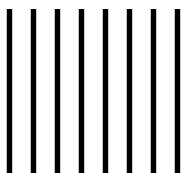


Official Newsletter  
SouthEastern Michigan  
Computer Organization, Inc.

# DATA BUS



DATA BUS Addendum  
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**Volume 26**

**APRIL 2001**

**Number 4**

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**25th ANNIVERSARY ISSUE**

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The SouthEastern Michigan Computer Organization, Inc. (SEMCO) is a non-profit group dedicated to providing information, education and a forum to computer users (professional and amateur) and other interested individuals. Membership in SEMCO is open to all individuals 18 years or older. Persons under 18 years may become members through the sponsorship of a parent or guardian. Dues of \$30/year include monthly DATA BUS, access to SEMCO's Message Service, and free personal ads.

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DATA BUS is published monthly by SEMCO as its official newsletter. **Mail DATA BUS newsletter copy to: Editor, 29823 Fernhill Dr., Farmington Hills, MI 48334; Or e-mail [beth\\_fordyce@macgroup.org](mailto:beth_fordyce@macgroup.org).** Editor is responsible for contents and control of the DATA BUS. Materials published herein may be used for non-commercial purposes only, without further permission of SEMCO or the authors, except as noted & including author and source, i.e. DATA BUS, and issue date. Entire contents copyright © 2001, SouthEastern Michigan Computer Organization, Inc.

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This publication was created using Adobe PageMaker 6.5 & Photoshop 5.0, donated by Adobe Systems, Inc. Other Macintosh technology used: Apple LaserWriter Select 360 and Power Mac G3; Microsoft Word 5.1; Iomega ZIP Drive; Epson ES600-C Scanner; Visioneer PaperPort Vx scanner, Casio QV-11 & Mavica FD81 digital cameras.



**Gary DeNise**  
**SEMCO President**

Here we are into the second day of spring and it hasn't rained or snowed yet. I think that is a great start. I'm sure everyone is looking forward to starting a garden and cutting the lawn. Just getting out in the fresh air for a walk and some exercise is a good start.

Sunday March 18th was a letter folding, envelope stuffing, envelope sealing party, hosted by Roger Gay and attended by Bob Clyne and Franz Breidenich. This was for a mailing to former members and interested guests invited to join SEMCO commemorating the 25th anniversary meeting on APRIL 8, 2001. Thanks for the giving of your time.

At the March 11th meeting Tom Callow covered TurboTax, yes its that time of the year. The second part of the meeting Richard Jackson was seen bringing in his own equipment a killer ATX

full tower case with it's own wheels. Looking like a featured machine from MAXIMUM PC . Internal hardware not known but lots of room for expansion, fans, drives and (as per George Carlan) "STUFF", good stuff. What was inside didn't really matter, it was a very small part of what Richard was about to do. It was the means to display his knowledge and thoughts. He took Microsoft Word and explained how to use it along with Adobe, for publishing. He did a fantastic job, those who missed his presentation were the losers. THANK YOU "RICHARD" and please return again, soon.

I'm sure there are others in our membership who could help with a presentation on a subject they know. Tom Callow could use the help.

Looking Forward to the 25th.

**NOTICES, ARTICLES  
and Other Neat Things**



**DEALS COLUMN**

from the Deals Guy  
Greater Orlando Computer UG  
by Bob "The Cheapskate" Click

**SEMCO MEETINGS**  
**Sunday,**  
**APRIL 8, 2001**

**Board Meeting 12:00pm**  
**General Meeting 1:30pm**  
**JOINT MEETING 1:45pm**  
**for all members and SIGS**

Jim Rarus, former SEMCO  
President, Commemorating our  
25th Anniversary.

**Social Period 3:15pm**

**New To The Column**

Greg Lenihan, editor for Pike's Peak Computer Application Society's newsletter, and Amy Kriston, editor for Baltimore PC User Group's newsletter, e-mailed me about using the column. With lightning-like deliberation, my answer was "absolutely yes." They even included the information for my Web site in their request, which is rare. You will find their club's data and a Web site link on my distribution page.

Pike's Peak has gone to all electronic newsletters and Baltimore is in the pro-

Continued on page 5

**25th  
Anniversary Celebration**

**April 8, 2001  
1:30pm to 4:30pm  
Oakland University  
Room 172  
Science & Engineering  
Building**

You and interested guests are invited to join the SouthEastern Michigan Computer Organization in commemorating their 25th anniversary meeting.

Jim Rarus will be keynoting a presentation on the early days of personal computing and the beginnings of the SEMCO organization.

Other local pioneers of the industry are also being invited to speak on the early years and how the industry has progressed.

There will be plenty of food, information, jokes, socializing and a raffle.

For more information and directions, visit the website at [www.semco.org](http://www.semco.org). ✓

**DATA BUS CD  
and  
APCUG CD**

For sale while supplies last  
(limited to stock on hand)

The DATA BUS CD contains 1997–2000 DATA BUS issues, pictures of SEMCO people and events, Membership Directory, Articles of Incorporation and Bylaws.

Included is a searchable index of all the issues on the CD to help you find things.

The CD also has the Acrobat Reader files for Windows 95, 98, NT, 2000 and ME, Linux and for 68K and Power Macintosh.

We will also have APCUG's First Edition shareware and freeware CD for sale (sorry no Mac material on this).

If you want the CDs but will not be at the meeting, get your order to Carol Sanzi or Bob Clyne.

Price: \$5 each or \$8 for both SEMCO and APCUG CDs.

✓

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The Online version of the DATA BUS sometimes contains material that could not be included in the print version because of space limitations. The February and March 2001 Online issues contained additional articles, including a very good article on buying a computer in the March issue. Check our web site at <http://www.semco.org> for the online versions. ✓



## Editor's Corner

---

The *Firewire* article in the August 2000 DATA BUS was issued without the name of the author. Your editor is happy to announce that the authors are David Gix and Ron Valarida from *MouseTracks*, December 1998 (not from *The Rest of Us*, as erroneously posted). We are always happy to get these things straightened out and corrected.

—NOTICE—

### Change in submitting copy for May DATA BUS

For submitting copy for the  
May DATA BUS,  
send it to Bob Clyne at  
[clyne@mich.com](mailto:clyne@mich.com)

His Deadline is  
the usual Wednesday at midnight,  
April 18.

If Bob doesn't have it by then,  
it won't be in the May DATA BUS.

Editor, Beth Fordyce  
will be out of town

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### Continued from page 3

cess of doing the same, as have a number of other groups. I've been thinking about giving up on this column, but with this continued support, I'm still hooked. I just wish I could get more of the missing groups that use my column listed. Please e-mail me if your user group information is missing. One vendor was not impressed with my number count on the distribution page. How do I explain that it is still incomplete?

### I Must Be Important

At a Greater Orlando Computer UG

meeting the other evening, I decided to show the members the "AdAware" software I wrote about last month. Since I spend very little time on the Net, and only use a dial-up connection, I was dumbfounded when it found seven items on my hard drive that it didn't like. A knowledgeable member said they are all spyware. Of course I checked the box to get rid of them. Oh yes, I also have Norton Internet Security.

### Talk About Spying!!

Fortunately, I don't get much of it, but many people have a habit of forwarding all kinds of jokes, sayings and other information they think their friends should know about. Some even forward advertisements they think you'd like. Two problems—they don't usually remove all the headers and CC addresses, and many experienced computer users don't want all that junk. Think about it, you have just compromised all those people's e-mail addresses that were CC'ed (carbon copy) when they should have been BCC (blind carbon copy), and they might even be passed on again. I know if I were on that list, I wouldn't appreciate my name being passed around like spam, and possibly put in a "spam" address list.

Further, it is possible for the original sender of a message, usually spam, to include JavaScript code capable of actually reporting back to the original sender information concerning: if you read the message, if you forwarded it to somebody and who it was. It is even possible for this embedded code to capture part or all of any added text you might have forwarded and report it back as well. This JavaScript could also be used to send a proposal to someone and have the private messages of the other participants discussing it sent back

to the original sender, unbeknownst to the recipients.

There is much more on this subject, so I suggest you go to <http://www.privacyfoundation.org> and learn more about all this. Learn how to turn off the JavaScript in your software, but that doesn't stop it from still being in the forwarded message to the next person.

### **How Low Can It Go?**

Many consider Net Object's Fusion 5.0 an excellent high-end Web development product and I noticed it listed for a second time in a PC Connection catalog at only \$49.95 after a \$50 mail-in rebate. Looks like they really want your business, so if you are interested, call PC Connection at 1-800-800-5555. It used to be \$495.00 when it was introduced a few years ago.

### **Prevent The Cat From Chasing Your Mouse**

A few months ago I wrote about the CueCat, which was designed to actually be a spy if you installed their software. Now I find it doesn't have to be that way. Some may have read the article by Barbara Kreiss of Amador Computer Users Group about the CueCat, but for those who didn't, Barbara has given me permission to include an excerpt.

She says "Check out <http://www.readerware.com>, for a product that has been around for a while that now supports the CueCat, and with no tracking. Want to catalog your library? Swipe the bar codes, it does the rest. They actually have Linux support too. It is the CueCat software that does the tracking, so avoid CueCat's software and you have a very useful device with a great price."

While the CueCat is free from Radio Shack, this software will cost you \$40 if you register it.

### **Pocket Sized Storage**

You may remember my writing about the neat little Pockey drive I found at Comdex, and how small it is. I had occasion to correspond with their marketing manager and asked them for a deal. My Pockey drive easily fits in my tee shirt pocket and the twenty-gig model is the same size. Just plug it into your USB slot, install the drivers, and it comes to life. You also get two USB cables and a cloth pouch for it. I love mine and it does a good job. Inside, it contains a 2 1/2" hard drive. As for speed, it is only limited by the USB capabilities. Go to <http://www.pockeydrives.com> for pictures and more info.

Their "Bob Click" offer is thus: Call Pockey Drives direct at 1-877-7POCKEY (1-877-776-2539) and mention "Bob Click." Pockey will give you a \$50.00 discount on the 10-gig drive (MSRP \$299.95, final answer—\$249.95), or \$80.00 discount on the 20-gig drive (MSRP \$399.00, final answer—\$319.95). A friend said it's better than you can find on the Web. They didn't mention deals on the 6-gig model. I don't know the S&H. They are great people to deal with.

I might also mention that I was told the reason I can't get mine to work on my Toshiba laptop is because Toshiba used some defective NEC chips in some of their laptops. Looks like I am back gunning for justice again. If you want to know more about that problem, go to <http://www.usb.org/forums/retail/messages/8286.html> and check that out.

### **I've Been Waiting For This One**

I was promised this at Fall Comdex in Las Vegas and I finally ran into Dave Whittle again at a local user group presentation. He graciously delivered even better than originally promised. This is a

great offer during April and May—be sure to take advantage. Since these prices are the same as he offers at user group presentations, this is a great chance for small groups with an attendance too small to qualify for Dave’s official presentations. I’m sure all of you are familiar with the products, if not, check their Web site at <<http://www.mgisoftware.com>>, so I’ll simply list the prices. I was especially impressed when he converted a group of pictures to a panoramic view. Here are the deals:

MGI PhotoSuite 4 (retail \$49.95)—special \$30.00

MGI VideoWave 4 (retail \$99.95)—special \$50.00

Bundle of PhotoSuite 4 + VideoWave 4 (retail \$149.90)—special \$60.00

MGI PhotoVista 2.0 (retail \$49.99)—special \$25.00

MGI SoftDVD MAX 4.0 (retail \$39.99)—special \$20.00

Set of all 4 titles (retail \$239.88)—special \$90.00

Add \$6.95 for shipping (Dave says he’ll offer FREE S&H \*IF\* you write “DealsGuy” on your order!)

