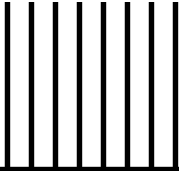# SEMCO

Official Newsletter

SouthEastern Michigan

Computer Organization, Inc.

DATA BUS

**DATA BUS Addendum
page 24**

SEMCO CD Sale, Page 4
Editor's Corner,   Page 4

Volume 26	MARCH 2001	Number 3

IN THIS ISSUE

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.

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; 0r e-mail 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.

SEMCO does not condone in any way the illegal copying of copyrighted computer programs and will not tolerate such practice at any club function.

Your mailing label and membership cards list the month and year your membership expires. A DUES DUE message may appear on the newsletter back cover page two months before your subscription expires. Newsletters will not be sent after the month of expiration. Back issues may not be available. Renew your membership as early as possible to avoid missing any newsletters.

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

Many thanks to Chuck Morey, outgoing officers, volunteers and all supporting members over the past years.

How I Arrived
at the Doorsteps
of the
SEMCO Organization!

In September of 1995 I was injured on the job and while recovering I found myself with spare time. By December boredom set in and I needed to make good use of my spare time. After watching too much TV, but observing all the Internet addresses dot com this, dot com that, I decided to research and purchase my first computer. After arrival and setup I immediately knew that windows classes were necessary to understand and operate correctly my New Cyber Tool.

My first class started with keyboarding, then Beginners Windows, etc., etc.

Continuing to search for extensive learning and New Ideas I began attending the Holly Area Users Group (HUG), and from there I learned about Flint Area Computer Enthusiasts (FACE). At Face I discovered SEMCO and, after attending my first meeting, membership was inevitable.

I am a retiree from Pipe Fitters Local 636 with 39 years of service. The last 22 employed by United Technologies Co. Carrier Corporation, Detroit Office as a Refrigeration Fitter and Air Condition Service Tech. Centrifugal and Absorption equipment 100 tons plus. In later years our control systems were replaced with Micro Processors which we were required to set up and trouble shoot. This stimulated the desire to learn more about PC Technology.

Looking to the Year Ahead building our membership is of the utmost importance.

Spread the Word of the SEMCO organization: Friends, Neighbors, Local Libraries, Organizations etc., etc., etc.

See you all at the March Meeting.

Think Spring!   …and Thanks

SEMCO MEETINGS
Sunday,
MARCH 11, 2001

Board Meeting	**12:00pm**
General Meeting	**1:30pm**
SIGS IBM/MAC Mtgs	**1:45pm**
Social Period	**3:15pm**
SIG-IBM Novice	**3:45pm**
SIG-IBM Intermediate	**3:45pm**

Coming…
JIM RARUS
Former SEMCO President
Commemorating
SEMCO's
25th ANNIVERSARY
April 8, 2001
1:00 to 4:00 PM
(3:00 to 4:00 PM mingling time)
If you would like to
participate by speaking,
bringing computer equipment,
relating an interesting story,
or bringing refreshments
see next month's instructions
and contact

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, Membership Directory, Articles of Incorporation and Bylaws, also some pictures of SEMCO people and events. Included is a searchable index of all the issues on the CD to help you find things. The CD will also have the Acrobat Reader files for Windows 95, 98, NT, 2000 and ME (same file), 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.

Note: There will be a demo during the SIG-IBM Intermediate meeting. √

Editor's Corner

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

Check out my new Web page containing interesting articles from various UG newsletters.

Horst Gorgas, editor for Charlotte County Personal Computer User Group, asked about using my column in their newsletter and he provided information to post on my Web site's distribution page. I hope their members enjoy the column.

What a Deal!!

I drove a neighbor to a Best Buy store today to pick up his new TV. Best Buy

is a place I rarely frequent, but while waiting for my friend, I looked at a package of 5 Memorex CD-RW disks for $5.99. I also checked the price on a package of 10, which was $15.99. This Best Buy deal left me wondering what I may have missed in the interpretation. I've heard about "modern math." Maybe I should take that class.

Have you noticed in many weekend sale flyers that sale items often show no regular price besides the sale price? In reality there's no sale at all, just a featured item with a large price that "appears" to be on sale. I've noticed one store's flyers doing that for several years now. Guess the others are learning from them.

To Linux, Or Not To Linux

It was not a good time for the Intel Pentium 4 in early January 2001. Some distributors installing Linux found that the install was less than clean since the operating system's installation procedure could not properly identify the chip. Apparently it had to do with Intel changing its CPU identification model numbering. Intel says they informed distributors of the chip update, but some distributors didn't attend the briefing so they didn't update their operating systems.

From what I read, the best bet is Red Hat's Linux, which is said to install correctly. Caldera and Turbo Linux have a work-around to sidestep the problem. Others do not have any information to help, but do know about it. Perhaps this won't matter that much, since Pentium 4 sales are sagging anyway.

Updates

1) Ken Winograd e-mailed me to alert you that both of his Hang2000 games (for Windows and Macintosh) have been updated. The info in the Presidents and Vice Presidents categories is modified. (Guess why?) He didn't say if there was anything about "Florida" or "pregnant chads" in it.

Info: <http://www.winograd.com>
Windows download: <http://www.winograd.com/Hang2000-Setup.exe>
Mac download: <http://www.winograd.com/Hang2000.sit.hqx>The .exe on the file means it is self-extracting. According to Ken it will ask you before it installs anything.

2) The DesignCAD offer is still good so I suggest you order it now if you are interested. It's a nice saving. Phone: 800-233-3223 or 918-825-4844.

3) I don't know if they'll still honor the Caligari iSpace offer or not, but if you want iSpace, give it a try. Go to <http://www.caligari.com/ispace/is1dg/> to order iSpace. Caligari has also introduced version 5 of TrueSpace. There was an incredible offer for just a few days, but it has expired and a new one is now in effect for upgrades. Check their Web site.

Now For This Month's Items
How Clean is Clean

A few months ago I wrote about Steve Gibson's Web site and his "Optout" program to search your hard drive for "spy" software that might report on you. David Walters of Greater Orlando UG suggested that you should go to <http://www.lavasoft.de/aaw/index.html> and download a more comprehensive program (freeware called AD-aware) that also searches your hard drive for "spy" programs. You have the choice of removing what it finds. David says a clue that spyware might be on your computer could be sluggish performance caused by the spyware working in the background, and it could even lead to crashes.

I also received an e-mail newsletter

from Steve Gibson offering "LeakTest" as freeware to test your firewall at <http://grc.com/lt/leaktest.htm>. I suggest you read all the important information on Steve Gibson's Web site <http://www.grc.com/>. I was told that Steve had a new opinion of Symantec's Internet Security, but didn't find it.

Oh No, Taxes Again!!

This may be a bit late (not for procrastinators like me), but I'll remind you that you can download a free tax program (Tax Act) for doing your federal taxes at <http://www.2ndstorysoftware.com> for absolutely no cost. They do have "Tax Act Pro" that is not free, but many will get along nicely with the FREE version. Take a look.

Server Software

Here's a chance to test "X-Win32" to connect to a Linux or Unix server. X-Win32 provides intuitive point-and-click access from Windows-based client desktops to Linux and Unix servers, and was ranked first in four of seven test areas by "CMP Media's" real-world labs. With X-Win32 PC, users can run even the most memory-intensive, graphics-rich Linux applications on their Windows desktops.

Go to <http://www.starnet.com/x4u/ssh.htm> to download an evaluation copy. Use the license key VN: 1714552-12727 for the download. You have 90 days to see what you think. If you like it and want to purchase the software, e-mail Paul Swart, vice-president sales and marketing, at <Paul@StarNet.com> to get the special price of $175.00 ($75.00 off the retail price). I know nothing about server software so check their product description at the Web site <http://www.starnet.com>.

Clean Your Computer—FREE

Susan Ives of Alamo PC Users Group passed this on to me through their editor, Clarke Bird. "If you are running a current virus scan program, ignore this, but if you are not, you can check your computer and clean it here <http://housecall.antivirus.com/>. Keep your computer checked (for free) often. You install a small program and can virus scan your computer on the Web. The site is run by Trend Micro, the creators of PC-cillin."

How About a Deal, And a UG Fund Raiser

Several editors forwarded this one to me. It was e-mailed by Boomerang Software to all user groups belonging to APCUG. Here is an abbreviated description and statement by Boomerang.

"Now you can use FrontPage 2000 and Total E-Commerce for FrontPage 2000 together to build complete E-commerce sites. However, for a limited time only, we are offering Total E-Commerce for FrontPage 2000 for the Special Introductory Price of $119.95.

"Limited time special introductory offers on Boomerang products and services:

* Total E-Commerce for FrontPage2000 - sale price $119.95 (retail $149.95)

* WebShop Designer 2000 - sale price $69.95 (retail $79.95)

* Internet/Intranet Design Shop Gold 2000 - sale price $49.95 (retail $59.95)

* Photo.Web Deluxe - sale price $29.95 (retail $39.95)

* Web-Hosting - General and E-commerce - sale price $14.95/mo - one month free

* Dedicated E-commerce Web-Hosting - sale price $39.95/mo - one month free

"Prices in effect until February 1, 2001, but check with your user group since the time period may be extended due to

newsletter delivery schedules. Prices do not include shipping and handling.

To help support your user group, Boomerang will contribute to your user group an amount equal to 10% of the sales of the listed products generated by your group's members during this period. Your group's officers must contact Boomerang to make appropriate arrangements. If the group does not take advantage of this offer of support, individual members can still take advantage of the limited time special introductory offers (check with your user group special offer coordinator who should have details).

