



# OTTAWA PC NEWS

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December 1998

## Software Review

### Defragging NT *by Chris Taylor*

I am a big fan of NT. I like the robustness and security it can provide but there are infuriating shortcomings. A few months ago, I reviewed St. Bernard Software's Open File Manager which overcame one shortcoming—the inability to back up open files under NT.

NT also lacks tools to deal with disk defragmentation. Again, you must turn to a third-party utility to get the job done. There are a couple of products on the market. The most complete and feature-rich product is Diskeeper 3.0 from Executive Software. For four years they have provided the ability to defragment FAT and NTFS hard disk partitions running under NT.

#### What does it do?

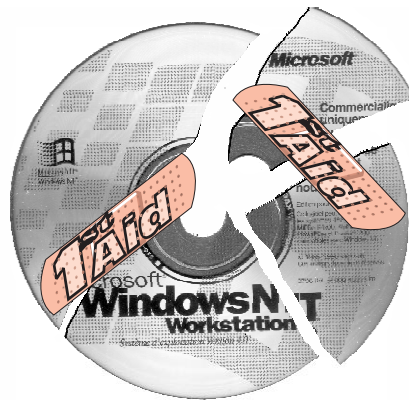
Disk fragmentation occurs when parts of a file are stored in non-contiguous areas of the disk. Although it may not seem like a big deal, it is possible for a file to be fragmented into hundreds or even thousands of different regions of the disk. The operating system must perform extra work to read the entire file and it takes extra time for the disk drive heads to locate all the file fragments. A heavily fragmented partition also means that free space is fragmented. When new files are written, chances are this causes further fragmentation.

Some people have assumed that NTFS, being an advanced file system, is somehow immune to file fragmentation—untrue. In fact, trade magazines have reported that NTFS partitions can become too fragmented to access.

You can run Diskeeper either in interactive mode or as a service. When run interactively, you can perform an analysis on any partition and see the level of fragmentation. You can view the information graphically; different colours depict fragmented files, contiguous files, the Master File Table (MFT), paging files, directories, system files

and free space. The information is also available in text format. In text mode you can also see a list of the filenames of fragmented files; this assistance can help you decide if it is important to defragment the affected files. The graphical display is updated in real time as you perform a defragmentation. By default, Diskeeper runs at normal NT priority: the middle of five possible priority levels.

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### Software Reviews

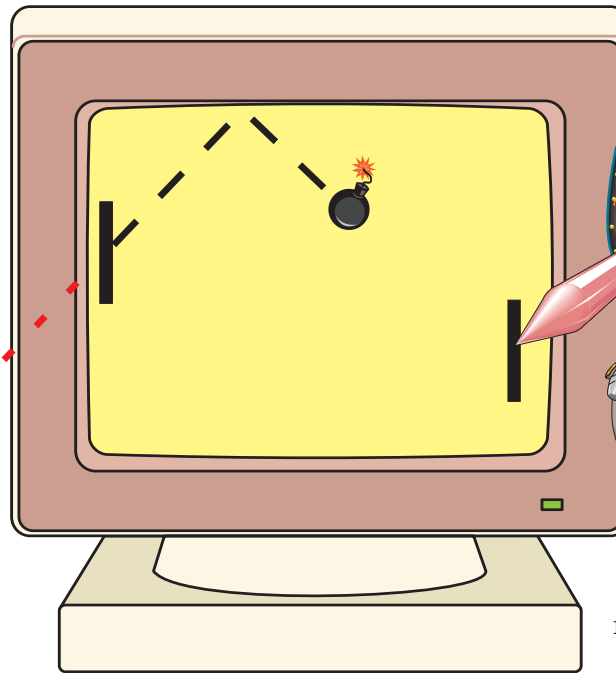
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Next meeting: **WEDNESDAY, December 2<sup>nd</sup>, 1998**

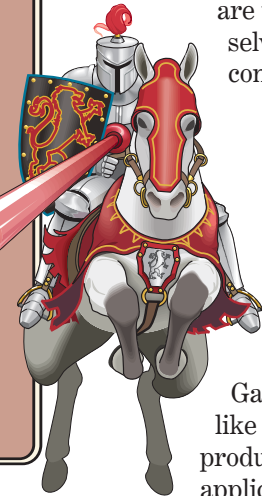
# Coming up in December

On Wednesday, December 2<sup>nd</sup> the general meeting will focus, just in time for Christmas, upon one of the most popular uses for computers: games!