You may order by US mail if you pay by check, or by fax or mail if you pay with VISA or MasterCard. Please provide your name, complete mailing address, phone number, and e-mail address. Then list the product(s) ordered and the prices. Total it all up and include your check or credit card # with expiration date, and signature. Send your order to:

Webworking Services

653 North 600 East

Springville, UT, 84663

Or fax your order (only CC orders) to 1-801-489-0609

### **All Together Now, Synchronize - Say What?**

LapLink was one of the APCUG sponsors at Fall Comdex events and took very good care of us at their event. At the event, I talked to their Sr. Public Relations Manager who sent me this special offer for APCUG members. LapLink’s PCsync is normally \$69.95, but temporarily you can purchase PCsync for just \$49.95 (US). They demonstrated it in the presentation and we saw large data files virtually fly from one laptop to another. Key benefits include:

- \* Move large files or groups of files quickly

- \* PCsync’s ultra-fast USB Network cable and serial cable included!

- \* Designate a folder on your hard drive to share with other PCsync users.

- \* Securely access files over the Internet.

To take advantage of this offer, call LapLink at 1-800-343-8080 and tell them you are an APCUG member.

That’s it for this month. Meet me here again next month if your editor permits. This column is written to make user group members aware of special offers I have found or arranged, and my comments should not be interpreted to encourage, or discourage, the purchase of products, no matter how enthused I might sound. Bob (The Cheap-skate) Click <[dealsguy@mindspring.com](mailto:dealsguy@mindspring.com)>. Visit my Web site at <<http://www.dealsguy.com>> for past columns. Also, I keep adding to my “articles of interest” there. √

## **A Very Brief History of the Internet**

*by Coco Johnston*

### **F1 Computer Club, Shell Knob, MO**

The Internet had its beginnings with the launching of Sputnik. The Pentagon's Advanced Research Projects Agency (ARPA) wanted to maximize the use of computers for national defense. Dr. J.C.R. Licklider was chosen to head up the research project and find a way to achieve that goal.

In the early 1960s, computers were little more than mathematical calculating machines. Licklider, with a background in psychology, saw computers as potential information processors and visualized a network of communities of people worldwide connected by computers. His position at ARPA and his commitment to transform computers into instruments of communication shaped the direction of research, affected how funding would be spent and eventually changed the direction of development within the computer industry. Designing network technology (hardware) and creating a universal language (software) that could move through that technology still lay ahead.

Building this network would be a monumental undertaking. The job was offered to AT&T, but they saw no potential for profit in it and turned it down. At first the computer companies also resisted the idea that computers would ever be used for communication, so they weren't interested in investing in research and development. It was left to the universities that had computers (Stanford Research Institute, Massachusetts Institute of Technology, UCLA and others) to invent the technology, develop the programming and build the network.

One of the first big hurdles was getting computers to talk to each other. In those days, a computer filled a large room, and users sat at terminals which connected to the mainframe. Most mainframe computers were self-contained, not networked to other computers. A terminal could connect to only one mainframe, and if the information a person needed was spread out in several different mainframes, then a user had to get up and move to another terminal. Going back and forth to different terminals was frustrating for Robert Taylor of ARPA. He came up with the idea of connecting mainframes so that he could sit at one terminal and access data from several mainframes. He called Larry Roberts at MIT for help with the problem. Together they worked out a solution and in 1968 sent their proposal to over 100 of the largest computing companies at that time to find someone to build the equipment. IBM and Control Data Corp., the two giants, saw no future in it and declined to take it on.

ARPA finally found a company, BBN Technologies, willing to work with them. State of the art Honeywell equipment was developed, but the first message sent across the Internet had to fit into the 12K memory of the computer. Ray Tomlinson created the first e-mail software used to send messages across the Internet. He also came up with the idea of the @ sign to signify where the message was going.

After many trials and errors, the first e-mail was exchanged in September of 1969 between University of California at Santa Barbara, University of Utah, Stanford Research and MIT. People at different terminals had been able to send messages to others on the



same mainframe before, but this new technology was limitless; people could potentially communicate through any computer anywhere in the world.

Within a decade, the traffic on the ARPAnet grew so heavy, improvements in hardware and software had to be continuously upgraded. Personal computers came onto the market in the 1980s, and the Internet just kept growing. In 1992, a Swiss programmer named Tim Berners-Lee came up with the idea of hypertext markup language (HTML) which “linked” together documents across the Internet. He named his group of linked pages the World Wide Web.

Marc Andreessen came across Berners-Lee’s linking idea and thought he could improve on it. He and some partners came up with graphical interface (the pictures and graphics you click on to move from link to link). This replaced the all-text method of navigating the Net and made it user-friendly. Andreessen went on to develop Netscape. With Andreessen’s development of graphic interface, Internet use exploded, growing 341,000 percent in 1993.

For the first twenty years of its existence, the Internet was restricted to use by military and universities for the exchange of information. In 1992, U.S. Rep. Frederick Boucher submitted a bill to Congress asking that the Internet be opened to the people, free of government restrictions, and President Bush signed it into law.

Businesses slowly edged into the new marketplace with mixed results; some failed, some thrived briefly and some are still going strong. The biggest money made from the Internet to date is by the Internet Service Providers.

According to *The Internet: Behind the Web*, a program which aired in January 2001 on the History Channel, the amount of data that travels across the Internet doubles every 100 days. In 1992, when Berners-Lee invented the link, there were 50 pages on the WWW; today there are over 70 million Websites and 11 million registered domain names.

In 1999, the first computers that could access the Internet were allowed into Saudi Arabia. A computer in an isolated village in India can bring in the world. The world grows smaller, and with this new medium of communication, it gets harder to maintain strict political control over a populace. No longer can something like the Iron Curtain keep people in isolation. The Internet has brought us into an information age where many geographical boundaries are no longer significant barriers.

In a paper he wrote in 1968, JCR Licklider predicted that by the year 2000, millions of people around the world would be communicating through a global network of computers. Licklider’s vision was realized through the perseverance, imagination and genius of hundreds of people, but not, unfortunately, before his death in 1990.

**Coco Johnson is editor of the F1 Computer Club please let her know when you have used her article Her e-mail address is [coco@mo-net.com](mailto:coco@mo-net.com)**

**There is no restriction against anyone using the article so long as it is kept in context, with proper credit given to the author. This article is brought to you by the Editorial Committee of the Association of Personal Computer User Groups (APCUG), an International organization to which this user group belongs. √**

## **DSL? It's the Only Way to Fly!**

**Why a cable modem subscriber  
made the move to DSL**

*by Mike Lanzarotta*

[compbymike@earthlink.net](mailto:compbymike@earthlink.net)

**Pasadena IBM Users Group**

Okay, I did it: I switched my Internet access from cable modem to DSL. Sure there were a few glitches. But there were also a couple of surprises and a nice ending. The end of the story? DSL from Earthlink is the real thing, much better (so far) than the current offerings available from Charter's cable modem.

I was receiving my access from Earthlink, using the cable modem infrastructure provided by Charter, the local cable company. If you have been even mildly interested in cable modem, you know that there have been many "challenges" to overcome if the promised high speed is to be obtained. My speeds were never much to be excited about, even late at night, when you would figure that the demand on the lines is light.

At one point, the speed dropped so low that I had Charter come out to check the coaxial cable feeding the modem. The tech ran a new line from the pole, thus restoring the speed to "almost acceptable," with the bonus of somewhat improving my TV picture.

Another problem? Earthlink and Charter never seem to be able to figure out "or at least admit" who's at fault when service slowdowns occur. You can go back and forth with no resolution.

### **Enter DSL, Stage Right**

I became aware that Earthlink was offering DSL service provided by Pac Bell, for a reduced price until November. One downside of DSL is the cost after November. It's likely to be the same as I was paying for cable modem but with a \$198 charge for the DSL

modem. The cable modem equipment is leased from Charter, so this was an added charge. Even with this stipulation, I jumped at the chance to switch.

Calling Earthlink resulted in an appointment for Pac Bell to come out and install the modem. They came out about two weeks later. Before that happened, Pac Bell swings by and checks the line. I live in Altadena and my line turned out to be pretty good.

I received a welcome letter from Earthlink with a promise of a software pack before DSL day, and a letter from Pac Bell confirming that I had indeed ordered DSL.

### **DSL Day**

A technician from Pac Bell arrived between the time span that was stated and started to work on rewiring the phone jack near my computer. He confirmed that the line had been tested, plugged the DSL modem into the jack, and had to go back to where the line entered the house a couple of times. In a short while, he got a green light on the modem.

If you've never seen one, a DSL modem is smaller, lighter, and much cooler than a cable modem. No, really: Cable modems are hot enough to cook a couple of eggs in a pinch. The Pac Bell guy decided to hook up the modem to the network card that I already had installed in the computer for cable access. That way he didn't get stuck popping open my computer. So now I have an extra network card that I am going to try to put in my computer. That way I might be able to hook up with my kid's computer and play games.

Unfortunately, I didn't receive the software pack before DSL day. I had to call Earthlink and arrange to drive

down to their headquarters and pick one up. (Ah, the advantages of living near your service provider. It turns out they're on New York Drive in Pasadena.)

Needless to say, I had problems installing the software that configures the computer to maximize DSL.

**But it's nobody's fault but my own.**

That's because I have a CD-ROM drive that's on its last legs. It stops running "like, out of the blue" often causing computer problems. Sure, I know, I should have replaced it by now, but hey, it's an easy task to put off until later.

So the install stopped in the middle, I had to reboot, and was left with the all-too-familiar damaged collection of files that can't be removed and can't be reinstalled yet somehow work just fine. (But I'll have the last laugh when I format and reinstall Windows. Right. Like any day now.)

**Safety First**

I took screen shots of my network settings before installing and stored them in a Word file (Thanks, George Siegel, for that tip!)

I noticed that after I installed DSL, the settings software had not changed. Nonetheless, my speed and performance were much improved. What was annoying, though, was reading an e-mail from Steve Bass that stated that he had to redirect his settings from Charter to DSL.

After a couple of days, I called Earthlink DSL Technical Support and we went over the settings. They were indeed in need of tweaking, which I did under the tech's excellent direction. I don't know if all these settings get changed when you install the DSL software, or if a former cable modem

user has to do it manually, with my botched installation adding to the confusion.

After tweaking the settings, my Internet access is blazing fast. I'm talking about downloading a 6MB file in a little over a minute with most web-sites popping up in seconds.

One of the other advantages of a high-speed connection is that you pretty much assume that when a site is loading slowly, it's because of problems at the site server, not your connection.

Any quirky issues to deal with? Sure. With my cable modem, when I turned on the computer, I had Outlook load on startup and check for mail. But DSL is a hybrid dial up and network arrangement, so Outlook would demand the connection to be established, then check for mail before the connection is complete, then say it could not connect to the server, finally causing the connection to fail.

So now I have IE and the Earthlink Dialer load on startup, then open Outlook manually, so when it then checks for mail the connection is already hot. The Earthlink tech said that they are also trying to figure out why this is occurring.

Remember that Earthlink is just beginning with DSL (the reason for the reduced price), and they don't have all the answers. But you know one thing when you deal with Earthlink. They will go the distance for you. On DSL Day plus one, I received a phone message from Earthlink, telling me that the software pack was being overnighted to me.

On DSL Day plus two, I received the original software pack in the mail, and the overnighted pack from a courier. So now I have three packs, but you

see what I mean, they are really putting out the effort.

The final chapter was to return my cable modem and shut off my cable Internet access. I (and others I asked) dreaded this task, but surprise of surprises, it was swift and painless. I unhooked my cable modem and took it down to the Charter cable office on Foothill Bl in Pasadena. In five minutes I had turned it in and paid the corrected bill, with no questions asked. I was in a daze when I left Charter, thinking that it was all a dream.

I did have to change my e-mail address, although others are reporting that they are keeping theirs. I wanted to anyway, as my spam was increasing to the point of irritation. I now have the satisfaction of knowing that all that spam is being bounced back to the sender.

Surf City, here I come!

