.

Save Image As...

The flexibility of **DiskFactory32** extends to task of saving Image files too. Unlike the previous version required image file names to be specified before reading the source diskette. For **DiskFactory32**, and other related limitations of the previous version, e.g., DFI images can be used as a target, regardless of the source type or origin (the previous version could not use an image target if the source was also loaded from an image; Multiple operations no longer preclude use of an image target, etc.

Note: This menu item is disabled until the source has been read completely.

New Image File...

Prompts for the name of a new image file by initiating the standard File Save common dialog. Selecting this menu item is equivalent to choosing IMG in the target drive list.

Close Image

Closes the in-memory diskette image, releasing all memory allocated for that image. Selecting this menu item is equivalent to clicking the Cancel button, when **DiskFactory32** is waiting for a target diskette

Exit

Selecting this menu item closes **DiskFactory32**.

MRU List

DiskFactory32 keeps track of the four Most Recently Used (MRU) image files, and adds their names to the File menu, as menu items. Choosing an item from the MRU portion of the File menu loads that image file into DiskFactory32's memory as a source image.

Disk Menu

View Diskette...
Format Diskette...
Volume Label...

View Diskette Directories

DiskFactory32 includes a facility for examining the current diskette. The "View Directory..." menu from the "Disk" menu presents a built-in, mini file manager. You can easily view any of the files or directories on the diskette, and run any program or associated file.

Format Diskettes

Displays the "Format Diskette" dialog box, used to format individual diskettes.

Volume Label

Displays the "Volume Label" dialog box, used to create or change a diskette volume label.

Properties...

Displays the “Properties” dialog box, used to set preferences and optionsl.

Register...

Displays the “Register” dialog box, used to input the validation code issued to registered users of **DiskFactory32**. Note that this menu item is only displayed for unlicensed copies of **DiskFactory32**.

For more information please see the Register topic.

Help Menu

Contents menu item

Displays this Windows Help file.

Search for Help on... menu item

Search for help on a certain topic in this Windows Help file.

How to Use Help menu item

Displays the "How to Use Help" help file from Microsoft.

About... menu item

Displays the "About" dialog box, which displays the current version number of **DiskFactory32** and other important information.

Enhancements:

- **32 bit I/O, Incredible Multitasking:**
  DiskFactory32's i/o thread requires **less than 3% of the CPU resources** – the 16 bit version consumed nearly 90% of the CPU!

- **X-Format media conversions:**
  The previous version 'tricked' the system into assumptions that preserved the original structure of the source, but often wasted much of the actual capacity of the Target.

  DiskFactory32 now implements advanced algorithms that re-map the Source file system to the Target, providing these enhancements:

  All remaining space on larger conversion targets is now usable
  Larger-to-smaller conversions are now supported*
  *(provided the Target capacity is sufficient to store all portions of the Source that are allocated by the file system)

- **No Limitations on Source loaded from an Image file:**
  A Source loaded from diskette was treated preferentially by the previous version, which imposed restrictions on the ways an image file could be used. For instance, an image could not be used in a comparison, and Target image files could not be created from image file Sources

  No limitations based on origin of Source data are ever imposed by DiskFactory32.

- **Fewer limitations on Image file Targets:**
  Image file Targets are almost equivalent to diskettes too!

- **Access to Files/Directories within Images:**
  Files, directories or the entire diskette may now be copied to hard disk and Explored or Executed.

- **Allocated-Only, optimization option:**
  DiskFactory32 may now be configured to process only the areas of the diskette that have been allocated by the file system. This offers a substantial performance increase, when copying diskettes that are less than full. Plus, this feature is fully supported by X-Format conversions and Image files.

- **Extremely flexible Multiple Operations functionality:**
- **Volume Label control utility:**
- **Configurable Warning and Error notification behavior:**
- **Enhanced support for Non-DOS formats, including bootable Unix diskettes:**
- **Windows 4.0 Shell file type handler features**
- **Tree-view access to files stored inside of Image files (currently read-only)**
- **.... and much more!**

Planned Features

- **Full, seamless, read/write drag n' drop interface to Images' internal file system.**
- **Serial number control for Targets, including sequential numbering capability;**
- **Support for multi-diskette sets, creation and management;**
- **Hidden data on distribution diskettes feature for developers/distributors, with simple to use Hidden data API availability**
- **Windows NT support**

Copy: Ready For Target Diskette

A Source diskette is currently loaded in memory and **DiskFactory32** is waiting for a Target. Select a Target drive, place a diskette in the drive, and click 'Ok' to create a duplicate diskette. **CAUTION: All files and data on the Target diskette will be destroyed!**

See Also: Copying a Diskette, Multiple Copies of a Diskette, Using Image Files, Continue On Change Detected, Save Image As...

Compare: Ready For Target Diskette

A Source diskette is currently loaded in memory and **DiskFactory32** is waiting for a Target. Select a Target drive, place a diskette in the drive, and click 'Ok' to compare it to the diskette in memory. **Note: The Target diskette will not be written or altered!**

See Also: Comparing a Diskette, Multiple Operations, Continue On Change Detected

Format: Ready For Target Diskette

DiskFactory32 is ready to Format a diskette in the Target drive. Select the Target drive, place a diskette in the drive, and click 'Ok' to Format the diskette. **CAUTION: All files and data on the Target diskette will be destroyed!**

See Also: Formatting a Diskette, Multiple Operations, Format Properties

Copy: Target Diskette I/O in Progress

DiskFactory32 is currently writing to the diskette in the Target drive.