"To purchase these products and services and receive credit toward our contribution to your user group, please call 617-489-3000 ext. 114, or e-mail: richards@boomerangsoftware.com, with ordering information. Please be sure to state the name of your user group and where you can be contacted. This offer applies only to the listed products purchased via the above telephone number or e-mail address, and is available for a limited time only. It does not apply to any sales of Boomerang Software Inc. products or services purchased in stores or elsewhere. For further information regarding Boomerang Software products, please visit us at <www.Boomerangsoftware.com>."

Free Software, Anyone??
I've never even heard of this product until I read of it, but since it's FREE, you might like to take a look. "Snippets version 2.0" (a major upgrade) is available at <http://www.snippets.com>. The review I read called it a browser, but their Web site says "The Ultimate Desktop Dashboard." Whatever—new features improve how users access the Internet. It automatically retrieves information daily, hourly, or minute-by-minute, and delivers information from several Web sites to alert the user. I've not tried it, just thought I'd pass it on.

Microsoft Mindshare Newsletter, Check It Out
Many user group members subscribe to the Microsoft Mindshare newsletter, which contains good information for all kinds of interests, including developers. For people who want to learn, you could have taken the on-line multimedia tutorials FREE for the month of January. Each newsletter has a URL for "tips & tricks." To subscribe, go to <http://www.microsoft.com/mindshare/monthly.asp>.

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 Cheapskate) Click <dealsguy@mindspring.com>. Visit my Web site at <http://www.dealsguy.com> to see past columns, and some other articles of interest. √

User Groups Defined
by Dick Bromley
Crystal River User Group
e-mail dickb@hitter.net

My unknowing computer-less cousin gave me the "Oh!.. really?" response when I uttered the name of our computer club to him recently. The second word in that title seems to present an altogether different meaning to some of our more worldly citizens.

Well! Herewith is my offering to clear up any misunderstanding(s) as to the purpose and choice of the name of our organization, as well as others of similar bent.

A user group is a community of computer enthusiasts who band together to learn, to share experiences, and to serve their community. This pretty much reflects the club's statement of purpose within its by-laws. The use of the descriptive word "user's" is more or less traditional when it is found in the name of many cyber-clubs. So it was incorporated in ours...its connotation was not in question when the club was born.

Our main thrust is, and has always been, to provide computer and software education. That means the instruction in using your computer more effectively. To achieve this goal we try to keep pace with the industry trends, get updates on new hardware and software, then bring this information to the classes we hold for our members and the community.

We make it a policy to share social activities with fellow computer enthusiasts at our general meetings held monthly in the local recreation center. We offer a social hour prior to the gavel rapping so that general mingling can ensue. This period usually includes the opportunity to present certain troublesome technical queries to selected "gurus" in attendance.

Our community activities include support to local schools and charities. The recycling of used computer equipment and working with senior centers.

The bottom line? Learning from each other's experiences and sharing ours through meetings, instruction, newsletters, and our Web page. <www.crug.com>

Dick is a past-president of the Crystal River User's Group (Florida's west coast) and currently acts as the club's publicity person. He also does some instructing in such subjects as Internet, Print programs (i.e. Shop and Master) and Quicken. If you use his article he asks that you send him a copy. E-mail address on byline, or snail mail : Dick Bromley 401 N. Turkey Pine Loop Lecanto, FL 34461 √

Macworld
San Francisco 2001
by Schoun Regan
sregan@completemac.com

Macworld is the Comdex of the PC world. Where vendors hawk their wares, swag is easy to find, and the Macintosh community holds its collective breath during Steve's keynote address. The products Apple rolled out this time are both subtle and revolutionary, again rocking the PC world and setting standards for others to follow. We'll go in the order of the announcements because it's more fun that way.

March 24: More precisely Saturday, March 24. That's the day Mac OS X is released to the public for the retail price of US $129. When Apple rolled out the beta, they had over 100,000 users purchase a copy. They had over 75,000 comments. Mac OS X is UNIX with a Mac interface built on an open source platform. From many people's standpoint, this is Utopia. While I'd like to cover X in more detail, I'll wait until March to do so.

Next up was an upgrade of the PowerMac line. These are the desktop computers that are great to look at and pop open with the flip of a latch.

They're getting a much faster BUS and a speed bump with four models available—466, 533 (available in a dual processor configuration), 667, and 733 MHz models. The 466 and 533 models come with 128 MB of RAM the other two, 256MB. Hard drive sizes range from 30-60 GB and all models but the 466 comes with GeForce2MX nVidia cards (The 466 comes with a RagePro 128). Prices are US $1699, 2199, 2799, and 3499 respectively. All models come with CD/DVD/CD-RW drives standard except the 733. Here's where things get, well, revolutionary. The 733 model comes with something called a SuperDrive. This drive is something different. We all have players than can play CDs. Some of us have players that play DVDs. We may have CD burners—units that can create a CD. But units that can create a DVD, let alone one that can be played in consumer DVD players, cost US $5000-10,000. Until now. The SuperDrive can read and write CDs AND DVDs! Now, most of us have seen a DVD movie and we know they have interactive menus and backgrounds. Apple thought about that. Welcome to iDVD. As easy to use as iMovie, iDVD lets users create their very own DVDs and its free with the SuperDrive in the 733! It took a while to create a DVD in the past. A one-hour DVD may take as much as 24 hours to process. This is unacceptable to Steve. Creating DVDs with iDVD can be done at 2x! That means a one-hour movie will only take two hours to encode! All this for a price of US $3499! Steve said this marks the end of a dream he has had. The place went wild. He followed that with professional grade

DVD software called DVD Studio Pro. As easy to use as Final Cut Pro, DVD Studio Pro is a bargain at US $995 for the professional.

Then came iTunes. A free download from Apple that allows users to burn audio and MP3 files direct to CDs, connect to Internet radio stations, collect and save playlists, and much much more. This is yet another free gem from Apple that compliments the free iMovie software nicely. We were almost done when, in standard Steve Jobs fashion, he simply states, "Oh there's one more thing" Apple's new PowerBook G4. Totally redesigned, this will make even the most die-hard PC person go, "I want one!" They include a 5.3 hour battery, 15.2 inch mega wide screen, built-in FireWire, USB, Audio I/O, SVGA and composite video out, 56k modem, 10/100 Ethernet, infrared, PC card slot, AirPort wireless ready, a 400 or 500 MHz G4 processor, slot loading CD/DVD drive, (no tray!) 10, 20, or 30 GB hard drives, 128 or 256 MB of RAM (up to 1 GB), 5.3 pounds (!) and, are you ready for this 1-inch thick! Made of 99.5% pure titanium, this is one killer portable. Talk about a laptop. Rush to your nearest Apple dealer to gander at one of these!

While many people often understate Apple's influence in the market, taking in a MacWorld and seeing what Apple is capable of may cause more than a few people to start thinking a little different. And that's all Steve asks.

Schoun Regan is the training and media specialist for Complete Mac Services. They are Apple Specialists, Apple Solution Experts, and a training and consulting facility in Louisville, KY. He travels around North America teaching people all kinds of computer related things. He also regularly writes for Tech Republic, authors the Mac tips at <emazing.com>, chairs 84Online—a technology-centric radio program heard in more than 30 states on Louisville's Clear Channel

A Lap Top Computer Lesson
by Harold Balmer

You finally did it, bought a lap top (Make does NOT matter). You purchased a case to protect your computer. You are very careful as you load and unload the computer not to drop the computer. Have you noticed all the latches that are on the bottom or side of the lap top? These allow you to remove the battery, or change out a drive, etc.

As you pick up the computer be careful not to place your hands on these releases, no telling what will drop out. Case in point: I have hit the button on my PC lap top and had the battery fall out onto the table. A short distance so no problems, put the battery back in. But somehow on the Mac I also hit the button and the battery hit the floor hard—no carpet on the floor and about a distance of five foot. I did the same thing, put the battery back in, no visible damage.

Funny things started to happen. The clock in the computer kept losing time and one time reset the date back to 1980. Had to reset the mouse speed. Started checking the battery and it was not accepting a charge even though it was plugged in for hours. Finally decided to replace the battery. The new battery accepted a charge and all has been working great.

Lesson learned: Watch where you grab or hold your lap top. Consider placing tape over the latch, especially if you rarely remove the item. I used a good quality black electrical tape, though duct tape would work just as well. Cost of the lesson: about $200.00 for the replacement battery. √

Did you get AnnaK worm yet? Here's a quick and easy way to trick the worm
by Rod Ream
rodream@techie.com

Visual Basic Scripts (VBS) are popular with virus writers. That's because they're easy to create and will launch if sent as an e-mail attachment. And the recipient double-clicks on them.

But there's an easy, free way for you to defeat Visual Basic Script viruses.

Every file type has a default action that takes place when we double click on a file. The default action for double clicking on a VBS (Visual Basic Script) file type is to open and execute the script file. That means double clicking on the attachment runs or launches the script. This default action is the mechanism that can result in system infection if a user unknowingly launches an infected attachment received in an e-mail message.

You can easily change this action and stop the accidental launch and execution of a VBS file by making it do something else when double-clicked on.

Some users have disabled or removed the capability of the system to run a VBS file out of fear of potential viral exposure. However, there's a relatively easy fix for this that will still permit a Web page or other application to run a VB script when such function is actually needed, but will block the

10

double-click action. The fix is to change the default action to Edit, which causes the file to open in Notepad rather than execute.

Here's the Step-by-Step:

In Windows Explorer (not Internet Explorer), open Folder Options under the View pull-down menu (moved to Tools in Windows Me). Select the "File Types" tab and scroll to VBScript Encoded File. Click on the "Edit" button ("Advanced" in Windows Me).