Besides brewing some of the best beer in town, Crown City Brewmeister Mike Lanza is part of the Pasadena IBM User Group's technical staff, a computer consultant, and owner of Computers By Mike. You can reach him at his new e-mail address: [compbymike@earthlink.net](mailto:compbymike@earthlink.net). ✓

## DEMYSTIFYING GRAPHIC FILE FORMATS

*by Ben Luna*

**Coastal Area Users Group  
Corpus Christi, TX**

The purpose of this article is to briefly describe some of the most common graphic file formats for image files, as well as how to determine which file format to use for Web graphics and print publications. When an image is saved to a specific file format, you are telling your applications how to write the image's information to disk. The specific file format you choose depends on the graphics software application you are using (e.g., Adobe Illustrator, Freehand, Adobe Photoshop) and how

and where you will use your image (e.g., the Web or a print publication.)

Graphic file formats can be broadly categorized into bit-mapped formats and vector formats.

### **Bit-mapped formats**

This format is a representation, consisting of rows and columns of dots, of a graphics image in computer memory. This is sometimes called raster graphics. The value of each dot, whether it is filled or not, is stored in one or more bits of data. The density of the dots, known as the resolution, determines how sharply the image is represented. This is often expressed in dots per inch (dpi), or simply by the number of rows and columns, such as 640 by 480. To display a bit-mapped image on a monitor or to print in a printer, the computer translates the bit map into pixels for monitor screens, or ink dots for printer. Programs that manipulate bit-mapped images are called paint programs.

Following are descriptions of some commonly used bit-mapped file formats: **BMP:** The Bitmap file format is used for bitmap graphics on the Windows platform only. Unlike other file formats, which store image data from top to bottom and pixels in red/green/blue order, the BMP format stores image data from bottom to top and pixels in blue/green/red order. This means that if memory is tight, BMP graphics will sometimes appear drawn from bottom to top. Compression of BMP files is not supported, so they are usually very large. When saving a file to the BMP format, add the ".bmp" file extension to the end of its file name.

**GIF:** The Graphics Interchange Format was originally developed by CompuServe in 1987. It is one of the most popular file formats for Web

graphics and for exchanging graphics files between computers. It is most commonly used for bitmap images composed of line drawings or blocks of a few distinct colors. The GIF format supports 8 bits of color information or less. In addition, the GIF89 file format supports transparency, allowing you to make a color in your image transparent. (**Please note:** CompuServe GIF87 does not support transparency.) This feature makes GIF a particularly popular format for Web images.

GIF, is a “lossy” file format. It reduces an image’s file size by removing bits of color information during the conversion process. The GIF format supports 256 colors or less. When creating images for the Web, be aware that only 216 colors are shared between Macintosh and Windows monitors. These colors, called the “Web palette,” should be used when creating GIFs for the Web because colors that are not in this palette display differently on Macintosh and Windows monitors. When saving an image to the GIF format, add the “.gif” file extension to the end of its file name.

**PCX:** Originally developed by ZSOFT for its PC Paintbrush program, PCX is a common graphics file format supported by many graphics programs, as well as most optical scanners and fax modems. When saving an image to the PCX format, add the “.pcx” file extension to the end of its file name.

**TIFF:** Tagged Image File Format is a standard file format for storing images as bit maps. It is used especially for scanned images because it can support any size, resolution, and color depth. When saving an image to the TIFF format, add the “.tif” file extension to the end of its file name.

## Vector Graphics

The other method for representing images is known as vector graphics (or object-oriented graphics.) With vector graphics, images are represented as mathematical formulas that define all the shapes in the image. Vector graphics are more flexible than bit-mapped graphics because they look the same even when they are scaled to different sizes. In contrast, bit-mapped graphics become ragged when they are shrunk or enlarged. Programs that enable the user to create and manipulate vector graphics are called draw programs. Images stored as vectors look better on monitors and printers with higher resolution (bit-mapped images always appear the same regardless of a device’s resolution.) Another advantage is that images in vector graphics often require less memory than bit-mapped images. Almost all sophisticated graphics systems, including CAD systems and animation software, use vector graphics.

Following are descriptions of some commonly used vector graphics file formats:

**EPS:** The Encapsulated PostScript file format is a metafile format; it can be used for vector images or bitmap images. The EPS file format can be used on a variety of platforms, including Macintosh and Windows. When you place an EPS image into a document, you can scale it up or down without information loss. This format contains PostScript information and should be used when printing to a PostScript output device. The PostScript language, which was developed by Adobe, is the industry standard for desktop publishing software and hardware. EPS files can be graphics or images

of whole pages that include text, font, graphics, and page layout information.

**JPEG:** Like GIF, the Joint Photographic Experts Group format is one of the most popular formats for Web graphics. It supports 24 bits of color information, and is most commonly used for photographs and similar continuous-tone bitmap images. The JPEG file format stores all of the color information in an RGB image, then reduces the file size by compressing it, or saving only the color information that is essential to the image. Most imaging applications and plug-ins let you determine the amount of compression used when saving a graphic in the JPEG format. Unlike GIF, JPEG does not support transparency.

Use JPEG for scanned photographs and naturalistic artwork with highlights, shaded areas, and shadows. The more complex and subtly rendered the image is, the more likely it is that the image should be converted to JPEG.

JPEG, like GIF, uses a “lossy” compression technique, which changes the original image by removing color information during the conversion process. The JPEG file format supports millions of colors. In theory, JPEG was designed so that changes made to the original image during conversion to JPEG would not be visible to the human eye. Most imaging applications let the user control the amount of lossy compression performed on an image, so you can trade off image quality for smaller file size and vice versa. Be aware that the chances of image degradation when converting to JPEG increase proportionally with the amount of compression you use. When saving a file in the JPEG format, add the

“\*.jpg” file extension to the end of its file name.

Use the GIF file format for images with only a few distinct colors, such as illustrations, cartoons, and images with blocks of color, such as icons, buttons, and horizontal rules.

**PICT:** The Picture file format is for use primarily on the Macintosh platform; it is the default format for Macintosh image files. The PICT format is most commonly used for bitmap images, but can be used for vector images as well. Avoid using PICT images for print publishing. The PICT format is “lossless,” meaning it does not remove information from the original image during the file format conversion process. Because the PICT format supports only limited compression on Macintoshes with QuickTime installed, PICT files are usually large. When saving an image as a PICT, add the file extension “.pct” to the end of its file name. Use the PICT format for images used in video editing, animation, desktop computer presentations, and multimedia authoring.

**PNG:** The Portable Network Graphics format will likely be the successor to the GIF file format. PNG is not yet widely supported by most Web browsers. Netscape versions 4.04 and later, and Internet Explorer version 4.01 and later, currently support this file format. However, PNG is expected to become a mainstream format for Web images and could replace GIF entirely. It is platform independent and should be used for single images only (not animation.) Compared with GIF, PNG offers greater color support and better compression, gamma correction for brightness control across platforms, better support for transpar-

ency, and a better method for displaying progressive images. When saving an image to the PNG format, add the file extension “.png” to the end of its file name.

**CGM:** The Computer Graphics Metafile is a format developed by several standards organizations. CGM is supported by many PC Software products. When saving an image to the CGM format, add the file extension “.cgm” to the end of its file name.

**DXF:** The Data Exchange File is a format developed by Autodesk. Almost all PC-based CAD systems support DXF.

**GEM:** The graphics file format used by GEM-based applications. GEM is a graphical user interface (GUI) developed by Digital Research.

**HPGL:** Hewlett-Packard Graphics Language is one of the oldest file formats. Although it is not very sophisticated, it is supported by many PC-based graphics products.

**IGES:** Initial Graphics Exchange Specification is an ANSI Standard for three-dimensional wire frame models. IGES is supported by most PC-based CAD systems.

**PIC:** This is a relatively simple file format developed by Lotus for representing graphs generated by Lotus 1-2-3. PIC is supported by a wide variety of PC applications.

**PICT:** Developed by Apple Computer in 1984 as the standard format for storing and exchanging graphics files. It is supported by all graphics programs that run on a Macintosh.

**WMF:** The Windows file format is used for exchanging graphics between Microsoft Windows applications. WMF files can also hold bit-mapped images.

The debate over which format is better still surfaces once in a while. My opinion is that each format has its place, just as the native format of the various paint-and-draw programs. One format may be better than others in terms of quality; at other times, another format may be better in terms of size. Best way is to take the time to view and store your images in different formats and select the one optimum for your needs, storage capability, and ease of use.

**Ben Luna's experience includes writing manuals for computers and software. E-mail: [akosiben@netscape.net](mailto:akosiben@netscape.net)**  
There is no restriction against anyone using the article as long as it is kept in context, with proper credit given to the author. This article is brought to you by the Editorial Committee of the Association of Personal Computer User Groups (APCUG), an International organization to which this user group belongs. ✓

## **Those ZIP & PDF files**

*by Bob Elgines*

Trouble with some of those attachments and downloads? What do I do with those \*.zip ( a data compressed file ) and \*.pdf ( Portable Document Format compressed file ) files ?

One of the most important things we need first is a program to unzip compressed files labeled as Zip files. There are several programs out there such as Aladdin, Winzip, etc. Winzip is the easiest and most widely used and a trial version can be downloaded free from the internet <[www.winzip.com](http://www.winzip.com)>

After downloading WinZip (winzip80.exe is latest version) save it to a folder such as “My Downloads” or whatever folder you want, so you can find it. If you have an older version remove it first by going to START/SETTINGS/CONTROL PANEL, then double click on ADD/REMOVE PROGRAMS. See if WinZip is on the

list, if WinZip is there, then click on it to highlight, then click on the Remove button to uninstall it.

Now you are ready to install WinZip by finding your file using Windows Explorer (file management tool) and doing a double click on your downloaded file (winzip80.exe), or go to START/RUN, type in C:\My Downloads\winzip80.exe and click on OK. The program called WINZIP will install itself and put icons on the Start Up menu, the Desk Top and in the Program listing. (I delete the one on the Desk Top with a right click and selecting Delete). Now we are ready to unzip those compressed files received from e-mail, web, etc.

To unzip a file is very easy, just select your file and do a double click, WinZip will automatically come up showing you what is in the zip file. Go to the top right and click on EXTRACT! This will bring up the menu that allows you to select the folder you wish to extract and save the file(s). After you have the folder selected click on the EXTRACT button. That's all there is, now you can go to your folder and work your extracted or unzipped file(s).

If your unzipped files are picture files and you double click on them they will come up in Windows Paint (\*.bmp) or Internet Explorer (\*.jpg, \*.gif, etc), unless you have a photo program. If the files are text files you will see them in Notepad or Wordpad, or you can view them in your word processor. If they are PDF (Portable Document Format) files then we need a special program called Acrobat Reader by Adobe.

To get your free Acrobat Reader, go to the Adobe web site <[www.adobe.com/products/acrobat/readstep.html](http://www.adobe.com/products/acrobat/readstep.html)>

Save your file (ar40eng.exe) in your special folder such as "My Downloads." Before installing this program be sure you remove the old version (this is version 4) just like we did for Winzip. Now go to your special folder and locate the acrobat file and double click to install it, or go to START/RUN and enter C:\My Downloads\ar40eng.exe, then click on OK. Restart windows!

Once this is installed and windows is back up, you can double click on any PDF file and the Acrobat Reader will come up automatically.

I hope this helps people to read those email attachments and program manuals!

**Note: Bob Elgines is Editor for the Colorado River Computer Club user group located in Lake Havasu City, Arizona. If this article is used please keep it in context, give proper credit, and notify him by e-mail: [elginesz@redrivernet.com](mailto:elginesz@redrivernet.com)**

**There is no restriction against anyone using the article as long as it is kept in context, with proper credit given to the author. This article is brought to you by the Editorial Committee of the Association of Personal Computer User Groups (APCUG), an International organization to which this user group belongs. √**

## Adobe Photoshop Elements Q&A by Terry White

**Q.** What formats does Elements support?

**A.** Photoshop Elements supports the same formats as full Photoshop and saves in the native .PSD (Photoshop) format for easy exchange of documents.

**Q.** What about Photoshop Layers?

**A.** Photoshop Elements has the same layer support as does full Photoshop. However there are no Channels or Layer Masks in Elements. Photoshop 6 also has features for organizing your Layers into groups/folders. Elements does not



have this feature. Layer Sets opened in Elements will appear and can be turned on and off but not separated or reordered within the folders themselves.

