WindoWatch

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WHAT'S INSIDE

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WindoWatch **The Electronic Windows Magazine of the Internet**
Volume 1 No. 5 **June 1995**

Why is it so disappointing when a personal icon becomes just like everyone else - human? Paul Somerson in his June 1995 PC Computing column of 6/95, fell from my pedestal of unimpeachable objectivity while keeping his track record for humor, color, and oftentimes, courage.

Somerson's description of the poor and outclassed Senator from Nebraska as a "Censorious Cornhusker" who will limit speech and ideas to that of "gloppy pablum" is a wonderful bit of over-statement. I envy Somerson's way with words and in the class of - *I wish I had said that first* is the phrase "as popular as voting against oxygen" when critiquing the alleged Communications Decency Act. What clinched it for me was the killer phrase, albeit a bit too in, and a bit too hot, and more than a bit too arrogant with the Somerson characterization of Exon as a "paranoid technophobic prig(s)". I know that this rhetoric should not be compared to calling one who disagrees with your position as a knee jerk liberal, -the L word, - Socialist or worse; Or tagging law enforcement as *black booted thugs* ready to cut down women, children, gun owners, gays, blacks, browns, yellows and everything in between; Or tarnishing those with Conservative values as Fascists; Or suggesting that death, by any means of doctors performing legal abortion services to pregnant women is justified. Very scary stuff!

It seems to me, however, that this is pandering to group think and or group speak. It reflects the accepted norms of dialogue, style, custom and rigidities of those who no longer control the informal computer networks and more specifically the Internet. To be very blunt, it also sells magazine subscriptions. The traditional Internet playground supported by universities with their faculty and students, DOD contractors and their subs, and hard -ware/software developers and their opinion making computer professionals is over! The private club has been replaced at the mere cost of about $25 per month for unlimited access with homepage.

Questions of privacy, commerce, public service access, legal enforcement of drug laws, copyright protection, encryption, and pornography are legitimate and important areas for thorough and thoughtful debate. We have the option to disagree without being disagreeable. We have the obligation, because this is our turf, to ameliorate the extremes and to help fashion solutions which protect privacy and prosecutes those who use the Internet to engage in sedition, murder, or theft of property.

If computer professionals, as Somerson fears, turn the Internet into a "soulless Sesame Street" it is because we engage in stereotyping with labels that are worn out and without utility while turning a deaf ear and closing our collective eyes to behavior that is offensive, rude and in some jurisdictions,

EDITORIAL

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Comments, letters, and requests can be sent to us at various locations. Postlink to Lois Laulicht ->15 tagging the message "receiver only" and on the Internet
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Editorial, continued

illegal. If we don't clean up our own act, it is very clear, the Fed will...one way or another.

Letters to the Editor

On Idiots Redux...Issue #4

May 5, 1995
My biggest concern was that the rest of the publication was fairly respectable, and contained some very well thought out content. If the reader were to jump to the article and see the 'ranting' that Mr. Miller produced, it might leave a bad taste in their mouths. I especially like the premise behind Mr. Miller's article. It was just the execution that I had a problem with.

He seemed to get too far into personal peferences and unchecked facts. You cannot win the hearts of the readers if they notice the gross errors in your article and Mr. Miller had some pretty bad errors. The last thing we need is a 'Rush Limbaugh' of the computer world.

Hopefully, in future articles, we will see him deflate even more balloons that the computer publishing industry has formed, but with the dignity of factual data behind him.
Sincerely,
Kevin Taufner

Our writers are invited because they don't rant and do keep reminding us all, this editor in particular, that ranting creates much heat and very little light. To equate differences of opinion or preference with a "Rush Limbaugh" style is neither accurate nor enlightening. It is in the same category as the Somerson attack upon Sen. Exon. (See Editorial this issue) Neither characterization says much! This publication, if it stands for anything, is one that provides an untethered voice for responsible and careful computer professionals. As long as our readers feel that ours is a unique approach we will continue to do "our thing" and let the chips of opinion fall where they will.. lbl

The *WindoWatch* Homepage

For those of you who remain uninitiated to the *WindoWatch* home page we urge you to visit. Often you will find brand new articles from our staff and others. We try to remember to announce these offerings and of course will republish them in the next regular issue of the magazine.
www.channel1.com/users/winwatch/WindoWatch.html

Our Newest Colleague

A very big welcome to Jim Gunn who will be bringing his considerable talent to *WindoWatch*. Jim has been publishing the *SALT PUDDLE POINTLESS* which is a teasing satirical rag loaded with information. He and his Lady will provide their own unique spin to the growing and more visible world of *WindoWatch*.

