



# MUG Monitor **Extra!**

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## I'm Asked...

by **Bill Funk**, a member of the **Arizona Association for Computer Information, inc., (ASCIi)**, [www.asciigroup.org](http://www.asciigroup.org)

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*I just bought a Digital SLR; with the prices as low as they are, I couldn't resist. Since I want to take photos of my grandchildren, and the built-in flash isn't as powerful as I need, I bought a new flash. It's the same brand as my camera, and is supposed to be all automatic. But, the photos aren't right. I thought the better flash would let me take photos inside, and freeze the movement of the grandkids, but the photos are as blurry as with the camera's flash. What's going on?*

You're right, the on-board flashes on most DSLRs aren't very bright. Buying the new flash is the right idea, but it doesn't work the way many people think it does.

You're probably using the camera as a Point & Shoot: setting the camera to make the exposure decisions, and pressing the shutter button. There's nothing wrong with that, but doing things that way won't get your flash to work the way you want it to.

Instead, you should use the Manual mode for exposure (check your camera's manual for how to enter the Manual mode). While you're looking at the manual, check to find the highest shutter speed you can use with the flash, too.

Then, in Manual mode, set the shutter speed at, or maybe slightly below, that speed (I use 1/125 sec

on my camera; it's fast enough to freeze most action), then set the aperture (f/number) for the desired result as far as depth of field is concerned, and set the ISO as desired. Set the flash to auto (check the manual), and fire away. This way, the camera will use the settings you chose, ignoring the amount of light in the scene. The flash will check to see what the camera is set to, and fire itself, checking the results as it fires to give the right amount of light to the scene. Neat, eh?

The way you're doing it will make the flash act as a "fill" flash, meaning the camera's exposure system will use the existing light in the scene to set the exposure, and the flash will intelligently fire to fill in shadows, but not be the major source of light in the scene. This is also the usual way the camera's on-board flash works, even though many cameras will set the shutter speed to take advantage of the flash's extra light to help freeze motion. The problem here, though, is that the on-board flash just isn't bright enough to light up a dark scene (such as a room) very well.

One of the really neat things about digital photography is that, regardless of the actual type of the camera, experimentation is cheap. In this case, once you get the basics

of flash use down, you can experiment with different shutter speeds and aperture settings for different results. Also, off-camera flashes like yours will usually let you turn the flash head up and down, and side to side, for bounce flash. With bounce flash, you're bouncing the flash off the ceiling or wall. This tends to spread the light from the flash out to reduce that sharp look that a straight-on flash gives, and it also reduces harsh shadows (as well as changing where the shadows are); more to experiment with!

This brings up another question: if you have an older flash from your film days, can you use it with your new DSLR? The answer is a very firm: maybe. The problem is that most older, film-era flashes have a higher trigger voltage than what DSLRs can tolerate. In other words, using that old flash can cause some expensive damage to your DSLR. There are some devices that can be put between your older flash and your DSLR's flash shoe that will solve the problem. However, a new flash will also work much better with your new DSLR, and do things that old flash can't even dream of doing.

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# Viewing the Bigger Picture

by **Bonnie L. Snyder, P\*PCompAS, Colorado Springs, CO, [ppcompas.apcug.org](http://ppcompas.apcug.org)**

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At the risk of being the bearer of bad news, I have to say that none of us is getting any younger. User groups tend to be populated more by senior citizens than by any other age group. As we age, we find the need for more and more assistive aids, including those that will help us to use our computers more comfortably and efficiently.

Many of us will find, as time goes on, that our vision is not what it used to be. We may find that our eyes fatigue as we read information on the computer monitor, and we may find that some of the smaller fonts and graphics on the screen require us to squint and lean forward into the display.

In this article, I will discuss two screen enlargement programs that might help us minimize our visual difficulties as we use our computers.

The first program I want to talk about is called Magic Lens Max. I downloaded an older version of the program from [Giveawayoftheday.com](http://Giveawayoftheday.com) and was very impressed with what it could do. I emailed the program's author and told him what a terrific program it was and I have demonstrated it to various groups who provide services to the blind and visually impaired. Additionally, the cost of the program is only \$39.95. I went ahead and purchased a copy of the most recent edition and was even more pleased with what the author had added since my downloaded version.

Magic Lens Max provides a variety of ways to magnify the computer screen, from resizable moveable lenses,

which magnify directly over where your mouse or cursor is working, to a full screen magnification option, which slows down the screen refresh very minimally. You have some color contrast options to choose from with this program, as well as an *invert colors* option for light text on dark background. The magnification levels can be selected from 50% (which is non-magnification) up to pretty much infinity. Anything above 350% starts to blur a bit, although there are options to sharpen.