Luc Laplante, from Bloom Microtech, [www.bmtnet.com](http://www.bmtnet.com), will be our presentation speaker. He will demonstrate new computer graphics and networking technologies as they apply to gaming.



joysticks/game controllers that are themselves computers.



Games, like most productivity applications, have evolved from a one diskette affair (Pac Man) to CD-ROM; next will be DVD which

promises at least an order of magnitude more storage capacity.

No longer need you face your computer as your sole opponent. Internet technologies now allow gamers to play online. Fighting interactively is the state of the art. What: you're not?

Come on out and get with it!



This should be a very entertaining show!

Gaming is the force behind many hardware innovations—particularly graphics. Super fast refresh rates, high resolution and three dimensional presentation are not the norm at the office; unless you spend your time playing these games under your boss' nose! Games also demand vast armies of RAM (pun intended), high-capacity storage and

## Calendar

Meetings	Date	Time and venue
OPCUG General Meeting	December 2 <sup>nd</sup> : Fun and Games See <i>December Feature Presentation</i> , above. January 6 <sup>th</sup> : Linux operating system	7:30 p.m. - National Museum of Science and Technology, 1867 St. Laurent Blvd.
Ottawa Paradox Users Group	Third Thursday of each month	6:15 pm - Inly Systems, 1221a Cyrville Rd.
FOX Pro/Developers SIG	Early December	7:15 pm - Sir Jean Talon Building Conference room, Tunney's Pasture, Holland Ave. (north of Scott St.)
PIG SIG (or is it WING SIG?)	December 2 <sup>nd</sup> After all the other SIG's - All questions, be they serious or not	"Good Times" cafe at Shoppers City West, Baseline and Woodroffe

# Tax on safe computing

by Terance P. Mahoney with research contributed by Micheline Johnson

Are things too complex for our elected officials? Is our society really interested in promoting ignorance? I've asked myself many times why we tax books and magazines. Does someone really believe we will be happier if we are ignorant? Our company purchases a lot of books and magazines. We would purchase more with the money we currently spend on taxes.

Now we have a tax on safe computing. You see there is new copyright law. The new law levies a tax on blank audio recording media. Essentially the tax levied is \$.25 per 15 minutes of analog recording time and \$.50 per 15 minutes of digital recording time. The definition of blank audio recording media is sufficiently broad that it includes some computer media used for backup, archiving, software publishing and like activities.

The tax on a 124 minute DAT cartridge is about 50% of the wholesale cost. The tax on a CD-R blank is over 150% of the cost. It's unbelievable. Taxes on 60 and 90 minute cassettes range from about 250% of the cost to about 350%.

Now these taxes are supposed to go to provide funds for the artists whose copyrights are being violated. As far as I have been able to determine, these do not include programmers or software producers. So we're funding recording artists and musicians with money generated by the computer industry.

If you don't want to pay the tax, you simply don't backup your data or programs. Right? Of course Canada doesn't suffer

when you are less productive. I mean we can employ a lot more people re-entering the data we lose when our system crashes. It's just like Canada doesn't lose when we have a less literate population. Bankruptcies may increase. I mean not all data can be restored. Who was it that owed you those receivables?



I encourage you to write or e-mail your MP and make sure that he is aware of this outrageous and extremely silly tax. I think it should be obvious that blank media intended to backup or archive data on computers, to distribute software and all like uses should be exempted from this tax.