What happens is another window will open showing the possible file actions, with the default action indicated in boldface type. The default action is likely "Open." Highlight instead the word "Edit" and click on the "Set Default" button. "Edit" should now appear in bold face.

In some older systems the Edit function may not be listed. In such instances, click the NEW button and enter "Edit" in the action field and "NOTEPAD.EXE" in the application field. When "Edit" has been added make it the default action as shown above.

While in the file type screen, also make sure the boxes for "always show extension" and "enable quick view" are also checked. Click "OK" to close the open windows.

Windows usually has several example VBS files on the system, in a folder named "sample." Find one of them and double click on it. If the action caused Notepad to open and display the content of the file, you've done it correctly and are now safe from an accidental VBS infection.

Rod Ream is senior tech support for the Pasadena IBM Users Group and president of PC Consulting, 626/280-6850, rodream@techie.com √

E-Bay? I Love It!
by Becky White
Pasadena IBM Users Group

I have been using ebay to sell our antiques for about a month now. And I LOVE IT!

With ebay, you use them as a vehicle to sell or buy stuff, but deals are worked out between sellers and buyers directly. Ebay charges a very moderate listing fee for each item listed and a moderate percentage of the item sold, ONLY IF IT SELLS. If an item does not sell, you are only responsible for the listing fee, which is from $0.25 to $2.00, based on your starting value or your reserve price.

Did Your Item Sell Quickly?

Ebay asks you to set a specified period of time for each item listed.

The choices are 3, 5, or 7 days. You may be able to ask for a few more days, but most go with the 3-, 5-, or 7-day scenario. So, if you get any bids, items will sell as quickly as you choose.

Did it Sell for the Amount Asked?

When listing an item, you/seller defines the opening bid required, so no one can bid below your requested opening price. Also, there is an option to set a "reserve" price for each item, setting a minimum bid that you are willing to accept. Unless an item is especially valuable, most people do not use the reserve option. For some reason, it turns people off!?

Do You Get Paid Right Away?

Ebay is only a conduit, so money changes hands directly between seller and buyer. When an auction closes, buyer and seller have 3 days to e-mail each other. E-mail addresses are supplied by ebay. The seller tells the buyer how much shipping and insurance will be and what the total due is. In most transactions, the buyer pays shipping and insurance up front.

When seller receives the check, then

the item can be shipped, however, most sellers wait 10 days or so until the checks clear the bank. A seller can request specific types of payments, like money orders (safe to ship next day), visa, checks, COD or whatever works for the seller. Seller then packs and ships the item.

Any Hassles...Or was it Fun?

I have had a blast selling and buying stuff this way! I have made many e-mail friends and even have an e-mail pal in England, because of some of the deals I have made. Many of the people are incredibly friendly and personable! All, so far, have been good about paying on time and pretty good about communicating through e-mail. A few times, I have had dealings with people who are not accustomed to using e-mail and they "forget" to check their mail. When they realize that they need to read their mail, then the money comes quickly.

Over all, I have LOVED every part of my ebay experience with the possible exception of having to pack the darn stuff and take it to the post office! Stan helps out in that area a lot.

Becky White is known as "whitebear" on ebay. √

The Internet?
I Can't Live Without it!
by Steve Bass

The computer was turned off (really!) and I was sipping coffee and reading the Sunday funnies.

There's Cathy searching for airline tickets on the Internet. In one panel, a friend describes spending an hour juggling flight schedules on screen, trying to find the best time and low price. Another friend tells about finally giving up after experiencing the World Wide Wait at every airline site she visits.

Cathy also pokes around the Web and after four hours online, finally finds the perfect, discounted ticket.

When she finally gets on the flight, the passenger next to her explained how his discount ticket cost him $20 less then Cathy's.

The punch line? He apparently doesn't own a computer and got his ticket by making a ten-minute phone call.

Of course the guy missed the point. I mean, why in the world would anyone want to do something by phone when you could use modern technology?

Okay, I'll admit that I've done it. I'll invest 20 minutes using a dozen search engines trying to find a phone number for a restaurant. Oh, sure, I know—it's in the Pasadena Yellow Pages. And the book's sitting on the bookshelf just across the room. But that's the point, right? It's not within reach—and I'm already logged on. <smile>

Seriously, used judiciously, the Internet's a tremendous tool. In the last few weeks, I've been able to use the Web to: Get an obscure part for a camera lens, find replacement vinyl straps for a lawn chair, buy discounted wallpaper (50 percent less than the local shop), learn more about Home Theater devices than I could at a local store, find an out-of-print book and hire a fencing contractor. Here are some other examples:

Improve on This

The fencing guy came by way of ImproveNet, a Web site that hooks me up with a contractor. You plug in the details of the job and they find a contractor in your area who is qualified to handle the job. The site reports whether the contractor has a general liability insurance certificate on file with ImproveNet, has a license in good
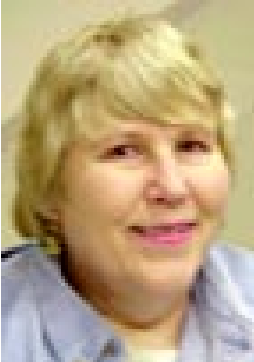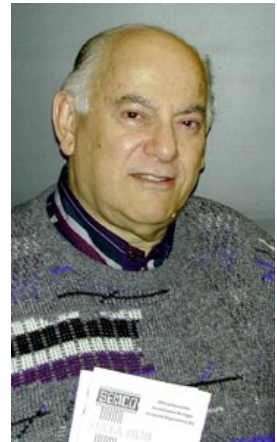
12

Gary DeNise, President

**Franz Briedenich,
Tom Callow**

Carol Sanzi, Sec'y

Roger Gay, Treas.

Vic Charns, V.P.

**Anthony Lavigne,
Marketing, Clarity**

Fred Nussbaum, of Clarity

standing, a clear financial history, and a clear legal history. Each item is updated quarterly.

So far, I've had good luck twice: first with a concrete job and again with the fencing contractor. Check it at <www.improvenet.com>

Beam it to me, Scottie

Last year I had a satellite dish installed on the roof and subscribed to DirecTV. It's terrific—the picture's digitally and stunningly crisp, the signal's never failed (hello? Charter Communication? How's your cable doing?), and the available programming is excessive. We're getting all the basic channels, a few premium channels, as well as the Independent Film Channel—all for a little less than cable service. <www.directv.com>

With all that high-tech beaming into the house, I don't want to sit in front of the TV and stare at DirecTV's on-screen scroll to keep track of what's playing. Instead, I use TV Grid, a nifty Internet service that jumps through hurdles for me. <www.tvgrid.com>

First, it offers what every other TV service has—a grid listing your favorite stations. So far, no big deal. But when I move the cursor on top of the movie or show, a description appears in another frame. Click on the link and another Java-based window pops up letting me quickly jump to one or two movie review sites <http://www.mrqe.com/> or <http://www.imdb.com/>. Then the film's title is inserted into the search engine saving me keystrokes. Very cool.

It gets better: I want to watch a specific movie, say, the Producers, I can create a Perpetual Reminder. TV Grid searches every morning, e-mailing me if they find a match.

Inside DVD

Do you have a DVD player? Then sign up for a free DVD of Infinity, a 1996 movie starring (and directed by) Matthew Broderick. It's an account of the personal life of Manhattan Project scientist Richard Feynman. First read some reviews here...<http://us.imdb.com/TUrls?COM+0116635>

I discovered the free DVD—from Inside DVD: The DVD Entertainment Magazine on the Web.

Log onto Inside DVD's Web site, register, and they'll send you a DVD. Free. No hooks and no obligations.

And nope, I haven't received any e-mail or junk mail—and I've been signed up for six months. That's because the DVD's advertiser sponsored.

Nonetheless, it's loaded with movie trailers, music, previews, and other stuff (and, because it's DVD, you can blithely ignore anything you're not interested in viewing).

Shopping for a DVD—or Anything Else?

If you haven't tried comparison shopping on the Internet, you're missing a ton of fun. Even if you don't buy anything on the Web, these resources take the hassle of comparing products and features.

The very best site at feature comparisons is <www.compare.net>. I started by searching for a DVD player. Once the models came on screen, I could click a few DVD models and in a few seconds, I had a grid on screen showing each product feature compared to the others. You can also drill deeper and have the site get you pricing.

There are loads of sites that'll check for low prices, but the two most comprehensive I found: Excite's Product

Finder <www.jango.com/xsh/index.dcg?> and Bottom Dollar <www.bottomdollar.com/>.

But it doesn't stop there.

As I began shopping for an A/V receiver, two PIBMUG members told me about the Audio Review site <www.audioreview.com>. I searched the site, found the A/V unit I was interested in, and found—ready?—5 independent reviews.

People rate themselves as audiophile dweebs, casual users, or audio enthusiasts, and then post a review. The value is tremendous; I soon learned that the model I chose was both underpowered and had problems with high-range frequencies. It was a bad choice for me. I figured the reviewers were on the same wavelength as I so I sent e-mail to a number of them, asking for recommendations.

The replies were equally valuable. I read the reviews of another receiver and it helped with the buying decision. Better than relying on a Circuit City salesperson? You bet!

In the meantime, I've got to go online. A new Cathy's just been posted. <www.uexpress.com/ups/comics/ca/index.html>

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. √

Who Dat Who Said Winmail?
by Steve Bass

Has this ever happened to you? You receive an e-mail and there's a winmail.dat attached to it. The attachment can't be viewed, decoded, or converted. Any idea what's going on? Well, it's not a rare event and there's not much you can do about it.