**Q.** I read that Elements can preview effects and filters

**A.** Yes, I didn't get a chance to show this March 18. However, you can pull up the Effects Palette and the Filter Palette and see examples of each effect and each filter before applying them.

**Q.** Can I have both Elements and Full Photoshop on the same computer?

**A.** Yes, often I even have them both open at the same time.

**Q.** Does Elements work with existing Photoshop plug-ins?

**A.** Yes, Elements supports most if not all Photoshop plug-ins as long as they don't require work to be done in the CMYK color space. Elements is an RGB only product (although it prints to CMYK devices in composite mode, ie. No separations).

**Q.** How can I find out more info about the PrimeFilm 1800i scanner before I buy it?

**A.** Point your browser to <http://www.scanace.com> ✓



**BOARD MEETING**  
**3/11/01**  
**Carol Sanzi**

**Board Members Present:**

President Gary DeNise, Treasurer Roger Gay, Secretary Carol Sanzi, SIG-Advanced Franz Breidenich, SIG-IBM Co-Chairman Tom Callow, SIG-MAC Chairman Harold Balmer, and arriving late Vice-President Vic Charns. Also attending were Past President Bob Clyne, Past President Chuck Moery and SIG-

IBM Co-Chairman Warner Mach. The meeting was called to order at 12:09pm.

**OLD BUSINESS:**

The board will continue to review the Application for Recognition of Exemption Under Section 501(c)(3) of the Internal Revenue Code. After April 16, Tom Callow will file the application.

Tom Callow moved to reimburse Warner Mach \$16.93 for refreshments. Franz Breidenich seconded the motion and it was carried.

Treasurer Roger Gay reported that the balance on hand is \$2951.26 with \$150 not deposited. The membership has dropped to a new low of only 124 members.

**NEW BUSINESS:**

Tom Callow presented "Troubleshooting Your Computer" at the Lake Orion Library on February 27. There were about 20 attendees, some indicating they may be interested in SEMCO.

Tom Callow moved to send a SEMCO 25th Anniversary invitation to 239 past members who belonged for more than two years since 1990 and to pay for the cost of printing envelopes. Franz Breidenich seconded the motion and it was carried. Roger Gay will get the envelopes printed. Carol Sanzi will create the flier.

Tom Callow moved that the board approve the expenditure of \$44 plus tax for items to be presented at the Anniversary meeting. Franz Breidenich seconded the motion and it was carried.

The meeting adjourned at 1:10pm. ✓

## SPECIAL INTEREST GROUPS (SIGs)



**SIG-MAC**  
**Harold Balmer, Chrmn**

### A Quick Look at Quicken

In February we took a quick look at Quicken 2001 Deluxe. In the March meeting, Bob Clyne demonstrated more of Quicken 2001 using his windows version of the program. Many thanks to Bob for his help. The current version requires Mac OS of at least 8.6 or newer. Lots of hard disk space and at least 32 megs of memory. There is no user manual except for one on the CD that is in PDF format. I had a hard time trying to read the manual on line.

What we found was a program that takes a lot of upkeep. You need to record your checkbook items daily, or when ever you write checks. Bob showed us how the total is charged to a category (food, clothes, water, heat, etc.). He also showed how to split the amounts. Example, you go to Meijers and purchase food and clothes. If you are planning to write your own checks, the program will print the checks using your own printer and special checks. Quicken can provide checks for a fee, but you probably will find cheaper prices when you check around. You can subscribe (for an extra fee) to on line banking, transferring the check writing duties to your bank.

Quicken also suggests that every time you use a charge card, that a record of each charge is entered in a special account for that card. This way you can keep track of these expenses like you do with your checkbook. At the end of

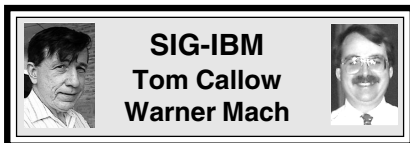
the year, these accounts can be printed out and/or transferred to your income tax program.

You can enter your portfolio into Quicken and then go on-line and Quicken will update the current value of your portfolio, IRA account and/or your 401(k) program. The on-line updates of your investments, IRA, 401(K) seem to be available as long as you have the current program. So if you do not upgrade to Quicken 2002 (when next year it becomes available), then these items will probably become an extra charge item. Many of the other extras are marked that there may be an extra charge for these features, so you may want to check them out before you use them.

In checking with those in the meeting, no one admitted to using Quicken. The program has brought to mind a future program of investing on-line.

Again, I would like to thank Bob for doing the meeting. I got back into Detroit Metro at 9:15 am after a 12-hour flight, with little sleep, so I was in no shape to do a meeting.

**APRIL:** Joint Meeting, 25th ANNI-VERSARY, Jim Rarus, former president, to speak. ✓



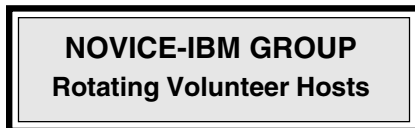
**APR 8:** 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak. ✓



**APR 8:** Joint Meeting, 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak. ✓



**APRIL 2, Monday:** Meetings held first Monday 6:45pm at Troy Public Library. TOPIC: Wide ranging discussion of computers & computing. ✓



**APR 8:** Joint meeting, 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak. ✓

**DEADLINE NOTICE:** Change in submitting copy for May DATA BUS. Submit copy to Bob Clyne at [clyne@mich.com](mailto:clyne@mich.com). His Deadline is the usual Wednesday at midnight, April 18. Bob must have it by then, or it won't be in the May DATA BUS.

**APRIL 2001 DATA BUS DEADLINE (10th day after meeting)**  
**SEMCO & SIG DATA, & MEMBERS' ADS - Deadline: Wed, Apr 18, 11:59pm**  
 Members' personal ads free. To mail, use Editor address on Page 2; e-mail address [beth.fordyce@macgroup.org](mailto:beth.fordyce@macgroup.org) PLEASE send to arrive sooner than deadline if possible.  
**BUSINESS ADS - Deadline: Second Friday monthly.** Mail **unfolded** camera-ready copy; payment in full made out to SEMCO, to the Editor (address Pg 2).

**Ad Rates and Rules**

Full pages are 5-1/2" wide x 8-1/2" tall; Make allowance for 1/2" margins;  
 Halftones to be screened at 85 dpi; Offset press used; No agent pricing;  
 Full-page/1-issue=\$30; Full-page/6-issue=\$150; Full-page/12-issue=\$240  
 Half-page/1-issue=\$20; Half-page/6-issue=\$100; Half-page/12-issue=\$160  
 Qtrr-page/1-issue=\$15; Qtrr-page/6-issue=\$75; Qtrr-page/12-



**Beth Fordyce**  
[beth\\_fordyce@macgroup.org](mailto:beth_fordyce@macgroup.org)  
(to post monthly computer group info)

## CALENDAR-OF-EVENTS OTHER GROUPS

### **AAIICI (Amer. Ass'n. of Ind. Investors, Computerized Invstrs),**

Apr 28 - Saturday, 10am-Noon (Meet 4th Saturday) (not December); W. Bloomfield Huntington Bank, Orchard Lk Rd., S.of Maple Rd. Info: Jack Lockman at 313-341-8855 or [thunder@tir.com](mailto:thunder@tir.com)  
**COMP (Computer Operators of Marysville/Port Huron)**

Apr 4 - Wednesday, 7pm (Next May 2)(Meet 1st Wednesday): Rm 201, Clara E. McKenzie Library-Science bldg, 323 Erie St, Port Huron. Ron Walters, 810-679-4144. Web: <http://dns.advnet.net/comp/> **TOPIC: Open Q & A Session. Bring your computer problems and let club members help you solve them.**

### **DCOM Computer Club**

Apr 13 - Friday 6:30 - 8:30 pm (Meet 2nd Friday); Henry Ford C.C., Patterson Tech Bldg, Ford Rd/Evergreen, Rm T143, Parking Lot C. Info: Doug Piazza 313/582-2602

### **Delta Computer Club**

Apr 26 - Thursday, 7pm (Meet last Thursday) (not Nov/Dec); Bay de Noc C. C., Escanaba. Info: Gordon Nelson, Pres & Editor at [gnelson@bresnanlink.net](mailto:gnelson@bresnanlink.net) or 906/428-1014.

### **GDOUG (Greater Detroit OS/2 Users Grp)**

Apr 12 - Thursday, 6:30pm (Meet 2nd Thursday) (not July); Stardock Systems, Farmington Rd, N. of 6-Mile, Livonia; Info: Carolyn Kolaz, Pres at [76460.3040@CompuServe.COM](mailto:76460.3040@CompuServe.COM). Map on Web: <[lookinc.com/gdoug](http://lookinc.com/gdoug)>.

### **MacGroup Detroit**

Apr 15 - Sunday, 3pm-5pm (Meet 3rd Sunday); Southfield Civic Center, 26000 Evergreen Rd., Room 221. Info: Terry White, [terry@macgroup.org](mailto:terry@macgroup.org) or 313-571-9817. Web: [www.macgroup.org](http://www.macgroup.org)  
**TOPIC: April: Mac OS X. May: "Makin' DVDs"**

**MacTechnics. (MAC user Group),** Coffee 9am, SIGs 9:30am, Main meeting 11am.

Apr 21 - Saturday, 9am-1pm (Meet 3rd Saturday); U of M, No. campus, EECS Bldg. & Dow Bldg. (see map on web: [mactechnics.org](http://mactechnics.org)). Info: Cassie at [cassiemac@yahoo.com](mailto:cassiemac@yahoo.com) or 313-971-8743.

### **MCUG (Michigan Computer Users Grp)**

Apr 19 - Thursday, 7pm (Meet 3rd Thursday); 35271 Rockingham Dr, Sterling Hts., MI 48310-4917; Info: Jerry Zinger, Pres. [kahunazing@netscape.net](mailto:kahunazing@netscape.net) 810-792-3394.

### **Michigan Apple Computer User Grp**

Apr 12 - Thu 7pm (Meet 2nd Thu) MAC: Troy Library, I-75 at Big Beaver; **Apr 18 - Wed 7pm** (Meet 3rd Wed) IIGS, Apple II/Apple-Works, Parent/Teachers Ed, PC, Internet: St Bede School, 12 & Southfield; **Apr 19 Thu 7:30pm** (Meet 3rd Thu) MAC Media Arts, Programmers: St. Bede. Info: Carl Pendracki 248/647-8871 or [carlpen@aol.com](mailto:carlpen@aol.com). Web: <<http://www.michiganapple.com>>.

### **SHCC (Sterling Hts Computer Club)**

Apr 3 - Tuesday, (Next: May 1) 7:30pm (Meet 1st Tuesday: not July/Aug); Carpathia Club, 38000 Utica Rd, Sterling Hts, Pres. Don VanSyckel at [Don@VanSyckel.net](mailto:Don@VanSyckel.net), 810/731-9232 ; Web: <[member.apcug.org/shcc](http://member.apcug.org/shcc)>.

### **SVCA (Saginaw Valley Computer Assoc.)**

Apr 12 - Thursday, 6:39-9om (Meet 2nd Thursday); Saginaw. Info: Kay Engelhart program chairperson at [kengelhart@hotmail.com](mailto:kengelhart@hotmail.com).

### **Wayne State U. Mac User Grp**

Apr 14 - Saturday 10am-Noon (Meet 2nd Saturday); at Mich.com, 21042 Laurelwood, Farmington. Info: Lorn/JoAnn Olsen 248/478-4300 or Denny McLampy 248/477-0190, [denny@mich.com](mailto:denny@mich.com) **TOPIC: Questions, Shortcuts, Tips and The Internet.**

**TAX DEDUCTIBLE  
DONATIONS  
SEMCO Members  
Helping the Community**

**Art Laramie** is accepting computers, computer components, manuals and software for the Rochester Hills Lions Club program that supplies computers to disabled people.

Contact Art at 248-398-7191



**Beth Fordyce** is accepting Macintosh computers, components, peripherals, manuals and software (working or broken) for Immaculate Heart of Mary School PreK–8th grade, 175-200 students for computer science classes.