The Magic Lens Max icon that resides in the system tray can be single-clicked to turn on or turn off the magnification.

This is an excellent program that is both useful and affordable. If you are interested in testing it out, go to [www.visionsuit.com](http://www.visionsuit.com). You can download a 30-day demo of the latest version. If you decide to purchase Magic Lens Max, once you have paid the \$39.95, you will be sent a registration code that can be entered into the demo, and it becomes fully functional.

The second program I evaluated for screen magnification allows for an additional option: speech along with the magnification. This program is called iZoom, and can be obtained from [www.issist.com](http://www.issist.com). I really like the customizing options available in iZoom. These can be accessed from the initial menu when iZoom comes on, or once the menu is closed, you can reopen it quickly by clicking the mouse on the iZoom icon in the system tray.

iZoom allows for default or customizable hot keys, several sizes and

colors of mouse pointers, color combinations supplied with the program, as well as custom color modes, several sizes and shapes of "locators" that help the user find the location of the mouse pointer, and a choice of several lens shapes, as well as full-screen magnification. iZoom magnifies from 1x to 32x.

The negatives I have found in iZoom are as follows: First, when using the lens mode, you have to place the lens first over what you want to interact with, and then move the mouse pointer within that lens. Second, from about the 3x magnification up, the display becomes more and more pixelated, which can be a problem for some vision conditions, such as astigmatism, among others. Third, there is only one voice offered with the speech option and it is not a particularly pleasant one.

As you would expect, with additional options comes an additional cost. Again, you can download a 30-day demo of iZoom from the website, and if you wish to purchase the program, the price is \$199. However, keep in mind that the two major commercial screen magnification programs, MAGIC from Freedom Scientific and ZoomText Plus from AI Squared, both weigh in at from \$300 to \$550, depending on how many options you wish to have. So, if you feel the need to view the bigger picture, give the demos of the above programs a try, and see if they will be of use to you.

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# Email Etiquette

by John Roy, President, The PC Users Group of Connecticut, [www.tpcug-ct.org](http://www.tpcug-ct.org)

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Do you really know how to forward an email? It is estimated that over fifty percent of email users do not know how to do it properly. Do you wonder why you get viruses or junk mail? Email messages get forwarded countless times without concern for the security of the previous sender's addresses.

Every time you forward an email, there is information left over from the people who got the message before you, namely their email addresses and names. As the messages get forwarded along the list of addresses builds and builds creating a huge resource for spammers. All it takes is for someone to get a virus and the infected computer can send that virus to every email address that has come across that computer. Even if the address collection doesn't result in a virus it surely will be harvested by spammers or someone looking to make a couple of cents for a listing of good email addresses. How do you stop or at least minimize the propagation of email addresses? There are several easy steps that we should all practice.

1. Before you send out a forwarded email, *delete* all of the other addresses that appear in the body of the message (at the top). That's right, *delete* them. Highlight them and delete them, backspace them, cut them, whatever it is you know how to do. It only takes a second. You *must* click the "Forward" button first and then you will have full editing capabilities in the body and headers of the message. If you don't click on "Forward" first, you won't be able to edit the message at all.

2. Whenever you send an email to more than one person, do *not* use the To: or Cc: fields for adding email addresses. Always use the Bcc: (blind carbon copy) field for listing the email addresses. This way the people you send to will only see their own email address. If you don't see your Bcc: option, click on where it says To: and your address list will appear. Highlight the address and choose Bcc: and that's it, it's that easy. When you use Bcc:, your message will automatically say "Undisclosed Recipients" in the "To:" field of the people who receive it.

3. Remove any "Fw:" in the subject line. You can rename the subject if you wish, or even fix spelling.

4. *Always* hit your Forward button from the actual email you are reading. Ever get those emails that you have to open 10 pages to read the one page with the information on it? By forwarding from the actual page you wish someone to view, you stop them from having to open many emails just to see what you sent.

5. Have you ever gotten an email that is a petition? It states a position and asks you to add your name and address and to forward it to 10 or 15 people or your entire address book. The email can be forwarded on and on and can collect thousands of names and email addresses. A FACT: The completed petition is actually worth a couple of bucks to a professional spammer because of the wealth of valid names and email addresses contained therein. If you want to support the petition, send it as your own personal letter to the

intended recipient. Your position may carry more weight as a personal letter than a laundry list of names and email address on a petition. (Actually, if you think about it, who's supposed to send the petition in to whatever cause it supports? And don't believe the ones that say that the email is being traced, it just isn't so!)

