

SAN FRANCISCO PERSONAL COMPUTER
USERS GROUP

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Who We Are, What We Do and How You Can Join the Fun!

The San Francisco PC Users Group, founded in 1982, serves as a regional volunteer forum for the exchange of ideas, industry insights and solutions to problems, etc. related to members using personal computers having the Intel x86 or compatible processor.

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Annual membership in The San Francisco PC Users Group includes, among other benefits, monthly meetings, a one year subscription to **Blue Notes**, and Internet access. Cost: \$40 for individuals, \$50 for families and \$75 for businesses. E-mail our Membership Registrar, membership@mail.sfpcug.org, or attend a monthly meeting (see details inside and calendar). An application form can be found on the last page of this issue. Once completed, mail it with your payment to the SFPCUG Membership Director, 3145 Geary Blvd, Box 284, San Francisco, CA 94118-3300

Internet Services for All Members

Internet access is a major incentive for SFPCUG membership. Visit our web site: <http://www.sfpcug.org> where you will find, information about **Blue Notes**, the club's dial-up Internet services, activities of our various Special Interest Groups. etc. PPP accounts are available - e-mail: help@mail.sfpcug.org or contact our WebMaster at webmaster@mail.sfpcug.org or 415-564-7730.

The Internet SIG offers access to a shared account for experimenting with Web technology, including CGI scripting. Contact the WebMaster for details.

Special Interest Groups (SIGs)

Users gather in SIGs to explore and solve specific problems related to software and/or hardware. The Calendar will list dates and venues. If a SIG addressing your interest(s) does not exist, call 415-665-3599 to organize one or call 415-346-2644.

Write a Review on New Software and it's Yours, Free!!

Vendors frequently offer new software or books to the SFPCUG so that an interested member can give it a test run and keep the product in exchange for a published review in **Blue Notes**. Our Product Review Coordinator can arrange to obtain software you want to review. Guidelines for reviews appear regularly in **Blue Notes**, or ask the Product Review Coordinator for a copy.

Steering Committee Meetings

The SFPCUG Steering Committee Meetings are held on the first Tuesday of each month at the upstairs meeting room of Round Table Pizza on Geary Blvd and 16th Ave.

The SFPCUG Steering Committee discusses issues of immediate importance to the Group and makes plans for future activities. Steering Committee meetings are open to all SFPCUG members. Any Group member having attended two of four preceding Steering Committee meetings is eligible to vote.

General meetings

General meetings are held on the 3rd Tuesday of each month. Doors open at 6:15 PM for SIGs and the general meeting begins at 7PM and end by 9PM

First time guests are admitted free, repeat guests are asked for a donation of \$4.

Location: Meetings now take place in the auditorium of the Community College District Office, 33 Gough Street, (a half-block south of Market Street) San Francisco, CA There is ample free parking in front of the building. Civic Center BART and MUNI is ½ a block away.

The latest information on programs and location for upcoming general and steering committee meetings is available on our web site <http://www.sfpcug.org>. Always check for late breaking news.

Publication in BlueNotes

Follow the structure of a previous article in *Blue Notes*.

- * **Name/version of the subject program/book.** What does the program do and on what operating platform (s)? Does it satisfactorily fill a genuine need, e.g. task, entertainment, utility, etc.?
- * **Reviewer:** name and telephone number, latter optional
Name and reputation of the company distributing the product. Available mail address and phone number(s)
- * **At A Glance:** A 1-to 4 rating
- * **Price:** MSRP, retail or street
- * **System Requirements:** (self-explanatory)
- * **Pros:** Ease of use, learning, etc? Documentation: comprehensive, intelligible? Support? Does it deliver as advertised? If a book, is the author's style smooth or challenging? Is the Index useful?
- * **Cons:** Shortfalls, if any
- * The body of your review
- * Graphics welcome and requested if possible

When addressing technical, complex issues, endeavor to be as comprehensive and street-level clear as possible.

- * Use one space between sentences, two carriage returns at the end of each paragraph
- * Re-read your work carefully, objectively, checking word, sentence and logic flow to ensure you say precisely what you mean to say, clearly
- * Do not use indents or tabs
- * Spell-check your work

Procedure for submitting articles for publication.

Save your article as a pure ASCII file with line breaks, and a **.TXT** extension. You may alternately save your files in Rich Text Format (**.rtf** extension) then send them to bluenotes@mail.sfpcug.org. Should special formatting be necessary, forward a hard copy to the Editor. Contact *Blue Notes* staff, e-mail, bluenotes@sfpcug.org.

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DSL and Small Networks©

by **Butler Crittenden, President
San Francisco PC Users Group**



What to do with that second computer? Maybe even that third or fourth computer? Often today we end up with an "old" computer — perhaps only a couple of years old but no longer ideally powered for some of the heftier apps that so many of us prefer. During the past 12 to 18 months broadband — via cable and DSL — has also entered the computer lives of many of us. If the broadband can be used with more than one computer, without paying extra monthly, then the old computers become more useful. Fortunately this is possible, and the cost is minimal to set up the required network and modem sharing.

Setting up a small LAN

A Local Area Network, or LAN, is quite inexpensive and easy to build. Very little hardware is required. The software comes with **Windows 95**, **98**, and **2000**. Even **Windows 3.1 for Workgroups** includes the software. This brief tutorial does not include discussion of **Windows 2000** or **Windows 3.1x** — users of these should find the discussion

useful, however.

There are two major components of a LAN — the hardware and the software. The hardware includes network cards, hubs when needed, and cables. Each computer must have at least one network card (NIC). If there are more than two computers, a hub is required for the type of LAN discussed. Overall this tutorial proceeds through the hardware, then to the software on the computers, followed by how to distribute the DSL or cable signal. At the end there's a description of how to make your own cables, along with a caveat. While several reviewers have kindly made corrections and suggestions — all of which have been incorporated, with thanks — there no doubt are minor errors and perhaps even a few significant errors in this tutorial. Corrections, amendments, and suggestions are welcome.

Hardware

Network interface cards. If only two computers are involved, a network interface card (NIC) in each and a "crossover cable" are sufficient. At the **Robert Austin Computer Show** (<http://www.robertaustin.com>) these parts would cost between \$25 and \$40. While perhaps slightly more at computer superstores, the neighborhood clone shop, or on-line, the cost can be kept down by avoiding the higher-priced NIC (and hubs / switches, more below). Pacific Bell installs **Kingston** NIC, which do not have **3COM**'s brand-recognition and generally cost less. However, even **Kingston** is a brand that costs more than **D-Link** (\$15), which in turn costs more than several PCI NIC that seem to work as well (\$10-13). (Many show vendors offer these; **Roger's Systems** and **Jade Star** are reliable sources.) While some 10x NIC are still available, the prices above are for 10/100 NIC. PCMCIA (Personal Computer Memory Card International Association) NIC are used in notebook computers. They

are readily available at the Computer Show between \$20 and \$50. Jade Star sells a Phoebe PCMCIA Ethernet card and occasionally others for under \$40.

Hubs. If there are more than two computers, each must have a NIC, and a hub or switch is required. Hubs are not quite as powerful as switches. (The switch handles "packets" of data on a busy LAN more efficiently.) For the small-office or home user the extra capability of the switch probably will not be used, and they cost slightly more — well worth the small difference, however. The term "hub" is more familiar and will be used henceforth. Small hubs tend to be capable of handling up to 5 or up to 8 computers. About the size of an external modem, hubs have plug-in jacks for RJ-45 plugs — either 5 or 8 jacks, with one labeled "Uplink." Hubs may be 10-speed or 10/100-speed. The 10x and 100x refers to "mbps" (megabits per second) — how fast data can be transferred via the LAN. The cost of 5-port 10x hubs runs from \$22 to \$25 at the show, with 10/100x 5-port hubs running \$55-60 recently, and the 8-port models about \$15 more. Until a few years ago LANs were 10x. DSL-modems and cable-modems still operate only at 10x, making the lower-priced hubs adequate for LANs, if not ideal. While 10x hubs will work with DSL and cable, **100x-only hubs will not**, so make sure to get a 10/100 hub or switch if buying the faster models.

Cable / wire. Only Category 5 wire with RJ-45 plugs or connectors is discussed. (CAT5, twisted-pair cabling — also called UTP or 10BaseT.) After the plugs are installed on each end of a section of CAT5 wire or cable, the result is often referred to a *straight-through* cable or a *crossover* cable, depending on how the RJ-45 connectors are installed. *This is a crucial bit of nomenclature. When connecting two computers without a hub a crossover cable is used. When connecting computer NIC and a broadband modem to a hub, straight-through cables are used.* (Not

discussed here is the use of coax-type cables [thin Ethernet — also called 10Base2] and the older style peer-to-peer networks that use T connections to each computer's NIC and terminator plugs on each end of the LAN. Without careful checking, it is thought that almost all of the details will apply to LANs that use the older-style cable.)

The best way to acquire cables is to buy them, not build your own. **Jade Star** and **Roger's Systems** (at the computer show) sell them for very low prices. Just be sure to "ask twice" "Is this straight-through (or crossover)?" If there's a need to install long wires, perhaps from room to room or floor to floor, CAT5 cable runs from \$55 to \$150+ for 1000 feet. **Jade Star** (510/770-9229) will bring a roll of lower-priced cable if you ask in advance, as will **Roger's Systems** (www.rogerssystems.com), whose toll-free number is 800/366-0579. CAT5 twisted-pair cable must be labeled as [Multi-Purpose Plenum](#) (MPP) if you want cable coated so it won't give off toxic fumes if it burns — legally required if installed inside walls or ceilings.

Due to the difficulty of putting the RJ-45 plugs on the ends of CAT5 cables, this topic is treated separately and discussed at the end of this tutorial.

Installation of NIC and LAN software

On each computer first install a NIC, then use Windows 95 or 98 to install the software. There are advantages to Windows 98 Second Edition.

NIC installation. Using normal computer safety procedures, turn off the computer, disconnect the power cord, and open the case. Find an empty PCI slot (or ISA, if you happen to be using an ISA RJ-45 NIC), remove the protective plate, firmly plug in the NIC, screw in the small retaining bolt. Plug in the power cord and restart the computer. (Put the case on later, after everything is working.)

Upon restarting, the computer should recognize that a new device has been installed and initiate an installation sequence. If not, check your BIOS settings and see if "Plug & Play OS" is enabled. For most computers holding down the **Del** key will bring up the BIOS. If this does not work, check your motherboard booklet, call Dell or Gateway, or try to find your motherboard or computer model on the Internet and look for its manual — usually available as an **Adobe Acrobat Reader .PDF** file. (Note: while new PCI devices should show up for Plug & Play installation after being plugged in, ISA cards need to be installed via **Control Panel / Add Hardware**. They are not recognized automatically on most systems.) Have your **Windows 95** or **98** CD handy, or better yet copy the Win95 or Win98 folder from the CD to one of your hard drives (and then change the "F" [your CD] drive to "D" [or "E," etc., where you copied the Win9x folder] by typing in **D** to overwrite **F** when Setup asks for your **Windows 9x** CD).

(Check first to see if your manufacturer has already done this, often putting the .CAB files in C:\Windows\Options\Cabs. To check this, click **Start**, then **Find**, then **File or Folder**, then type in [***.cab**] and click **Find Now**. Note where the .CABs are located (sometimes requiring using the mouse to pull that part of the display a little further to the right, grabbing by the short vertical bar at the top of the window). Don't be fooled by just a handful of .CABs; make sure the full set that you can see on your Windows 95 or 98 CD in the Win95 or Win98 folder is available. If some

non-.CAB files are missing, this is acceptable.)

The NIC driver installation is mostly a matter of switching back and forth between the 1.44 floppy disk provided and the **Windows 95/98** CD. A good idea is to view the contents of the floppy before starting the whole process — looking for a folder (subdirectory) on the floppy that reads "W98" or "Win98" or something equivalent for '95. Then when asked by the install program where to search for the drivers the answer is already at hand. But it also works to **Browse** and then "click around" on the A: drive until the correct directory is found. One **Windows** quirk is that often the process starts OK, then the **Windows** CD is called for. (It looks for it where you originally installed it from — usually the CD, perhaps putting D:\Win98 as its choice. Repeating, simply change the D: to C: if you've copied the Win98 directory to C:. Change the whole path to C:\Windows\Options\Cabs if that is where you found the .CAB files.) Then it asks for a file that it claims cannot be found on the Windows CD, and you have to click the tiny down delta (↵) to the right of the white location box and find the floppy again: e.g., A:\W98, or just type it in. After the process is complete the computer will have to be restarted, always requested after a successful installation.

Network Neighborhood installation. If you already have **Network Neighborhood (NN)** on your **Desktop**, skip the next few sentences. If not, open **Control Panel (Start / Settings / Control Panel)** and look for the **Network** icon. If present, *double-click* to open. If not, open **Add/Remove programs** and *Left-click* the **Windows Setup** tab at the top, then *Left-click* **Communications** and **Details**. *Dial-up Networking* must be checked to use a dial-up (regular) modem. If any part of this step is required, again the **Windows 95/98** CD or equivalent will be called for (see above) and Restart will be required.

