



PRODUCT REVIEW

When Good Disks Go Bad—Part 2

by Alan German

As noted in Part 1 of this article last month, the Lost Partition Recovery and Damaged Partition Recovery modules of MiniTool's Power Data Recovery software are applicable to the partition structure of hard drives. What we need to test these modules is a hard disk with either a lost or a damaged partition.

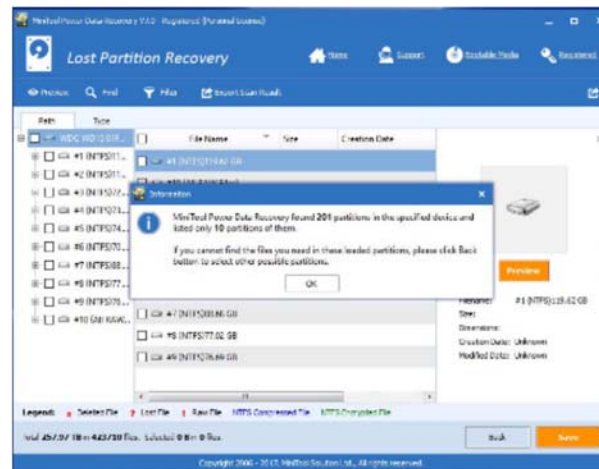
Here is where Jeff Dubois rides his white charger to our rescue, or – perhaps having tired of flogging two dead horses – hands over a couple of hard drives for experimentation. Jeff's disks had been busy working in a "Just a Bunch Of Disks" (JBOD) array before being replaced when they started to make strange noises.

The individual drives each had a 1 TB capacity but, as with the SDcard we encountered in Part 1 of this article, Windows' File Explorer refused to acknowledge the existence of any file system on either disk. Similarly, the Disk Management utility showed each disk as not being initialized and having 931 GB of unallocated space.

One of the 1 TB drives was loaded into an All-in-1 Docking Station which connected to the computer through a USB port. The Damaged Partition Recovery module of Power Data Recovery wasn't of any help since it didn't show the drive in the list of available drives and partitions. Consequently, the Lost Partition Recovery module was employed.

The test disk was selected from the list displayed in this module and a Full Scan conducted on the hard drive. Given the large capacity of the drive, the time required for the scan was of the order of eight hours. Needless to say, the com-

puter was left to process the drive overnight.



The results of the scan were somewhat confusing. The recovery software claimed to have identified 201 disk partitions. Now, even though this disk had been in use for some time, it seems highly unlikely that it had ever contained 200 individual partitions. Even stranger was the indication that a total of 257.97 TB in 423,710 files had been found. Now, finding 250 TB on a 1 TB drive seems like quite a remarkable feat!

The partitions that had been located were listed in the form: Partition 1 NTFS, Partition 2 NTFS, etc. Each partition was nominally several tens of GB in size, and contained thousands of files and folders. Not really knowing where to start, the choice was made to look at the contents of the first listed partition. In particular, Jeff was interested in trying to recover some WordPerfect files, so the initial investigation was undertaken in the RAW Files/Word Perfect Document folder. (see first screenshot p. 6)

This proved not to be particularly helpful. All of the files were listed in the

form file1.wpd, file2.wpd, etc. The recovery software appeared to have grouped the WPD files together but had been unable to recover the original file names. Furthermore, attempting to open these files revealed a further problem. Some files appeared to have been recovered successfully, e.g. there were a number of letters and the odd software manual that were easily read. However, many files just contained pages of "garbage" (ASCII) characters or could not be opened at all.

Jeff had further specified that the documents he wished to recover were associated with his university law courses and all had filenames in the form LAW*.wpd. Power Data Recovery provides a Find option so this was used to

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November Raffle

Do you have a program in your tool box that will let you recover data from just about any type of disk? You may not need it right now but, one day, you, a friend, or a relative will have a hard disk crash, or will be unable to read image files from an SDcard. If that happens, someone is going to be very happy to be able to use **MiniTool's Power Data Recovery** software (see the article *When Good Disks Go Bad* in this issue of the newsletter). And, if you are the winner of our November raffle, all that gratitude will be directed at you! For a chance to win a fully-licensed copy of this data recovery software (retail value about CA \$100.00) buy a ticket – or several tickets – for our raffle.