This file contains formatting code that was sent by someone using Microsoft Exchange or Outlook. It usually doesn't contain any useful information other than Rich Text Format (RTF) formatting code that permits two MS Exchange users to send e-mail messages with formatting such as bold and italics.(Oddly enough, there's no relationship between RTF files and RTFM instructions.)

When a user sends an e-mail with this formatting option to someone not on Microsoft Exchange, a winmail.dat file appears as an attachment, but it is useless to the recipient.

When a separate attachment, such as a Word 97 document is also sent from the user on Microsoft Exchange, the attachment and winmail.dat file may be combined into a single winmail.dat file our program cannot do anything with.

Here's the deal: Have the sender turn off the option to send Rich Text Formatted e-mail messages to you. This can be specified on an individual recipient basis but they may have to consult the product documentation for detailed information.

Current versions of the Microsoft programs by default send plain text e-mail to new recipients instead of the RTF text.

For a very rich FAQ, check the Microsoft Exchange Frequently Asked Questions page. It contains answers to questions about Exchange, mostly from folks wrestling with it as their mail client on Win 9.x, where it is also known by the euphonious name of Windows Messaging. Check here: <www.angrygraycat.com/goetter/exclifaq.htm#suppressrtf>. √

Two Bits
by Steve Bass
Pasadena IBM Users Group

I bump into small, interesting material-ettes throughout the month. There's usually not enough for a column but I just don't have the will not to use it somewhere. (Stop laughing, I suffer from a retentive personality disorder.) So here we go:

When a Beta Isn't

I spotted this on ATI's site, the maker of video cards. It was on their driver update page and is an exercise in doublespeak. "In some cases, our Special Purpose software has not yet completed the internal testing and/or third party certifications typically required for a software release. Some 'Special Purpose Drivers' may be considered 'BETA.' Please check the release notes and read the disclaimers before downloading."

Dogs United

There are dog parks everywhere—one near Laurel Canyon, another in Sierra Madre, and one in Claremont. There are roughly 75 dog parks in California but none in Pasadena or Altadena. <www.dogpark.com/prkca.html> Unfortunately, at least in Pasadena, the officials are dragging their feet and avoiding the issue. That's about to end.

In Altadena, there's talk of transforming a vacant, four-acre area near Farnsworth Park into a dog park and community garden.

In Pasadena, officials are moving on a park not far from Eaton Canyon wash.

Getting Together

The one thing that seems to annoy politicians is publicity. When large groups converge on one spot, they seem to listen.

Enter eGroups, the extraordinary method for getting people together, keeping them in touch, and quickly calling them into action.

For instance, the Altadena Foothills Conservancy is dedicated to preserving the local mountains and they have an eGroup. (Check that swath of dirt above the 210 freeway in Kinneloa for an example of what's happening.) Subscribe by sending an e-mail to: Altadena-Foothills-subscribe @egroup.com

Want to support getting a dog park in the area? Subscribe by sending an e-mail to: poochsubscribe@ egroups.com

Windows ME and DOS

When Microsoft released Windows ME, they decided to protect you from Real DOS-Mode. The truth may be that they didn't want to continue supporting DOS. Actually, Windows ME architecture allows it if you know the trick.

Download a free patch (and back up your PC before you do, eh?) to modify "IO.SYS," "COMMAND.COM" and "REGENV32.EXE." The patch will unhide the Real DOS-Mode on Windows ME systems and let you boot just like you did in Windows 98. That means you'll be able to get to a startup menu and DOS by pressing "Shift-F8" at boot-up, use "CONFIG.SYS," and "AUTOEXEC. BAT" before Windows loads. The patch is here: <www.geocities.com/ mfd4life_2000>

Digital Phone Delights

I received this quick review from Paul H. the other day. It's worth the read.

Yesterday I bought a cool new software program for programming and

backing-up the data on my cell phone. It is way cool! (So cool I wish I had bought stock in the company and maybe I still can if they are publicly traded.)

It's a sad story: I spent over five painful hours reprogramming my cell phone from the phone's dialpad. One digit at a time, a very tedious process. Never again, I swore!

So I searched for something that would make it easier to replace the programming on my cell phone if this ever happened again.

I bought Fonesync at Fry's for about $60 (make sure you grab the software box that has the cable inside that matches your cell phone type).

FoneSync includes a cable that connects to my PC's serial port and the phone. It makes programming and backing-up the data for my cell phone onto my computer. Check it out if this sounds like something you would like to do. <www.fonesync.com>.

Paul H. youthful retiree and local PIBMUG attendee and member since the 80's. He's not connected to FoneSync software and regretfully doesn't own stock in their company... (Awww, shucks!)

Saving Bookmarks in IE 5.0
PC World contributing Editor Scott Spanbauer was asked, "Is there any way to save the list of URLs in my Favorites (IE 5.0)?" Easy: File, Import, and Export, then choose Export Favorites from the list...(a few steps left out). This generates an HTML page of your Favorites, not a list of URLs. You'll have to edit to get a plain list of URLs.

Cable Modem Interruptions?
Here's a free program to help determine why you have interruptions on your cable modem connection. The site explains that if you are a cable modem user, you probably notice times when you are unable to access Web sites, receive e-mail or use instant messaging.

These service interruptions sometimes develop from problems with downstream routers and websites, and may also be due to problems in the cable lines, or perhaps even network congestion because of high utilization in your region. Calling your cable service provider may help, but you will almost certainly have to wait on hold for a long time. Your service provider may also request that you submit a "log" of times your service was out. <www.cabletraffic.com>

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. √

BOARD MEETING
2/11/01
Carol Sanzi

Present: President Gary DeNise, Secretary Carol Sanzi, SIG-Advanced Chairman Franz Breidenich, SIG-IBM Co-Chairmen Tom Callow and Warner Mach, SIG-MAC Chairman Harold Balmer, Past President Bob Clyne, and arriving late Vice-President Vic Charns and Treasurer Roger Gay. The meeting was called to order at 12:04pm.

OLD BUSINESS: SIG-Intermediate remains without a chairperson. Carol Sanzi will circulate a request for a volunteer at the general meeting. If you are will-

ing to arrange for speakers or demonstrators, please contact a board member.

Tom Callow distributed copies of the Application for Recognition of Exemption Under Section 501(c)(3) of the Internal Revenue Code for SEMCO may begin the process next month. Once attained, donations to SEMCO would be tax deductible and special mailing rates would be available.

Tom Callow moved to reimburse Warner Mach $6.74 for refreshments. Franz Breidenich seconded the motion and it was carried.

NEW BUSINESS: Plans are continuing for SEMCO's 25th Anniversary meeting in April. Carol Sanzi will submit an article for possible publication to the Free Press. Gary DeNise will research the cost of a plaque to honor Jim Rarus, the longest serving president of SEMCO.

Tom Callow moved to appoint Bert Farmilo, Larry Chenault, and Anita MacSorley to the audit committee with Harold Balmer as chairman. Franz Breidenich seconded the motion and it was carried.

Chuck Morey volunteered to host the Novice group today.

Tom Callow presented the following resolution: "The entire Board and Membership of the SouthEastern Michigan Computer Organization hereby expresses its appreciation to Chuck Morey for serving as President of SEMCO for the past year." The resolution passed unanimously.

The meeting was adjourned at 12:59pm. √

SPECIAL INTEREST GROUPS (SIGs)

SIG-MAC
2/11/01
Harold Balmer, Chrmn

TERRY WHITE ANNOUNCES:

• 512MB PC-133 Memory for the New PowerMac G4'S has been found on The Chip Merchant <http://www.thechipmerchant.com/15845-0.html>, per Mark Baum.

• Check out <http://www.ramseeker.com> if you're looking for great RAM prices.

• According to MacCentral, Apple has begun shipping the 733MHz PowerMac G4 with the "SuperDrive" <http://www.maccentral.com/news/0102/19.superdrive.shtml> √

MAR 11: To be announced. For up-to-date info: <http://www.semco.org> √

NOVICE-IBM GROUP
Rotating Volunteer Hosts

Novice SIG 2/11/01
by Harold Balmer

Yes, even I get to be the leader of the novice SIG, though it is sometimes hard to see why they bought a PC instead of

a Macintosh. Back in October we took a look at the differences between Netscape Navigator and Microsoft Internet Explorer. Most of the items are the same or similar.

As you surf the web, you can mark places that you find that you would like to return to later. In Netscape you "Book mark" these locations. In Explorer these are called "favorites." They both do the same thing, mark places where you want to return to later without having to remember the web address.

After you get done at a site, you can hit the home button and return to the starting point of your web surfing. One person was quitting out of the explorer program and restarting the program to return home. While this will work, it is easier and faster to hit the home button.

Got a question? New to computers, come to the novice SIG. I heard of a person who has had their computer over a year. She finally went on-line and got her phone bill. She had been dialing long distance to get on-line when she had a local number she could have dialed.

MAR 11: Q&A, member-directed discussion. Host: To be announced. √

SIG-IBM
Tom Callow
Warner Mach

MAR 11: TAX PREPARATION SOFTWARE: Co-Chairman Tom Callow will demonstrate how you can prepare your own income tax returns using TurboTax. √

SIG-ADVANCED
Franz Breidenich

MAR 5, Monday: Meetings held first Monday 6:45pm at Troy Public Library. TOPIC: Wide ranging discussion of computers & computing. √

? **SIG-IBM INTERMEDIATE**
Position open

MAR 11: How to create a training manual using Microsoft Word: Richard Jackson to demo creating a training manual using standard MS features. Also: Demo of the SEMCO DataBase and APCUG shareware CDs. √

DEADLINE NOTICE: Change in submitting copy for <u>April</u> DATA BUS. To submit copy <u>AFTER</u> MARCH 17, send to Bob Clyne at <u>clyne@mich.com</u>. His Deadline is the usual Wednesday at midnight, March 21. Bob must have it by then, or it won't be in the April DATA BUS.