If Windows 98 *Dial-up ATM* (Asynchronous Transfer Mode) *Support* is already checked (for making "ATM ADSL type connections"), uncheck it. This is an option in Windows 98 SE setup. It is **not** required and is the subject of a Microsoft White Paper, which explains that it is oriented to future applications.)

NetBEUI → Dial-up Adapter
IPX/SPX → (often several instances; occasionally required for HP network printers)

If **NN** is on your **Desktop**, *right-click* and *left-click* **Properties**. If **NN** is not on the **Desktop** but **Network** is in **Control Panel**, open it by *double-clicking*. The essential components and *protocols* to look for are:

Client for Microsoft Networks [**preferred**] (or Microsoft Family Log-on — **See below**)
Dial-up Adapter (but only if you have a dial-up modem, as opposed to DSL/Cable)
The NIC/s installed (one or two NICs)
NetBEUI associated with each NIC/s
TCP/IP associated with each NIC/s & Dial-up Adapter (if present)
File and printer sharing

If DSL or cable has already been installed, you will see several other protocols / items; make a list of these and do not *Remove* any until you are sure it's OK.

Not needed and may be *highlighted* then *Removed*:

One advantage of **Client for Microsoft Networks** is a setting to remember your Dial-up password. **Microsoft Family Log-on** does not offer this option. One annoyance of **Client for Microsoft Networks** is that when you start the computer a Log-on window pops up, with a name in the top white space and offering the opportunity to type in a password below. *This password is optional*. Don't enter one unless you want to have to enter it each time thereafter. On the other hand, you must click **OK**. (And, the first time you'll have to *click* **OK** again to confirm the blank password.) If you click **Cancel** rather than **OK**, you will *not be networked*, although the computer will operate normally. The name in the top space may not be what you prefer the first time you start after installing; change this name to be the same name you give the computer (next paragraph).

When **Network** is open, there are three tabs. The second tab is **Identification**, with three blanks: **Computer Name**, **Workgroup**, and **Computer Description**. Each computer on the LAN/network must have a unique name. "Front," "Back," and "Downstairs" are three such names; "John," "Mom," and "Dad" would be another set. Perhaps John1 and John2 for a two-computer LAN. *The Workgroup must be the same for all*. Typically "Home" or "Office" are convenient **Workgroup** names. The **Computer Description** is just that: descriptive. One example: "iP3-450 128MB 13gig HD."

If any of the above protocols/components are not installed, the procedure is to *Left-click* **Add** then *Left-click* either **Client**, **Adapter**, **Protocol**, **Service**.

For example:

Left-click **Add**

Left-click **Client**

Left-click **Add**

Left-click **Microsoft** (on left)

Left-click **Client for Microsoft Networks** (on right)

Left-click **OK** (at the bottom)

If **Dial-up Adapter** is missing and wanted:

Left-click **Add**

Left-click **Adapter**

Left-click **Add**

Left-click **Microsoft** (on left)

Left-click **Dial-up Adapter** (on right)

Left-click **OK** (at the bottom)

NetBEUI and **TCP/IP** are both actual **Protocols**.

Left-click **Add**, then **Protocol**, then **Microsoft**, then **NetBEUI**, then **OK**.

Repeat the process for **TCP/IP: Add / Protocol / Microsoft / TCP/IP / OK**.

SEE MORE ON TCP/IP AND CAVEAT, BELOW.

File and Printer Sharing is a separate punch-bar toward the bottom of the **Network** dialog box. Say "Yes" to **File Sharing** and "Yes" to **Printer Sharing** if there is a printer attached to the computer.

After all the protocols/components are installed and the computer is restarted:

Open **Windows Explorer** (*Right-click* **My Computer**, then *Left-click* **Explore**)

Right-click on the yellow C: folder

Left-click **Sharing**

Turn on *Shared As* and *Full* by *Left-clicking* the circles before the labels.

For small LANs, don't bother with a special name. It'll simply end up as C: on John1 or something similar. Do this for the other hard drives, and even the CD and ZIP if you wish (and a good idea). Of course the CD can be shared *Read Only*. If the ZIP drive is shared, it's easy to use the ZIP drive in one room while using the computer in another room. The printer is shared by opening the **Printers Panel (Start / Settings / Printers)** and *Right-clicking* the printer you want to share, then *Left-clicking* **Sharing** and giving it a name. HPLJ5P and EPSON900 are examples of simple names.

Connecting the computers

To connect *two* computers directly, simply plug a *crossover* cable into each. To connect two or more computers via a hub, plug a *straight-through* cable into the NIC on each computer, with the other end plugged into a hub jack, leaving the Uplink jack open. (Many hubs have a small switch that turns one of the end ports "on" or "off," making it either an Uplink port or a regular port. Most hubs will not work if the jack immediately next to the Uplink jack has a cable plugged in. Check your brochure on this detail. Under certain circumstances a 5-port hub will end up handling only three computers and one Uplink, which in some cases could be the DSL- or cable-modem itself. Thus it might make sense to invest a little more up-front and get an 8-port hub / switch.)

Once **Network Neighborhood** is correctly installed on both (or more)

computers and they are connected with the correct CAT5 cables, double-click **NN** on the Desktop and you should see both (or more) computers in the window.

Summary so far: the LAN is up. You can open the C: drive on John1 while sitting at John2 by going into **Windows Explorer**, *expanding NN* (*Left-clicking* the plus sign), then *expanding* John1, then *expanding* C:, then accessing the files and folders as if they were on John2.

DSL and cable

At this point, assuming DSL has been installed on one computer, distributing DSL or cable across the LAN can be as simple as going to <http://www.internetshare.com> and downloading the **All Aboard!** trial version for four computers (or seven, if there are more than four). **All Aboard!** costs \$49.95 for the 4-computer version — Server and three Clients. The Clients can be any mix of PC/Mac/Linux or whatever system you have, as long as it supports TCP/IP. The program fits on a 1.44 floppy and is easy to install. The site includes a demonstration of how to install. The basic fact to know before installing is which NIC is connected to the LAN and which is connected to the broadband modem (assuming two NIC — see below for Uplink/one NIC alternative). **All Aboard!** does not care about the NIC connected to the broadband modem. It only wants to know what NIC connects to the LAN. On the **Installation of the Server** (on the computer to which the DSL is connected) the user selects *Base Computer*. On the **Installation of the Client**, "2nd Computer (Client Computer)" is selected, even if it's the third through 6th computer.

TCP/IP. Transmission Control Protocol/Internet Protocol (TCP/IP) is the main protocol used on the Internet to connect and transport data across heterogeneous systems (Mac, PC, UNIX, mainframe). Many dial-up Internet accounts require the

Properties of the Dial-Up Networking icon (e.g., Earthlink, WENet, PacBell) to be configured so that the TCP/IP settings for Primary and Secondary DNS (Domain Name Service) each has a number, such as 206.13.28.12 and 206.13.31.12. These are PacBell's DNS numbers for San Francisco and Sacramento, respectively. Note that 28 and 31 refer to the two cities. Other ISPs do not require Primary and Secondary DNS, and some work with or without them, such as WENet.

This is a complex topic that may be treated in greater depth in a future article. Suffice for now to say that it is the DSL/cable installer's job to enter any required numbers for TCP/IP. Or a program such as **EnterNet 300** handles this automatically. Thus the home or small-office user should not have to configure these manually, and if s/he does, the DSL or cable provider will provide detailed instructions. On the other hand, it would be a good idea to open the properties of **Network Neighborhood** and write down the properties of the several TCP/IP entries there. This task will take a half-hour or so the first time, as there are numerous **tabs** for each component or protocol. When opening the Properties of TCP/IP → Dial-Up Adapter, a warning message will pop up, the gist of which is "change at your own risk." Except for the caveat below, don't change any settings. Just note them and *Left-click* **Cancel**. It will help in research for the TCP/IP article if you send a copy of your entire Network items, including settings, and what type of DSL or cable modem you have installed, including whether *static IP* or *dynamic IP*.

Caveat: Under TCP/IP Properties the *Bindings* tabs should have **File and printer sharing for Microsoft Networks** disabled. This includes Dial-Up Adapter as well as the **EnterNet 300's** PPOE Network Adapter and the NIC connected to the DSL or cable modem. Failure to disable **File and printer sharing** will leave your hard drives "live" on the web. Pacific Bell leaves them live on every system observed to date after-the-fact.

Repeating, the advantage of **All Aboard!** is that it has a scheme to handle TCP/IP settings automatically. In doing so it adds a protocol of its own. If there are any specific TCP/IP questions or problems, don't hesitate to email or call.

Wrinkles. Were life simple there would be no more to report. Alas and alack!, DSL and cable come in multiple flavors and configurations. For example, early in the PacBell DSL installation cycle everyone was issued one or more *static IPs*, or personal Internet addresses. One *IP* was issued to purchasers of the basic plan, and those (individuals or businesses) who were willing to pay \$70 or so per month got 5 *static IPs*. Perhaps the main benefit of *static IPs* is that Microsoft's **Internet Connection Sharing**, a **Windows 98 Second Edition** feature, works well — eliminating the need to purchase **All Aboard!** or one of its competitors. Early in 2000 PacBell dropped *static IPs* in favor of *dynamic IPs*. The latter are a giant pool of *IPs* out of which each person connecting is assigned an *IP* for the duration of that connection, which may be minutes/hours or days/indefinite. PacBell also began using several different modems, including an internal DSL modem and a USB DSL

modem, and software to add protocols to **Network Neighborhood** as well as simulate dialing-up to establish the DSL connection.

Perhaps the most common "extra" program seen today is **EnterNet 300**, which appears after running PacBell's installation software. (*Aside:* You don't have to use **Netscape**, nor do you have to install it. PacBell is shipping a slightly older version of **Netscape**, so if you prefer **Netscape** you may prefer to download the latest version and ignore PacBell's.) Whether **Microsoft's ICS** will work with **EnterNet 300** is doubtful — not worth the struggle to find out. Once **EnterNet 300** is connected and started by *double-clicking* and *Left-clicking* **Connect**, the familiar double-monitor icon appears in the bottom-right of the **Start** bar — flashing green while in use, remaining brown when not in use. This icon can be opened (by *double-clicking*) and the *current IP* can be read, which is useful if using *pcANYWHERE* via the Internet or if you want to connect privately via **NetMeeting** (using the WebCam that sits atop your monitor).

Hub/Uplink configuration. Another configuration that works is to connect the cable or DSL modem to the hub's Uplink port. Make sure there's nothing plugged in immediately next to it and then plug two or more computers into available jacks. E.g., Jack 1, Jack 2, Jack 3, *skip Jack 4*, Jack 5/Uplink gets DSL or cable. One obvious advantage is that only one NIC has to be installed in the "Server" or "Base" computer if **All Aboard!** is used.

When two NIC are installed in one of the computers, one NIC serves as a "router" of the DSL signal from the modem to the "Server" computer and the other NIC connects to the LAN. But with the hub/Uplink combo, the hub serves as the "router," and the two (or more) computers connected to the hub (including the one arbitrarily set up as "Server") get

their DSL signal via the hub. *If ICS or All Aboard! is being used, the "Server" must be turned on, with the broadband connected, if other computers are to be able to connect via DSL or cable.*

Single static IP. Using the hub/Uplink configuration, if the DSL/cable connection has a *single static IP* address, which includes many/all cable connections, then Microsoft's ICS will work. ICS requires two NICS in the Server, while All Aboard! requires only one NIC. A computer must have Windows 98 SE and two NIC in order for ICS to work. (If ICS is not installed, go to **Add/Remove programs** and *Left-click* the **Windows Setup** tab at the top, then *Left-click* **Internet Tools**, then **Internet Connection Sharing**; and follow the prompts, including Restart.)

ICS installation includes making a disk to take to the other computer/s to connect them to DSL or the cable, but connecting via the LAN also works (in **Internet Explorer 5.x**) by *Left-clicking* **Tools / Internet Options / Setup** and up pops *Welcome to the Internet Connection Wizard*. For the first two options, click *Connect via LAN*, then "Yes" to "Automatic discovery of Proxy settings," and "Yes" to set-up email if you so choose. This latter sequence is good to remember, for occasionally the DSL or cable will go off-line, and this is one way to bring it back to life.

(If **I.E. 5.x's** Internet Connection Wizard detects prior dial-up installations, these may well either interfere or take precedence. *Selecting* then **Removing** them is one way to handle this problem. There are also options about when to dial, such as *"Never dial a connection"* and *"Dial whenever a network condition is not present."* Also, in **I.E. 5.x's Tools / Internet Options** dialog box there's a **Sharing** button, which tells which

NIC is connected to the LAN and which to the DSL or cable modem.)

Multiple static IP. Using the hub/Uplink configuration, if the DSL/cable connection has *multiple static IP* addresses, connect the modem to the Uplink port, and connect each computer to one of the regular hub ports (remembering not to put any next to Uplink). Neither ICS nor All Aboard! is required. Rather, the TCP/IP for each computer is given a separate IP. Also, it is not necessary to leave a "Server" running for the other computers on the LAN to receive their DSL or cable signal.