Yes: blank DAT tapes could be used to record music. Yes CDR blanks could be used to record music. However, a glass could be used to hold liquor. Do we tax glasses or liquor?

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## Club News

# Contact your MP

by Micheline Johnson

Want to contact you MP or senator by email... who is she/he?

Check out the 36th Parliament at: [www.parl.gc.ca/36/sm-e.htm](http://www.parl.gc.ca/36/sm-e.htm); it will lead to the individual web pages of each senator or member of parliament. Typically, you can obtain the name, party affiliation, constituency, phone/fax numbers and an email address.

There are separate lists arranged by: Name, Party and Province.

Notice that most MPs have this email format: **Lastname.Initial@parl.gc.ca**; if you know their name you can make a good guess at their email address.

If you want to compile a single list of all their email addresses, then it is probably easier to start with the list of the MPs' names and edit/paste in [@parl.gc.ca](mailto:@parl.gc.ca) than to go to all the individual web pages.



## Club life

# Reuse, recycle



Bring your old computer magazines, books, or any other computer paraphernalia you want to GIVE AWAY to the general meetings, and leave them in the area specified. If you don't bring something, you may want to TAKE AWAY something of interest, so look in on this area. Any item left over at the end of the meeting will be sent to the... recycle bin.



When run as a service, Diskeeper runs in “Set and Forget” mode. You first specify a schedule which can be one-time, continuous, or repeated. The latter offers a flexible schedule but it is not the easiest to use. You choose from drop down lists with choices: for example, every 2, 4, 8, 12, 24, 48, or 72 hours. Other lists allow you to choose a range of hours the program is allowed to function within (in one hour increments) and the days it may run. You can also specify the priority level this mode should use, with a default of lowest priority. At the default setting it will give up CPU cycles to most other programs—even screen savers. Once you have configured “Set and Forget” mode, Diskeeper will run according to the schedule, even if nobody is logged onto the system.

The NT Server version of Diskeeper adds the ability to control all copies of Diskeeper running on your network. You can check fragmentation levels, run the program directly or activate the “Set and Forget” mode. You can easily select multiple computers and set the schedule for all of them in a single step. All this can be done whether or not people are logged onto the system.

You can create exception lists for files you don't care about defragging: for example, infrequently accessed files or those in the Temp directory.

Diskeeper makes good use of NT's Application log. You may want to consider expanding the size of the log; after all, it not only logs summary information but also creates a log entry for every defragmented file.

### What won't it do?

Diskeeper will not make the partition look pretty. Files will not be moved to the start of the partition, with all free space left in one chunk at the end; Executive Software has determined that this gains little. They aim to defragment files and ensure that the free space is concentrated in a few large chunks.

Diskeeper will not defragment all files, particularly on NTFS volumes. If there is less than 25% free space on the partition, you will almost certainly end up with some residual fragmentation. This is due to several factors beyond Diskeeper's control. One example is the effect of space reserved for expansion of the NTFS Master File Table. NT can write files into this disk space. Diskeeper can move files out of this disk space but it can't write to this area; hence it is unavailable for defragging files.

Diskeeper will not defragment directories under normal operation since NT does not permit directories to be manipulated during normal operation. However, Diskeeper can do directory consolidation during a reboot before NT has taken complete control of the file system. Chkdsk should be run before directory consolidation; this can add considerable time to the boot process. Fortunately, this is not an operation you will need to run frequently.

### Freebies

Executive Software has a free version called Diskeeper Lite. Its main limitation: it runs only in interactive mode at normal priority level. This defragmenter will be included with NT5. You can download Diskeeper Lite from PUB II (`DKLITE_1.ZIP` in the Disk Utilities file area) or from Executive Software's Web site (<http://www.execsoft.com>).