Beth Fordyce
beth_fordyce@macgroup.org
(to post monthly computer group info)

**CALENDAR-OF-EVENTS
OTHER GROUPS**

AAIICI (Amer. Ass'n. of Ind. Investors, Computerized Invstrs),
  Mar 24 - 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

COMP (Computer Operators of Marysville/Port Huron)
  Mar 7 - Wednesday, 7pm (Next Apr 4)(Meet 1st Wednesday): Rm 201, Clara E. McKenzie Library-Science building, 323 Erie Street, Port Huron. Diane Shafer, 810-329-3279, gdshafer@advnet.net, Web: http://dns.advnet.net/comp/. **TOPIC:** "**Online Classes Offered at SC 4" by Bonnie DeNardo and Linda Davis of St. Clair County Community College.**

DCOM Computer Club
  Mar 9 - 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
  Mar 29 - Thursday, 7pm (Meet last Thursday) (not Nov/Dec); Bay de Noc C. C., Escanaba. Info: Gordon Nelson, Pres & Editor at gnelson@bresnanlink.net or 906/428-1014.

GDOUG (Greater Detroit OS/2 Users Grp)
  Mar 8 - 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. Map on Web: <lookinc.com/gdoug>.

MacGroup Detroit
  Mar 18 - Sunday, 3pm-5pm (Meet 3rd Sunday); Southfield Civic Center, 26000 Evergreen Rd., Room 221. Info: Terry White, terry@macgroup.org or 313-571-9817. Web: www.macgroup.org
TOPIC: March: "Adobe Photoshop Elements"; April: Mac OS X.

MacTechnics, **(MAC user Group)**, Coffee 9am, SIGs 9:30am, Main meeting 11am.
  Mar 17 - Saturday, 9am-1pm (Meet 3rd Saturday); U of M, No. campus, EECS Bldg. & Dow Bldg. (see map on web: mactechnics.org). Info: Cassie at cassiemac@yahoo.com or 313-971-8743.

MCUG (Michigan Computer Users Grp)
  Mar 15 - Thursday, 7pm (Meet 3rd Thursday); 35271 Rockingham Dr, Sterling Hts., MI 48310-4917; Info: Jerry Zinger, Pres. kahunazing@netscape.net 810-792-3394.

Michigan Apple Computer User Grp
  Mar 8 - Thu 7pm (Meet 2nd Thu) MAC: Troy Library, I-75 at Big Beaver; Feb 21 - Wed 7pm (Meet 3rd Wed) IIGS, Apple II/Apple-Works, Parent/Teachers Ed, PC, Internet: St Bede School, 12 & Southfield; Feb 15 Thu 7:30pm (Meet 3rd Thu) MAC Media Arts, Programmers: St. Bede. Info: Carl Pendracki 248/647-8871 or carlpen@aol.com. Web: <http://www.michiganapple.com>.

SHCC (Sterling Hts Computer Club)
  Mar 6 - Tuesday, (Next: Apr 3) 7:30pm (Meet 1st Tuesday: not July/Aug); Carpathia Club, 38000 Utica Rd, Sterling Hts, Pres. Don VanSyckel at VanSyckel@voyager.net, 810/731-9232 ; Web: <member.apcug.org/shcc>.

SVCA (Saginaw Valley Computer Assoc.)
  Mar 8 - Thursday, 6:39-9om (Meet 2nd Thursday); Saginaw. Info: Kay Engelhart program chairperson at kengelhart@hotmail.com.

Wayne State U. Mac User Grp
  Mar 10 - Saturday 10am-Noon (Meet 2nd Saturday); at Mich.com, 21042 Laurelwood, Frmgtn. Info: Lorn/JoAnn Olsen 248/478-4300 or Denny MeLampy 248/477-0190, 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
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 donatee will see that you receive a receipt. (Be advised that no one will make these lists for you.)
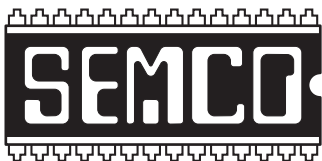
FEBRUARY REFRESHMENT DONATIONS

Warner Mach, Coordinator
Gary DeNise
Bert Farmilo
Betty MacKenzie
Carol Sanzi
Dawn Sanzi

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
John Diller—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—MARCH 2001
SCIENCE BUILDING, OAKLAND UNIVERSITY in ROCHESTER

March 11 - 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:** TAX PREPARATION SOFTWARE: Co-
Chairman Tom Callow will demonstrate how you can prepare your own income
tax returns using TurboTax.

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

NOVICE-IBM GROUP, 3:45 pm, **Room 164. Pgm:** Q&A, member-directed
discussion. **Host:** To be announced.

SIG-IBM INTERMEDIATE, 3:45 pm, **Room 172. Pgm:** How to create a
training manual using Microsoft Word: Richard Jackson to demo creating a
training manual using standard MS features. Also: Demo of the SEMCO
DataBase and APCUG shareware CDs.

SIG-MAC (All Apple Macintosh products), 1:45 pm, **Room168. Pgm:** To be
announced. For up-to-date info: <http://www.semco.org>
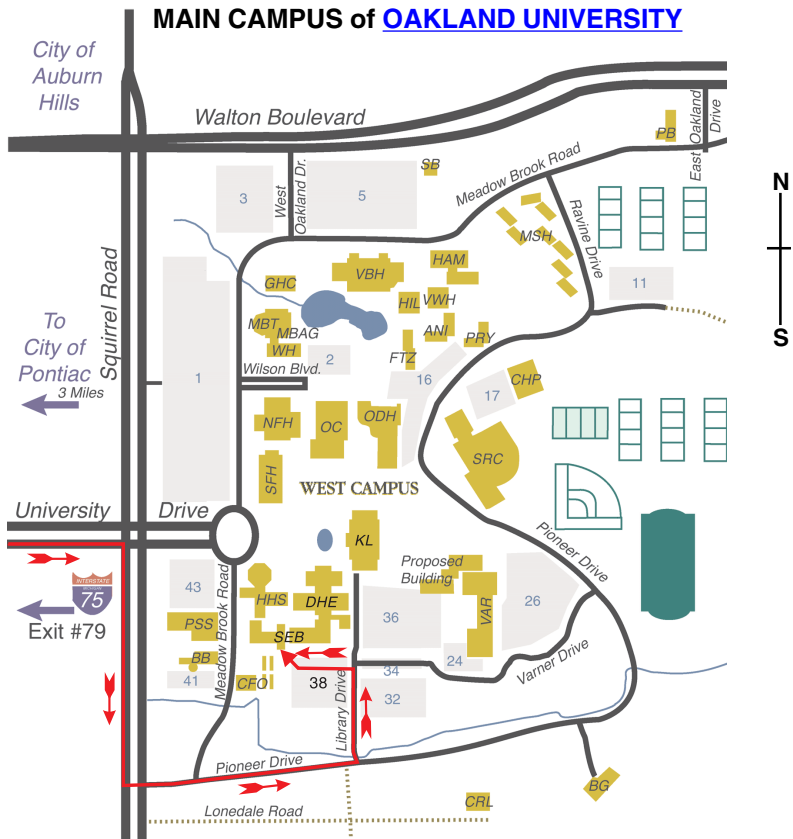
SIG-ADVANCED
 Mar 5 - Monday, (Next: Apr 2) 6:45 pm (Meet 1st Monday)**,** Troy Public Library,
Rm A, 500 W. Big Beaver Rd in Troy, at I-75 exit. Info: Franz Breidenich
248/398-3359. **TOPIC:** Wide ranging discussion of computers & computing.

SEMCO
 April 8, 2001 - SUNDAY (Meet 2nd Sunday). **30th Anniversary
featuring Jim Rarus, Past SEMCO President. If you would like to
participate by speaking, bringing computer equipment, relating an
interesting story, or bringing refreshments see next month's
instructions and contact.**

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

MAIN CAMPUS of OAKLAND UNIVERSITY

City of Auburn Hills

Walton Boulevard

To City of Pontiac
3 Miles

University Drive

75
Exit #79

WEST CAMPUS

Pioneer Drive

Lonedale Road

Squirrel Road

West Oakland Dr.

Meadow Brook Road

Ravine Drive

East Oakland Drive

N

S

PB
SB
3
5
11
MSH
VBH
HAM
GHC
HIL VWH
MBT
MBAG ANI PRY
WH
2 FTZ
Wilson Blvd.
1 16
17 CHP
NFH OC ODH
SRC
SFH
KL
Proposed Building
Pioneer Drive
43 HHS DHE
36 VAR 26
PSS SEB
BB
41 CFO 38 34 24
32
Library Drive
Varner Drive
Pioneer Drive BG
Lonedale Road CRL

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.

Member of

Association of Personal Computer User Groups
APCUG

Zip *rinting*

(248) 559-2230
Fax: (248) 559-8510

28635 Southfield Road
Lathrup Village, Michigan 48076

DATA BUS ADDENDUM

THIS ARTICLE DID NOT APPEAR IN THE PRINTED DATA BUS

Buying a New Computer

By Ken Hopkins

If you wander down to your local computer or office supply store, you will be confronted with a bunch of computers that look very similar. The key to differentiating them is in the specifications. The name brand computers like Compaq and HP will have little specification cards. This article will help you understand some of the stuff you see written there.