As usual, tickets are \$1 for one, \$2 for three, or \$5 for ten.

October Prize Winners

Our raffle prize, a copy of the Minitool Power Data Recovery software, was won by **Orion Clark**.

And on the "no charge" front, our two door prize winners, **Tim Hillock** and **Dave Clark**, are now enjoying their morning beverages from one of our coveted "Goup" mugs.

Coming Up...

NOTE: We are now in the main Mauril Bélanger Theatre of CASM (museum floor plan [PDF]: https://ingeniumcanada.org/aviation/doc/content/casm/visitor_map_en.pdf)

→ Wednesday, November 8th, 2017

Speaker: Dr. Beth Robertson, Department of History, Carleton University

Topic: Omeka: Realizing the Educational Potential of an Open Sourced Web Publishing Platform

This talk will discuss the educational potential of the open-sourced web publishing platform called "Omeka" through the lens of the work of Carleton University's Disability Research Group. This group has created virtual exhibits using Omeka like "Envisioning Technologies: Historical Insights into Educational Technologies for People who are Blind or Partially Sighted in Canada, 1860 – Present". The explicit intent of exhibits like this one has been to build effective and adaptable pedagogical tools that can be used for university-based and public educational initiatives in order to tell the stories of the people and technologies that have shaped, and been shaped by, social, cultural and historical understandings of disability in Canada.

Omeka is a free, flexible and open-source web-publishing platform for the display of library, museum, archives and scholarly collections and exhibitions. Its "five-minute setup" makes launching an online exhibit as easy as launching a blog. Aptly named, Omeka is a Swahili word meaning "to display or lay out wares; to speak out; to spread out or to unpack". Designed with non-IT specialist in mind, Omeka allows users to focus on content and interpretation rather than programming. It brings Web 2.0 technologies and approaches to academic and cultural websites to foster user interaction and participation. It makes top-shelf design easy with a simple and flexible templating system. Its robust open-source developer and user communities underwrite Omeka's stability and sustainability.

Wednesday, December 13th, 2017

Speaker: Nick Quain, Cellwand (*tentative*)

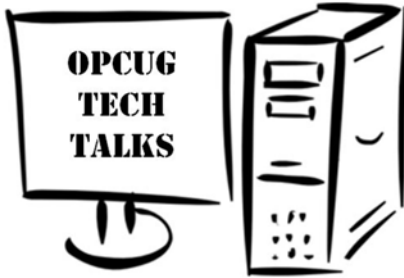
Topic: TBA

For meeting updates and additional details, visit <http://opcug.ca> and click on the **MEETINGS** button.

2017 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, November 8 th	7:30 p.m. Mauril Bélanger Theatre of the Canada Aviation and Space Museum (CASM) , 11 Aviation Parkway. http://casmuseum.techno-science.ca/en/index.php
Q&A Session	Wednesday, November 8 th	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, November 8 th	10:00 p.m. (after the Q&A) at Liam Maguire's, St. Laurent Blvd. at Innes Rd.

CLUB LIFE



The Ottawa PC Users Group (OPCUG) will hold a series of four “tech talks” during September through December, 2017. Each session will include a brief presentation of some aspect of personal computing, followed by a workshop where a panel of experienced OPCUG members will attempt to provide answers to questions raised by workshop participants. The intention is that the sessions will be particularly useful to computer users ranging from absolute beginners to those with intermediate skills. This will be your opportunity to find out how to do those things on your computer that have always mystified you!

The Tech Talk sessions will be held from 7:30 to 9:00 pm on the second Tuesday of each month, commencing on September 12, 2017, in the Amphitheatre of the [Heron Road Community Centre](#). The Centre is located at 1480 Heron Road, Ottawa, ON, K1V 6A5 (see map at: <https://goo.gl/maps/UPDAepRqUpG2>).

Register for one or more of these sessions and then send your computer-related questions by electronic mail to techtalks@opcug.ca. We will compile a list of the submissions and discuss the most frequently asked questions in sequence at the workshops. If we don't have a sufficient number of pre-submitted questions for any given workshop, anyone attending will be free to ask a question. So, bring all your questions, but - it's a workshop - so also bring along your experiences; your input on any of the issues being discussed will be most welcome.