### How Did it Work for Me?

I am sorry to say that I could not really notice any performance difference after running Diskeeper. The reasons are two-fold. First, the evaluation machine was the PUB II server: used mostly by others accessing our communications server. Second, since I had been running Diskeeper Light, the disk was not too badly fragmented. Prior to installing the full version, Diskeeper Lite had not run for a month. The result was more than 1,000 fragmented files with a total of over 4,000 fragments. Diskeeper was unable to defragment eight files since only 20% free space remained on the partition. Diskeeper was only able to use 11% of the partition for defragmenting; the remaining 9% was being reserved for expansion of the MFT. Once I moved some files to provide 30% free space on the partition, Diskeeper was able to defragment all files.

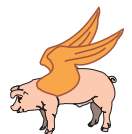
Although I was not able to notice a performance gain from a defragmenter partition, I am sure it really does make a difference. I am a true believer in defragmentation.

I called Inly systems for a price quote on Diskeeper: \$399 for the server version and \$84.95 for the workstation version. Quantity discounts are available through Executive Software.

Breaking news! As I was finalizing this review, Diskeeper 4.0 was released. The main new feature appears to be the ability to defragment paging files.



## Fly West for Questions and Answers!

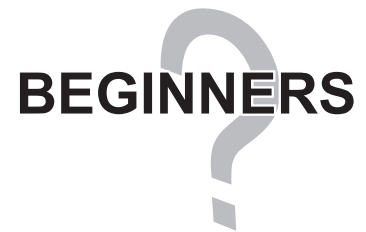


The “Good Times” cafe at Shoppers City West, Baseline and Woodroffe, for chicken wings and a drink after the General meeting: may be the best and most informative SIG meeting of the evening. See you there!



**WINDOWS**

# DUNC PETRIE'S CORNER



**BEGINNERS**

## Software Review

### Mask Plugins

Any digital image artist has experienced the tedium of creating a mask—no, not for Hallowe'en! As an example, creating and using a mask within an image editor allows an artist to remove digitally a distracting background. If the foreground and background are easily discerned, then the job is comparatively easy. However, consider the concentration, effort and time necessary to mask the brightly backlit long hair of a model—perhaps your worst nightmare. Another scenario: images that lack contrast between subject and background are tedious to separate but would yield readily using these filters.

Rushing in to save you are two surrealistic image editor add-ins.

#### Extensis Mask Pro

To use version 1.0 you must first create a target layer for the mask by adding a layer (actually, one of several options) to the Photoshop image. Then create the mask by building two palettes; using eyedropper tools choose the colours (or range of colours) that you wish to retain for one palette and those that you wish to discard for the other. You can also define the colour tolerance and multiple sets of colours; each one could contain multiple definitions. Flexibility is the order: switch sets on and off or use more than one at a time. Another reviewer suggested defining many sets—each containing only a few colours—and switching among the sets to address different areas of the image. To refine the mask you have an array of auxiliary tools (including, for example, a Spray Gun and a Magic Wand) that are “clones” of their Photoshop counterparts. Once completed, the filter—in this paradigm actually a layer—is applied to the image.

Granted, there is somewhat more to the procedure than this; however, the tedium has decreased precipitously.

Mask Pro is not a stand-alone program. Although the Adobe standard for plugins is integrated into a wide range of programs—for example, Corel PhotoPaint version 8 and Paint Shop Pro version 5—according to Extensis' literature Mask Pro will initialize only with Adobe Photoshop, version 3.0.5 or later.

Visit Extensis at their web site: [www.extensis.com](http://www.extensis.com) for more information.

#### Chroma Graphics' Magic Mask

Chroma Graphics ([www.chromagraphics.com](http://www.chromagraphics.com)) offers a less expensive alternate: MagicMask. At \$100 (US) it is one-third the price of Extensis' offering and is compatible with any application that supports the Adobe Plugin standard. Instead of “keep and drop palettes” the MagicMask paradigm uses a color brush. Sweep the brush across an area to make a selection of colours automatically; unswept areas represent the raw material to exclude. A range slider can be used to expand or contract the selected range and allows fine-tuning of hue, saturation and value. Also included is a tool to create variable density masks; it responds to a colour's opacity.