Single dynamic IP. If the DSL/cable connection has a *dynamic IP* address and you're using the hub/Uplink configuration, use **All Aboard!**. Connect the modem to the Uplink port, and connect each computer to one of the regular hub ports (remembering not to put any next to Uplink). Install **All Aboard!** on one computer that you arbitrarily select as *Server* and on the second computer (or more) that you designate as *Client/2nd Computer*. If you use two NIC in one computer, which becomes "Server," connect the broadband modem to one NIC and connect the other NIC to a regular port on the hub. The Uplink port is not used in this configuration, unless to uplink to another hub. Repeating, if the Uplink port is used to connect to another hub, make sure no computer is plugged into RJ-45 jack immediately adjacent to it.

CAT5 Cable Construction

For those who are determined to make their own CAT5 cables, the process is tedious but satisfying. In some instances building your own is required — such as between floors or rooms, especially when you wish to drill the smallest possible hole in a baseboard, wall, or ceiling.

In addition to the cable, a crimping tool is required. Also, a testing tool is *essential* for people who do not enjoy massive attacks of frustration and anxiety. The crimping tool costs under \$20 (**Roger's** or **Jade Star**), but the testing tool runs around \$70. Perhaps you can borrow one for a single installation, but if LAN wiring is on the horizon for several times a year, buy the tool. It's the only way you can tell in advance whether the wire is OK, which permits focus on the computer/s and software when trouble-shooting. *Tip:* If you buy the tester, protect the power button so that you cannot accidentally turn it on in its case and drain the battery, plus carry a spare 9v battery. A dead battery just when least expected is definitely annoying.

When making CAT5 cables, use the following color scheme:

CLIP SIDE DOWN	CLIP SIDE DOWN
<i>Straight-through</i>	<i>Crossover</i>
(LEFT to RIGHT)	(LEFT to RIGHT)
pin 1 – white/orange	pin 1 – white/green
pin 2 – orange	pin 2 – green
pin 3 – white/green	pin 3 – white/orange
pin 4 – blue	pin 4 – blue
pin 5 – white/blue	pin 5 – white/blue
pin 6 – green	pin 6 – orange
pin 7 – white/brown	pin 7 – white/brown
pin 8 – brown	pin 8 – brown

First trim the end of the wire to get a smooth cut (not essential, but helpful). Using the crimping tool, carefully score about an inch and a quarter from the end and peel off the outer casing. (There is a blade and pre-set length to score, but the pre-set length is too short for conveniently

untwisting and arranging the wires.) If there is a fiber string inside, trim it off at the same point that you scored the outer casing. *Using a magnifying glass*, inspect the eight wires at the score-point to see if any have been cut. (If so, start over.) Pull the four pairs different directions to separate them from each other, then untwist each of the four pairs. The eight wires are to be arranged and massaged into a flat ribbon, following the color scheme. Notice that the pattern is STRIPE / SOLID / STRIPE / SOLID / STRIPE / SOLID / STRIPE / SOLID, with brown always on the far right. Once the eight wires are a flat ribbon, use the crimping tool to trim off the ends — leaving a half inch, perhaps a little more. You'll have to experiment and experience it to get it right. With the ends perfectly straight, gently push them into the RJ-45 clip, held clip-side down, until all eight butt firmly against the end.

Turn the clip and view it *with a magnifying glass*. Look for eight copper points pushed flush to the end. Inspect the two sides to verify that the wires extend to the end. Also, the top of the casing should be positioned inside the chamber and beneath where the crimp is to be applied. If any of this is "not so," pull out the eight wires and trim/straighten again. Take care that the proper pattern of colors does not slip when removing the wires. After you have inspected and shoved enough to satisfy yourself that you **probably** have it right, slip the clip in the crimping tool and squeeze very hard. *Tip:* After crimping, the clip may be flattened and not click in firmly when inserted in the NIC or hub. A **GENTLE** lifting with the thumbnail solves this problem.

Do the same for the other end of the cable. Note that for a *straight-through* cable both ends are the same. For a *crossover* cable, one end follows the *straight-through* pattern (above) and the other end follows the *crossover* color scheme on the right (above). After both ends are crimped, use the tester to see if the lighting pattern is correct. For *straight-through* the pattern is a steady progression from the top light

(1+2) through the 2^d (3+6), 3^d (4+5), and 4^h (7+8) lights, continuously. For the *crossover*, the pattern is every-other light but with all four flashing green. Any red flashes for either type of cable indicates a failure, as does no light flashing for one of the pairs. *Tip:* Make sure you have the **ground** button correctly set on the tester, or you may think you failed when in fact the cable is fine.

Caveat: Jeff Marchi strongly recommends store-bought cables and says that even professionals go to great lengths to use them. He says that if someone needs to make long connections between rooms or floors, they should put RJ-45 wall-receptacles on both ends and then use store-bought cables (with RJ-45 plugs already on both ends) to connect to the computer NIC on one end and the hub on the other end. While certainly sound advice, and aesthetically more pleasing (a wall-jack, into which varying lengths of cables can be plugged), a little patience, a cable-tester, and experience can make "home-made" cables pretty routine. Wall-jacks are not all that easy, either.

Conclusion. Inevitably there are other tips, variations, and details to discuss. Hopefully enough has been included here to allow the beginner to set up a network in his/her home or office, and then distribute a single DSL or cable signal over that LAN. Please advise of any suggestions, corrections, or new sections you feel are essential to a basic tutorial on building a small network and enabling all computers on the LAN to use the same broadband account.

Butler Crittenden - mailto: butlerc@pacbell.net

Editor's Notes

by Tom McLoughlin



Welcome to the 4^h issue of *eBlue Notes* for this year. Y2K is history and yet there have been some monumental changes that have taken place since the first of the year. Microsoft has been ordered to split up. The tech heavy NASDAQ has had a 25 to 40% shake up. Advanced Micro Devices has stepped to the plate as a near equal to the Pentium in the PC world at any rate with its processor chip: K-7. And people are coming to the user group meeting with questions.

This is the most important development. The San Francisco PC Users Group began with the mandate to offer unbiased general information to its members on topics that could not be found anywhere else. Then the Internet came along and people were able to get much if not all of the info they needed at the Websites of Vendors. A new trend may be evolving. Now there is so much technically oriented information to be implemented in highly desirable hardware and software products, DSL, for example, and the lack of free-flowing information from vendors who would rather offer their pearls of wisdom for a price, that the PC User Group may have revolved back to its original usefulness. That would be nice.

In this issue, Butler Crittenden, our club President, has developed an article which thoroughly details the setup of a home network and the installation of DSL. Thanks, Butler. We also have software review offerings from our Product Coordinator Carol Lee. Thanks Carol. The

syndicated offerings from DealsGuy and Ken Fermoye are included along articles circulated by our national group the APCUG, which the SfpcUG is an affiliate.

On a follow up note, as new technologies evolve, and you do not have time or are inclined to seek out each vendor for setup info or you cannot wait for weeks for your DSL ISP to verify your settings, *etc.*, do not forget, you have an ally in the SFpcUG.

If you wish to contact me you may do so at bluenotes@mail.sfpcug.org.

Did you Know...

O'Reilly offers SFpcUG members:

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When ordering--be sure to include the code **DSUG**.

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Ken's Korner

by Ken Fermoyle



Intel Faces Strong Challenge from AMD

Is the WinTel dominance over the PC universe crumbling at the edges? The synergistic combination of software and central processing chips forged so successfully by Microsoft and Intel is far from losing its place as king of the computer hill, but it is facing new challenges.

For Microsoft, of course, the main problem it faces is the legal one, the threat of being broken up into two separate companies. A lesser thorn in Bill Gates' side is the growth of Linux and other open source code, including Apache, which rivals NT in the Internet server arena.

In the case of Intel, the clear and present danger comes from AMD and its expanding impact on the central processing unit (CPU) market. AMD's current Athlon chips already have leaapfrogged Intel offerings in some respects and a recently-announced cross-licensing deal with Motorola promises to result in high-performance copper-based chips running at more than twice the speed of today's fastest mainstream CPUs.

This could make AMD an even more formidable competitor for Intel, which has not yet announced plans for a similar copper interconnect technology.

Only a few years ago, AMD was strictly a minor league player. Its products were the poor relations of the CPU family, while Intel was Big Daddy, Big Mama and Big Brother, all rolled into one.

The K6 processor marked the beginning of AMD's rising fortunes, but a modest one. The chip was used only in lower-priced computers, and vague rumors surfaced that it might not be fully compatible with all Windows features and some applications. That was fully laid to rest with the advent of K6-2 chips, but the gurus advanced new doubts. Would AMD be able to produce the chips in adequate quantities to win respectable market share?

Then came the K7 chip. It attacked Intel right in the heart of its most lucrative product area: high-end, premium-priced, cutting-edge processors for power or work station users and other early adopters willing to pay top dollar for the latest and greatest in computerdom.

Better known as the Athlon, the K7 processor is totally different from that of the earlier K6 series. The processor has an internal architecture, which uses Digital Equipment Corporation's Alpha EV6 system interface technology. This gives it a system bus interface of 200 MHz, capable of delivering data transfer rates of up to 1.6 GB/sec. The EV6 can scale up to 400 MHz in future, as faster processors arrive. The Athlon has a 128 KB L1 cache broken into two 64 KB instruction and data caches each. It is a .25 micron chip with 22 million transistors

By contrast, the latest Pentium III (PIII) processors run have a 100 MHz system bus. The PIII has a 32 KB L1 cache. Both processors have a 512 KB L2 cache. It is also a .25 micron but with 9.5 million transistors.

The Athlon employs enhanced 3DNow! technology. Instead of the original 21 instructions meant to improve the floating-point capabilities of the processor, the K7 has 45, or 24 new instructions. They are designed improve the processor's performance in speech-recognition and

video processing, and to provide enhanced functionality for Internet browser plug-ins. They also add new digital signal processor (DSP) instructions, to enable better communication with soft modems, ADSL, and sound.

The PIII fits into a Slot 1 motherboard based on the Intel SE440BX-2 chipset. The Athlon fits into a Slot A motherboard based on the AMD-750 chipset. This chipset consists of two chips, namely the AMD-751 and AMD-756. The first controls the 200 MHz front-side bus, system memory, AGP, and the PCI bus. The second one controls the PCI-to-ISA bridge, USB interface, and EIDE interface for both UltraDMA/33 and UltraDMA/66.

What does all this mean in practical terms? Essentially there seems to be little difference between the K7, or Athlon, and equivalent PIII chips when it comes to running typical productivity programs: word processing, spreadsheets, presentaion apps and the like.

Where the Athlon outpaces the PIII in most cases is in high-end tasks, such as CAD and other graphics-intensive processing where good floating point capability is important. This is a major improvement in an area where previous AMD processors were notably weak

Deespite AMD's improvements, Intel PIII chips still seem to have an edge in 3D performance and remains the best choice if you do such 3D tasks as animation and rendering.

As for the AMD-Motorola alliance to produce copper-based processor chips, it's far too early to tell how successful the effort will be - though the combination is intriguing.

Announcemnts so far report that Motorola's Semiconductor Products Sector, Austin, Texas, will contribute its manufacturing expertise to the effort, moving both parties to a 0.18-micron, and then to a 0.15-micron

design rule with its HiPerMOS copper interconnect process technology.

In return, Motorola will receive the rights to AMD's flash-memory patents, allowing it to begin offering high-density, low-power embedded flash microcontrollers sometime next year. The two companies will conduct jointly staffed programs in Austin and at AMD's headquarters in Sunnyvale, Calif., and will share development expenses.

Keep tuned for more information on future developments.

Check Out WordWeb 1.61, Free Dictionary, Thesaurus

Do you ever get stuck for the meaning of a word, or grope for a synonym that eludes you completely? The handiest tool I've found for such occasions is a software program called WordWeb for Windows.

In fact, I count it as one of the most valuable utilities currently installed on my computer. And the basic program, Version 1.61, is free for the downloading! There is one version for Windows 95/98/NT and another for Windows 3.1. Sorry, DOS diehards, there's no version for you.

As a writer, avid reader and major crossword fan, I've depended on dictionaries since childhood. I taught my kids to use them from the time they were very young, often much to their chagrin. ("Dad, how do you spell ____?" "Look it up; you know where the dictionary is." "Aw, Da-a-d, do I hafta?") But they've thanked me since for that training.

In the five months since I discovered WordWeb, I find myself making fewer trips to the bookshelf for my hardbound Webster's University dictionary or to the big Webster's unabridged version on its own stand in the living room. Instead, I click on the WordWeb icon on my desktop or,

if I'm using Word, I simply open the Tools menu and select WordWeb from it.

Version 1.61 contains definitions and synonyms for 120,000 root words, 100,000 synonym sets, many antonyms, a host of proper nouns and more. It also has an installation feature that allows you to tie it to Word, as mentioned above. The Setup program asks if you want to include a template to make WordWeb available from within MS Word.

(I only wish a similar option was available for WordPad, which I use for a lot of my writing, but I guess that might be difficult.)

I've tried WordWeb on several of my computers and it runs fast on all of them, even the oldest model with a 225MHz cpu. It not only comes up fast when using it on a stand-alone basis, but pops up definitions and synonyms in its own window from within MS Word in a hurry, too

All you have to do to get a definition or synonym while in Word is highlight or just click your cursor on the word you want to check. Then open the Tools menu and click on the WordWeb icon.

At the top of the WordWeb dialog box is the Lookup line, which contains the word you want defined. (If you use WordWeb outside of MS Word, you must type in the word at this point.)