I know some of you are impatient. If you do not care about the whys, you can skip ahead to Recommendations for the whats.

If you are buying a computer these days, be aware that profit margins are very thin. The store will make very little money on your computer. For this reason, the prices will not vary much between different stores or even brands.

Be aware that the store will try to sell you an extended warranty because that is where they can make some money. The only computers I recommend buying the extended warranty for are laptops. I say that because I seem to break laptops just after they go out of warranty.

I generally recommend a name brand computer unless you happen to know a reliable builder. Be sure to read the return policy before buying the computer just in case you get a defective computer.

First the basics. Each of the specifications will at minimum reveal the following:

- Processor
- Hard disk type and size
- Memory size
- CD drive type and speed
- Video card type and memory

I suppose it is possible to select your choice from that information and the price alone but the following information should also be revealed:

- Data ports (types, numbers, and locations)
- Modem type
- Network card type
- Number of empty drive bays
- Number of empty slots (and type)

The specifications will probably not mention the basic items you get, like the keyboard and mouse. You need to try out the system to see if you like what they are offering. I often end up buying a better keyboard and mouse and shelving the one they include.

The system may also include a monitor and a printer. You will have to decide for yourself if they are really giving you a deal.

Processor

The processor is the core of the computer and there have been lots of currently have a choice between proces-

sors made by Intel and processors made by AMD. These are roughly equivalent processors and the choice is mostly a religious one. I personally always buy Intel-based computers but I have many friends who prefer an AMD-based computer. The price between equivalent speed processors is very close and so is the technology. I can not give a rational reason to prefer one over the other.

The speed of the processor is measured in megahertz and usually written as MHz. The low-end computers have a speed specification over 500 MHz. What that means is that the processor clock is ticking at 500 million times per second. There appears to be little difference in processor price per cycle (i.e., power per dollar) until you reach 700 MHz, and then it gets expensive. You can buy a computer with a 1 GHz (gigahertz) processor (one billion cycles per second) but expect to pay an additional thousand dollars for the privilege.

Running at those speeds, the processor generates a lot of heat and all computer systems will have processor fans. The best fans have ball bearings, but most manufacturers will not tell you anything about them.

Hard Disks

Unless you are looking at an expensive server-class computer, the computer will have an Ultra DMA hard drive. This is the latest evolution of the IDE drive. Ultra DMA hard drives are very inexpensive these days and this may be the most distinguishing feature of the systems you look at. Drives will range from 10 GB (gigabytes, a billion bytes) to 50 GB. If you are not familiar with the term gigabytes, think of one GB as 1,000 MB. I know that 10 GB sounds

26

Processors Comparison

AMD Duron
- 600, 650, 700, 750 MHz clock speeds
- 200 MHz system bus
- 128 KB L1 cache
- 64 KB L2 cache

AMD Athlon
- 700, 750, 800, 850, 900, 950, and 1000 MHz clock speeds
- 200 MHz system bus
- 128 KB L1 cache
- 256 KB L2 cache

Intel Celeron
- 466, 500, 533, 566, 600, 633, 667, and 700 MHz clock speeds
- 66 MHz system bus
- 32 KB L1 cache
- 128 KB L2 cache

Intel Pentium III
- 500, 550, 600, 650, 667, 700, 733, and 750 MHz clock speeds
- 100 MHz system bus
- 32 KB L1 cache
- 256 or 512 KB L2 cache

Intel Pentium III
- 600, 650, 667, 733, 750, 800, 866, 933, and 1000 MHz clock speeds
- 133 MHz Front Side Bus
- 32 KB L1 cache
- 256 KB L2 cache

Intel Pentium III Xeon
- 550, 600, 667, 700, 733, 800, 866, 933, and 1000 MHz clock speed
- 66 MHz system bus
- 32 KB L1 cache
- 256, 1024, or 2048 KB L2 cache

like a lot of storage, but right now there are companies creating programs that you will want in the future that will use up that space.

Some folks will tell you that SCSI hard drives are faster. That was once true but these days, they are very comparable. SCSI will cost you two to four times as much money for the same capacity (if it is even available). SCSI is more important in some mission-critical systems and servers. That is the subject of an entirely different article. Most of us do not need SCSI.

Memory

Required memory size has grown over the years. Most of these computers will have 64 MB of memory. I do not recommend anything less if you are going to use Windows 98 or Windows ME (due out in September). If you want to run Windows 2000, then you want at least 128 MB of memory. You will be happier with double my recommended minimums. Adding memory to the system will increase performance more than an increase in processor speed.

CD Drives

Every computer has a CD (Compact Disk) drive of some kind these days. CD media allows us to store about 640 MB of data on a 5 ¼" multi-layer plastic disk. The CD has taken over as the media of choice for program distribution. This is because the cost of manufacturing a CD for distribution is less than the cost of manufacturing a two-floppy disk set.

High-production CDs are produced by pressing them like vinyl albums were before audio CDs took over. The data

(even music can be considered data here) is recorded in the media as holes. The data is actually stored under the label and read through reflection with a laser. You can not actually touch the data area.

Low-production CDs are produced using a specially formulated CD called CD-R. The CD-R has the holes burned into the data layer via a laser. These can be written once and are then considered permanent. A low-production drive is not much different than the drive you buy for a home computer, except that it includes a feeder to insert and remove disks so the computer can make multiple copies unattended. The blank CDs cost in the $1.00 to $2.00 range, depending on the brand.

A special version of the CD-R was developed that could be erased and then rewritten. This is the CD-RW. The benefit of CD-RW is that you can re-use the CD, but with an overhead penalty. A CD-RW disk must be formatted like we used to do with floppies, but it takes longer. A partial erase just maps around the erased data without regaining the used space. A full erase requires reformatting. This media has dropped in price to an affordable $2.00 to $5.00 depending on the brand. In theory, this would be a good media to use for system backups. I prefer to use the less expensive CD-R media and archive different versions of what I am backing up. Most computers with just a CD-ROM drive can not read CD-RW media but they will read CD-R media.

For a while there were drives that read only CD-R disks, but the CD-RW drives ended up costing the same and manufacturers phased out the CD-R type. CD-RW drives will read all CD-ROMs, so you do not need both a CD-ROM drive and a CD-RW drive.

DVDs (Digital Video Disks) look like CDs except they store a lot more data (up to 5.2 GB). They use a blue laser instead of a red laser to read smaller holes, which allows for greater density of data in the same space. DVD-ROM drives can serve as CD-ROM drives. There is even one DVD-ROM drive that can also serve as a CD-RW drive (all three in one).

I have not forgotten DVD-RW and DVD-RAM drives. The concept of writing to disks with that capability is enticing, but it is still too early for individuals to invest in. DVD-RW and DVD-RAM are conflicting standards; we need to wait for the dust to settle. In addition, the blanks are about $50 each. When we get to $10, then it is time to jump. (I predict third quarter of 2001.)

CD-ROM

It appears that 32X is about the slowest drive currently available, and 40 seems to be standard on entry-level systems. This means it can read the contents of a CD at 32 times the original CD speed (the speed used to play audio CDs). Some of the faster drives use buffering to gain some speed; the media does not really spin that fast. Do not pay extra for a faster drive unless you have some application that benefits from that speed. I know of none at this time.

I expect CD-ROM drives to go away within the next year. CD-RW and DVD drives are becoming standard even on entry-level systems.

CD-RW

Everyone should have a CD-RW drive on his or her system. Data files have gotten too large to fit on floppies, and CD-R and CD-RW media are very inexpensive. I envision that soon there

will be no more floppy drives on computers.

CD-RW drive specifications confuse people because there are three speed numbers associated with the drive. The numbers on a popular HP CD-RW is 8x4x32.

The first number is the speed that the drive can write to CD-R media. The middle number is the speed that the drive can write to CD-RW media. The last number is the read speed. Compare this to the speed of a CD-ROM drive.

Consider the center number to be the most important. A 1X drive would require 74 minutes to write a full disk (there are none that slow on the market these days). A 4X would require one fourth that time or 18 ½ minutes. A 10X takes us down to about 7 ½ minutes. The incremental cost for the faster drives is not much; get a fast one when you can. The fastest I have seen is a 16X but I suspect they will get faster.

In the near future, we will see double density CD-RW drives. This will give us more storage and I expect to see some by the end of the year.

DVD-ROM

DVD-ROM drives let you play DVD movies on your computer, which you probably will not do very often. It also can store lots of information (up to 5.2 GB). Some companies that were shipping multiple CDs are now offering DVD as an alternative. These tend to be database-type things where the user needs multiple CDs of information online.

If the record companies ever start producing a lot of DVD-Audio standard, you may see DVD-ROM drives become really popular. DVD-Audio provides music that has six channels of 192,000 samples per second using 24-bit samples, compared to audio CD that has two channels of 44,000 samples per seconds using 16-bit samples. DVD-Audio promises to provide very high audio quality

The speed numbers on DVD-ROM drives look slow but really are not. A 1X DVD drive reads a CD at a speed equivalent to a 10X CD-ROM drive. With drives running at 16X, they are fast drives.

DVD-RW or DVD-RAM

There are two standards for writing DVD disks. The standards, DVD-RW and DVD-RAM, are not compatible. When the industry decides which standard is best, it will be worth buying. Until then, hold off unless you are mastering DVDs for some reason.

Video Cards

The video graphic card options available on a pre-made computer are fairly limited and will probably fall into the business class. It will be fine for business applications and web browsing. If you are a serious gamer or graphics professional, you will want to replace that card with a different card. Some hard-core gamers will spend as much as $600 for a graphics card. Graphic professionals may spend over $1000. For the rest of us, the standard card will do just fine.