Now, I am not an expert. That said, I found that both tools offered improvements to the traditional approaches: in speed and ease. I felt that Chroma Graphics' Magic Mask was somewhat easier to learn to use, particularly for someone with limited experience in creating masks. Extensis' Mask Pro seemed to have more inherent power; however, this is mitigated by a need for more practice to utilize this power and its much higher cost. With adequate practice, I believe that both programs would deliver very acceptable results. Both sites offer tutorials (in Adobe Acrobat —PDF—format) and full-function, time-limited

*Continued on next page*

Mask Plugins (Continued)

demos: 30 days for Extensis and 15 days for Chroma Graphics. I expect that both would support the use of a graphics tablet (certainly a lot easier than a mouse); however, I did not evaluate this ability.

**Time's up!**

Alas, all these superlatives have a downside: price. Extensis' Mask Pro lists for \$300 US—more than the price (in Canadian money) of many sophisticated image editors! The Chroma

Graphics offering is more reasonable and will work with a wider variety of image editors; however, this must be placed in perspective. Realistically, I personally do not require these capabilities often enough to justify the cost of even the less expensive filter. However, if your job description appeared above—and time is money—then I expect the increased productivity would justify a masking assistant.



# Optical Character Recognition (OCR) Software

The startling drop in scanner prices has pushed a niche peripheral into the mainstream and added OCR to the vocabulary.

Simply, OCR software accepts a scan of text-containing material—that is otherwise a bitmap (pixel) graphic or an ordered collection of dots—and converts it to text that can be accepted by a word processor.

OCR software is readily divided into two groups: basic featured and high-end. The former incorporates most products bundled (often called limited or special editions) with a scanner; many offer surprising sophistication and could suffice for the majority of casual users. High-end OCR software offers more sophisticated programs that are better suited to deal with multiple columns of text or pages that combine text, charts and images. If these criteria represent your needs, read on.

Two leading contenders are Xerox' Textbridge Pro 98 and Caere's OmniPage Pro, version 8. I tried their demo versions (15 days for Textbridge and 25 scans for OmniPage). I used each product on a variety of documents and was hard-pressed to choose a winner.

Ideally, 100 percent text recognition is desired. Practically, this depends on many interrelated factors and will vary: one program tended to edge the other on one document but yielded on the next. Some judicious tinkering with the brightness and contrast controls often helps. Regardless, both processed documents faster than I could keyboard them myself. When the pages are complex (text and images, for

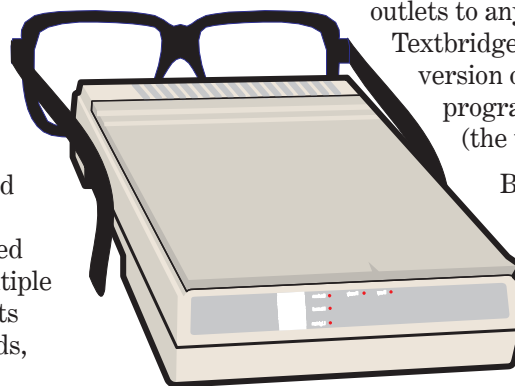
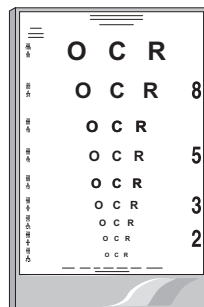
example) then manual or automatic zoning is often necessary to separate the components.

## Caere OmniPage Pro

This is expensive if you must purchase a full version (about \$600). Caere has reversed a long-standing policy of offering upgrades solely to users of their products (including entry-level and bundled products); now it offers the upgrade (about \$170) in local retail outlets to anyone with any OCR program. Textbridge is also available locally as a full version or an upgrade (of any OCR program); it is usually less expensive (the upgrade is about \$100).