Contact Beth  
248-626-5105 7pm–10pm or  
[beth\\_fordyce@macgroup.org](mailto:beth_fordyce@macgroup.org)

You may also contact the church directly:

Maurice Roberts or  
Sister Mary Stephanie Holub  
19940 Mansfield  
(Greenfield/8-Mile area, Detroit)  
313/835-0258

If you want to use your donation as a tax deduction, make an itemized list (with one copy for yourself) of items you donate, and attach it to your donation. Include on the list the full name or description of each item, and the cost of its fair market value. Also make sure your full name, address and phone number are on it. The donee will see that you receive a receipt. (Be advised that no one will make these lists for you.)

Your **SEMCO** membership card is good for a **\$1 discount** (not valid with any other offer) on admission to **Super Computer Sales** shows. See [www.a1-supercomputersales.com](http://www.a1-supercomputersales.com) or [www.a1scs.com](http://www.a1scs.com) for show schedule.

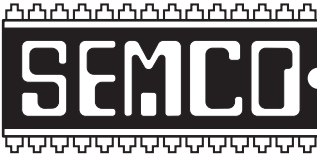
**MARCH  
REFRESHMENT  
DONATIONS**

Warner Mach, Coordinator  
Betty MacKenzie  
Carol Sanzi  
Dawn Sanzi  
Adele Sapilewski

**COMPUTER RESOURCE PEOPLE**

This is a list of members willing to be resources for other members to call when they have hardware or software questions. Are you willing to help members learn? Which software programs are you familiar enough with? It is not necessary to be an expert, but just have some familiarity with the program and be willing to help someone starting to learn it. Please give this some thought and volunteer at the next group meeting.

- AutoCAD:** Comptois, Gay
- Genealogy:** Cook
- IBM PC Hardware Issues:** Clyne, Gay, Grupido, Yuhasz
- IBM Windows Operating Systems:** Clyne, Grupido, Yuhasz
- Internet (browsers and mail):** Grupido
- Lotus 98:** Diller
- MAC Hardware and OS Issues:** Yuhasz
- M.S. Powerpoint:** Diller
- M.S. Word:** Clyne, Diller, Grupido
- Novell Netware:** Grupido, Yuhasz
- Quicken:** Clyne, Gay
  - Clyne, Bob—810/387-3101. 9a-10p
  - Comptois, Jerry—248/651-2504, anytime
  - Cook, Steven—313/272-7594 eves
  - Diller, John—248/540-4382, eves
  - Gay, Roger—248/641-7799, 9am-10pm
  - Grupido, Larry—810/664-1777 Ext 151
  - Yuhasz, Steve—734/953-3794 eves



SOUTHEASTERN MICHIGAN  
COMPUTER ORGANIZATION, INC.

## SEMCO CALENDAR—APRIL 2001

SCIENCE BUILDING, OAKLAND UNIVERSITY in ROCHESTER

### April 8 - SUNDAY (Meet 2nd Sunday)

SEMCO Board Meeting at 12:00 pm, **Room 172**. For Officers and SIG Chairpersons. Other members are invited to attend.

SEMCO General Meeting at 1:30 pm, **Room172**.

### Special Interest Groups (SIGs)

SIG-IBM 1:45 pm, **Room 172**. **Pgm: JOINT MEETING:** 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak.

SOCIAL PERIOD, 3:15 pm, **Room 164**. Refreshments! (Reminder: We must maintain a neat environment.)

NOVICE-IBM GROUP, 3:45 pm, **Room 172**. **Pgm: JOINT MEETING:** 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak.

SIG-IBM INTERMEDIATE, 3:45 pm, **Room 172**. **Pgm: JOINT MEETING:** 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak.

SIG-MAC (All Apple Macintosh products), 1:45 pm, **Room172**. **Pgm: JOINT MEETING:** 25th ANNIVERSARY, Jim Rarus, former SEMCO President to speak.

### SIG-ADVANCED

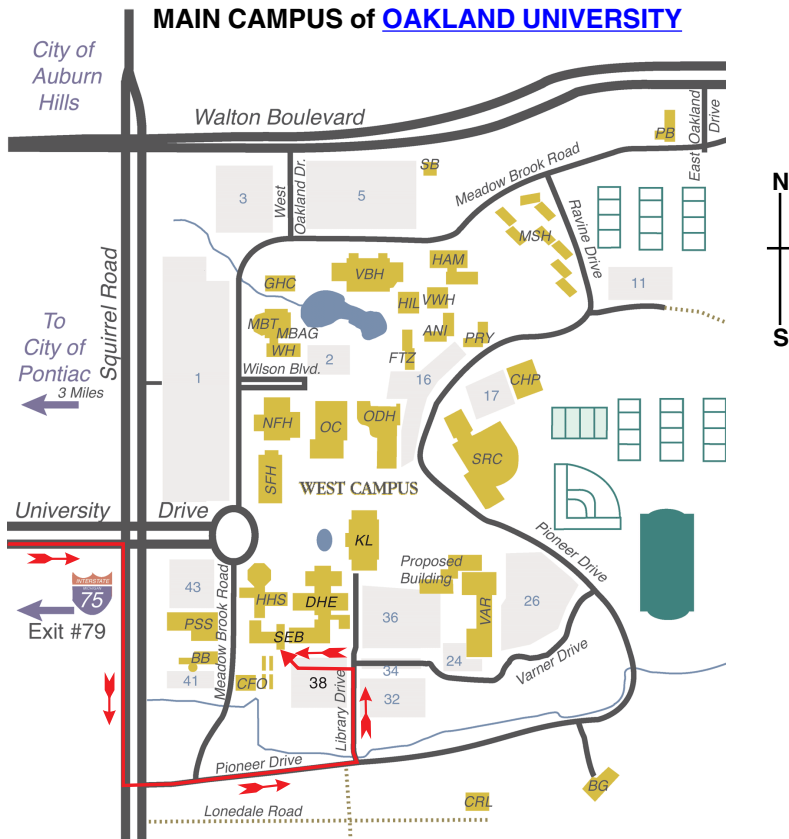
Apr 2 - Monday, (Next: May 7) 6:45 pm (Meet 1st Monday), Troy Public Library, Rm A, 500 W. Big Beaver Rd in Troy, at I-75 exit. Info: Franz Breidenich 248/398-3359. **TOPIC:** Wide ranging discussion of computers & computing.

### SEMCO

MAY 13, 2001 - SUNDAY (Meet 2nd Sunday). **To be announced**

## **PUBLIC INVITED**

(Please copy this and the next page to post on your bulletin board)



### MAP LEGEND

- SEB** Science and Engineering Building
- DHE** Dodge Hall of Engineering
- KL** Kresge Library

**Note:** SEMCO meetings are in the Science (west) wing of the Science and Engineering Building, hence the “Science Building”

### DIRECTIONS

Driving north on I-75 (from Detroit and suburbs), take Exit 79 (University Drive), stay to the right on University Drive to campus entrance. Turn right (south) on Squirrel Road (at traffic light which is just outside campus), turn left on Pioneer Drive (next street to left). Turn left off Pioneer Drive onto Library Drive (second left) toward Kresge Library. Turn left before you get to the buildings, into parking lot 38 on the left. Proceed to the far end of the parking lot. After parking, proceed up the stairs to the Science Building, which will be just ahead of you, to the right.



The meetings at Oakland University are sponsored by OU's Academic Computer Services (ACS), and the student chapter of the Association of Computer Machinery (ACM). SEMCO thanks OU, ACS & ACM for their assistance.

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# DATA BUS ADDENDUM

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## **Trash to Cash—Online**

### **Turn your excess stuff into greenbacks**

*by Donna Barnes-Roberts*  
**Pasadena IBM Users Group**

Ready to get rid of that unsightly IMSAI computer you use for a footrest? How about that pot that says Roseville on the bottom, the one you can't stand? Well, with a few keystrokes, you can make someone else happy, unclutter your closet, and stuff a few bucks into your pocket.

How? With the Internet. It's not a multilevel marketing scheme and definitely not illegal. It's called EBAY. You simply list your item on their auction site, let people bid on it, and send it after the high bidder pays for it.

I have sold everything from machine tool brochures, WW-II throat microphones, dishes, dress patterns, slide rules, broken dolls, stereo equipment. The guideline is "if you can ship it, you can probably sell it." In fact, I've seen cars listed and even heard of houses listed, so I'm sure you can sell just about anything of value on ebay. The only however? Not everything is worth offering on ebay.

If you are unsure whether or not your treasure is really trash, just search ebay's completed auctions for similar items that have been offered in the last month. If it was offered for \$2.00 and nobody bid on it, figure it really is trash and not treasure. And note that heavy stuff is not usually a good idea for ebay. Remember that you will have to package this and convince the post office to carry it someplace else. They do have limits.

To become an ebay tycoon, all you need is an Internet account, a com-

puter, and a way of uploading pictures of your stuff to the Internet. (Pictures are optional but highly recommended.) When your item sells, you just e-mail the buyer with your address so he or she can send you your money, and send them the merchandise after the check clears. Most buyers are prompt and polite. Some are not. Kinda like life.

Once you decide to list an item with ebay, head to their site at <[www.ebay.com](http://www.ebay.com)> and click on the sellers link. This page walks you through the process of listing your item. Ebay charges start at \$.25 to list each item, depending on how high you set the starting bid. They also charge a small percentage of the final selling price if it sells. You can also set a reserve, so that you don't have to sell the item until the bidding gets to a price that you set that is hidden from the bidders.

### **Need Some Stuff?**

After you have sold your stuff and have extra money (and some new found room in your home), how about buying someone else's good stuff they just listed on ebay?

Not surprisingly, most users get started on ebay as a buyer, and the depth of the offerings are truly outstanding. If you are looking for anything from the commonplace to the esoteric, you'll probably find it for sale on ebay. It is the world's attic for sale, and there are always surprises.

Auctions usually take a week, so there is plenty of time to place your bid, and you can watch the bidding escalate as time passes. Usually there is a flurry of bidding just before the auction closes, and things sometimes get crazy at the end. Or ebay crashes. Kinda like life.

While ebay is not the only auction house on line, it is the most diverse. For instance, Butterfield and Butterfield has online auctions for fine art and antiques, and Egghead is there for computers and software. These sites actually sell and ship merchandise they own or have on consignment, so you know who your seller really is. For reliable merchandise and product guarantees, these can be a great idea, but for the young business of selling anything online, give me the rag-tag wild west of ebay anyway!

**Artist Donna Barnes-Roberts has essays on art, examples of her paintings, links to art-related sites, art clubs in the Pasadena, area, and a little humor, <[www.barnesroberts.com/art/](http://www.barnesroberts.com/art/)> You can reach her at <[donna@barnesroberts.com](mailto:donna@barnesroberts.com)>** √

## Rolling Your Own

**Building your own PC is Easy.  
Sometimes.**

*by Rich “Doc” Colley,  
Pasadena IBM Users Group*

“Uncle Rich, we just bought a computer! A *name brand*. It’s great and we only paid \$2500!”

After I pulled myself off the floor and stopped laughing, I pondered the novice’s situation.

Many of them often only have the name brand to recognize along with the computer tech (the one with the pimples) at Circuit Wallet to direct their purchase. Neither are good prospects. But big bucks and flashy advertising have always enticed buyers and the surge in high tech products is no exception.

When it comes right down to it, most new users are afraid to roll their own and don’t even trust the local small

outlets to build one for them. But what about the experienced users? Was I surprised—and dismayed—to discover many are using the same pimply faced kid to guide them!

Okay, not all of us do it that way, but too many do, enough so that I worry. We are the ground swell that moves the tech wave ahead and we don’t—or won’t—build our own. Oh, I know the excuses. No warranty. No service. No guarantees. But that’s not altogether true. For instance, I’ve never built a system without at least a two-year warranty on all the parts. All name brand components and peripherals have warranties stated and expressed. And service? Heh, if I built it, I service it! So where’s your excuse now? No knowledge? Well, we are going to change that immediately.