Below that line is the definition window, then comes a series of tabs: synonyms, antonyms, types, etc. You click on whatever tab you want to get additional information about your Lookup word.

It's even simpler than it sounds, actually.

You can download the program at: www.netword.demon.co.uk/wweb/

Developer Antony Lewis also offers two other programs, including WordWeb Pro, which adds several features to the basic utility:

1. Wildcard word searches. For example ??d??ek would find the word midweek.
2. Find straight and multi-word anagrams. For example WordWeb Pro finds powder brow + many others.
3. You can edit and add to the dictionary/thesaurus as well!

The first two items are especially important to crossword fans (like me!) and the latter is a big benefit for anyone.

Cost of the Pro version is just \$18.

The third program Lewis has written is Crossword Compiler, which turns you into an instant crossword puzzle constructor. This one costs \$45 for the full version but a demo version, restricted to 10x10 squares, can be downloaded for free.

Lewis also offers various word and language lists to add to the programs, as well as assorted bundles.

I started with the free WordWeb utility, then upgraded to the Pro version. I like the "add & edit" feature, and the wild card and anagram features are helpful when you're trying to solve a really tough crossword puzzle. WordWeb Pro takes up 7.74MB of hard drive space. The base version is about 1MB smaller.

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Frankly, I think the free version of WordWeb is one of the best deals you will find on the Internet but check it out for yourself at the URL given above.

More UG entries are listed on my distribution page. Evelyn Hagfeldt, President of Northland Microcomputer Users Group found the time to send me the information on her group, and Bill De Lucia from Central New York PC Users Group also sent information for their listing. Thanks for the help.

I have also added Sunland Village Computer Club and Colorado River Computer Club. They don't carry my column, but did publish my article "To Surge or Not To Surge." Keep 'em coming.

The Best Buy dispute is still ongoing, but I hope to have it concluded next month. The only thing we can't agree on is a new established purchased price for the new computer, which was what began this action in the first place. They are steadfastly refusing on that and we are about on the courthouse steps, but they'll find I am serious, win or lose.

In response to my comments about "paid referral" URLs sent to users group members who don't actually know the reason, I was not surprised to receive e-mail from people who disagreed with my opinion of people sending them to others for their own income. They said the recipient has no money obligation so why should it matter, even though it is without their knowledge. They mostly said "What they don't know won't hurt 'em." My answer is that I think deception has no place in users groups, or anyplace else.

In fact, a few readers pointed out that there was such a URL to order the book in the last couple of my columns. True, but that is the ordering URL, what can I do, unless I leave that item out. I felt few people would go there unless they were ordering the book. Ira also pointed out the

code for the Amazing Mail in that column, which he called "commission/referral code," whatever that is. Have you been keeping an eye on how many of the URLs you see with number strings?

From The Dealsguy

Bob Click
Greater Orlando Computer UG



The Central Florida Computer Society BoD uses "egroups.com" a lot for internal communication and it often has these paid referral URLs in their ads. More on that next month as I learn more.

On the other hand, Elkhart PC Users Group actively promotes a paying URL, urging the members to use it every day, even giving them numbers on how much money their treasury could receive from only a few pennies per hit (even more if you make a purchase). That sounds like a good plan since it is with the member's knowledge, but I couldn't help notice there is also just a bit of resistance to it.

In my discussion about being careful of clicking on attachments with a .EXE, a friend pointed out that there are also .COM .OVL .DLL, and now .VBS (visual basic script)! Besides all that, there are the macro viruses embedded in Microsoft docs, etc. I even read about JPEG files that it was said could hide a virus. Best policy, he said, is to always use your virus detector and update it every couple of days.

I thought I'd pass on this item that several people sent me. I have condensed it and left out the URLs with a number string:

Problems with Pentium IIIs

Intel announced that Pentium III motherboards equipped with it's "memory translator hub" (MTH) may be sensitive to system noise, and may even reboot or crash with no warning. If your Pentium III (w/Intel motherboard purchased after Nov. '99) is affected, Intel will refund or replace both your motherboard and your RAM, replacing your current RAM with 128 Mb of RDRAM (very expensive RAM). If you think you have one of these, check with where you purchased it.

Only computers containing Intel's 820 chipset, a 133-MHz system bus and a Pentium III running at 533 MHz or greater are affected, and if yours has RamBus memory, you're OK. Intel has created a MTH Reboot Issue Page at [<http://www.intel.com/support/mth/>] Click on the "Am I Affected" link for another page where you can download a free utility that will tell you if your Pentium III has an MTH controller. Also, go to [<http://www.news.com/>] and search for MTH for more information (if its still on there).

Adobe Reminder

I publish these from time to time, mostly for members new to the users group community. These specials are ongoing but can end at any time. Adobe is one of our best supporters, hence the reminder. Check the Adobe Web site for descriptions if you don't know what it is.

They say supplies are limited. Order by calling 1-800-888-6293. Provide your user group name and the offer #35701.

Adobe PhotoDeluxe, Business Edition -- Windows/Macintosh --	UG price \$69.00
Adobe PhotoDeluxe, Home Edition 4.0 -- Windows --	UG price \$39.00
Adobe PhotoDeluxe 2.0 -- Windows/Macintosh --	UG price \$39.00
Adobe PageMill 3.0 -- Windows/Macintosh --	UG price \$69.00

If you own Adobe Acrobat version 4.0, have you asked for the free update? It fixes a few problems discovered after its initial release and includes a few enhancements. Call 1-800-272-3623 to see about the free version 4.05 update if you're a registered user. Have the serial number for your Acrobat ready.

Magazines "On The Cheap."

Herb Goodman from the Boca Raton Computer Society tells me he has been offering discounted magazine subscriptions to many users groups for eight years. I asked him for more information and he is making the discount available for my users group readers only (NOT to the public). I only subscribe to free ones (mostly trade magazines) so I'm not an authority on subscription prices. I'm CHEAP, so be your own judge. In fact, I feel that with the amount of ads contained in most of these magazines, especially Computer Shopper, they should be free. However, that is not the case for most.

Here are the magazines Herb now offers: Computer Gaming World, Computer Shopper, Dr. Dobbs Journal, Family PC, Home Office Computing, Mac Home Journal, Mac World, Maximum PC, Microsoft System Journal, Mobile Computing, PC Computing (now named Smart Business), PC Portables, PC Magazine, PC World, Publish; Wired, and Yahoo! Internet Life.

An example is PC World for one year at \$14.95, three years for \$40.95.

I did notice three magazines on that list that I happen to receive free, and I have no idea why, except that they may also be trade magazines. Print the list each month in your newsletter if you prefer, or save the space in the newsletter and make the information available on a printed sheet, but NOT on your Web site, because it is too easily accessible to the public.

If your users group is interested in offering this discount to your members, e-mail Herb Goodman at [HGOODMAN@prodigy.net] for complete information. He will also send references if you want to know more about him. Who knows, with your help to improve his volume, he can probably work out more deals with publishers for discounts on other magazines (just my thought, there's power in numbers).

An Old Company is Still Around

How many remember "Arts & Letters"? The newbies won't I'm sure, but this company has been around for a long time. However they have never been all that aggressive. I received a solicitation call from them the other day to upgrade and convinced them to offer my readers a deal.

Arts & Letters "EXPRESS" is an excellent graphics program and I have an excellent price. Many of the new features in EXPRESS 7.0 facilitate the development and use of graphics on Web sites, and for interactive presentations. Also included is a CD containing 10,000 Web graphics and a convenient viewer/browser. Version 7.0 users can now connect directly to a special Arts & Letters Web site (access is limited to users of EXPRESS 7.0 and greater). From this site, users can download a variety of content and support materials including clip art, fonts, animated GIFs, sound effects, templates, utilities, news, special offers and documentation. There is even a message board for exchanging ideas and solutions with other users. By the way, tech support is free and unlimited. How often do you get that these days!

There are too many features to include here so I suggest you visit their web site at [<http://www.arts-letters.com>] for all the information. If you like what you see or want more info, call them at 1-972-661-8960, extension 15, and ask for Mel Calderon. Tell him you read it in Bob Click's Deals column. Then you will be entitled to buy Arts & Letters version 7.0 (full version, two CDs) for just \$89.95 (regular \$139.95) + \$8.50 S&H. Canadian S&H is \$20 but there is a way Canadians won't pay tax. Ask Mel about that.

They have Windows 95/98/NT/2000 versions, but I saw nothing for the Mac. Mel noticed I hadn't received the free 6.2 update so he sent me that one and I will get 7.0 when it is introduced in July.

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>] for past columns.

Start With a Digital Camera **By John Odam**

Reviewed by Harry Lieberman

Peachpit Press
1249 Eighth Street
Berkeley, CA 94710
www.peachpit.com

ISBN 0-201-35424-1

At a Glance Rating: ****

List: \$34.99 Barnes and Noble \$34.99
(yes, the same)

Pros: Well indexed so that it can easily
be used as a reference book.

Cons: Perhaps it might be intimidating
for a non-serious photographer.

I've never been really interested in
photography though some 45 years ago
I took lots of slides with my Argus C-3.
We, my wife and I, bought a digital
camera on impulse before leaving on a
trip. So I'm new to this.

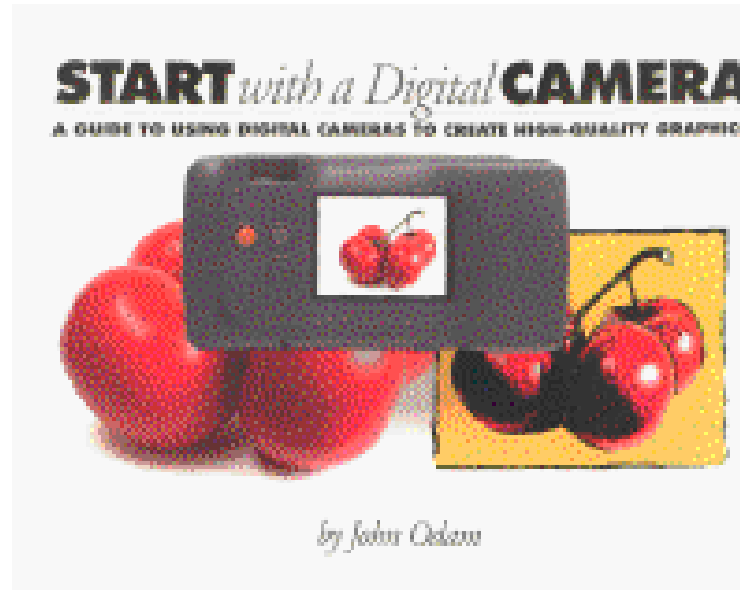
The subtitle, "A Guide to Using Digital Cameras to Create High-Quality Graphics" is somewhat misleading because Odam starts off with getting started and builds up to high-quality graphics. Odam's four classifications of readers whom this book addresses, includes everyone, in my opinion, except those who have a real disdain for anything photographic and those who are no longer among the living.

He starts with the basics – getting to know your camera, goes into the technical aspects and gradually leads the reader into the high-quality graphics. He explains the different techniques and considerations for various subjects – the big picture, working with people, and working with objects. Then he follows through, in great detail, on what to do after you download the pictures.

The last 90 pages, out of 140, are devoted to the editing and improving of the photos. It is amply illustrated by "before and after" pictures so that you really get a feel for what he is accomplishing and why. He uses Photoshop and not only shows how to use it, but why and when.

Just looking at the pictures and seeing what can be done has inspired me to really get into this digital photography thing.

But before you rush out and buy this book, read the review of *Real World Digital Photography* (next page) and decide which is the better book for you. They are both very good, but take somewhat different approaches.



Real World Digital Photography
By Deke McClelland and Katrin Eismann

Reviewed by Harry Lieberman

Peachpit Press
1249 Eighth Street
Berkeley, CA 94710
510-524-2178
www.peachpit.com

ISBN 0-201-35402-0
At a glance rating ****
List \$44.99, Barnes & Noble \$34.99

Pro: Very well indexed so it is an easy to use reference book

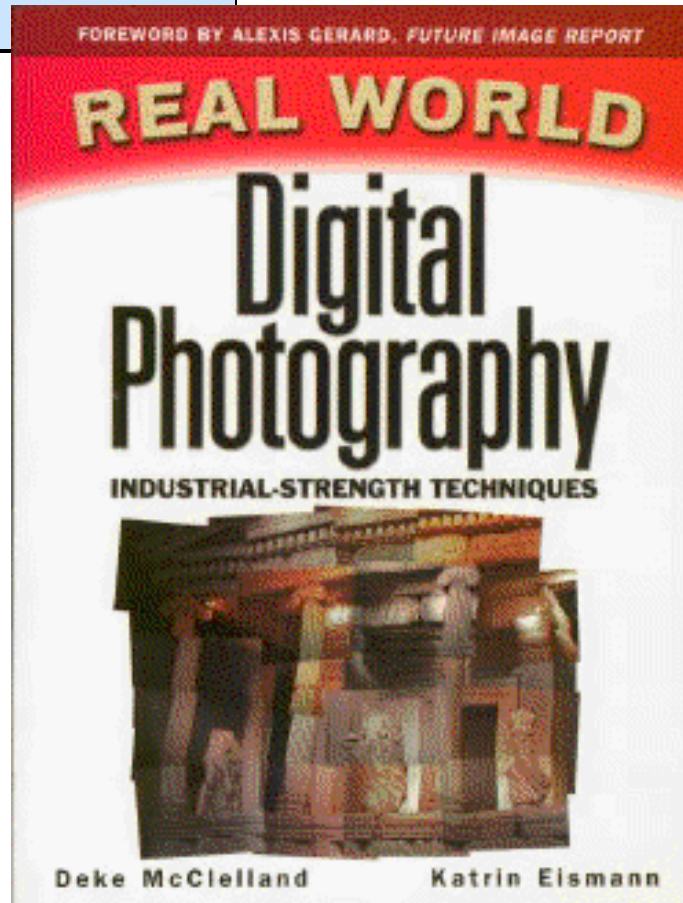
Con: Perhaps an overwhelming amount of detail

It would be a good idea to read my review of *Start With a Digital Camera* (see previous page) so you know where I'm coming from and decide which approach is best for you. Actually, they make good companion pieces

The subtitle of *Real World Digital Photography* is "Industrial-Strength Techniques", and that truly explains the book. The authors write that this is "a book to satisfy the needs of working professionals" and that may be why they wrote the book, but they have covered all phases of digital photography and have written a book that is good for beginning non-

professionals as well. The 382 pages of text are divided into fourteen chapters, starting with "Why use a Digital Camera?" and ending with "Archiving Digital Images". *Real World* does not go into the art of photography as much as *Start with a Digital Camera*, but leans more toward the technical aspects.