Both programs offer integration with recent versions of WordPerfect and MS Word for Windows and output formats that support an extensive choice of applications. Check first to determine if your particular product/version is supported. Textbridge uniquely outputs documents in Adobe's Acrobat (PDF) format; normal, image only and image plus text modes are supported. Both offer support for TWAIN scanners; most recently manufactured scanners support this standard. Textbridge supports many ISIS-standard scanners; OmniPage Pro integrates support for Hewlett Packard's AccuScan feature.

A chance conversation with a Caere owner revealed one annoying feature. After purchasing the product you are forced to register (toll free phone call or on the company's



Website) or it will cease to function after 25 sessions; copy protection is alive and well! Worse, this process must be repeated each time it is removed and reinstalled.

## Xerox application

Xerox also offers two document management programs that provide: direct scanning into most office suites, OCR, image editing (using MGI PhotoSuite), document indexing and searching (including boolean, proximity and natural language), a colour copy function (needs a colour scanner and printer), fax facility and a forms fill-in module. The more robust, Pagis Pro, version 2, incorporates Textbridge Pro 98 and costs about \$130. Its less expensive companion, Pagis ScanWorks, substitutes Textbridge Classic but retains the other features; it costs about \$100. A few stores may still offer Pagis Pro 97. For about \$100 retail it offers the full version of Textbridge (but Textbridge 96, not 98) and the associated document management features but no image editor.

Pagis Pro/ScanWorks documents are stored in a proprietary format—XIF—that supports selective storage methods (for example, different resolution and bit depths of text or graphics) in the internal file format to optimize file size, resolution and colour fidelity. To implement this paradigm your TWAIN driver is overlaid with a proprietary interface. Some TWAIN drivers will not cooperate and generate error messages. In these stubborn cases an option to install the scanner's proprietary interface is provided. (Be careful: this feature may not be available in the earlier Pagis Pro 97.) Unfortunately, non-compatible scanners may lose some XIF-based features.

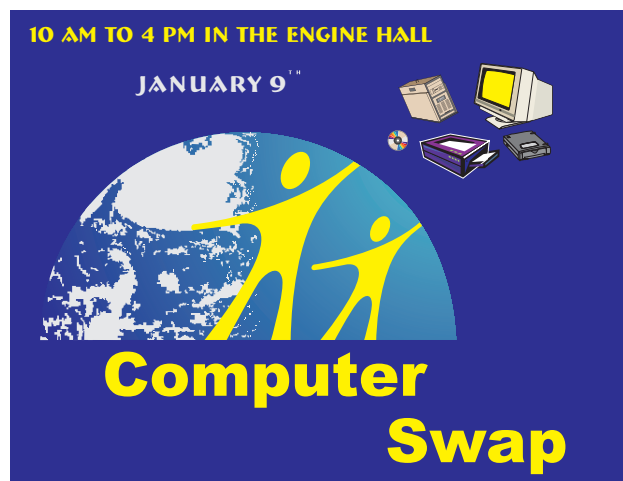
This is an intriguing product; it sells for little more (about \$130) than the basic Textbridge Pro but it has received very good reviews. Check the supported scanner list at [www.pagis.com](http://www.pagis.com) before purchasing.

## Adobe Capture

Finally, any look at advanced OCR software is incomplete without mentioning Adobe Capture, a module within Adobe's Acrobat suite. This program offers a unique approach to OCR. The previous programs translated the bitmap graphics to text or their "best guess." The latter might include wrong characters or simply gibberish. If Acrobat Capture cannot reliably translate the information then it simply places the original bitmap in the document—no guessing. "Average" users are supported by the integrated module but high volume (presumably corporate) users can upgrade: the trade-off is more features but additional licencing fees. Other Adobe Acrobat modules provide additional document management features that not only maintain the original format of complex documents but also permit extensive reformatting, indexing and even multimedia additions. While Pagis Pro 2 exhibits some of these features the Adobe Acrobat

suite remains unique in others; however, the latter is more expensive (about \$300).