6. One of the main types I hate are the ones that say that something like, "Send this email to 10 people and you'll see something great run across your screen." Or, sometimes they'll just tease you by saying something really cute will happen. *It ain't gonna happen!!!!* (Trust me; I'm still seeing some of the same ones that I waited on 10 years ago!) I don't let the bad luck ones scare me either, they get trashed. (Could that be why I haven't won the lottery?)

7. Before you forward an Amber Alert, or a Virus Alert, or some of the other ones floating around nowadays, check them out before you forward them. Most of them are junk mail that's been circling the net for years! Just about everything you receive in an email that is in question can be checked out at Snopes. Just go to [www.snopes.com](http://www.snopes.com). It's really easy to find out if it's real or not. If it's not, please don't pass it on.

So please, in the future, let's stop or at least minimize the junk mail and the viruses by taking the steps outlined above.

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# From My Vista

by **Rob Limbaugh, President, Danbury Area Computer Society, CT, [www.dacs.org](http://www.dacs.org)**

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Just about every year, I make some sort of “major” effort to move forward with technology in some way on my primary home workstation. I periodically wipe out the machine and start a fresh OS install from scratch. I reasoned that as laborious as a reinstall is, I may as well bite the bullet and this time make the move to Vista. What made the timing right was that Microsoft gave Windows Vista Ultimate 32-bit with SP2 to those who attended the APCUG 2008 LDC. Here's my experience.

## **Check Compatibility**

When loading an OS it is important to make note of your hardware and key software. Vista Update Advisor will highlight any hardware or software compatibility issues of which to be aware. In my case, the only issues to address were applications that would be replaced with new Vista versions—no big deal. In terms of hardware, my machine checked out OK. Last I had heard, my ATI All-In-Wonder 2006 video card was not yet supported in Vista, so I double-checked the AMD (they now own ATI) website and confirmed there are now Vista drivers and software. It's a Go!

## **Backup Data**

Next, I made backups of all my important data. This time around I used an external USB hard drive and just dragged and dropped the data to a “backup” folder. I wanted to start fresh and clean, so I didn't bother making a backup of my Windows or Office user settings. There aren't any new BIOS updates for my motherboard, so I was all set to go.

## **Time for Install**

I started the install process around 8 p.m., electing to wipe all partitions on the hard drive. My first boot to the desktop post install was shortly after 10 p.m. So far, so good. And, considering this is a P4-2.4GHz machine, I was rather impressed. Vista's graphics worked from the get-go because the ATI All-In-Wonder 2006 uses an ATI Radeon 9600 compatible chipset for which Vista loaded drivers. Sound worked. Networking worked. I expected *something* to be wrong, due to all the horror stories I had heard! My machine even received a 3.2 on the “Vista Experience Index.” That means I can use Aero! Now we're cooking!

## **Post Install Issues**

A notice appeared that Windows detected hardware and needed to install drivers. My system's motherboard has an integrated Realtek AC'97 sound card. Unfortunately, there isn't a Vista driver for the MIDI interface. If I want to hook up MIDI devices in the future, I will probably need to disable the built-in sound card and install a properly supported one to gain MIDI interface functionality.

Watching TV is one of the things for which I built this machine, and I expected to use Vista Media Center. This is where my second issue came up. While AMD (they bought ATI) has released updated Vista drivers and software for the ATI AIW 2006 video card, they didn't actually ‘fix’ the issue with how the ATI Hydravision software accesses the TV Tuner. I searched around for a solution and came across a Home

Theater application called “Beyond TV” by SnapStream. So far that seems to solve my issue. Beyond TV has a ton of cool features (worth looking at even if you aren't going to Vista).

## **Reality Check**

In my consumer opinion, lack of proper drivers for an OS is the fault of the hardware integrator and not the OS maker. AMD is blaming Microsoft's changes in DirectX 10 D3D (which happen to address performance and security) as why the ATI TV Tuner software doesn't work. Well, AMD, how come SnapStream could figure it out? AOpen has not released any new drivers for their implementation of the AC'97 chip on my motherboard. I can live with AOpen's choice because most people don't use the MIDI interface feature of sound cards. AMD has no excuse for not supporting an expensive video card that is bought for the very feature they aren't supporting. My buying habits will be adjusted accordingly in the future.