Memory and Color Depth

The video cards can run in different video mode based primarily on memory limitations. The modes vary in resolution (dots across by dots down) and the number of colors. The more colors, the more realistic the images will be. The

color depth at any given resolution is limited by the memory on the card.

The number of colors fills up the memory at the following rates:

- 16 Colors = 0.5 Bytes per Pixel
- 256 Colors = 1 Byte per Pixel
- High Color = 2 Bytes per Pixel
- True Color = 3 Bytes per Pixel

Use that number in that following calculation to see the amount of memory used for that setting:

Horizontal Resolution x Vertical Resolution x Bytes per Pixel = Amount of Ram Required (in bytes)

If you want to run at True Color with a resolution of 1600 X 1200, your video card must have 5.6 MB of video RAM (1600 x 1200 x 3 = 5,760,000 bytes).

Interface

If you are happy with the settings available on the video card in the computer you probably do not care how the computer talks to the video card. You will care only if you ever expect to replace it.

Check to see if the existing card can be removed, or at least disabled. Many of the low-end computers will have the video built into the motherboard. You may be able to tell by looking at the back of the computer. If all the connectors are in line with each other (including the video port), the video is definitely on the motherboard.

In my research, I found that most of the video cards interface through a special bus known as AGP (Accelerated Graphic Port) rather than PCI. Be sure that there is an AGP slot available if you expect to change the video. Note that there can still be an AGP slot even though the video is built into the motherboard.

AGP is a special interface developed by Intel that provides a much faster communications channel. In addition, AGP allows 3-D textures to be stored in main memory rather than video memory. This is why you will see shared video memory in some specifications.

Data Ports

Your computer will include several connectors for external devices. These connectors are called data ports. The standard ones you should expect to find are keyboard, mouse, serial, printer, USB, network, and telephone. In most cases, the data is transmitted one bit at a time (or serially). The printer port is one exception—it transmits multiple bits at one time (or in parallel).

Most name brand computers will color code the ports and the cables that connect to them. This way you just match up the colors. It works well for everyone except the colorblind.

Keyboard and Mouse Ports

The keyboard and mouse port use identical-looking small round connectors. It is easy to get them confused. The good news is they are actually interchangeable; the computer will figure out which device is plugged in where. These ports are normally built into the motherboard.

Printer Ports

There is normally one parallel printer port on a computer, referred to as LPT1. This is designed to provide a high-speed link to a printer. It uses a 25 pin D-type connector. Be aware that unless the computer includes the printer, the system will not include a cable to connect to the printer. There is an inexpensive parallel cable that is available for inkjet printers and a relatively expensive one used for laser printers. You may end up connecting to the printer via a USB port instead.

This port can also be used for connecting devices like scanners, zip drives, and netcams. Some expensive software utilizes a small device (called a dongle) to protect the software from unauthorized use; these connect to this port.

There is normally one of these ports built into the motherboard. Additional printer ports normally require an expansion board. Windows supports up to three parallel ports. If you need more parallel ports, you can add more through USB converters.
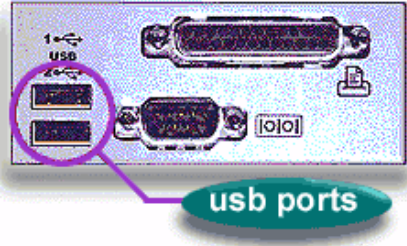
Serial Ports

There is normally at least one serial port, referred to as COM1. This might be used for an external modem, to sync your PDA, or to download images from a digital camera. This port uses a 9-pin D-type connector. (There used to be a 25-pin connector version, but I have not seen this connector used in years.)

One or two of these ports are usually built into the motherboard. It is becoming common to have a front-mounted serial port for use with digital cameras. Windows supports up to four of these ports. If you need more serial ports, you can add more through USB converters.

USB Ports

USB stands for Universal Serial Bus. Intel created USB in response to user difficulties with adding hardware devices to computers. USB ports started appearing on computers after Windows 95 was released. The support for USB in Windows 95 was spotty at best, but subsequent Windows releases have excellent support. USB devices include scanners, printers, keyboards, mice, cameras, and even PDAs. USB ports are fast, providing a throughput of 12 megabits per second.
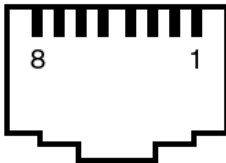

USB connections use a small flat connector; a symbol that resembles a pitchfork usually identifies it. Most current motherboards will have one or two USB ports on the back of the computer. Many computers will also have an additional port on the front of the computer.

31

This is useful for devices like cameras, where you only use the device occasionally.

There will not be enough USB ports for all of the devices you could end up with. But USB is capable of connecting up to 127 USB devices. You can increase your USB ports through a USB hub, a small box with one cable that connects to an existing port and then a series of ports to connect your devices. You may even have a hub on your monitor or USB keyboard.

Be aware that there are powered and unpowered hubs. You may need a powered hub for certain devices. The hub on a keyboard is not powered but one on a monitor probably is. If you plug a device into a hub and it does not work, try connecting directly to the port. If that works, you have an unpowered hub and need a powered one. If you are buying a hub, I recommend buying a powered hub (just in case). I have not experienced this problem but have seen reports of it.
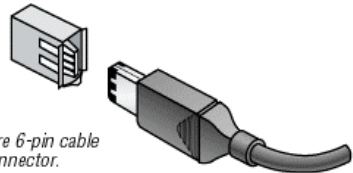
Network

**RJ45 Male Plug
(on Cable)**

Networks have finally made it to the home computer. Part of that is because people have more than one computer and are linking them together to share files or printers. I think that the biggest reason is because of high-speed connections like DSL and cable. A network allows you to share the high-speed Internet connection.

The network connection will be a 10/100 base-T port. This means that the network port can communicate at either 10 Mbps (megabits per seconds) or 100 Mbps depending on the hub being used. There are other network possibilities but I have not seen them offered on new computers, so I will ignore them in this article. I will talk more about networks in a future article.

FireWire

FireWire 6-pin cable
and connector.

FireWire can be thought of as USB on steroids. It works very similar to USB but it runs at a higher speed. This technology was conceived by Apple Computers (which is probably what slows the implementation). This is useful for talking to a digital video camera.

FireWire supports data rates of 100, 200, and 400 Mbps (yes, faster than network speeds). It supports up to 63 devices, with a maximum cable length of 4.5 meters between devices.

Telephone

Virtually every computer system I found in my research includes an internal modem (whether you want it or not). Any modem you get will be V.90-compatible, meaning you will be capable of connecting at 56K. There will be a pair of telephone jacks for connecting to your household telephone system.

32

The performance of these internal modems will be average but not extraordinary. In many cases, these will be processor-less modems (often referred to as WinModems because the first of this type of modem was called WinModem) that use your computer to control the modem functions fairly heavily. This should not be a problem unless you want to run something other than Windows for an operating system.

I do not like internal modems (even when they are free). I normally rip out these modems and use an external modem (connected to my serial port).

Expandability

Ideally you should get a computer that has all the gadgets you desire already installed and ready to go from the vendor. That may be possible, but new gadgets are popping up all the time. In some cases, the new gadget may require a drive bay and/or an expansion card slot. For that reason, I recommend that you buy a computer that has at least one empty drive bay and one empty expansion slot.

The ISA bus, long the standard expansion slot, has all but disappeared. The winning technology is the PCI slot. You will need to match the card and the slot.

An AGP slot is useful even if the computer has video built into the motherboard. This allows you to add a new video technology in the future.
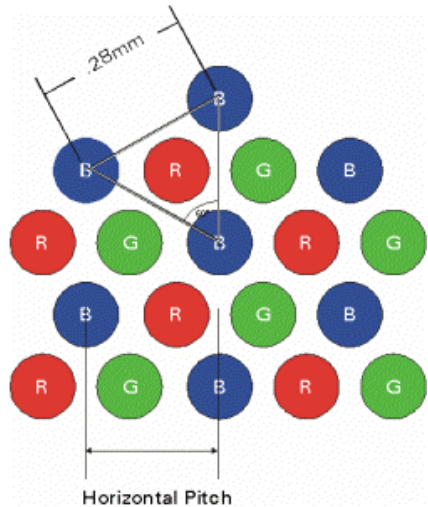
Monitors

There are three types of CRT (cathode-ray tube) monitors currently available, and each has its advantages for various applications. There are also LCD (liquid crystal display) and liquid plasma monitors available if you have a large budget.

Dot Pitch

The dot pitch of a monitor is the distance between adjacent sets of red, green, and blue dots. The smaller the distance, the sharper the image. A sharper image is easier on the eyes.

Horizontal Pitch

Do not even consider a monitor that has a dot pitch number larger than .27 for a shadow-mask monitor or larger than .25 for an aperture-grille monitor.

Display Sizes

How big a monitor do you need? That depends on your usage and your budget.

Just to confuse you, monitor sizes are measured diagonally (just like TV screens). To make things even tougher on you, the measurement is the tube size, not the viewable size. The image skews near the edges and so that area is not usable. When you compare monitor size, compare the viewable size instead of the tube size.

Higher resolutions let you see more information. Running a display at a resolution higher than the ones I describe will result in eyestrain. You can move down a notch or two if you have vision problems.

Monitors Smaller Than 15"

Do not buy one of these, they are just too small. I know they look like a good value but you probably not be happy using it. This size will look best at a resolution of 640 x 480 pixels (picture elements, or dots). I have seen some software that will not run at this low resolution

15" Monitor

This size is suitable for word processing or spreadsheet applications The only advantage of this size is the low cost. This will look best at a resolution of 800 x 600 pixels.