This is definitely a technical book, but written in a non-technical style. Anyone who has used a computer and any camera will have no problem with the content. Anything resembling a technical point is fully explained. The style may seem pedantic but you don't have to dwell on every sentence or paragraph. The 21 pages of index contain approximately 1382 entries, making it easy to use this as a reference book. Chapter 12: Correcting Your Photographs includes a section on using Photoshop. The several examples show what you can expect by following their advice.



COMPUPIC PRO 5.1

Reviewed by Carol Lee

Photodex Corporation
1106 Clayton Lane, Number 200W
Austin, TX 78723
(512) 406-3020
www.photodex.com

At A Glance Rating: ****

Price: \$99.95

System Requirements: 386 or higher,
Windows 95, 98, NT 4.0 or later, 16 MB
available RAM

Pro: Feature-rich digital file management utility.

Con: Does not allow for the creation of albums/database of images.

CompuPic is a digital content manager similar to that of Caere's ImageAXS. It too organizes photos, clip-art, video and sound files, but it is not a database.

I downloaded my copy of CompuPic Pro from the Photodex web site. After installing the program, I entered the password I was given so that my copy of the program would work after the 15-day trial period. There is no hard or soft copy user's manual. However, there is a detailed help section within the program. When the program first starts, the screen is divided into two halves. The left side of the screen contains a path list, showing all the directories, while the right hand side lists the content of the highlighted directory. The bottom left corner contains a preview window. CompuPic creates a thumbnail image of the image files and font files which are stored in the computer. Double clicking on a thumbnail image brings it into full screen view, and another click again brings the image back to thumbnail size. The view of the files can also be changed



to just show the file names. Unlike ImageAXS, which allows the user to specify the file folders for inclusion into its database, all folders within a drive are included in CompuPic even if you don't want them to be there. For example, program file folders are included such that the icons and graphic files for those programs are shown as images within CompuPic. There was no option within CompuPic to hide them from view. In addition, I could not organize files from different file folders into pseudo albums. The only way to organize the files is to physically

organize them into the same file folder. Because CompuPic is not a database program, there is no option of including keywords to the file's record. However, CompuPic does offer searching by file characteristics, such as file name and file date.

Unlike ImageAXS, CompuPic includes TWAIN support for digital camera and scanner files and can save up to 12 different file formats. It also has image editing features, such as crop, resize, add text, and rotate. Although ImageAXS does offer emailing of files, slideshow and file conversion capabilities too, CompuPic has more image management and presentation features, such as postcard and greeting card creation (using amazingmail.com and digitalgreetings.com, respectively); and screen saver and wallpaper development. In addition, CompuPic offers the ability to upload pictures to photo sites, such as Fotki.com, Ofoto.com, PhotoLoft, PhotoPoint, and PhotoIsland. CompuPic works with the web sites such that all photo transfer to those sites just requires the selection of photos within CompuPic and clicking on the upload button. The photo upload feature works well; I only wish that more photo web sites are included.

The Pro version of CompuPic includes the following additional features: catalog creation, Photodex picture CD creation, web page generation, batch file conversions, thumbnail web site scanning, and advanced text addition. The catalog creation feature is similar to that of ImageAXS Professional. However, a picture CD creation feature does not exist in ImageAXS Professional. The picture CD tool of CompuPic Pro takes any number of selected files in any number of folders and burns them directly to a blank CD-R (requires a CD-R recorder), including software to view

and manage the files. The resulting Photodex Picture CD is a CD-ROM which contains content (pictures) with software to view, manage, edit, and use that content (including slideshow, screensavers, and wallpaper development). In fact, the program (a version of CompuPic) that is included runs automatically when the Picture CD is loaded in the drive, because an autorun routine is included. This CD creation feature is useful for distributing digital photos.

The Web Page Generation feature works well to automatically develop web pages for distributing digital files over the Internet. Batch file conversions allow for the converting of files characteristics including format, size, border, rotation, image and text overlay and more, while the thumbnail web site scanning allows for the downloading of web pages and images from web sites automatically. The Advanced Text feature allows for the addition of text to images including other special effects. All these features are helpful in the development of web pages.

CompuPic Pro is a great program for managing files for distribution via CD-ROM, email, and the Internet. Unless you need a multimedia database such as that offered by ImageAXS, CompuPic Pro is a more useful product because it has more features that are useful and a cheaper price.

Did you know:

you can Check ANY Existing POP3 Email Account you have by going to:

<http://mailstart.com/>

enter your e-mail address and your password
- that is all there is to it!

HEAVY GEAR II

Reviewed by Carol Lee

Activision
P.O. Box 67713
Los Angeles, CA 90067
(310) 255-2050
<http://www.activision.com>
At A Glance Rating: **

Price: \$50



System Requirements: 3-D Hardware Accelerator, IBM PC or compatible with Pentium 166 MHz or higher processor (233 Mhz recommended), Windows 95/98-compatible computer system, 64 MB minimum RAM, Quad-Speed CD-ROM drive (600 k/sec sustained transfer rate), 530 MB of uncompressed hard disk space (450 MB for game files and 80 MB for Windows swap file), 100% DirectX 6.1 or higher compatible sound card, 100% Microsoft compatible mouse and driver, 100% Windows 95/98 compatible joystick (optional), CD Audio (Redbook) support, supports network and internet play via TCP/IP, Internet play via modem requires 100% Windows 95/98-compatible 28.8 kps or faster modem.

Pros: Challenging game with good 3D graphics and sound.

Cons: Steep learning curve.

My review of Heavy Gear II has been difficult to complete. I had installed the game onto my computer almost immediately after I received it. It installed without any difficulty. In addition, I began playing the game immediately after it was installed. However, it has been difficult for me to get past the training level.

Heavy Gear II is a “Mech” simulator (i.e., MechWarrior). The player controls a large armored, humanoid robot whose ultimate goal is to defeat the enemy in many battles. However, to be prepared to fight the enemy, the player must complete training to learning the strategy and skills required in handling the Mech. I spent over a week going through the training. I learned how to track and sneak up on the enemy (stealth); how to crawl, run and jump; how to shoot the many weapons available, and how to control a squadron of fighters. In addition, I learned the various options of armor and ammunition available to the Mech and the restrictions that limited their selection.

The game has good graphics and sound. The command and controls are well laid out and relatively easy to remember. However, some of the features of the game are hard to rationalize. The artificial intelligence of the squadron is questionable. It seemed that the orders given to the squad had to be simple enough for a 2-year old to understand before the squad performed as desired. For example, the squad did not know to move around an obstruction. They were often stuck behind an obstruction until they were given specific instructions to do so. The stealth features of the game are also questionable. It was hard to imagine that a large humanoid robot (larger than a truck) would be invisible to anyone just because it crawled at a low speed.

After more than a week of training, I became bored and decided to advance into battle with the skills and knowledge I had. My Mech was killed almost instantly, again and again. I did not want to continue

training and so I lost interest in the game. The time and effort required were beyond me. Maybe if I were a teenage MechWarrior fanatic, I would have continued trying to play the game but since I’m not, I just stopped.

OMNIPAGE PRO 10 for Windows 95/98/NT

Reviewed by Carol Lee

Caere Corporation
100 Cooper Court
Los Gatos, CA 95030
(408) 395-7000
<http://www.caere.com>

At A Glance Rating: ***

Price: \$99.95 upgrade of any OCR product, including those bundled with scanners

System Requirements: IBM PC or compatible with Pentium or higher processor, Windows 95 or above, 32 MB minimum RAM, 50MB minimum (90 MB recommended) hard disk space, CD-ROM drive, VGA or higher, and Windows-compatible pointing device.

Pros: Good typed character recognition.

Cons: Not perfect in recognizing layouts and typesetting styles.

I had reviewed OmniPage Pro 8.0 in 1998 for Blue Notes and found it a much-improved program over OmniPage Pro 7.0. Optical Character Recognition (OCR) capabilities were good for printed text with the retention of formatting. However, the program did not recognize hand written text well. Overall, I was satisfied with the program.

Two years and two versions later, I now have OmniPage Pro 10 to review. Version 10 includes a new recognition engine that, according to Caere, reduces errors by 30% more than their previous version. Version 10 also includes a voice read-back capability that helps in the proofreading of OCR results.

The user interface has been improved so that the OCR process is more intuitive and straightforward. Below the file menu is a tool bar, which offers the three different options for processing a document. The OCR process can be performed automatically, manually, or with the use of the OCR wizard. The OCR wizard systematically performs each step of the process, from scanning in the original document to the proofreading the resulting document.

The AutoOCR option requires only the pressing of the Start button on the toolbar to initialize and complete the entire process. The manual OCR option allows for the customization of the different zones to be processed on the document for better accuracy.

A new font-matching scheme has been used in OmniPage Pro 10, which improves font rendering of OCR results. Consequently, the resulting electronic document layout after OCR has been improved to look more like the original paper document. I scanned in tables of names and numbers and it formatted the electronic document into the correct layout and correct names and numbers. The resulting electronic document came out more accurately than that processed by Xerox's Textbridge Pro that I had reviewed earlier. I scanned in magazine articles and found that the OCR process was better at simulating its layout. However, it still ran into trouble with unexpected fonts that were larger than the rest of the text. In Kiplinger's Finance Magazine (the source of the magazine articles), most of the articles started with the first letter of the document being about 5 times larger than the rest of the text to emphasize the beginning of the section. The program did not recognize such a typesetting style and replaced the larger characters with various incorrect characters.

Again, I tried to OCR my hand printing, and again the program did not process it correctly.



The program must not be intended to recognize hand printing, because it fails miserably at it. However, the program has improved its accuracy from its previous versions for typewritten documents.

The neatest feature of the program is the voice read-back capability. However, its usefulness in proofreading is up in the air. The voice is computer generated and requires some getting used to. In addition, the speed of read-back was fast or I was too slow to follow. There appears to be no option of slowing the read-back. However, the read-back did identify gross mistakes in the OCR process when I could keep up with it.

OmniPage Pro 10 includes a personal edition of OmniPage Web, which is Web publishing software that converts multi-page documents to hyper-linked Web sites. OmniPage Pro Personal Edition (PE) is intended for users who want to create Web pages from paper documents of up to 10 pages in length and need more HTML capabilities than are available in OmniPage Pro 10. OmniPage Web uses Caere's proprietary Logical Structure Recognition technology to recognize the hierarchy of a document to create Web pages, as well as generate a table of contents and cross-links. OmniPage Web is a good compliment to OmniPage Pro.

Although OmniPage Pro 10 has not yet perfected its OCR capabilities, the program is more accurate and easier to use than the previous version I had reviewed.

IMAGEAXS PROFESSIONAL 4.1

Reviewed by Carol Lee

Caere Corporation
100 Cooper Court
Los Gatos, CA 95030
(408) 395-7000
<http://www.caere.com>

At A Glance Rating: ***

Price: \$199.95

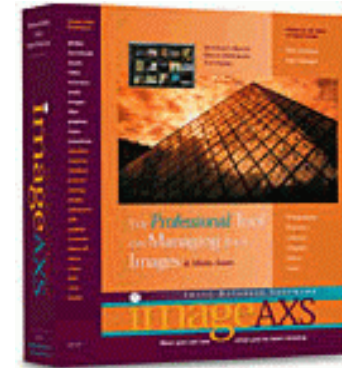
System Requirements: Pentium Processor or better, Windows 95/98 or NT 4.0, 16 MB RAM (32 MB recommended), 16-bit Color or better recommended, 20 MB of disk space for installation, CD-ROM Drive.

Reviewer: M.K. Carol Lee

Pro: Easy-to-use.

Con: Expensive.

ImageAXS is a database program, which organizes digital images and multimedia files, including photos, scanned or downloaded images, movies, and sounds. For the price, I had anticipated that I would get



a hard-copy user's manual with the program. However, no hard copy or electronic manual is included. Fortunately, the program is relatively easy to use with only a few references to the on-line help needed.