## **Supporting Apps**

Along with Beyond TV, I installed what I consider “Base Supporting Apps.” These included Avast! Anti-virus, Notepad++, Pidgin, Adobe Reader, Adobe Flash Player, Adobe Shockwave Player, TrueCrypt, PrimoPDF, and WinSCP. Office Ultimate 2007 is going to round out the Office Suite. Everything installed smoothly. No issues, arguments, or contentions between apps.

## **Where I Stand**

My machine has paid its dues many times over and the driver issues

(see *My Vista* on page 5)

# Windows Vista Performance

by Lynn Page, Editor, Crystal River Computer Group, FL. [www.crug.org](http://www.crug.org)

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While here in Wyoming for the summer, I have only my laptop for all of my computing needs. This means that keeping Windows Vista performing well is important. I have noticed a slowdown at times. So I thought this would be a good topic to discuss. Just how much my laptop is slowing down versus my perception is hard to determine. While in Florida, I use my desktop for many of the functions that I am using the laptop now. I did notice that when I got my new DSL connection and associated software there was a distinct change.

So here are some standard ideas to get the best possible performance from your Windows Vista computer. Most can also be said for other versions of Windows, but the actual procedures may vary.

## **Delete Unused or Never Used Programs**

Many new computers come loaded with programs or trial programs you won't use. The trial and limited editions of programs are provided with the hope that you will try them and decide to upgrade to full

versions. So hunt through the computer and see what is installed. Try out the programs if you want, but when you are done with your look and see, uninstall those you will not use or upgrade. Having unused or unwanted software on your computer might slow it down by using memory, disk space, and processing power. This is especially true if the program loads and runs in the background.

This is also true of software programs that you purchase or download. If you try a program out and don't like it or have one you like better uninstall it. I am familiar with this particular problem because I purchase almost every digital editing application that I see. I really only regularly use three, but have several more installed on my home desktop.

So uninstall all the application programs you don't use. Both manufacturer-installed software, and those you installed but don't use anymore. It is important to have good security and/or utility applications. But remember that these virus scanners, spyware detectors, disk

cleaners, and backup tools may load automatically at startup and run in the background. So select the applications you need, keep them up to date and uninstall any others.

To uninstall a program, click the Start button and then Control Panel. In Control Panel under Programs click Uninstall a program. In the list of installed programs, select the one to remove and then click Uninstall/Change and then follow the instructions in the dialog boxes. Some applications come with their own uninstaller that is listed in the All Programs listing. I generally check there first and use the manufacturer's uninstaller if it is available before using Windows uninstall.

## **Control Which Programs Load at Startup**

Software manufacturers design many programs to load automatically when Windows starts. These programs open in the background so they're readily available. You want that for your critical security software like virus protection and firewall, and it can speed opening of

(see *Performance* on page 6)

(*My Vista—continued from page 4*)  
didn't affect my ability to use what I needed, so I was OK with that. Others with more particular needs should be aware that integrated soundcards, atypical hardware, old devices, and fancy graphics capture cards may require special attention. Replacements may need to be considered. I'm not suggesting everyone run out and install Vista. This is now the fourth time I've installed Vista on a machine—first

time on one I plan to use regularly. All said and done, the experience has been pleasant and not anything like the horror stories I've heard. At the time of this writing, it's been about two weeks, and all continues to work well. This article was typed on that system using Word 2007 and sent to the editors with Outlook 2007.

From my vista, Vista works just fine.

*Vista Upgrade Advisor:*  
[tinyurl.com/3b27j6](http://tinyurl.com/3b27j6)

*Compare Vista Editions:*  
[tinyurl.com/3843r3](http://tinyurl.com/3843r3)

*SnapStream Beyond TV:*  
[www.snapstream.com/products/beyondtv/](http://www.snapstream.com/products/beyondtv/)

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*(Performance—continued from page 5)*  
 programs you use all of the time, but for programs you seldom or never use, it wastes memory and slows Windows loading. Decide which programs should load at startup and stop others from automatically loading.

To see which programs load automatically, start by looking at the icons in the notification area on the taskbar. Click the Show hidden icons button (greater than symbol at the left of the notification area) to see all icons, and mouse over each to see the program name. Then look deeper with Windows Defender to be sure you know every program that loads automatically at startup. You view and disable them in Windows Defender.

The Software Explorer screen in Windows Defender shows startup programs that load automatically when you launch Windows. Disable programs that shouldn't open automatically at startup. Restart the computer, check that they don't automatically load, and then open the programs and use them manually. If there is a problem go back and re-enable to start the program/programs automatically.