17" Monitor

This is a good size for web browsing and other Internet applications. It will also work well for word processing and spreadsheet applications. This will look best at a resolution of 800 x 600 pixels and may be okay at 1024 x 768. The price for this size of monitor is just slightly above the 15" monitors.

19" Monitor

This is the size for the amateur graphics designer or the hardcore gamer. This will look best at a resolution of 1024 x 768 pixels. These monitors take a lot of desk space. There are now short-length monitors that eliminate that problem. Be sure to measure your desk space before buying one of these.

21" Monitor

This is the size of choice for professional graphics designers and people that need a lot of windows visible at one time. I find that this size is great for programming because I can have lots of debug windows open. This size is normally run at a resolution of 1280 X 1024 or even 1600 X 1200.

Refresh Rates

The refresh rate of a monitor tells you how frequently the screen is redrawn by the electron guns within the CRT. This number is measured in hertz (Hz), or cycles per second. A refresh rate of 70 indicates that the screen is redrawn 70 times per second.

If the refresh rate is set too low, you may notice some flicker on the screen. This is especially true when working under fluorescent lights (which operate at 60 Hz). You should increase the refresh rate until you find one that does not flicker. The possible refresh rate may vary based upon the resolution, with higher refresh rates available at lower resolutions. You should be able to find a comfortable range between 67Hz and 85Hz.

Do not try to refresh at a rate higher than the monitor manufacturer specifies. You could damage the monitor with a bad setting. Fortunately, the expensive monitors include circuitry to protect them.
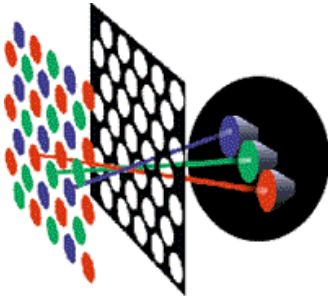
Flat or Curved?

Most monitors have a curved front to them but some of the more expensive have a flat screen. Why would you pay more for the flat screen?

- The flat screen will have much less glare.

- A flat screen will have more usable screen space than the same size curved screen.
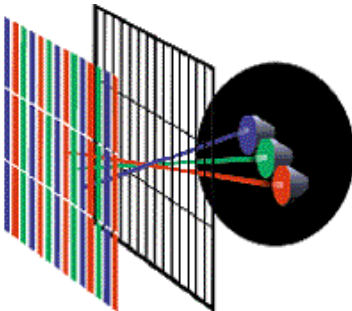- There will be less image distortion on a flat screen.

When you first look at a flat screen, the image will look funny, as though the screen is bowed out. You will get used to it quickly.
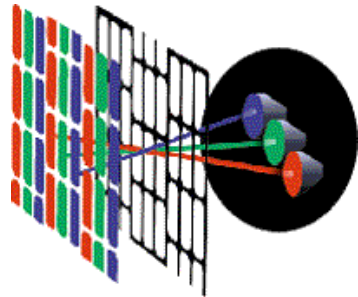
Dot-Trio Shadow-Mask CRT

The most common type of monitor tube uses a thin sheet of perforated metal in front of the CRT to create discrete phosphor dots. Look for a dot pitch—the shortest distance between phosphor dots of the same color—of 0.27 mm or less. This CRT style is well suited for text.

Aperture-Grille CRT

Sony invented aperture-grille CRTs, sold by Sony as Trinitron and by Mitsubishi as DiamondTron. Aperture-grille uses an array of stretched wires (instead of the hole filled metal plate) to create images using phosphor lines. Look for a stripe pitch of 0.25 mm or less. Aperture-grille designs boast improved brightness and contrast over shadow-mask tubes, without a loss of focus. This style CRT is best for image editing and is not as sharp for text work.

Slot-Mask CRT

NEC invented this combination of shadow-mask and aperture-grille designs called CromaClear. It uses a 0.25-mm mask with elliptically shaped phosphors. They claim that it provides good images for both text and graphics.

LCD Panel

It is a pity that LCD panels are so expensive because everyone should be using them. LCD panels consist of a thin panel of liquid crystal shutters that open and close to let the appropriate color of light through them. There is no cathode ray gun firing at you, so they do not emit much in the way of radiation. As a bonus, they take up very little desk space. They provide a rock-solid display that is easy on the eyes.

This style is suitable for text work and general graphics but may not have enough color depth for photo work. This display technology is not quite as fast as CRT technology and so may not be suitable for some games.

There are two styles of LCD monitors, digital and analog. The digital model requires a special video card that outputs the appropriate digital signal. A normal video card creates a digital signal and convert that signal to an analog one that is sent to the monitor. An analog LCD converts this analog back into the digital signal required to drive the screen. The digital-only version will provide a sharper screen since it avoids an unnecessary translation.

LCD monitors are available in various sizes with each larger size being significantly more expensive. The reason is that the display is really a large integrated circuit. There is a lot of surface area where problems can occur during manufacturing. If more than a couple of dots are bad, they have to scrap the display. We end up paying for the cost of the scrapped displays.

If you can afford the price, buy a digital LCD panel; you will love it.

Liquid Plasma

Liquid plasma screens are large and expensive, but beautiful. I do not know anyone who has one on his or her desktop. They are normally used for conference rooms or tradeshow booths.

Bottom Line on Monitors

This is an important component of your system. You spend a lot of time staring at it and it will have a lot to do with your satisfaction with your system. You should sit in front of the potential monitor and use the computer for a while to determine if you really like it.

It is possible to spend more on the monitor than the computer. If that is what it takes to be comfortable, do it. I use an expensive 21" ViewSonic that is very comfortable to work with. I have used cheap monitors (that normally came with the computer they were hooked to) and could not wait to get away from them. Do not be afraid to buy a system that does not include a monitor so that you get a good monitor separately.

If you bought a good monitor last time and want to use it on your new computer, that is okay too, unless it is wearing out. Compare the quality of your old monitor with the latest models and be sure your monitor is still worth using.

Recommendation

The tough part about recommending a system is that no two companies offer the same options. In addition, the recommendation system would be different, based upon the intended application. This recommendation is for typical home use (word processing, spreadsheets, Quicken, e-mail, and Web browsing). It will work fine for most games but it will not be the fastest on the block. It will work fine for Webcams but it is not necessarily a good video editing system. It could serve as a workstation but would not make a good server.

- 500 MHz to 1 GHz processor (Intel or AMD)
- 10 GB Ultra DMA hard drive
- 64 MB SDRAM memory
- CD-RW drive
- 1 floppy drive
- 10/100 Base-T network card
- 1 USB port, 1 serial port, 1 printer

- port
- V.90 K56/flex modem
- AGP graphics card
- Keyboard
- Mouse
- Sound card and speakers
- 17" Monitor

The price of such a system will vary based upon the processor selected. I calculate that the base price for the system above without the processor and motherboard would be $900. To that we need to add in the cost of the processor and the appropriate motherboard. Based upon pricing at the beginning of September, here are the prices you should expect to find for any given processor:

The sub-$1000 systems will probably be based upon the AMD K6-2 or a low-end Intel Celeron and run close to 500 MHz. By Christmas, expect that same amount to get you a 600-700 AMD Duron or Intel Celeron system instead.

A system with a speed range of 600 MHz to 700 MHz of processor should cost under $1100. The processors could be AMD Duron, AMD Athlon, Intel Celeron, or Intel Pentium III.

A system with a speed range of 700 MHz to 800 MHz of processor should cost under $1200. The processors could be AMD Duron, AMD Athlon, Intel Celeron, or Intel Pentium III. This is the best buy area. You get more power for your dollar in this range of system.

A system with a speed range of 800 MHz to 900 MHz of processor should cost under $1600. The processors could be either AMD Athlon or Intel Pentium III. This is a good range for power users. I am not sure you could discern a difference between these machines and the much more expensive gigahertz computers.

A system with a speed range of 900 MHz to 1.0 GHz of processor should cost over $2000. The processors could be either AMD Athlon or Intel Pentium III. These computers will probably also have lots of memory and large hard drives, bringing the system cost closer to $2500.

The top-of-the-line computers are in the 1.1 GHz to 1.2 GHz range, and will cost almost $3000. The processors could be either AMD Athlon or Intel Pentium III. This range is just for the user who has to be the fastest on the block. These computers will probably also have lots of extras, bringing the system cost closer to $4000.

Watch Out for That Rebate Scam!

When you look at the prices in the advertisements, you will see prices that are $400 less than the prices I quoted. This is because of a rebate from MSN, Prodigy or Compuserve. These are not good deals, do not do it. To get the rebate, you must sign up for a 3-year commitment to the ISP at $21.95 a month (a commitment of $790.20 over 3 years). That price is a little high for the Sacramento area; most ISPs will give you equivalent service for less money. It is the possibility of higher bandwidth connections that really sours the deal. If you finally get DSL or cable modem service in your home, the MSN, Prodigy, or Compuserve service is just money you are throwing away. I believe that most of us will have a high-speed link within the next 3 years.

Ken Hopkins has been involved with computers since the early seventies and has collected more computer information than he is willing to admit. Send topic ideas to ken.hopkins@sacpcug.org.

Tip: The best time to buy a computer.

There really is a best time of the year to buy a computer. That time is a few early morning hours on the day after Thanksgiving. On that day, stores like CompUSA will have sales that feature computers as loss leaders. These are computers that they are selling **below** cost. They will only have a few available (maybe 10) and they will be gone before Noon. If that sale computer is close to your desired computer in specifications, wake up early and buy it.

Editor's Note: This article was written last summer and prices have changed since then, especially at the top end. √