Because I have a digital camera, I have many directories of photos stored on my hard drives. It is a hassle to go through them to search for a specific photo. ImageAXS is intended to make that search easier, and it does. Using ImageAXS, I organized my photos into different portfolios with a few clicks of the mouse and keyboard. Thumbnails of the photos were presented of the photos so that I could see the photos at a glance. Next, I organized my .mp3 and .avi files. An icon of a cassette tape is the thumbnail for the .mp3 files, while an image from the .avi file can be selected as its thumbnail. In addition to organizing files into different portfolios, the program also allows for the addition of keywords to each database record so that files can also be sorted using word searches. Because ImageAXS is intended mainly to organize multimedia files, there is no image or sound editing features included in the program; but it does include a file format converter. It also does not automatically reflect changes to the multimedia file location if they were to change. For example, renaming a source file's directory folder is not automatically reflected by the program, although it does indicate the broken link. Each broken link due to the renamed file folder must be fixed manually using the program's Update feature.

The Professional 4.1 edition has the added features of making e-ZCards and publishing catalogs to the Web. An E-ZCards is self-extracting executable file which provides a mini-album of selected image files that can be distributed via e-mail, floppy or Zip disk. When creating an e-Zcard, you can select image size and quality, captions, and even the background colors and font of the information screen. The more compressed the files are required to be to fit on the distribution media

chosen, the longer it takes to process the e-ZCard. However, the feature is useful for distributing the image files.

The HTML Export Wizard provides an easy-to-use, systematic approach for setting up web pages to present the multimedia files. Using the keywords entered in the database record of the file, the web pages can be made searchable. Another feature of the wizard allows that e-ZCard Maker be included to enable the web site visitors to create e-ZCards of the multimedia files.

The Slide Show feature (also in ImageAXS) allows for the creation of an instant slide show of selected multimedia files. However, this slide show can only be run from the program itself. It does not include the ability of exporting the slide shows to other media (such as Zip disk or CD-ROM) for distribution. It should be noted that the CD Authoring Kit edition (\$499.95) of the program does enable users to publish a searchable visual multimedia database on CD and distribute an unlimited number of CDs

IDG Books Worldwide, Inc. with a read-only, royalty-free version of ImageAXS. For what it can do, ImageAXS Professional does it well. I only wish for the money it costs that it had even more to offer

MASTER MICROSOFT ACCESS 2000 VISUALLY

by Curtis Frye

Reviewed by Carol Lee

919 E. Hillsdale Blvd., Suite 400
Foster City, CA 94404
(800) 434-3422
www.idgbooks.com

At A Glance Rating: ***

Price: \$39.99

System Requirements: Book Includes a CD-ROM which requires 486 or Pentium computer with Windows operating system, minimum 32 MB of RAM, 200 MB of free hard disk space, CD-ROM Drive, and video card that can display a minimum of 256 colors.

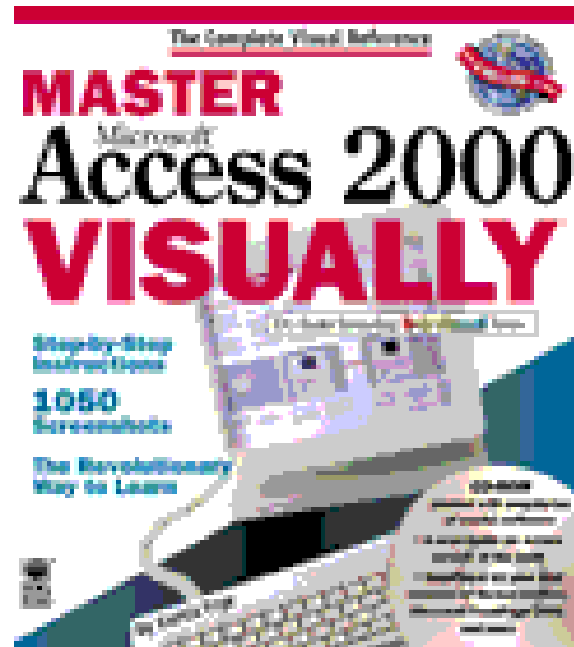
Pro: Visual, easy to understand reference guide.

Con: Not an in-depth reference guide.

Mastering MS Access 2000 Visually is a step-by-step tutorial intended to familiarize the Access user to its functions and capabilities. Using the Northwind

database which is included with Access 2000, the book guides the reader through all the various functions and operations available from the program menu in creating, editing, searching, and printing an Access database. Furthermore, the book touches upon network administration and web page publishing of the database. There is also a brief explanation on the use of predefined Visual Basic procedures added to run in the database. Visual Basic for Applications (VBA) allows for the development of programs or the addition of predefined procedures that Access can run within the database to complete certain tasks, such as finding a file or manipulating a form. The book is an alternative to a conventional users manual because it provides a visual tutorial of Access

rather than a verbal one. However, the depth of the tutorial is that of a beginning to low-intermediate level guide to Access. The CD-ROM that is included with the book has some shareware and demonstration programs that are also available free on the Internet (such as Paint Shop Pro, Winzip, and RealPlayer). However, it does include an electronic version of the book that can be viewed and, more importantly, searched using Adobe Acrobat Reader, which is also included on the CD-ROM. For those looking for an easy-to-follow, beginners Access reference with lots of pictorial examples, this book may be helpful.



TOURING CAR CHALLENGE

Reviewed by Carol Lee

Activision
P.O. Box 67713
Los Angeles, CA 90067
(310) 255-2050
<http://www.activision.com>

At A Glance Rating: ***

Price: \$19.99

System Requirements: IBM PC or compatible with minimum Pentium 200 MHz or higher processor (266 MHz recommended), Windows 95 or 98, 32 MB minimum RAM, minimum Quad-Speed CD-ROM drive (8X recommended), 55 MB of uncompressed hard disk space, 100% DirectX 6.1-compatible sound card and AGP/PCI video card with 4 MB RAM, mouse, digital or analog controller (i.e., joysticks or joypads, steering wheels, and Force Feedback compatible controllers).

Pros: Good racing fun.

Cons: Learning curve.



Touring Car Challenge (TOCA) 2 is a simulation game based on the British Touring Car Championships. Touring cars, including those from Ford, Audi, and Volvo, are used to race around the tracks. There are multiple difficulty levels, such as Championship, Challenge and Single Race play. Additional modes include Arcade-Style, Time Trial, Support Car Championship, Multi-player and Internet play.

The game installed without a glitch and worked well with my Microsoft Precision Steering Wheel. The game's graphics are detailed, and its sound effects are realistic. A small number of cars were available for use around selected racetracks. The game limits the type of car and race track that can be selected for play depending on the skill level of the player. Until the player wins a certain number of points, they are limited to their selection of cars and racetracks. As their skill level grows, additional cars and additional racing tracks are made available for play. A "ghost" vehicle tracks the best performance of the player so that the player can effectively play against himself or herself.

With the cars available to me, I was able to customize some of the car characteristics (such as auto or manual transmission, brake bias, down force, gear ratio and suspension) to affect drive-ability and performance. However, it required trial-and-error testing to determine how the varying the characteristics affected each selected car. Each car performs somewhat differently because of their differing design characteristics. There is also a learning curve in learning to drive the car around the track without spinning out or driving out of bounds. With the selection of novice mode and automatic transmission, driving is made easier. However, it still was a little difficult to drive until I got a hang of making the turns without spinning out (the secret is to step on the brakes). I did like the visual effects of generating dust and sound effects of wheels spinning as I spun into the grass and dirt. Once I got the hang of it, the game was fun and addictive.

JACK NICKLAUS 6 GOLDEN BEAR CHALLENGE

Reviewed by Carol Lee

Activision
P.O. Box 67713
Los Angeles, CA 90067
(310) 255-2050
<http://www.activision.com>

At A Glance Rating: ***

Price: \$14.99

System Requirements:
IBM PC or compatible
with Pentium 166 MHz or
higher processor (200
Mhz recommended),
Windows 95 or Windows
NT 4.0 with Service Pack
3 or later, 32 MB
minimum RAM (48 MB
RAM recommended),
Quad-Speed CD-ROM drive (600 k/sec sustained transfer rate), 400 MB
of uncompressed hard disk space, 100% DirectX 6.1-compatible sound

card and video card that supports a minimum resolution of 800x600 (16-bit color), mouse, joystick (optional), supports network play via IPX and TCP/IP, network play via modem requires 100% Windows 95/98-compatible 28.8 kps or faster modem and a Microsoft Dial-up Networking connection.

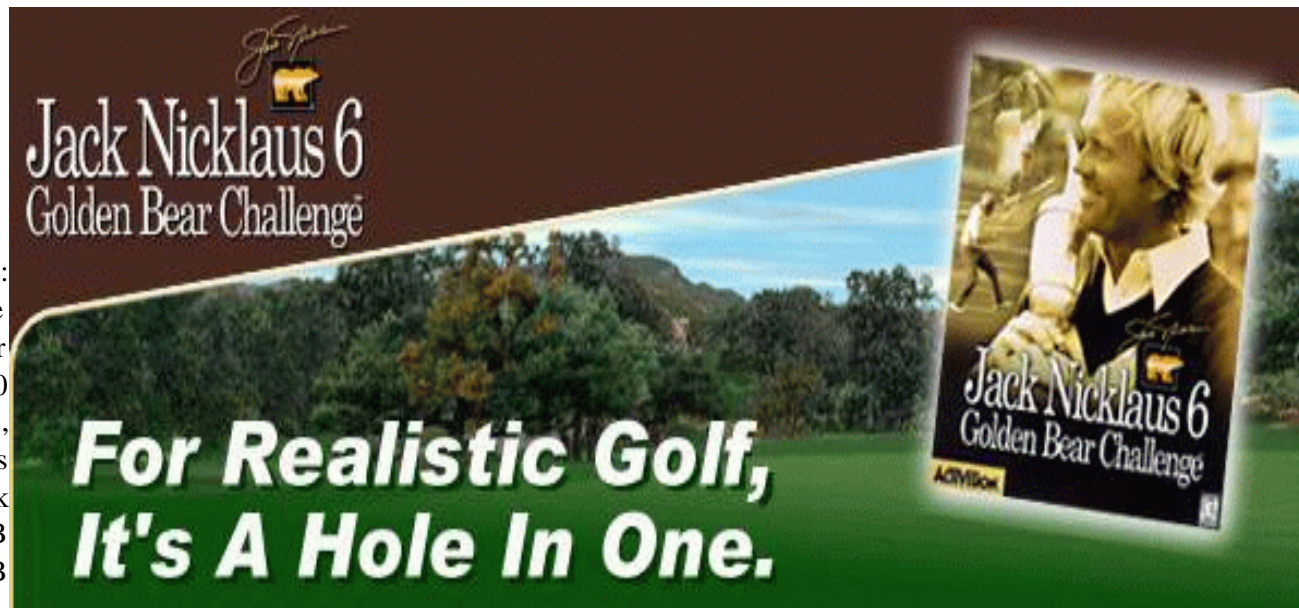
Pros: Good detailed golf simulator.

Cons: Learning curve.

I took up golf last May (of 1999) and have advanced my skills to that of an intermediate beginner. I don't have a golf handicap yet, because I keep losing count of my number of strokes. As an alternative to actually playing the sport, I played the electronic version of the game to see if my electronic golf game was better than my real one. And it was.

Jack Nicklaus 6 is a golf simulation game, which offers simulations of six golf courses. In addition to selecting the golf course to be played, the user can select the wind, fog, and course conditions

too. The characteristics of the golfer can also be defined; such as whether they are Human (controlled by the player) or Computer (controlled by the



computer); male or female; right- or left- handed; whether they are to play from the red, white, blue, or black tees; and clubs they will use. The golfer's skill level can also be adjusted to reflect the desired power, accuracy, handicap, and swing speed. The player can play by themselves or choose up to 3 other players to play with. There were more than ten scoring methods to choose from, with additional scoring options available within each scoring method. The customization offered by the program is indeed comprehensive.

After I selected and defined the variables to customize the game I wanted to play; I practiced on one of the course. There is no golf range or putting green available for practice play. As with the actual sport, there is a learning curve with playing the electronic version of the game. However, the electronic game is easier to learn than the real one. With the electronic version, the golf grip, stance, and alignment are not factors that affect play. In addition, bad habits like not looking at the ball or looking up while swinging are not characteristics of the player.

However, the play of the electronic game is very much reminiscent of my actual golf game – it fluctuated from good to awful. Sometimes I hit well and sometimes I did not. I was often frustrated by my inability to hit well. It is not that the program was at fault but that I was not yet familiar with making a correct swing (using the mouse). However, when I got it right, it was a beautiful shot indeed. I also found the electronic game helpful in improving my understanding of the physics of the ball by showing how the ball should fly under certain wind conditions and how the ball should roll under certain green conditions.

The graphics and animation of the game are good. However, none of the background scenery moved. Consequently, the trees and foliage could not show wind direction. Instead, there was a wind indicator, which pointed the direction of the wind and its speed. Only the player and flag

moved, and their movements were limited. After every bad stroke, the player would hit the ground with the club in frustration; and after every bad putt, the player would fall to his/her knees in frustration. After every putt that allows a player to score better than par, the player makes the same victorious gesture. I would have liked the option of either randomizing or varying the frustration and victorious gestures or eliminating them altogether. These gestures slowed game play, because only after these gestures are made could play continue.