### Take a Look Inside

Computers, at least desktop systems (if you’re contemplating building a laptop, don’t you can stop reading. You’re way ahead of us.) are really rather easy to construct. Five years ago, that wasn’t true. I bought my first desktop at a computer show in the San Fernando Valley in 1991. I had little or no computer background with the exception of a mechanical engineering degree that I’d never used and some keypunch experience from 1969! One week after I got this SX33 home I opened the case, removed the heat sink and discovered I actually had an Intel DX2-66! Wow! Imagine that, just opening the case and I’d already upgraded my first PC. I did try to call the vendor, but they didn’t understand my English and said I didn’t know what I was doing. So for \$1000 and some change, I got a top

of the line \$1450 unit! And didn't have to change anything.

### **Keep Looking Inside!**

So here's your first rule: If you don't know what is in your own PC, how do you know you got what you paid for? I can't count the times I've been called out to service an i233 system with 64MBs of RAM only to find it's an i166 with 32! All vendors are not honest and even the honest ones can make a mistake. If you buy the components, You'll know exactly what's in your machine. I have put together 400Mhz Celeron systems with 64 MBs of RAM, 6GB drives and great video, sound and CD-ROM drive components for less than \$750. And that includes a 17-inch monitor! Systems with an AMD processor cost even less.

Okay, I've made the brag, now I'll back it up. Quit listening to your friends. They'll tell you, "Don't buy at the computer shows. They're all rip offs." Don't buy over the Internet. They'll sell your credit card and send you an empty box." Sure there are corrupt vendors. They're everywhere. Beginning with the IRS and all the way down to the hole in the wall shop with Pentium III 500's for \$199!

So you have to know your product before buying. First, go to your local Crown Books or Barnes book store, spend a few dollars on the latest computer magazines, and buy a dummies 'how to' build your own PC. Go home, turn off the TV for a few hours and read. You do remember how?

You'll see that many components and peripherals, while manufactured by different companies, all install and setup in the same manner. You'll find the dummies book will convince you that

'even you' can build a decent PC system, save mucho dinero and get an education in the bargain. Now we'll pick up the pace. Here's what you'll need.

### **Gimme Some Room**

You need adequate space to get started. Find a desktop or a bench and mark off a section about eight feet long and three feet deep. Make sure you have at least two good outlets that are not running your dishwasher, washing machine and refrigerator. Clean electricity is a must. Buy a good surge suppresser. It must be 1449 UL rated and have a clamping voltage of less than 430 v and a rating of above 900 Joules. The first company that comes to mind is Belkin. There are others—just don't buy cheap!

You'll also need a long Phillips head screw driver, a regular screw driver, a pair of needle nose pliers, a good flashlight or overhead light, and a rubber mat on the bench and on the floor (for static electricity suppression—you can buy expensive ones that clamp everywhere, you get what you pay for). Grab a couple of tins to hold screws and such, some extension/retractors— devices that have a plunger on one end that extends three or four prongs outward, when released the prongs close over whatever you've lost in those hard to get places and pulls it out. Best bet? Go to an electronics hobby store and buy a computer repair kit. They usually have everything you'll ever need, including torx heads and so forth. Set up your workbench.

### **The Components.**

Now the fun begins. What's a computer made of? Case, power supply, motherboard, RAM (random access memory), 1.44 3.5-inch floppy drive,

CD-ROM drive (DVD, CDR, or CDRW—but just begin easy, a CD!), a hard drive (ATA/33, ATA/66, EIDE, UDMA, DMA mode 2, SCSI, SCSI W—don't go crazy. EIDE HD is what you most likely want for your first system). [I would suggest ATA/66 as a minimum and preferably ATA/100. Ed.]

Of course, you'll also need a decent video card, a sound card, speakers and finally a mouse and keyboard. That's the system. If you want to 'see' what you've created, you'll need a monitor. Many suggest beginners use a 15-inch but prefer 17-inch. That's because they are so cheap today there's no real reason to cut corners. Now there are other components that you could purchase, but let's begin simple. Now 'who's' product do you buy? Start by making a list.

Those magazines you bought may have some reviews, check 'em out. The coverage in mainstream mags can be slanted by the advertising dollar, but if the company can spend that dollar, they'll usually be around to warranty your purchase.

Same thing on the Internet and at the computer shows. It costs money to do business. If the company has been doing business for over two years, and hasn't filed chapter eleven, well, they'll probably be around for a bit longer. At the shows? Well, those displays are purchased by the square footage or booth. When you see a vendor with only one booth, no tee shirts or vendor logos, then they're running low budget. If you really know what you are about, you can get a manufacturer warranted product there and find it for a few bucks less.

However, if you aren't that knowledgeable (and we'll assume you aren't—sorry) then stick with the vendors who

have 5 and 6 booths connected together. Space costs a whopping amount at the local computer shows here in the Los Angeles region. These vendors have outside clients who buy and buy and they've been around a long time. Their prices will often be a few dollars more than the shoe string companies, but they will warranty the product and do the RMA'ing (returning merchandise) if a product fails. They usually all offer a three-year, two-year coverage including labor and parts. None of the vendors at the shows will support on site single user service unless you buy it! But those name brands, though they say they do, will always ask you how good you are with tools and are you afraid to open your new case? They'll come out, the second Tuesday of next week!

### **Going Online**

What about the Internet? Well, there are many good sites on the web. But you don't have a PC yet. We're trying to build one, remember? But if you have a buddy with access and your trusty credit card, you can cut some great deals on the WWW. While this is by no means an exclusive list, I shop at CDW, NecX Direct, and Buycomp. After you've been at it awhile, you'll find individual vendors who have better bargains or sell their expertise when you buy, but for the time being, go large. Whatever your venue will be, make a list and stick to it!

### **Components Suggestions Cases**

Okay, these are really important. And there are certain types of cases that will not run certain types of motherboards (its a power supply thing—later, okay?) I've bought cases from Enlight, Asus, InWin, Minma, and ProCase. The cases come in either AT or ATX power source configurations.

The newer ones use ATX and I would suggest that you stick with the latest concepts (why build obsolete?). There are many other case makers, but those are good brands.

Generally you get a power supply with the case, as well as various screws, nuts, bolts and standoffs (the new cases are building the 'standoff' into the case—it holds the motherboard away from the case siding, no electrical contact, no shorts). In addition, there are inserts for the various LPT, Serial and mouse/keyboard configurations on different MOBOs (motherboards). [If you are using one of the higher speed AMD Athlon processors, be sure the power supply will handle it. The high speed Athlon chips draw more power than the Intel chips. Ed.]

Power supplies should hum and not screech or chatter or growl. If they do, that usually means the cooling fan inside has bad bearings! Return the case or the separate PS, but don't keep it. And *don't* plug in the case without all the peripherals in it (the HD, the Floppy drive, the CD) and then turn it on! The PS needs a draw, it will not run without the connections being completed. And in some cases I've heard that this will harm the PS. Why chance it. Complete a portion of your build before powering on. More on this later.

### **Motherboards**

(or the 'mother' of all boards)? All your cards, all your peripherals and all your memory plug directly into the motherboard (MOBO). These are now being made with 'jumperless' menus or SoftMenus. This means that you don't have to use those needle nose pliers to set 'jumpers' ( a jumper is used to close or open an electrical connection repre-

ented by three or four tiny prongs. You would cover those you wanted closed.) This is great! But not all boards use it yet and those that don't have made the use of jumpers much easier by placing most of them in one area or using a toggle box (DIP Switch) with all the jumpers set by toggling a tiny switch for each jumper. Easy. Some good MOBOs? Asus, Abit, MSI, Gigabyte, Soyo, Shuttle, AOpen, EpoX, Chaintech and Tyan. [ I think SuperMicro is also good. Ed.] Are there others? Yes. On your friend's system, do an Internet search for 'review' sites. There are numerous ones. Spend some time and read. Form a consensus, and then buy a MOBO.

### **What's Left**

Okay, in a nutshell:

### **Hard Drives**

Stick to the big makers. Use Quantum, WD, Maxtor, IBM or Fujitsu. I personally like Quantums, but everyone has an opinion. All of these makers will honor their product for the warranty period. Floppy drives? Teac, Toshiba or IBM all make a version. There are others and they're not expensive.

### **CD-ROM Drives**

Everyone has a favorite but there are several decent makers. Asus, Teac, Toshiba, Creative Labs, Panasonic, Yamaha and Plextor. There are many, many more and often one maker will put different names on their product. Any of these will be fine in IDE mode.

### **Video cards**

Want a firestorm of disagreement? Just say, "This one is the best" and duck! There are so many cards out there that it is virtually impossible to say, "Go

buy this.” That said, if you aren’t doing heavy gaming or Photoshop work, CAD and graphics (yeah, a newbie is saying, “What did he say?”) you only need a 4 or 8 MB card. Select the AGP version, it’s newest. For non-intensive machines, a Trident chip card can be had with 8MBs onboard for about \$40 or so, even less at the show. Makers include Diamond, Matrox, ATI, Videologic, Hercules, STB and others too numerous to list. [Diamond is out of the video card business now. You may still find their cards around but you are not likely to get support or new drivers for them. Ed.] Start simple until you know your needs, and then replace your first inexpensive card with something fancier.

### **Sound cards?**

ESS, Diamond or Creative, TurtleBeach, Digital, Esoniq, Hi-Val and a million others. [Diamond seems to be getting out of the sound card business also. Ed.] Go simple, try an ESS to begin with and advance as your needs and pocket book allow. I won’t mention speakers. Just get a two-speaker setup for about \$15 and go from there.

### **Memory Lets not forget**

(Last, but of great importance) the memory or RAM! Big decisions here and many to select from. A memory SIMM (single inline memory module) or DIMM (double in line memory module) is made up of the memory chip and the PCB (printed circuit board). Many makers of great chips sell their ‘seconds’ to memory makers who attach them to only ‘fair’ PCBs. See, you can buy Micron memory (wonderful chips) on someone else’s PCBs... but it’s not really MICRON memory. Same with Seimans, Texas Instrument, Toshiba, Samsung and the others. Toss in PC66

and PC100 (soon to be PC133—all regarding the bus speed the memory supports) and you can have confusion galore. [You can now add DDR (double data rate), which comes in two speeds (PC1600 & PC2100) and Rambus (RDIMM) memory to the mix. Be sure you get memory compatible with your motherboard. If you go to [Crucial’s](#) web site (Crucial is Micron’s retail outlet) and enter your motherboard make and model into their configurator, it will give you a list of their memory modules that they recommend for that motherboard. Ed.]

I would suggest ‘not’ buying memory at the computer shows until you know who has what and why. So, my advice is to buy from Crucial Technologies or Mushkin, Inc. I know, I know, hard and fast rules here. But I can say that the prices are competitive and the products extremely well supported. Memory is important and I don’t think you can go wrong buying from either company. How much? Well, prices are low and 64 MBs of RAM will keep you in the pink for some time. Thirty two as a minimum, no less. [I would consider 64 MB as the minimum. Ed.]

### **CPU**

Last and most important: The CPU. This is the big kahoona baby! The rock and roll of the whole shooting match. Where the rubber meets the road! The ‘big two’ are fighting for your dollar. Intel and AMD (okay, I left out Cyrix as Via just bought them and who knows what will happen) are in a war over the fastest, least expensive, most versatile CPU for every computer in the whole world. Well, okay, that’s an exaggeration. But we benefit so lets endorse this war! Intel has an advertising budget that

is near the whole budget of AMD. Yet AMD has some great products and I'd say you won't notice much performance difference in any nonspecific home system for basic use.

Others will argue that for a first time user on a budget, the AMD is a bargain. So is the Intel Celeron processor. And the older Intel Pentium IIs. Basically, any competitive processor on the market today will give you a good deal of performance for a price. Don't go cutting edge Pentium III right now, they're still pricey. [The Pentium III is no longer cutting edge now that the Pentium IV is out. Ed.] Same with the new K7 by AMD, pricey at first. [All but the fastest of the Athlon Thunderbird chips are pretty reasonably priced now. Ed.] You have options. The slot 1 CPUs are Intel's. The Celerons will fit in slot ones but the latest Celerons are known as 370 chips and require a 'sloket' or socket 370 to Slot 1 converter board (many makes, let's not go there now.) The AMD uses a 'super' socket 7 which looks very much like your average socket 7 or 5 boards and you don't want to make any mistakes here. Get the super socket 7 board by the maker of your choice. [The AMD Athlon chips use "Socket A" and are fairly 'mainstream' now. In any case be sure you get a motherboard and processor that use the same arrangement. Ed.]