From my limited perspective, Adobe Acrobat documents appear pervasive on the Web. Another benchmark: today's cd-rom based software frequently includes the user help manuals as Acrobat files. However, these personal observations do not constitute a formal survey. If price is the principal consideration then Pagis Pro is the least expensive choice. However, cross-platform compatibility, documents for publication on the Web, (large) enterprise publication and extensive multimedia integration would likely drive the decision into Adobe's camp. Both companies are powerhouses in document management; I expect that each product has a devoted following.



If you did not sell everything at our Swap Meet on November 18, why not have another try at the Museum of Science and Technology's own Computer Swap, on January 9.

Come and trade the Pentium 450 MHz or Wacom Intuos tablet you received as an unwanted Christmas present! Entry is free of charge for anybody bringing equipment for sale or swap.

Presentations by Bloom Microtek and Corel have already been arranged, as well as some informal information sessions.

The OPCUG will of course be there... And yes, we need volunteers to help answer questions at our booth! Contact Dunc Petrie to join the crowd.



*Ottawa PC News* is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July. The opinions expressed in this newsletter may not necessarily represent the views of the club or its members. Deadline for submissions is four Saturdays before the general meeting.

## Group Meetings

OPCUG normally meets on the first Wednesday in the month, except in July and August, at the National Museum of Science and Technology, 1867 St. Laurent Blvd, Ottawa. Meeting times are 7:30 p.m. to 10 p.m.

## Fees

Membership: \$25 per year.

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Http://opcug.ottawa.com/

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Up to 33.6 kbps V.34 ..... 228-0665

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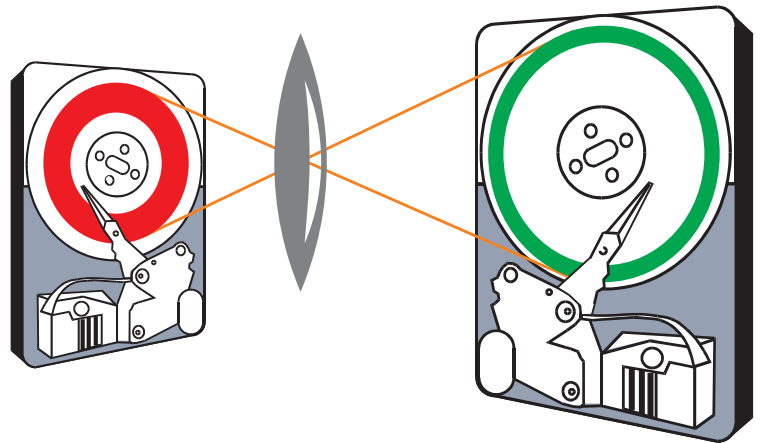
## Drive Copy evaluation

by Theodore A. May

All in all, Powerquest's Drive Copy is a very useful program. One restriction: the licence allows using the software only on one computer and the hard drive(s) permanently attached to it.

I used Drive Copy to copy my smaller (3GB) hard (source) drive to a larger 8.4 GB hard (target) drive.

First, I ran Scandisk to fix any problems on the source drive. Then I tried to copy the partitions onto the target drive. It did not work! It said the OS/2 Extended Attributes file was corrupt. It took me quite a while to find a disk with ATTRIB.EXE on it that allowed me to reset the file (EA DATA.SF) attributes to none and then delete the file. Then it was easy to copy the partitions.



There is one thing that you should know: if you don't want the partitions expanded to fill the new drive, then use the "Selective Partition Copy" selection instead of the "Entire Drive to Drive Copy" option. That way, you can set the new size of each of the partitions that you are going to copy: even all the partitions on the drive.

The functions of Drive Copy are included with the more expensive Powerquest software, Drive Image.