The registration fee will be \$5.00 per session, with a special price of \$10.00 for individuals wishing to reserve a place at all four sessions. The capacity of the Amphitheatre is 75 persons. While we will allow cash payments to be made at the door, these will subject to non-reserved places being available for any given session.

Don't be disappointed! Reserve your place for one or more of the sessions by visiting our tech-talk registration web page at: <https://tinyurl.com/opcugtechtalks>

If you have any questions about the tech-talk series, please contact us at techtalks@opcug.ca

Nominations for OPCUG Board for 2018

Once a year, the OPCUG holds elections for the 9-member Board of Directors. We are once again coming up to this annual event.

We encourage all members to consider running for a board position or getting involved in some other manner in the operations of the OPCUG.

If you want more information about what is involved, please talk to me or any current or past Board member. Names are listed in the Newsletter and on the web site.

Nominations can be submitted to Bob Herres, Election Chair, in person at the October, November and December club meetings or by sending an email to nominations2018@opcug.ca.

Nominations must be received by midnight, December 31, 2017.

Please get involved. Please help the OPCUG continue in its role of Users Helping Users!

*Bob Herres
Election Chair 2018*



PRODUCT REVIEW

Tail Gun Charlie

by Alan German

As the tail gunner in a heavy bomber, you have a clear view to the rear of the aircraft – and of the enemy fighters that are closing rapidly. It's time to swing those twin .50 cal machine guns into action! This is the scenario for Tail Gun Charlie, a World War II shoot-'em-up game for an Android smartphone or tablet.



Enemy planes arrive in waves. Your job is to prevent any of the fighters from getting past your aircraft. The good news is that you have unlimited ammunition. The bad news is that if you keep your finger on the trigger, the guns will overheat and you will be unable to fire for a few seconds until they cool down.

I'm not normally a fan of computer arcade games. They usually seem to be designed for young folks, with lightning-quick reactions, and infinite patience to master the fast-paced games. Tail Gun Charlie is a bit of an exception. It provides different levels of action – normal, hard – and insane (!) In fact, these just let you join the action at different stages. The initial attack waves are slower with fewer enemy fighters. The later waves are – well – totally insane!

You start off in “training mode”. Initially, the software provides a double gunsight. The regular aiming sight is accompanied by an additional one indicating the “lead” that should be taken to allow the bullets to hit the moving target. However, this only persists for the first few attack waves and then you are on your own.

The graphics for the game are spectacular. A glint of light in the sky indicates an enemy fighter appearing in the distance. The fighter approaches, banking left and right, as it swoops closer to your location. It's time to use the touch screen to bring the gunsight onto the enemy and push the firing button. A trail of black smoke indicates a hit. Cause enough damage and the fighter will fall out of the sky, trailing smoke as it descends out of view. However, if you have really good aim and hit an engine, the enemy plane will explode in a ball of flame, with debris being scattered across the sky. Of course, if you miss, and fail to disable an attacker, he will zoom past you. The screen flashes and jitters, as a hail of enemy bullets takes out one of your protective shields. Lose all five shields and it's game over!

The ever-growing attack waves may include the Messerschmitt Bf 109, Messerschmitt Bf 110, and Focke-Wulf Fw 190. As you progress through the game, gaining points and promotions to your military rank as you do so, the attacks include more fighters and faster speeds. Recently, the program's developer has added the Messerschmitt Me 262 jet fighter. These guys just scream across the sky towards you, so be ready with that trigger!

(Continued on next page)

Tail Gun Charlie *(Continued from previous page)*



But, it's not a totally one sided battle. The more you play, the more you increase your skills. And, as you amass points, bonus items becomes available for your use. These include things like limited amounts of high-explosive shells, water cooling for the guns, and the opportunity for periods of rapid fire. A novel method of defense, which can be extremely useful when the action gets really hectic, is the Flak Attack tool. Hit this button and a barrage of anti-aircraft shells is released that disables any nearby fighters and temporarily stuns every other plane in the sky.