Research it! Every MOBO maker has boards for each type of CPU. Just make sure you get the right board for your selection of CPU. AMD's do not fit Slot 1 boards and Celerons won't fit super socket seven MOBOs. I'm leaving out L2 cache considerations on purpose as it is somewhat complicated for new users. Okay, last thing to understand about CPUs is the FSB speed

(front side bus speed). The newest boards in both genres support 100 MHz FSB speed. [Many motherboards now support 133 MHz, and faster, FSB. Ed.] But some of the newest Celeron CPUs still run at 66 MHz FSB. No problem, the boards will support that speed also, as well as many in between. Just remember that the faster the FSB, the better the performance. AMD K6 IIIs work at 100MHz FSB. Issues such as clock locking and overclocking are beyond where we want to go in terms of experience. Let's just get this guy up and running with his home built screamer.

### **Building the Box**

All the pieces are present? You have your case with the PS? A compatible MOBO? HD? RAM? Video Card? Sound card? Monitor? CD? Floppy drive? Speakers? CPU? Surge protection? Good! Remember that "Dummies" book? Make sure you have it present. Tell the wife and kids to stay away, put the dog out and let's begin.

The first precaution you should take is against electrical static discharge. This is the same stuff that you get after sliding across a car seat and trying to kiss the wife or kids. "Zap!" "Ouch, daddy, don't ever kiss me again. You hurt." And a juvenile delinquent is born. Okay, that's about 3000v.

That's the same transient surge of static electricity that can ruin a memory module a motherboard, or almost anything else in the PC. So, plug your surge protector into the wall. Plug the 'off' computer case PS into the surge suppresser (don't turn it on!!!) That third prong ground plug is helpful in the war against ESD! Electrostatic discharge. Drum roll please. Your computer's sworn enemy! You can cre-

ate 35000 volts just by walking across your thick carpet on a warm, dry day! Touch your new motherboard, ‘zap’ (you might not even feel it), kiss it good-bye! So, the PS ground helps. So does using a mat under the case and under you and being barefoot will also help.

If you’re very worried, you can go as far as wearing a strap that, connected correctly, will continually discharge you (like you wife with a credit card) as you work. But extremes reinforce letting ‘someone else’ do it and we want you to do ‘it’. So, use the actual case to ground yourself before touching exposed components. Before you take your motherboard out of the static free shipping wrap, grab the sides of your open (oh, did I forget to tell you to open it? You’re reading the “dummies” book? Then don’t be one!) case and hold for a second. This will discharge you for a while. Important, do this often. And always touch the end of any tool that you use to that case ‘before’ you touch it to anything else.

All right, the basics are done. You know how not to fry your new components. Your case is open, the PS is connected but off and your motherboard is out of the static proof wrap and resting on your bench. Open the MOBO manual and read the installation instructions. Maybe even have a magnifying glass handy. There is some small print. Discharge yourself, pick up the MOBO and eyeball the line up with the case standoffs or standoff screw holes. Most boards have about 6 to 8 screw down holes. They are usually isolated from the trace circuitry by the maker and you don’t have to use dead paper washers.

See how things line up and, if the standoffs aren’t built in, put your board

on the bench, screw in the brass standoffs that came with your case and discharge yourself again. Check out your alignment? Screw holes line up? Good.

Now double-check your MOBO external LPT and Serial connections. These are where You’ll plug in your mouse, keyboard, ext. modem (oh, we didn’t mention that. Well You’ll need a modem. Either external or internal. For newbies, external gives you more visual references to what is going on, so I suggest external at first. US Robotics, Zoom, Creative, all make decent ones. Don’t get what is called a “Winmodem”—if the package says something like, ‘requires a Pentium 100 or better.’ it’s a Winmodem. Stay away for now.) printer (later, dude!) and other external port peripherals. Most boards conform to one or two configurations. Pick the correct ‘cover’ from those that came with your case and insert this cover into the appropriate location on the case (you’ll see, not hard at all). Okay, discharge yourself. Now the real stuff begins.

Take the MOBO (are you static free?) and place it into the case. Press it into the slot configuration you just put in the case. See how the various ports line up? Good. Use the screws that came with your case to begin securing the MOBO to the standoffs. Don’t tighten any single screw down until all are in their proper places and you’re satisfied that the board lines up in all ways. (Note: some case makers, InWin and others, have a removable ‘back plate’—that plate to which the MOBO attaches—this makes things so much easier as the plate can be flat on your static free bench and out of the case.)



Then take your Phillips head screwdriver, touch it to the side of the metal case to discharge it, screw down the MOBO. Tight is tight, do not over-tighten as you might 'tweak' or bend the MOBO and break one of those pressed traces. Not good. Okay, the motherboard is on the back plate, either in or out of the case. Good job. Take a break.

Refreshed and confident, let's return to our static free work place. The MOBO is attached. Now let's place in our RAM DIMM (Double inline memory module). These are long modules that have small gold or silver fingers that make contact in a slot on the motherboard. This is simple as these will not fit anywhere else and you're using the MOBO manual to locate the DIMM slots. Right? If not, open the darn thing now! Locate the DIMM slot(s). See how the DIMM has two unequal lengths of 'fingers'.

Well, the slot has a separator that only allows the DIMM to be inserted in one manner, the correct way. You can't make a mistake here, unless you use a hammer. Discharge yourself, pick up the DIMM and make sure that the two 'retaining mechanisms' are spread to their widest placement. Insert the DIMM in the first DIMM slot, nearest the CPU location (use that manual, darn it!) and press down. You'll note that the ends of the DIMM contact the retainers and, as you press downward, actually close those retainers in such a way as to lock in the memory module. Cool, huh? Okay. Memory in. Retainers snugged down and 'snapped' into tight placement. Whew! You're doing great. Take a break. Go pet the dog.

Okay, after petting the dog, discharge yourself. Use the manual you received with the MOBO and the CPU

to install the CPU into the MOBO. If you have a Slot 1 CPU, the slot is set up similar to the DIMM slots. You can only insert the CPU one way. A super socket board has the same restraints, but they are harder to discern. One corner of the CPU, on the underside, will be cut short. There is a missing pin there and there will be no opening or pin hole on the socket. Every other corner (three of them) will be squared off and have an outer most pin for that corner connection.

On the top or upper portion of the CPU you'll usually find a small dot over that particular corner that does not have a pin. This is how you line it up. Take note! The Slot 1 CPU (as well as the Super socket seven) like (well, require if you ask me, unless you're in an igloo in the Arctic) cooling fans. It is far easier to install the Slot1 CPU fan 'before' inserting the CPU into the MOBO. The opposite goes for the S.S.Seven CPUs. Do the fan after the insertion. And use heat sink gel or goo (tech term, goo) between the fan and the CPU. The 'dummies' book should mention this but if not, use a small, small amount on the crest of the CPU and spread it thin. If there is a pre-installed pad of contact goo on the Pentium CPU, scrape it off and use the goo. It makes a much better contact. Well, let's continue. You're almost ready to fire that mother up. [Some of the newer processors use a thermally conducting tape rather than goo, grease or gel between the CPU and heatsink. Ed.]

The MOBO is in the case. The memory and the CPU are in the MOBO. Now, place the Floppy drive in the case and secure it. Do the same for the CD and the Hard drive. Keep the hard drive as low in the case as possible without

causing obstacles to placing the MOBO back in the case. I suggest that if it is out as some allow, to keep it out while you place these more bulky items into the casing.

Discharge yourself! Use that 'dummies' book to help you with specific questions and don't screw down any of these components too tightly. Just snug. Now the case contains the hard drive, the CD-ROM and the floppy drive. Great. Place the MOBO back in the case. Discharge yourself before picking it up! If the case did not allow you to remove the MOBO, then it is already there so ignore the previous (jeez, I was only kidding about the dummies book, but I guess there are 'some' who really need it!) Now let's do some wiring. Again, this is a plugged in case that is turned off. If you feel more comfortable in unplugging it as you connect these small wires, go ahead. Just use precautions to ground yourself.

At the front lower portion of your case there will be several small wire connectors. These go to the case speaker, the LED for the power and hard drives (lights that tell you when it's on and working) and the reset button and power switch. Some even have two power switches now ( I usually connect the one plug and tie off the other). Your MOBO manual will advise you regarding the placement of these connectors. A bit of experience.

If you have a black and any other color wire on any connector, the black is usually the ground wire. If there is a white and 'almost' (blue, green, yellow) any other color, the white is the ground. If you have a red and black, I select the black as ground. White and red? I use the red. These connections are not high voltage and, if you make a

mistake in their placement the worst that will happen is an LED won't come on or you'll not have a functioning reset button. Just reverse the slide on and you'll be right as rain. Watch the front of the machine on our first test boot to see if all is well with the LEDs. Good. Now for the main power supply.

Coming from the PS, there are many wires that you use for power to peripherals and to the MOBO. Most of these have either 4-pin connectors that run the hard drive and CD-ROMs or smaller 4 pin slide ons that power the floppy drives. These are easily inserted as there are rounded corners on one side that prohibit the improper connection. Also from the PS is a larger, square connector with two rows of squarish inserts. These go into the main power connection on the MOBO (use your manual, but it is the only insert of it's kind on the board.). This connector 'clicks' into place and usually has a small locking lever that must be pressed to disconnect the wires. This description is for an ATX PS.

If you have an AT power source, there are two separate connectors that do resemble the smaller 4 pin power connections. They are to be inserted into the main power connection on the MOBO so that the BLACK wires are next to each other after insertion. That is an absolute must. Those wires are to be adjacent to each other! Your manual for an AT board will also point this out. Don't make any mistakes with the main power. Good. The MOBO is in, RAM and CPU inserted and the components placed in the case. The main power is attached to the MOBO and the various LED and case speaker wires are attached. Just about ready for our first test.

Now some simpler stuff. The video card. Discharge yourself, remove the card from its static proof bag and insert it into the AGP slot on the MOBO. That's the top slot of all the slots and looks like no other slot on the board. Check your MOBO manual. Use some pressure on this as the AGP must be inserted firmly and deeply into the slot! Press straight down until you hear it 'snap' into place. Viola! Connect the monitor to the video card. Plug the monitor into the surge suppresser. We are getting close.

Let's see what we've created? Plug the keyboard into the keyboard socket on the back. Plug the PS into the surge suppresser (assuming you unplugged it earlier, as mentioned). Turn on the machine with the front power button. What? Won't turn on. Don't worry. Many ATX power supplies and some AT power supplies come with a second switch for the PS. It's located on the back of the PS next to the power wire and needs to be toggled. Now try the front button. Great! Hear the fans spin up?

Now recall we hooked up the case speaker (but we've not hooked up the sound card, video, hard drive, CD-ROM, or monitor)? You should hear one single beep. This is excellent! If you hear two or more beeps, shut off the machine (in ATX machines, depress the front button for five seconds and that should shut the machine down. For AT, just depress the front power button.). Reseat the video card, press down on it firmly. Also check the RAM and make sure it is seated. Last, press down on the CPU from the top. Careful, don't crush anything. Okay, reboot. Ahh, there's that single beep. Great! It's alive, it's alive.

Finally let's connect the cables to their components and motherboard in-

serts. Make sure the power is off. Use IDE1 (see your MOBO manual) for the HD connection, make sure you have configured the hard drive as either single or master. Look at the side of the hard drive for jumper placements for that purpose. Connect the cable and the power supply. All, all, all, repeat all, HD and CD-ROM cable connections are pin1 to pin1. You can delineate pin1 by the red edge on the cable. Often the red edge is striped or somehow otherwise marked. You MUST connect pin1 to pin1 or your machine will not read the data on the CD or HD. Good.