The Computer players played too well. They did not seem to range in expertise; they all played as well as computer-simulated Jack Nicklaus. I would have like to play with a range of players that ranged from bad to best so that I felt that I had a chance of winning. However, because they all played great, it was often a frustrating to play with them. To see one victorious gesture after another was maddening.

The Course Designer feature of the program allows for the creation of a golf course from scratch. Once the basic outline of one hole of golf is created, shapes, objects, elevations, depressions, and even sound can be added. The program offers an Internet link option that accesses its web site where others have developed other courses for use. Hence, an unlimited number of golf courses are available for play using this program. The details allowed by the Course Designer makes for realistic and interesting golf courses.

I found this game addictive after awhile. Like in the real game, after finishing one hole, I couldn't wait to get to start the next so that I got another chance of making or beating par. It was nice to play golf and not worry about my bad golf habits.

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.

Charlie Paschal is a native of the Carolina's and has worked in Journalism for the last 33 years. He has had his articles published by Knight-Ridder newspapers and also works as a web designer for the University of South Carolina. Charlie is the editor of the Palmetto Personal Computer Club. If you decide to use this article, please notify Charlie at cpaschal@mail.netside.com

Kids and Computers

by Charlie Paschal

If you're a parent with a child in school, you might want to consider seeing if the child has any talents in the PC area, because jobs in that field are booming.

According to the annual Cyberstates report, California remains the nation's main technology powerhouse, even though other states are reporting gains in tech jobs. The U.S. high-tech industry employed five million workers in 1999, more than twice the number of people employed in auto manufacturing services. And, this report says that average tech wages are now 82 percent higher than the average U.S. private-sector wage. Other states booming include Washington, Kansas, Colorado and Georgia.

Although this report doesn't break the jobs down, you can bet that many of those jobs include connections to the Internet. Since there's so many "free" deals out there for Web development, it's a field that's easy for any parent to get a child started. Example's include:

* Netscape comes with a free What You See Is What You Get

(WYSWYG) editor.

* 1st Page 2000 is a free text-based editor.

* Notepad comes free with Windows.

Most likely you also have a connection to the Internet, meaning you have a wealth of information available about construction and designing Web pages at your finger tips. Of course, there are also many other tech careers available, such as working for ISP's (Internet Service Providers), configuring equipment for Web companies or writing software.

Early on, try to get your children well acquainted with PCs and how they process information. It might also help if you could build a PC from scratch so they will understand the mechanics of how they work. This might spur interest in the hardware side of the business. Make books and manuals available to them, such as programming manuals, books on DOS or books on Web design and HTML.

Just as we introduce sports, such as baseball and basketball to young children, introduce them to computers, too. Show them how they work and show them the ways they can be used to create things, such as spreadsheets and databases. Of course, not all children will want to dive into such stuff, but not all of them like baseball or football do they? I know several children who have their own Web pages, pages that they have built from scratch. They update and design these pages themselves. You can even make online sites available to them. For example, Xoom and Geocities allow free Web pages. Point this out to them and give them the tools needed to do their own pages!

I know one lady whose had her own page since six -- she's now 10. Will she ever enter the tech field? I don't know, but it could be like youth baseball: She will play with it until she gets older and decides she wants to do something else. That's no different than being involved with a sport

as a young person and discarding it later. All you can do is make the tools available to them and see what plays out. As a parent, you're opening the door of opportunity; it's up to them to walk through.

I want you to consider these three resumes from Business Week:

*Rishi Bhat, born 1984, currently a high school sophomore in Chicago. Child actor, starting in the Hollywood movie, The Indian in the Cupboard. Second career: Developed privacy software he sold for \$40,000, 30 percent of the first-year profits, and the right to "performance shares." Preferred reading at age six: His mom's MS-DOS manual.

* Paul Dini, born 1980. High school dropout, later got high-school-equivalency degree. Career so far: configures routers and switches for Interland, an Atlanta (Ga) Web-hosting company. Prized possessions: Four cars, include a Jaguar and an '81 DeLorean.

* Michael Furdyk. Born 1982. Education: Completed 11th grade. Business: Sold his first Web site for more than \$1 million, then started a Web comparison-shopping service. Also a Microsoft consultant. Whom he reports to: No one, except his dad, whom he brought in as CEO. Biggest problem with his age: Must take cabs on business trips because he's too young to rent a car.

* In addition, I know one University of South Carolina graduate who started an ISP company as soon as he graduated just a few short years ago. He's now retired -- at less than the age of 30!

Why I did it

by **Matthew Skala**

The above 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. Charlie Paschal is a native of the Carolina's and has worked in Journalism for the last 33 years. He has had his articles published by Knight-Ridder newspapers and also works as a web designer for the University of South Carolina. Charlie is the editor of the Palmetto Personal Computer Club.

Many of my friends were surprised when Mattel, Inc., and their subsidiary Microsystems Software, sued me and a Swedish colleague for alleged copyright infringement. I have a reputation for helping computer beginners and setting a high ethical standard. Why would I help "break" a piece of software designed to protect children from dangerous ideas? In this article I'll try to answer that question.

My local user group, BB&C, actually deserves a good measure of credit or blame for my activities. I joined when I was 10 years old, and immediately started using the club's bulletin board system (BBS). On the BBS, nobody had to know that "Matthew Skala" was 10 years old unless I chose to tell them. Prejudiced people who would never dream of conducting a serious discussion face to face with someone my age, were perfectly willing to give me all the respect my ideas could command, in

the electronic realm.

There aren't many other places where our society treats children as fully human. About the only other public place I could count on a little respect, was the public library. Naturally, I grew up with a lot of respect for the written word. Over 13 years of writing messages on a daily basis on the BB&C BBS, and Usenet when it became available, I've had a lot of practice in expressing my ideas in words. My experience on the BBS may have something to do with the high grades I've always gotten in English, and the recognition I've received for my writing in various places.

I think I'm a better person for having been able to use computer networks as a child without any restrictions. Anyone who tried to tell me I couldn't have full access because of my age, would have been doing me a grave disservice. If I'd been limited to a "suitable for children" subset of the online universe, it would have been worthless to me.

So whenever someone suggests that we ought to limit what children can see on the Net, my fingers itch, and I reach for my keyboard. Many of my peers in the computing community had similar childhood experiences to mine. There are a lot of people who believe that it's a good thing for children to have unrestricted access to the Net.

But one of the bad things about allowing the general public onto the Net is that the general public includes some people you really wouldn't want to meet. I'm especially unhappy about the fact that we ever allowed advertisers onto the Internet, but other people have been making noises about pornography and hate literature. Everyone agrees that there are things on the Net that they don't like.

That's where "parental control" or "censorware" packages like Cyber Patrol come in. These packages are based on lists of forbidden Web sites; if you try to visit a Web site that's on the list, you're prevented from

doing so. These systems promise to technologically solve the human problem of undesirable material on the Net.

This kind of claim seems to be based on the idea that ideas are things with a life of their own that can harm people's mental health in the same way that a biological virus could harm people's physical health. That seems to be the basis for "protecting" children from the Internet. It's obvious that the computer isn't about to explode and kill your kid - but could something more insidious happen?

I'd take the biological analogy one step further. If you want to protect someone from infection, do you do it by keeping them in a sterile plastic bubble? People raised in such environments fail to develop normal immune systems. Someone in quarantine like that often dies from an infection that a normal person would have resisted. Children grow up eventually. Do you want them to grow up with functioning immune systems?

In just the same way, I believe that "protecting" children from "harmful" ideas hurts them. Much better to let them develop the critical thinking skills, the mental immune system, that can only derive from exposure to the complete range of human thought.

For people who disagree with my view, it may seem attractive to buy a computer program that will relieve parents from the irksome necessity of paying attention to their children. I suppose people have a right to disagree with me, and parents even have a right to use this software. But I believe I have the natural right to look critically at any idea that comes my way. I have the right to take things apart and see how they work.

It's especially interesting to take apart censorware packages. Censorware packages are a good challenge; they're usually designed to resist analysis because the manufacturers consider their lists of "harmful" Web sites to be valuable secrets. There are documented cases of censorware

companies copying each others' blocking lists without permission, or hiding political agendas in their software. Anyone who wants to have an informed debate on the topic of censorware will benefit from knowing exactly what the software blocks. There is also a consumer protection angle: parents who might buy censorware have a right to know what they're getting.

Maybe it's okay for private individuals to buy censorware without knowing what they're getting. But these packages are marketed aggressively to schools and libraries. With censorware in a school or library, the software publisher is setting policy for a public institution. Because the blocking list is secret, the teacher or librarian can't even find out what policy is being enforced.

The first censorware break I remember was brought to public attention by Bennett Haselton, of Peacefire. He published a way to break the embarrassingly weak encryption used by CYBERSitter. Its list of forbidden "pornographic" sites included www.now.org, the National Organization of Women. CYBERSitter retaliated for Haselton's criticism by adding his organization to its block list. In fact, a later version of CYBERSitter would actually scan the user's browser history, and refuse to install (with a mysterious error message) if the user had recently visited the Peacefire Web site.

Last year I encountered an article called The Reversal of NetNanny, written by a programmer in Sweden named Eddy Jansson. The NetNanny essay took a tutorial approach, giving details of the steps involved in analyzing the software. Eddy's NetNanny essay drew a lot of favorable comment from people who teach computer programming; reverse engineering is an important skill for computer programmers. There's even a reverse engineering research group at the University I attend.

In late January of 2000, Eddy Jansson invited me to help with his project

of reverse engineering Cyber Patrol. We worked together on Cyber Patrol for about six weeks, eventually finding holes in virtually all of its security features. We also found some questionable entries on the block list. We posted an essay on the Web called The Breaking of Cyber Patrol © 4, and the rest is history. For the complete story, please check out <http://www.islandnet.com/~mskala/cpbfaq.html>

Matthew Skala is a graduate student in Computer Science at the University of Victoria, Victoria BC Canada. He is the winner of a prestigious Natural Sciences and Engineering Research Council of Canada scholarship. He is also the Systems Director of Big Blue and Cousins and the Secretary of the Victoria Linux Users Group. 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.

Handy, Hidden Windows 98 Utilities

Compiled by Greg Lenihan

Just before the new year, when W2K concerns were still being hyped, I decided to make the switch from Win95 to Win98 (2nd Edition). Windows 95 still did everything I needed, but I kept reading and hearing about new utilities that were built into the new operating system that looked like good troubleshooting aids. Each of these utilities can be accessed by typing the commands below into the Start -->Run box.

System Information

Command: msinfo32.exe

You can get there the long way by going to Start -->Programs -->Accessories -->System Tools -->System Information. What you get is information about the hardware and resources used, software components installed as part of Windows, and software currently loaded and running (called the Software Environment). To view any of these areas, click on a plus sign next to the heading shown in outline form. If you look under the Tools menu, you can launch other Win98 utilities, such as the System Configuration Utility, System File Checker, Registry Checker, and Dr. Watson. Want to know how long your system has been running since turned on? Look for the Uptime value in the right panel.

System Configuration Utility

Command: msconfig.exe

This is a handy utility used to modify many of the settings for Win98. Individual lines can be turned on or off in your config.sys, autoexec.bat, system.ini, or win.ini files. You can use it to turn off the annoying Scandisk function if you are forced to shut off your system, and can turn off any program starting at boot up. The command msconfig.exe is found in the c:\Windows\system directory where you can create an icon for it on your desktop. It's a very handy tool for troubleshooting startup problems.

System File Checker

Command: sfc.exe

The System File Checker verifies the integrity of your system files in Win98. Running this file will determine if any of your system files have been replaced or corrupted. It will then prompt you to replace them from your install CD. A nice feature of the utility is that by running it after installing new applications, you can find out what system files that application has installed or changed.

Version Conflict Manager

Command: vcmui.exe

This utility enables you to revert to newer versions of certain files that are replaced when you install or reinstall Win98. An install of Win98 will overwrite DLLs and other files even if they were newer than those installed by Windows. Launching the Version Conflict Manager will display a list of possibly troublesome files that you may then fix with the click of a button.

Dr. Watson

Command: drwatson.exe

This tool can provide clues to software-related problems. Typing drwatson into the Run command box won't launch to a main screen or dialog box like the other utilities. Instead an icon will appear in your system tray. Right-clicking on it will display the user interface. To be effective in troubleshooting, Dr. Watson should be running in the background when you are testing problems. That way you can look at log files generated and maybe get some meaningful error messages about what occurred to your system. This may mean loading it at startup so it can try to interpret why a problem or crash occurred.

Hardware Diagnostics Tool

Command: hwinfo.exe /ui

The Hardware Diagnostic Tool provides the same information as the Microsoft System Information Tool, except it is color coded to display problem areas and potential problems. Bright red displays problems and blue is for potential problems. Open the Run box in the start menu and type it in with the /ui switch. It will not run without the switch.

Automatic Skip Driver Agent

Command: asd.exe

When a software driver prevents the system from booting properly, this tool can help determine which driver is having problems, and how to fix it. Make sure two consecutive restarts were attempted whereby the same driver doesn't load. After typing in the

command, a listing of all drivers not loaded should appear along with advice on what to do.