### ***Defragment the Hard Drive***

Fragmentation of files makes the hard disk work to reconstruct them and can slow down the computer. Disk Defragmenter rearranges fragmented data so your hard disk works more efficiently. I have Disk Defragmenter set to run on a weekly schedule, but you can run it manually.

Disk Defragmenter is found in System Tools under accessories on the all Programs listing. Be sure to defragment all disks. It is especially important to defragment data partitions.

### ***Clean Up the Hard Disk***

With the large new hard drives, it would seem that freeing up hard disk space would not be very important.

But it is. With the ease of digital photography and the increasing size of digital files, hard disks can and do fill up. So it is important to reduce the number of unnecessary files on the hard disk. Freeing up disk space can help the computer run faster.

Before worrying about using a cleanup utility, take a look at your data files. Review old original digital images, letters and other files. Delete those that are no longer necessary. Develop a filing system to save and store important files off your hard drive. I use external hard drives, CDs, DVDs and Zip disks. After deleting unneeded files and storing others off the hard drive, use Disk Cleanup to remove temporary files, empty the Recycle Bin, and remove a variety files no longer needed.

Another idea is to reduce the size of the Recycle Bin. Right click on the icon on the desktop and click properties. Review the settings and set the Recycle Bin size for each drive to an appropriate amount. Remember it should only be an exception when you need to retrieve something that you sent to the Recycle Bin. Don't consider this another storage location.

Disk Clean Up is found in System Tools under Accessories in the All Programs list. In the Disk Cleanup Options dialog box, choose to clean up your files or all of the files on the computer. Select the hard disk drive to clean up, and click OK. On the Disk Cleanup tab, select the check boxes for the files to delete, click OK, and then click Delete files to confirm the operation. The More Options tab lets the administrator clean files from all users on the computer.

### ***Don't Run as Many Programs at the Same Time***

How you use the computer has a big impact on its performance. If you're like me, you keep several programs and browser windows open at once. I almost always have Internet Explorer,

Outlook, Outlook Express and Word open. Then when I am working with photos, add at least Adobe Elements and Corel Paint Shop Pro Photo. It's worse when I am working on the CRUG newsletter, because then I add Adobe GoLive to this mix. With all of this going on, my poor laptop is truly toiling. Keeping all of these applications going really uses the memory.

So if your computer is slowing down, see if you really need to keep all of the programs and windows open at once. I find it hard to do, but when I am working with large applications like GoLive, Elements, Paint Shop Pro Photo and Word, I sometimes close my email and browsing applications. Then when finished with the newsletter and website, I can check for new email and browse all I want.

### ***Turn Off Visual Effects***

If Windows Vista is running slowly, consider disabling some of its visual effects. These neat appearance goodies take resources. They are a large and nice part of Vista, but if performance is affected, trade the appearance for performance. This is especially important if your computer is just barely powerful enough for Windows Vista.

Control which visual effects to turn off, one by one, or let Windows make a selection. There are 20 visual effects you can control, like the transparent glass look, the way menus open or close, and whether shadows are displayed.

Open Performance Information and Tools by clicking the Start button and then Control Panel. Next click System and Maintenance and then Performance Information and Tools. Click Adjust visual effects in the left pane of the Performance Information and Tools window. Select the Visual Effects tab. I have selected the Let Windows choose what's best for my computer, but you can make your own choices by selecting

*(see Performance on page 7)*

*(Performance—continued from page 6)*  
Custom. Or select Adjust for best performance, and then click OK.

### **Restart**

This is simple and something I have done a lot on my home Windows XP desktop and even on my Vista laptop. If the computer is really running slowly or freezing up for long periods of time, try closing unnecessary or even all the currently running programs. If that doesn't help, restart the computer.

### **Check for Viruses and Spyware**

Any time my computer starts running slowly, I worry about the possibility that it might be infected with a virus or spyware. I always run antivirus, firewall and antispyware programs, but I still worry. So if I see an unexpected slowdown, I manually run my antivirus and anti-spyware programs. I don't wait for the next scheduled weekly scans.

So be sure you are using antispyware and antivirus programs, And that they are up to date. I do checks for updates at least daily. Then set a schedule to run each. If you cannot schedule automatic scans, set a day and time and regularly start a manual scan.

A virus might make computer performance slower than normal. Other things to watch for are unexpected messages popping up, programs starting automatically, or the hard disk constantly working. I sometimes get worried when performance slows and the hard disk is working, only to remember that a scheduled scan is running and using computer resources.