The game has two primary modes of operation – arcade and campaign. In arcade mode, as you amass bonus items (powerups), these remain available for each subsequent attack wave. In campaign mode, you can use your hard-won points to purchase various defensive tools but, once you use one of these, it is expended and you must re-purchase it in order to use the same tool again.

The basic game is free to download and play. You are offered the opportunity to watch an advertisement after each attack wave in order to restore one of your defensive shields that has been destroyed. There is a pay option (a one-time payment of US \$3.99) that allows you to recover one shield per wave without the need to watch any ads. However, clearly, the program's developer, also has a well-developed sense of humour since one of the other options for selecting ads is "Hell No – And, don't ask me again!"

So, if you need to kill some time on your 'phone – and kill some enemy fighters that are, after all, out to destroy you – go for a spin as Tail Gun Charlie!

Bottom Line

Tail Gun Charlie (Freeware)

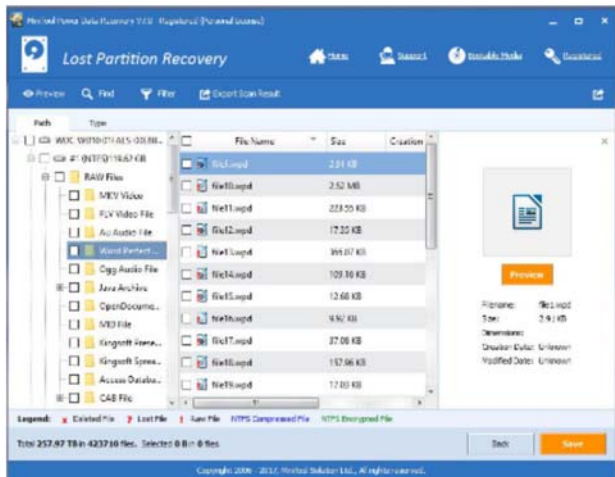
Version 1.2.20

Panic Ensues Software

<https://tinyurl.com/TailGunCharlie>

Good Disks... (Continued from page 1)

search the recovered information for this wildcard filename.



Recovered Word Perfect files

At this point, a bug (or a feature) was found in the software. Each press of the Find option produced a listing for one file. Firstly, the file \$Dir9316/LAWS5903W.wpd was identified. A second search located the file \$Dir9335/LawSociety.wpd. However, subsequent Find commands just cycled between these two files, and the process continued in a seemingly endless loop.

However, the really bad news was that even though only two “LAW” files were identified in this manner, both of them contained unreadable ASCII characters. So, there was no useful recovery using this method.

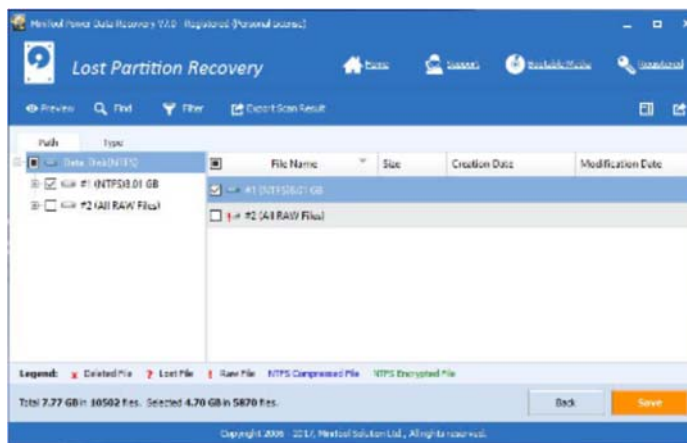
Our problem now is knowing whether the recovery software isn’t doing its job for a hard disk, or if the format used by the JBOD array is so weird and wonderful that recovering individual files from just one disk is really a non-starter.

I happened to have a spare hard drive available, one which I had replaced in a laptop computer with a SSD. Since there was nothing wrong with this disk, I thought it might be useful as a test bed for a partition “recovery”.

One of the partitions on the drive was an old version of my dedicated data partition. For the test, I deleted this partition using the Disk Management utility, did a Quick Format of the partition, and then copied the files and folders for my current data partition from my backup USB drive to the test HDD. The data partition on the test HDD now had exactly the

same files and folders that were on the backup USB. Finally, I deleted the data partition once more from the test HDD.