Link Check Wizard

Command: chklnks.exe

This wizard is found on the Windows98 install CD in the directory \Tools\Reskit\Desktop. It scans all of the shortcut files on your system, and checks to see if the link points to an existing application or document. If the associated application or document is not found, it lists that file as a dead link, giving you the option to remove it. Copy Chklnks.exe to your Windows directory and create an icon on your desktop to use it.

IP Configuration Tool

Command: winipcfg.exe

This tool provides the current information about your IP address assigned when you connect to your Internet Service Provider. It includes your subnet mask and the gateway your ISP is using. This information can be helpful in connecting your system to other computers on the Internet. IP Config is found in your c:\Windows directory.

Greg Lenihan is the newsletter editor for the Pikes Peak Computer Application Society in Colorado Springs, Colorado. 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.

iAppliances

by Jeffrey R. Harrow

When we think about "Internet Appliances," or "iAppliances," many of us first think of WebPads or other easy-to-use devices dedicated to displaying pages from the World Wide Web. Or, we may be thinking forward to Internet-enabled things around the home and office that will be able to share information, and be controlled, over the Internet.

But RCFoC reader Don Mahler reminds us that "Internet Appliances" will mean those things -- and far, far more. For example, consider this rather "retro" looking tabletop radio from Kerbango

<http://www.kerbango.com/press/datasheetradio.html>:

As you'd expect, it pulls in local AM and FM radio stations. But if you were to peer around the back, you'd see a seemingly out of place telephone jack, Ethernet jack and (in later units) a USB port. What gives?

As you probably suspect by now, Kerbango's Internet Radio will also connect itself to the Internet through whatever access you have handy, to tap in to a growing list of "Internet radio stations" accessible through the "Kerbango Tuning Service."

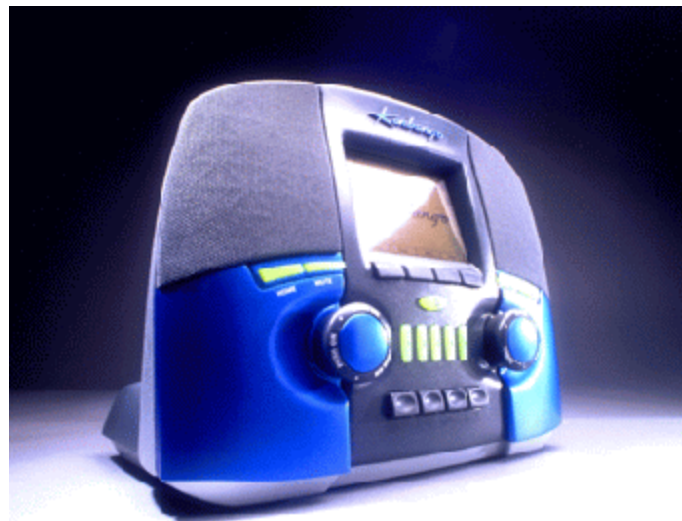
(Kerbango's Stacy Sheppard tells me that they will add most Internet audio content to their tuning service on the publisher's request, at no charge -- such as "RCFoC Radio".) This will give you access to far more content, from much farther away, than a traditional radio ever imagined

("radio envy?"). This radio will also play MP3 files stored on a PC on the same LAN, or on external USB storage.

And because the Internet is a two-way medium, this radio lets you "talk back," giving comments or asking for additional information on the programming you're listening to. Eventually, it may well allow you to purchase local concert tickets for the group you're listening to!

As an added bonus, if you have one of these "radios" on the kitchen table, you'll be able to boast to your friends that you now "run Linux." Because this "radio" runs embedded Linux, as well as the RealPlayer G2, and keeps its software automatically updated whenever it connects to the Net.

This may not be the kind of iAppliance you'd expected to see. But it does demonstrate what is probably just the beginning of dedicated, easy to use (emphasis on that "easy to use"), and relatively inexpensive (under \$300) devices that do one thing, and do it well, while sipping at the Internet straw.



I haven't used one yet, but I suspect that this could well be music to my ears...

About the "Rapidly Changing Face of Computing..."

The RCFoC is written by Jeffrey R. Harrow, a Senior Consulting Engineer with the Technology & Corporate Development organization of Compaq Computer Corporation. The RCFoC is published as a service of, but not necessarily reflecting the opinions of, Compaq Computer Corporation. Copyright © 1996-2000, Compaq Computer Corporation. All rights reserved.

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Tue, August 8, 2000 @ 7PM Steering Committee meeting
Upstairs meeting room of Round Table Pizza, Geary Blvd and 16th Ave

Tue, August 15, 2000

(confirm 415-346-9321 or 415-346-2644)

2040 Ellis, 3 houses west of Divisadero, 7-9PM

"general questions about Windows and hardware, and minor hardware installations."

Tue August 22, 2000

MP3: The Definitive Guide By Scot Hacker from O'Reilly Associates

Check at www.sfpcug.org for latest info

AUGUST 2000						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Tue., Sept 5th 2000 @ 7PM Steering Committee meeting
Upstairs meeting room of Round Table Pizza,
Geary Blvd and 16th Ave

Tue., Sep 12, 2000 (confirm 415-346-9321 or 415-346-2644)
2040 Ellis, 3 houses west of Divisadero, 7-9PM
"general questions about Windows and hardware, and minor
hardware installations."

Tue Sep 19, 2000

Microsoft Me edition see

<http://microsoft.com/WindowsMe/>

Check at www.sfpcug.org for latest info

SEPTEMBER 2000						
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SAN FRANCISCO PC USERS GROUP STEERING COMMITTEE MINUTES

MAY 2, 2000

The San Francisco PC Users Group Steering Committee meeting of May 2, 2000, was held upstairs at Round Table Pizza, 16th and Geary.

Present were Butler Crittenden, Judy Gaer, Pierre Hahn, David Hyman, Donald Oclassen, David Caldwell, Diana Gregory, Joseph B. Puig, III, Tom McLoughlin, Harold Charns and Lee Most

The meeting began shortly after 7PM, chaired by club president Butler Crittenden. The minutes of the March 2000 meeting were distributed. A motion was made and seconded that they be approved. They were approved as written. The minutes of the April 2000 meeting were distributed. After corrections, a motion was made and seconded that they be approved as corrected. They were approved as corrected.

The Treasurer's report followed, which included approval to close the Bank of America savings account and put the money in the Cal Fed checking account. This was approved after a motion to do so was made and seconded.

The Vice President's report was that he was going to look into whether ComputerUser and MicroTimes list the club in their magazines currently and, if not, if there is a cost for this service. Butler noted that the club could reestablish having a table at the Cow Palace Computer Show, including a seminar, if we so choose.

The President reserved time to make his report later in the evening.

The Webmaster's report was that the web site is back up now. The president suggested that if memberships lapse that people get a message for two months asking them to renew. Then for one month they can still get email, but after the third month their email be bounced if they don't renew. He also reported that due to technical problems we are limited to two 28.8 modems and one 33.6 modem for dial-up to the club's server. He will send a log file of who has logged in, and for how long, to Butler and interested steering committee members to evaluate the continuation of dial-up access. He will send a set of instructions for using the server to Butler as a backup in case both Joseph Puig and Diana Gregory are unavailable. It was decided that PPP will be the default for dial-up access but that SLIP will be available for those who want it.

The membership committee was asked if they could possibly provide a password

protected page of the membership database to be available on the web site for those who need access. It was also decided that the membership committee needs to be defined more clearly. Dorothy Walker was thanked for being membership registrar and a member of the Membership Team (M team). The M team of Joseph Puig and Dorothy Walker was reappointed by the President. It was suggested that we look into providing soft drinks and coffee and snacks again at the meetings.

The Blue Notes Editors' report was that they have enough articles for *Blue Notes* but they want to encourage more people to write articles. They expect to have an issue out in 10 days. Tom McLoughlin and Pierre Hahn were reappointed to serve as *Blue Notes* editors. A discussion of *Blue Notes* staffing then ensued. The conclusion was the editors could appoint any person to a position that they feel he or she can fulfill at *Blue Notes*.

The Product Review report was that Carol Lee had been appointed product review coordinator. Butler will continue to maintain the database at present. In the past it has been the responsibility of the reviewer to send a copy of the review to the company that makes the product. This has not been done consistently, however. It was agreed that the Product Review Coordinator or a designated person would be responsible for this in the future.

The Program Chair reported that the program for May was Lernit and Hauspie, a leading company producing voice recognition software. There is currently no program scheduled for June.

The President's Report was that he wants to try to increase membership this year. He also wants some club experts to come on a quarterly basis to have a more in-depth Random Access. This would possibly include a short (10-15 min) presentation on a topic of interest before the question period. David Hyman suggested that a game played on BBC ("Mastermind") might be a model we could use for some of the Random Access programs. He was asked to write a description for *Blue Notes* of what this might look like, which he said he would do. Butler also suggested that we develop a contact person at our meeting site whom we could remind that we were coming, as a courtesy. This is because last month a person at 33 Gough said we were not on the schedule, although we had written confirmation. We currently have our meeting site arranged through 12/2000. David Caldwell will reserve for our meetings at the site for the next year. Nancy and Darryl Struck were sorely missed, and it is hoped they will be at steering committee

meetings in the future.

Old Business - None

New Business - The President is coordinating with *Blue Notes* and the Webmaster to update all titles to reflect current members.

A vote of thanks was given to the editors of *Blue Notes* -- Tom McLaughlin and Pierre Hahn -- for their outstanding work and continued diligence.

President Butler Crittenden adjourned the meeting at 20:25 hours after a motion was made, seconded and passes that he do so.

Respectfully submitted, Judy Gaer Secretary

JUNE 6 2000

The San Francisco PC Users Group Steering Committee meeting of June 6, 2000 was held at Round Table Pizza, 16th and Geary.

Present were Butler Crittenden, Judy Gaer, Pierre Hahn, Donald Oclassen, Diana Gregory, Joseph B. Puig, III, Harold Charns, Vic Saravia, Ellis Gans, Doug Lym and Dorothy Walker.

The meeting began at 19:09, chaired by club president Butler Crittenden. The minutes of the May 2000 meeting were distributed. After corrections, a motion was made and seconded that they be approved as corrected. They were approved as corrected.

The Treasurer's report followed, which included instructions to amend the signature card for the new officers. A motion was made and seconded that David be thanked in absentia for closing out the Bank of America account. The bottom line on the treasurer's report was that we have sufficient funds that is now in a single California Federal account.

The Vice President's report was that Computer User has us listed in their website but not their magazine. Don will change the club number to an accurate one and give them the email address of President@mail.sfpcug. We can have a booth at the computer show if we want to. We just need people to man it. Butler observed that the show seems to get smaller every month.

The President's report was that he feels we are making good progress. He suggested that we look into getting either a phone line or a DSL line at our current meeting

location and that it would be worth the cost for presenters to be able to use the web in presentations.

The Webmaster's report we need to change the name of our club InterNIC contact as the person currently listed is not currently involved with the club. A motion was made to ask Mike Higashi to change the InterNIC contact to the president or another officer or Joseph Puig. This motion was seconded and passed unanimously.

The membership committee stated we have 80 paid members. It was asked if we could somehow acknowledge members at our meetings when they renew. Some felt that announcing renewals might be counterproductive if there were multiple renewals and only a few were present.

The Blue Notes Editors' report was that the May/June issue is out. Don asked that the officers not get Blue Notes as an email attachment as he preferred not to get such a large attachment. Pierre said that next time he would just send the officers an announcement but not the attachment. It was also reported that we already have some reviews for the next Blue Notes but, as usual, articles are always appreciated.

The Product Review report was that Carol Lee has received two MP3 hardware devices for review. Butler reminded people that if there was a hardware device they wanted to try, it might be possible to get it for review.

The Program Chair report was that there is currently no program scheduled for June. Butler asked how people would feel about having a Linux presentation. There were mixed thoughts about this. He also said we might be able to get Intuit. Microsoft was also suggested as a possibility. It was pointed out that with two weeks it would be difficult to schedule someone.

Old Business - None

New Business – Dorothy gave a report on the number of members coming to meetings. The possible use of nametags was discussed. It was decided that people checking out the club could attend once for free. She mentioned that the food that was available was appreciated and there was a discussion of what food people would like to have.

President Butler Crittenden adjourned the meeting at 20:05 hours after a motion was made, seconded and passed that he do so.

Respectfully submitted, Judy Gaer, Secretary

San Francisco PC Users Group
Application/Renewal/Address Change

Name: _____
(Please type or print legibly.)

Date: _____

Address: _____

Home phone: (____) _____

Work phone: (____) _____

City, State, Zip: _____

FAX phone: (____) _____

E-Mail Address: _____

Please check: Renewal member # _____ New Member

Check type of membership:

please send your check to:

- G** Individual \$40
- G** Family \$50
- G** Business \$75
- G** Outside US \$50

SF PC Users Group
Attn: Membership Director
3145 Geary Blvd, Box 284
San Francisco, CA 94118-3300

Please be patient it may take up to 5 weeks to enable the account

Amount enclosed: \$ _____ (Please do not mail cash.)