Spyware is a program that is installed with or without your knowledge, to watch your activity. Check for spyware with Windows Defender or

other antispyware programs. I use Windows Defender, Ad-Aware and Spybot. Again remember to keep the programs updated and run regularly scheduled weekly scans.

### **Add Memory**

If your computer is too slow, it's likely that it doesn't have enough memory for the tasks you are asking it to perform. A hardware option to speed up your computer is to add more memory. I added 1 GB of memory to my Windows XP desktop, and the change was tremendous.

Windows Vista can run on a computer with 512 MB of RAM, but is better with 1 GB and for optimal performance use 2 GB or more. My laptop has 1 GB and could use more.

Adding memory to my desktop was simple. Just be sure to buy compatible memory for your computer, and if you're going to open up the computer case, add all that you might be able to use. For a Vista computer, I would go to at least 2 GB, and probably more.

Another option is to use Windows ReadyBoost to boost the amount of memory. This uses storage space on some removable media devices, such as USB flash drives, to speed up your computer. I have a 2 GB flash drive that I have reserved 1840 MG of space to speed up my laptop. It's easy to plug a flash drive into a USB port. So if you don't want to open up the computer case and plug memory modules into the motherboard, get a large ReadyBoost capable USB drive.

### **Check Your Computer's Speed**

Windows Vista can check and rate your computer's speed with the Windows Experience Index. This index rates your computer on five

key components and gives a subscore for each, and an overall base score that is only as good as the worst-performing component score.

The Windows Experience Index measures the capability of the computer's hardware and software configuration and expresses this measurement as a number called a base score. A higher base score indicates the computer will perform better and faster than a computer with a lower base score.

The Windows Experience Index is designed to accommodate advances in computer technology, so the base scores currently range from 1 to 5.9. As hardware speed and performance improves, higher base scores can be introduced.

To view your computer's base score, open Performance Information and Tools from Control Panel. If you have upgraded your hardware, click Update my score to see if the scores have changed. If subscores and a base score are not shown, click Score this computer.

My laptop has a mediocre base score of 3.1 due to its limited graphics abilities.

### **Check for Manufacturer's Updates**

Check your computer manufacturer's website to see if they have released any updates for your specific hardware and software. If users are reporting the same problem, the manufacturer might have issued a fix, or provided information about the problem.

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# The New, The Best, and The Worst—May '08

Collected by Pim Borman, Webmaster, SW Indiana PC Users Group, [swipcug.apcug.org](http://swipcug.apcug.org)

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## *Tales of Woe*

Sorry, Folks, but this month I can't think of any New and/or Best to report on, only Troubles, with a Capital T. So let's get started.

## *Spinrite 6*

Son Mike's computer recently refused to boot, and his main concern was the potential loss of some recent data files that he had not yet backed up. Regrettable, but it happens to the best of us—literally. The local school system lost all the students' test results of the current term because the computers crashed. The data were not securely backed up. Who to blame? No one other than the operator, IBM, symbol of computing excellence. According to the local paper, the IBM representative claimed that this had never happened before and could not be explained. Sound familiar?

Back to Mike. When it was clear that he could not boot from the hard drive, not even in safe mode, the next step was to use a Windows XP setup disc and use its Repair function. Windows labored mightily, trying to repair his drive, but kept getting bogged down with a variety of obscure error messages. At one time he got a DOS prompt that allowed him to list the files on his computer, but when he tried to copy them he was denied access. When we booted his computer with a Live Ubuntu Linux CD, he could also see his precious files, but access was again denied.

There is a lesson to be learned from this. The Windows XP operating system runs on a partition config-

ured in the NTFS format. When data files are saved in that format, Windows XP (and Vista) by default protect those files from access by others. That is a nice safety feature for those who really need it, but it makes the data unavailable over your network, or evidently even from a DOS prompt. You can beforehand designate specific data files to be shared, but it is a lot of bother, easily forgotten. Here is the lesson: store all your data files on a separate partition set up in the older FAT32 format, and they'll be available whenever and wherever you need them. Even better, also back them up to an external drive in FAT32 format.

At this point I remembered reading about a terrific file recovery program, Spinrite 6, available for \$89 from Gibson Research Corporation, owned and operated by Steve Gibson, the well-known computer guru ([www.grc.com](http://www.grc.com)). We downloaded the program and converted it to a bootable disc. After booting Mike's computer with the Spinrite disc, it immediately announced that his drive was subject to imminent failure. Well, that's what we spent the \$89 for. We started the file recovery mode, with a warning that this could take a looong time, think 24 hours or so.