Running Power Data Recovery allowed me to conduct a full scan on the now 8.01 GB, unallocated, partition on the test HDD. The results showed that the recovery software had located “7.77 GB in 10,502 files”. In particular, there were two recovery folders – “#1 (NTFS) 8.01 GB” which listed 4.7 GB in 5870 files, and “#2 (ALL RAW Files)” which listed 3.07 GB in 4632 files. I saved the recovered folders to the main hard drive of the computer being used to run the recovery software.



The first of these folders contained recognizable files and folders from my data partition. However, there were also two additional sub-folders – GB and RAW Files. GB had no files that were meaningful to me; just two folders, one with some empty files, and another with some sort of metadata files. The RAW Files folder contained the sub-folders that we have seen previously, e.g. Word Perfect Document, etc. with file1.wpd, et seq. Since these folders didn’t appear to be useful, I simply deleted them, leaving the files and folders that I recognized as coming from the deleted data partition.

The final stages in the recovery process were to use the Disk Management utility to set up the unallocated partition on the test HDD as a simple volume, assign a drive letter, and to copy the recovered

files and folders to this newly-created partition. It was then a simple matter to do a file and folder comparison between the recovered disk partition on the test disk and the backup USB drive to ensure that all of the files had been recovered successfully.

So, the moral of this part of the story is that Power Data Recovery will recover files completely from a “lost” partition in some circumstances, but may be considerably less successful under other conditions. Either that, or I need to spend considerably more time and effort to understand how the software works!

Final Thoughts

Power Data Recovery proved to be useful in a number of instances, recovering lost files from various disk storage media. However, users need to be aware that full scans of large-capacity drives take considerable time, even

when using a computer with a fast CPU, tons of RAM, and an SSD as the main drive. Furthermore, the recovery software seems to hog the machine’s resources and can dramatically slow the response for certain other tasks that you may wish to run concurrently. This is especially the case when trying to review the details of the re-

sults, save recovered files, and access these files in other programs in order to check their viability. Finally, the scan results themselves are not terribly intuitive. This may not be an issue if the recovered files and folders are in the form that you expect, but the information can be difficult to interpret in some other cases. However, the successes that have been demonstrated by a neophyte user suggest that this software is deserving of a place in anyone’s recovery toolbox. It provides a measure of insurance against data loss, and may well be an exceptionally useful tool for this purpose in the right circumstances.

Bottom Line

Power Data Recovery (US \$89.00)
MiniTool Solution Ltd.
Vancouver, British Columbia
<https://www.powerdatarecovery.com/>

OPCUG Free Software Guide—Part 76

Compiled by Alan German
and Chris Taylor

This guide features an annotated list of free computer programs. The software mentioned has not been reviewed (except where noted) nor have any tests necessarily been conducted. Consequently, no guarantees are provided that the individual programs will perform as described. Rather the list of available software is provided for the information of our members who may find one or more of the programs useful.

Wireshark

Do you need to troubleshoot problems on your network or examine security problems? Wireshark is perhaps one of the best open source packet analyzers available today. It will try to capture all the data packets being transmitted by or received on your network and display that packet data in detail.

Current Release: Version 2.2.7

Web Site: <https://www.wireshark.org/>



MSI Afterburner

This over clocking utility gives you full control of your graphics cards. It provides an incredibly detailed overview of your hardware and comes with some additional features such as customizing fan profiles, benchmarking and video recording. The utility can be used with all brands of graphics cards.

Web Site: <https://www.msi.com/page/afterburner>

Easy Window Switcher

This TSR program makes switching between different windows as easy as Alt-` (that's Alt+backtick). Forget having to Alt-tab between a million-and-one different open windows to find the one you are looking for. With Easy Window Switcher, tabbing between windows of the same program is only Alt-` away.

Current Release: Version 1.1.0

Web Site: <http://neosmart.net/EasySwitch/>

MailPassView

Use this utility to reveal the username, password, and account details stored by your E-mail client (e.g. Outlook, Thunderbird).