Compare: Target Diskette I/O in Progress

DiskFactory32 is currently comparing the diskette in the Target drive to the Source image in memory.

Format: Target Diskette I/O in Progress

DiskFactory32 is currently formatting to the diskette in the Target drive.

See Also: Format Properties

Copy: Ready For Source Diskette

DiskFactory32 is idle, there is no diskette image in memory. Select a Source drive, place a diskette in the drive, and click 'Ok' to read the contents of the diskette into memory.

See Also: Copying a Diskette, Multiple Operations, Open Image File...

Compare: Ready For Source Diskette

DiskFactory32 is idle, there is no diskette image in memory. Select a Source drive, place a diskette in the drive, and click 'Ok' to read the contents of the diskette into memory.

See Also: Comparing a Diskette, Multiple Operations, Open Image File...

Copy: Source Diskette I/O in Progress

DiskFactory32 is currently reading the diskette in the Source drive.

See Also: Copying a Diskette, Using Image Files

Compare: Source Diskette I/O in Progress

DiskFactory32 is currently reading the diskette in the Source drive.

See Also: Multiple Operations, Using Image Files

Release Lock Copy

DiskFactory32 has been configured to retain it's lock on the drive until you click the 'Ok' button.

See Also: VolTrack Control Properties.

Release Lock Compare

DiskFactory32 has been configured to retain it's lock on the drive until you click the 'Ok' button.

See Also: VolTrack Control Properties

Copy Target Done

Compare Target Done

Format Target Done

Copy Source Done

Compare Source Done

Background: The Boot Sector Defined

(Windows 95 only, Windows NT does not employ volume tracking)

Diskettes formatted for use by DOS and/or Windows ("DOS" disks for short) are identified by an information block written to the very beginning of the diskette called the "boot sector". The boot sector contains information about the media, and how it's used by the file system and boot-strap mechanism.

The boot sector consists of several different information fields, from which the system determines the format of the diskette, location and number of FATs, root directory entries, etc.

These fields and their usage have been well documented for many years – essentially the diskette boot sector has remained unchanged since the very first IBM PC.

A few fields have been added over a dozen years and/or DOS releases, but all original fields still stand today, exactly as they were defined nearly two decades ago – with one recent exception...

OEM ID becomes VolTrackID

OEM ID becomes VolTrackID:

With the advent of Windows 95 came the redefinition of one boot sector field: commonly called the OEM ID. It begins at the fourth byte of the boot sector and is eight bytes long.

The IBM Technical Reference states that the OEM ID is unused by the system. Apparently it was intended to identify the DOS version/vendor under which a given diskette was formatted, e.g., 'IBM 3.1', 'MSDOS5.0', etc.

As of Windows 95, this eight-byte field is now anything but unused. A module called VolTrack.VXD routinely stamps a unique identifier into this field, as a part of some vague scheme to track diskettes as they come and go.

With a few exceptions, **the OEM ID field is now over-written by the system every time a diskette is "mounted" (placed in a drive and accessed,)** whether the user explicitly writes to it or not.

Exceptions:

A VolTrackID is not written when a given diskette is mounted if it is;

a.) not a DOS-formatted diskette;

b.) write-protected (thus impossible to write)

c.) identified under the NoVolTrack registry key; *

A list of 'protected OEM ID's is stored in the registry under the key:

`HKEY_LOCAL_MACHINE\System\CurrentControlSet\control\FileSystem\NoVolTrack`

The list is unfortunately short and is by no means all-inclusive, but diskettes with OEM ID contents that match any of the values under this key are respected by the system and exempted from VolTrack ID stamping.

See also: Windows 95/VolTrack Specific Behavior

Windows 95/VolTrack Specific Behavior:

If the diskette has never been mounted by Windows 95, it writes "(xxxxIHC" to the OEM ID field, where "xxxx" represents a 32 bit value. Note that each character position shown here represents one byte. A truer representation would look like this:

```
28 XX XX XX XX 49 48 43
( [32 bit val] I  H  C
```

Every time Windows 95 mounts the diskette beyond the first, a new 32 bit value is written to this field.

This behavior is somewhat documented by Microsoft in MSKB article: Article ID: Q148637 “Windows 95 Overwrites Boot-Sector Field on Floppy Disks“ Revision Date: 18-MAR-1996

See also: What Damage does VolTrack Do

What Damage does VolTrack Do?

Windows 95's new usage of the OEM ID field has drawn attention to other vendors' reliance upon the contents of this field – although in a much more conventional sense than the VolTrackID.

IBM PS/2 Reference Diskettes, IBM Flash ROM update diskettes and Compaq Flash ROM update diskettes all use the value of their respective OEM ID's. All are rendered unusable if written by VolTrack!

Exactly what any of these vendor's schemes do with the OEM ID field contents is undisclosed; most probably a checksum or other validity-of-contents test.

Users of extended-density formats (created and used by such software as FDREAD) are also potential victims of VolTrack. Such diskettes may experience data loss when Windows 95 writes to the boot sector at standard density.

The moral to this story is quite clear: Write-protect any and all important diskettes before accessing them with Windows 95.