Discharge yourself and connect the cables and power to the components. The floppy drive is somewhat weird. Even though there are almost no 5.25-inch floppies, there are still connectors on the floppy cable for them. This can be confusing. Just connect the very last connector to the 1.44 MB 3.5-inch floppy drive. Often there is a plastic finger that allows only one way of connecting. If not, you're on your own to figure out how the cable works. Usually the red pin1 wire is closest to the power insert on the floppy. When you boot, watch the small light on the floppy. If it stays on (it will come on, but should blink and shut off) while You're booting and after, then shut down and reverse the cable. Now it will work. Ready to rock!

You have the latest operating system. Windows 98. Wonderful. Here's where we will leave you. Insert the boot diskette that comes with Win98. It will find and supply drivers for your HD and CD. It will format you HD. It will do almost everything except pat you on your back for a job well done. You built your own PC. You know every inch of it's anatomy and you can fix anything

that might go wrong. Excellent work! You've saved bucks and learned at the same time.

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## **Do Compact Discs Degrade?** *by Bob Starrett*

The answer to this question is easy and apparent: of course compact discs degrade. As with every other material, eventually time, temperature variations and the elements will take their toll, on the disc as a whole, as well as each element that comprises that disc. The real question is, how does disc degradation affect readability?

According to the Optical Storage Technology Association (OSTA), CD-R discs have a long lifespan:

"Lifetime estimation of any storage medium is a very complex and statistics-based process. Improper testing or measurement procedures can seriously impact and compromise lifetime estimates. ANSI Committee IT-9 is currently developing comprehensive guidelines for CD-ROM and CD-R life estimation. The CD-R media manufacturers have performed extensive media longevity studies using these industry-defined tests and mathematical modeling techniques, with results claiming longevity from 70 years to over 200 years. The primary caveat is how you handle and store the media. With proper handling and storage, your CD-Rs will outlive you."

It is one thing to say that discs will last that long. But while we grow old waiting to find out, we need to take

some precautions and not rely stiffly on numbers such as these.

How long can you store a disc before you need to possibly reburn it to preserve your data? And is a CD really the best place to store important data for a long period of time? A comprehensive study of this topic is best left to someone or some company that has the deep pockets to perform it. The resources necessary to burn, test, age and retest media of different dyes, reflective layers and coatings are enormous.

In the meantime, the best we can do is use existing surveys and anecdotal evidence as a guide. While somewhat old, two studies are also available that provide a little insight into how the media manufacturers look at the longevity issue. The studies are rather technical, but if you want to look at them you can find them here:

TDK – <http://www.cd-info.com/CDIC/Technology/CD-R/Media/TDK.html>>

Kodak – <http://www.cd-info.com/CDIC/Technology/CD-R/Media/Kodak.html>>

US News and World Report also has an interesting article with a useful chart comparing the lifetimes of several types of storage media. It draws the startling conclusion that unless you buy certain high-quality brands, your CD-R discs may last as little as two years! But note that the National Media Lab took issue with the manner in which its data was used to produce the chart and does not agree with the conclusions drawn.

<http://www.usnews.com/usnews/issue/980216/16digi.htm>>

It sure would be nice to conduct our own study, but let's do the best we can with what we have on hand. Let's look

at some really old discs and see if they are readable. In my personal collection, I found three CD-R discs that were at least 10 years old. These discs have not gone through any aging process or artificial stimulus. They have had a nice home in a jewel case, have made several trips to California and back, been joggled, of course, but otherwise they should be in good shape. They are clean discs without scratches, the kind that go into a jewel case right after recording and stay there.

Of the three, one was unreadable in four different models of Plextor drives, while it worked fine in a Kenwood 72X TrueX CD-ROM drive. But the fact that the Plextors could not read it and the Kenwood could, caused me to make a copy of it off the Kenwood, because this ten-year old disc contains data that I may need in the future. I feel safer now with the original and a backup that the Plextor drives are happy to deal with.

When will I check it again? Probably in a couple of years. Does this mean that you have to check all of your discs every so often to make sure they are still readable? Well, not everything, but do check your most valuable discs at least every year or two. Hopefully, you don't have so many that this becomes an undue burden. Just try to save the checking and re-recording for truly valuable discs of irreplaceable material, rather than copies of popular audio CDs, for example.

The other two discs were both readable in a professional CD tester and the Plextor drives, as well as the Kenwood drive. One had an error rate in the CD tester comparable to a freshly recorded CD-R disc, and the other had error rates higher than I would like, but still well

within the maximum error rate considered safe for CD-ROM discs.

These discs were not tested for errors when they were made, so we do not know how the current error rates compare to the original and therefore cannot really judge degradation. But we do know that out of three ten-year-old recorded discs, one was on the edge, another was middling, and a third was just fine after all that time. Obviously too small a sample to draw any conclusions from, but the best we can do with what we have. One additional thing to note is that CD-R media has improved in the interim, at least discs from quality vendors have. There are also a lot of no-name brands now that may be worse than our 10-year-old discs.

If your job is to manage a large collection of stored data on CD-R for a company, then you have a rather large task ahead of you setting up protocols and procedures for archival disc testing and re-recording. But for most of us, the time spent checking key discs will be minimal.

So the controversy over the actual life expectancy of CD-R discs continues and our quick anecdotal testing does not solve the mystery. Just be careful with crucial data, use good quality media, and store and treat it correctly. Chances are that you have at least 10 years before you need to start worrying. √

## **The Internet Explosion!**

**It's everywhere—and it's terrific!**

*By Steve Bass,*

**Pasadena IBM Users Group**

Wherever you look—the newspaper, radio, even *The New Yorker* for goodness sakes—you'll find someone

pitching a new dot.com. For the most part, these sites contain useful, if not spectacularly valuable content. And it's just the tip of the iceberg. Because as we break through into 2000, you'll see thousands of new and exciting sites.

Not more than a year ago, industry pundits (nope, not me) suggested we'd watch television and movies on the Internet. And we wouldn't have to buy software in the future. Everything you needed would be on the Internet, available either for rent, on a per-use basis, or free if you'd look at some advertising.

I was the first on my block to disagree.

I remember arguing with a guy pitching a Web site that lets you share your schedule with others. I explained to him how much more comfortable it was having my contact database here on my PC, safe and sound. *Why in the world I said would anyone in his right mind stick vital data—name, addresses, phone numbers—on the Internet?* (The guy went on his way, ignored my advice, and probably sold his site for millions.)

I still get that feeling of well-being loading my contact manager from my hard drive. But I've also become enamored with a handful of sites. Some have cool applications that let me collaborate with others. Others give me massive amounts of free data storage. Some help me while a few offer entertainment.

### **Entertain Me!**

**Movies:** MovieHead is loaded with free movies. With Microsoft's viewer or RealPlayer, you can view a movie while pretending to be hard at work. (I have the black and white classic *Bride of the Gorilla* playing while I write this

column. It's a hoot!

<[www.moviehead.com/cinema/horror/bride\\_of\\_the\\_gorilla.html](http://www.moviehead.com/cinema/horror/bride_of_the_gorilla.html)>.)

**TV:** iCraveTV is an outfit that broadcasts Canadian TV, much to the dismay of the networks. ABC, CBS, NBC, and others are readily available, along with plenty of commercials. Try it, if for no other reason than you can do it.

You'll need RealPlayer. When the site asks you for an area code, use 905. Then lie and say you're in Canada and accept their agreement. Depending on your bandwidth, the picture and sound can be exceptionally good.

### **Let's Collaborate!**

**AnyList:** If you want to create and share next years holiday wish list so friends and relatives far and wide know exactly what you want, try AnyList. Among other tricks, AnyList lets you collect and collaborate information using surveys, by keeping track of dates and events (say, a project or scores for a sporting event), or by creating a shared journal to keep track of special events. <[www.anylist.com](http://www.anylist.com)>.

### **Give Me Some Help!**

**Keen and Expert City:** Even the most hardened, technology-fearing Luddites will be amazed with these two sites.

My favorite is Expert City because of its interactivity. Log onto the site, ask the question, and one of a dozen experts will bid on your job. (You can still try it for free.)

What's the most intriguing is their ability to remotely access my computer and show me, step-by-step, how to resolve a computing problem. Better, I can grab their BuddyHelp applet <[www.buddyhelp.com](http://www.buddyhelp.com)> and help some-

one else using the same type of software.

Keen provides advice on hundreds of subjects by old-fashioned means—the phone. Find a subject and click the button. In seconds, your phone rings and you're talking to the "expert." The cost? It ranges from free to 25-cents a minute. The expertise? Hey, I don't know but I'm sure dazzled by the technology, folks <<smile>> (<[www.keen.com](http://www.keen.com)> and <[www.expertcity.com](http://www.expertcity.com)>)

While the Keen and Expert sites are fun, I also have a few favorite help sites, none of which are interactive. But they supply free, solid support:

- **32bit.com forums**

<<http://www.32bit.com/forums/>>

- **NoWonder SupportBoard**

<<http://www.nowonder.com/>>

- **Support City** (This is a terrific site! It tells you where to get help, provides manufacturers' site help policy, and links to third party support. <<http://www.supportcity.com/>>

- **Experts Exchange**

<<http://experts-exchange.com/>>

- **Storage? We've Got Some**

**i-drive:** Last year I looked at [Freedrive](http://www.freedrive.com), a web site that lets me share files with others. Two problems: A kludgy interface and limited space. But I recently found i-drive, a substantially better site that does tons more than freedrive.

I use i-drive in two ways. If I have a large file to share with others (like that Alien Song MPEG you saw at a recent PIBMUG meeting), I send it to i-drive. You head for my i-drive and pick up the file at your leisure. Why not use e-mail? Because most ISPs limit the size of an e-mail attachment to 2 or 3MBs.

I-drive has other terrific advantages over similar sites. It interacts with my PC: Uploading files is a snap because a small java applet pops on screen with a directory of my hard drive. Click a button and the file's on the way to the i-drive secure server.

The other way I use i-drive is to synchronize my hard disks files onto their server. A small application—i-driveSynch—sends entire directories to i-drive at regularly scheduled intervals. Right, a free backup program for critical files.

I use it when I'm working on a PC World column or the PIBMUG newsletter. Files are saved quickly and efficiently offline.

Another i-drive *big* deal is storage—if you play your cards right, you can have 70MBs.

Start by going to <[www.mp3.com](http://www.mp3.com)> and head for any music category. Find something appealing (there's lots and most of them have free samples) and click on a specific title. (If you're struggling, try this one: <[http://artists.mp3s.com/artists/63/liona\\_boyd.html](http://artists.mp3s.com/artists/63/liona_boyd.html)>).

Then look for the link that says *Save to i-drive* and click it. Once on the i-drive site, register and the music will automatically be sent to your account. By first visiting the MP3 site, i-drive boosts your storage size. I-drive's InfiniteDrive tab can hook you to another music site—<[Epitonic.com](http://www.epitonic.com)>. Do a sideload (essentially a transfer from Epitonic to your i-drive site) and you get a 30MB reward.

One concern I have is security. The site has two privacy statements. They say (look in *Corporate* and then *About Us*) that my data is encrypted using

128-bit SSL before it's sent from my web browser and their servers. Files are stored on i-drive database servers that aren't reachable directly from the Internet. Data is stored on systems that are fully redundant with fully mirrored drives, and locked in a datacenter that's protected 24 hours a day by security personnel, surveillance cameras, and biometric door locks. Sounds good.

At the same time, they also say, *although information that you submit may be password-protected, i-drive does not guarantee the security of any information transmitted to or from this web site. You agree to assume the security risk for any information you provide using the Services.*

Can a hacker (worse, an unhappy tech support or engineer from i-drive) get access to my personal and private data? I don't *think* so but I just can't be sure.

So for now, everything I upload that I consider important gets encrypted. (Here's a quick and dirty way to do it: Zip the file using PKZIP and password protect the Zipped file.)

**Steve Bass is a Contributing Editor with PC World Magazine, frequently writes for Forbes ASAP, and is the president of the Pasadena IBM Users Group. He often writes with his tongue in his cheek. Write to him at [stevebass@earthlink.net](mailto:stevebass@earthlink.net) ✓**

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**END**