Several days later, after running something like 60 hours during which the program every so often would get bogged down and had to be restarted, the program had progressed to 93% completion and refused to go any further. No indication that any files were available to be recovered.

Mike installed Windows XP on a new drive and put the old wreck in an external hard drive enclosure connected to a USB port of his computer. The old drive was unreadable at this point. Still unwilling to give up, Mike tried the old standby, Windows' `chkdsk` with the `/F` parameter (for "fix") to let Windows try to repair salvageable parts of the drive. It worked! After several repeats of the procedure, he was able to recover most of his lost files that meanwhile also had become accessible. So much for Spinrite, mark one up for good old DOS.

## *Acronis*

After creating the Spinrite disc, and before using it on Mike's computer, I tested it on my desktop computer by doing a routine check of my hard drive, expecting it to be in perfect shape. To my surprise, Spinrite halted about 5% into the inspection because the hard drive was overheating. Newer serial (SATA) hard drives are equipped with a SMART program that reports many operating parameters of the drive. Windows can't read SMART, but Spinrite can. On inspection, I found that the cooling fan for the hard drive compartment was kaput. It was easily replaced by the local people who built my computer, but even then the drive continued to overheat, a clear warning that it may fail any time.

I bought a new 500 GB Maxtor drive (on sale for \$99!) which came with a utility, "MaxBlast," to copy an exact image of my setup to the new disc, avoiding the necessity to reinstall everything. The way it wanted to go about it was to do a three-way parti-

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# Your Next Computer Will Be Green

by Marjie Tucker, Editor, Mountain Computer User Group, GA, [www.mcug.org](http://www.mcug.org)

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With Europe leading the way, the computer industry is decidedly becoming "green." The Waste Electrical and Electronic Equipment (WEEE) and the Restriction of Hazardous Substances (ROHS) directives went into effect earlier this year. These two directives state that certain electrical and electronic equipment must cut down on hazardous materials such as lead, mercury and cadmium. They also give customers the right to return their equipment free of charge. Companies have several years to fully implement these directives, but the leaders have already started to make changes.

Dell, for example, is advertising Energy Smart workstations and notebooks that can reduce power consumption by as much as 78%. The Energy Smart configuration uses a default power setting that is designed to reduce consumption and energy costs right out of the box. In addition, the power supply, fan and motherboard use significantly less energy to maintain cool internal temperatures.

HP is using 80 Plus power supplies to lower energy bills and AMD technology that reduces heat output and PC power consumption. In addition, they have already introduced an HP recycling program where you can trade-in or donate the products.

## **Government Initiatives**

Many U.S. government agencies have implemented standards and regulations to encourage green computing. The Environmental Protection Agency launched an

Energy Star program in 1992 and strengthened its requirements in 2006. In 2003, the California State Senate enacted the Electronic Waste Recycling Act, and in 2007, President Bush issued Executive Order 13423 requiring all federal agencies to use the Electronic Products Environmental Assessment Tool when purchasing computer systems. In addition, a global consortium called The Green Grid was founded in 2007 by AMD, APC, Dell, HP, IBM, Intel, Microsoft, Rackable Systems, SprayCool, Sun and VMware.

Another initiative formed by a group of Global-minded IT executives, the Green Computing Impact Organization (GCIO), was created to be an active participant in transforming the IT community from an environmental liability to an Earth conscious example of responsibility. GCIO is a nonprofit organization that is based on environmental audit programs for consumers and small business homes with respect to general energy-efficiency programs (including lighting, heating, insulation, etc.). GCIO's mission is to educate and assist enterprise technology users in the design of environmentally aware and responsible information system operations. They help consumers become more environmentally responsible by reducing energy consumption and electronic waste in an effort to protect the Earth.

GCIO is sponsoring educational programs across the country and participating in a Green Computing Summit that will be held in Washington, DC on May 20th. The

summit will address how public sector IT managers, procurement officials, and program managers public sector professionals can transform their IT and data center operations into more environmentally conscious yet efficient solutions. This conference will attract senior government IT professionals and their industry partners tasked with helping agencies become greener in the coming years. Attendees will represent federal, state and local governments, public policy organizations and suppliers to government. You can read more about this event at [www.e-gov.com/EventOverview.aspx?Event=SGCS08](http://www.e-gov.com/EventOverview.aspx?Event=SGCS08).