Current Release: Version 1.86

Web Site: <http://www.nirsoft.net/utills/mailpv.html>

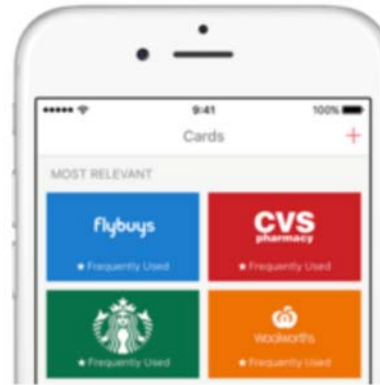
Stocard



Tired of hauling around a wallet full of loyalty cards? Do you always have your smartphone with you? You need the Stocard app. Simply point the app's camera at the bar code of a loyalty card. It records the ID No. and adds the card to the app's home page. Now, you just need to show the phone's display screen to the store clerk. No more hauling cards!

Current Release: Version 6.7.4

Web Site: <https://stocardapp.com/>



DiskMon

DiskMon, from Mark Russinovich at Windows Sysinternals, will log and display all the activity on your hard disk. You can also minimize the program to your system tray where it acts as a disk light, presenting a green icon when there is disk-read activity and a red icon when there is disk-write activity.

Current Release: Version 2.0.1

Web Site: <https://tinyurl.com/DiskMon>

Immunet

This anti-malware, anti-virus protection system utilizes cloud computing to provide enhanced, community-based security. Join the Immunet Community today and help to make the Internet safer for everyone.

Current Release: Version 3.1.8

Web Site: <http://www.immunet.com/>



Send To Toys

A versatile enhancement of the Send To system menu with many useful functions, including the ability to add and remove menu items from the Send To menu; send the contents of a file, or the filename, with the full path, to the clipboard; copy or move a file; add items to the Quick Launch toolbar; and send a file to the Run command dialog box. Runs on Windows XP to 10.

Current Release: Version 2.71

Web Site: <https://tinyurl.com/yb5judju>

OTTAWA PC NEWS

Ottawa PC News is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July and August. The opinions expressed in this newsletter may not necessarily represent the views of the club or its members.

Member participation is encouraged. If you would like to contribute an article to Ottawa PC News, please submit it to the newsletter editor (contact info below). Deadline for submissions is three Sundays before the next General Meeting.

Group Meetings

OPCUG meets on the second Wednesday in the month, except July and August, in the **Mauril Belanger Theatre** of the **Canada Aviation and Space Museum**, 11 Aviation Parkway, Ottawa. <http://casmuseum.techno-science.ca/en/index.php>

Meetings are 7:30–9:00 p.m. followed by a Q&A Session until 10 p.m.

Parking is available at the museum for a flat fee of \$3 after 5pm.

Details at <http://opcug.ca/public/regmtg.htm>

OPCUG Membership Fees: \$25 per year
Mailing Address: 3 Thatcher St., Nepean, Ontario, K2G 1S6
Web address: <http://opcug.ca>
Bulletin board—The PUB (BBS) <http://opcug.ca/default.htm>
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President and System Administrator		
Chris Taylor	chris.taylor@opcug.ca	613-727-5453
Meeting Coordinator		
Jeff Dubois	meetings@opcug.ca	
Treasurer		
Alan German	alan.german@opcug.ca	
Secretary		
Gail Eagen	gail.eagen@opcug.ca	
Membership Chairman		
Mark Cayer	mark.cayer@opcug.ca	613-823-0354
Newsletter		
Brigitte Lord (editor/layout/e-distribution)	brigitte@opcug.ca	
Public Relations		
Jeff Dubois	PR@opcug.ca	613-366-7936
Facilities		
Bob Walker		613-489-2084
Webmaster		
Brigitte Lord	opcug-webmaster2@opcug.ca	
Privacy Director		
Wayne Houston	privacy2@opcug.ca	
Special Events Coordinator		
(Mr.) Jocelyn Doire	jocelyn.doire@opcug.ca	

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Reduce, Reuse, Recycle

Bring your old computer books, software, hardware, and paraphernalia you want to GIVE AWAY to the General Meetings, and leave them at the table near the auditorium's entrance. Please limit magazines to publication dates under two years.

You may TAKE AWAY any items of use to you.

Any items left over at the end of the meeting have to be taken back home by those who brought them in.