## **Features of Green Computing**

Power management is the most popular method. The operating system of the computer can be set to directly control the power saving aspects of the hardware. It can automatically turn off the monitor or hard drive after a period of inactivity. Or, the entire system may hibernate, turning off most of the components, as even allowing the user to manually adjust the voltages supplied to the CPU to reduce the electricity consumption and the amount of heat that is produced. As of July of 2007, all new Energy Star certified desktops must have a power supply that is at least 80% efficient.

Other features include using motherboard video output instead of a video card, hard disks that consume less power, flash based solid state drives that require fewer write cycles, and lower energy monitors.

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tion of the 500 MB drive, similar to the 3 partitions in the old (250 MB) drive, but twice as large. It was going to copy everything on the old drive to the new drive, including my Linux programs in their partition, with the warning that the Linux system would no longer be bootable. That was not what I had in mind—I just wanted to copy an image of the C: partition from the old to the new drive. Since MaxBlast turned out to be version 10 of disk manager Acronis, I gave Acronis 11 a try in the hope that it would be more flexible. I uninstalled MaxBlast and tried to install Acronis 11, but it balked. I tried to remove all traces of MaxBlast from the Registry, but Acronis still wouldn't install. I uninstalled as much as possible of Acronis and tried to reinstall MaxBlast. No luck; darn. So much for Acronis.

After clean installations of Windows XP and Ubuntu Linux on the new drive, Windows could not

find my Internet connection. After struggling several days, I finally realized that my motherboard needed to be software-configured and that I did not have the correct drivers. Thanks to the local availability of the guys who originally built the system, I got the correct drivers and all was well. Ubuntu never had any problem. It downloaded and installed the required Linux drivers automatically.

### **Ubuntu**

Windows Vista is not the only operating system with compatibility problems on installation. Ubuntu and other Linux distributions have more than their share of installation problems. Most of these appear to be due to proprietary graphics systems for which Linux has no drivers (yet). I have been recommending for years that people ought to start using Linux, but on both occasions where I convinced someone, it turned out that Ubuntu was incompatible with their systems.

Computers with integrated graphics and many laptop computers have low-cost proprietary hardware (made in China) that is attuned to Windows, but unlikely to have Linux drivers. Standard graphics cards from major manufacturers are more likely to have Linux drivers available, and those based on the NVidia chipset have Linux support from the manufacturer.

You can try to run Ubuntu from the CD-ROM without installing it on the hard drive, a so-called "live" installation. If that works, your system is probably compatible and you can proceed with a permanent installation. If it doesn't work, not much is lost since the distribution is free. In any case, Linux is a large program and requires at least 256 MB RAM and 10 GB hard drive space.

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And, manufacturers of networking equipment are developing switches and routers that reduce energy costs.

### **Recycling Materials**

Obsolete computers can be reused for charities, non-profit organizations, and developing countries. Parts from really old systems can be recycled through some recycling centers. Some recycling charges can be passed back to the manufacturers. Recycling this equipment keeps the lead, mercury, and chromium out of our landfills. In addition, computer supplies such as cartridges, paper, and batteries can be easily recycled.

### **How Can We Work Greener?**

Visit the website for Climate Savers Smart Computing at [www.climatesaverscomputing.org](http://www.climatesaverscomputing.org) to view a three-step program to go green. Here are the basic steps that they suggest:

**Step One:** Turn on Power Management. Since the average desktop PC wastes nearly 50% of the energy it consumes as heat, it makes sense to use the power management features that are built into Windows XP and Vista. The benefits? You will reduce your electricity bills and your energy footprint will be lowered as you reduce your greenhouse gas emissions. The Climate Savers organization predicts that the power management features on your computer can save nearly half a ton of CO<sub>2</sub> and more than \$60 a year in energy costs.

**Step Two:** Buy an energy efficient computer. Energy Star, the program designed by the U.S. Environmental Protection Agency, specifies the standards that equipment and appliances must meet to wear the Energy Star badge. You can visit their website at [www.energystar.org](http://www.energystar.org) for

specifics. Basically an Energy Star compliant PC uses 15 to 25 percent less energy. This program is expected to save U.S. consumers and businesses more than \$1.8 billion in energy costs over the next five years and prevent greenhouse gas emission equal to 2.7 million vehicles.

**Step Three:** Unplug from phantom power. As long as your computer is plugged in it still uses electricity, even while it is turned off or in standby mode. A computer that is turned off, but still plugged in, can use up to 10 watts. The Climate Savers estimate that you can reduce your electricity bills by as much as 10% by unplugging your appliances and electronics when they're not being used.

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