Your Windows95 Tip and Fix

How about submitting your own Windows95 Tips, Tricks and Fixes? We will publish them and make sure you get public credit for your creativity and inventiveness. Also looking for the very best in Windows95 URLs. Our homepage visitors will note that the most recent list was contributed to us by our own Paul Williamson.

GREGG'S PAGE

Don't give up the GHOST...

Our regular, Gregg Hommel is finishing up his much awaited upgrade for GHOST BBS to v.3.20. That is his reason (excuse) for disappoint-ing those who read *WindoWatch* in order to read Hommel. I'll stop whining and assure everyone that GHOST 3.20 will be out on June 15.

In any case, as an exchange for his regular column he is allowing *WindoWatch* to scoop the Big Boys and tell his friends and fans that he is about to come up for air and return to his world of Email, Aspect tutorials, and <GGG's>.

GHOST BBS 3.20 is a mini-BBS replacement for the Datastorm supplied Host application with Procomm Plus for Windows 2.xx. It includes enhanced security, full ANSI support, multiple file libraries and bulletins -- along with a bunch of other enhancements! Also included are features missing from Host, such as virus scanning of uploaded files, and support for DOS BBS door applications.

Gregg's Aspect tutorials will continue in Issue #6.

***Gregg Hommel** is the Co-Host of The Rime Windows Conference. He serves on the Editorial Board of **WindoWatch** and is contributing to us*
a tutorial series on the Procomm for Windows Aspect language .

Getting Warped! *A Fable* !

A Trip to the Twilight Zone

Looking back, it started just as any other day. If only I had known how that day, and those to follow, would change my life. They say I can go home soon so maybe I can make a fresh start. But I'm getting way ahead of my story. Let me introduce myself. My name is John Campbell. I liked to think that I was a reasonably normal person. I had a job, friends, nice neighbors. But that was before OS/2 Warp entered my life.

The place where I worked used a lot of IBM terminal equipment. The *IBM Man*, as we called him, occasionally showed up to repair something that had quit working. Usually, we struck up a conversation particularly since I had been bitten by the computer bug. We liked to trade notes about the latest and greatest in technology. Now, I'm no expert, understand, but I like to think I know enough about computers to be dangerous.

Don, the IBM Man, always ended these encounters by asking if I had switched to OS/2 yet. He preached OS/2 with the fervor of a born-again Christian testifying at a tent revival meeting. I was "letting the world pass me by," he warned. I ended these conversations by telling him I was satisfied with Windows. At this, Don always retreated, muttering to himself.

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As time passed, I noticed that the computer magazines were doing more articles on OS/2. The writers seemed especially impressed with the newest incarnation - Warp. They were saying things like:

"User-friendly - easy to install - runs DOS & Windows programs seamlessly -the Operating System of the Future."

Finally, my curiosity got the better of me. I decided to give Warp a spin while awaiting the long-promised computing revolution from Redmond, which, as the months passed, appeared to be more myth then reality. So, what if there were rumors of installation headaches? I felt up to the challenge . I sent off my order, and waited.

I spent the next day telling my friends and the local computer guru types about the adventure I was about to undertake. The word spread like lightning through the entire community. My friends at the local computer consulting firm shook their heads in disbelief.

"OS/2? Are you out of your mind, Campbell?

Aren't you getting a little too old to be asking for that kind of trouble?" seemed to be the general consensus. Even the hackers who frequented the local BBS were abuzz at the news. One teen commented to another, "This Campbell must be some awesome dude, man."

While awaiting Warp, I perused the Compuserve, BBS and Usenet conferences devoted to OS/2 in general, Warp in particular. A lot of activity here, I soon discovered. I was troubled by some of the message topics, such as "It ate my Computer," "How do I get rid of

this thing?" and "O Dear God, help me." Several messages even asked for the Suicide Prevention Hotline number. I began to have doubts, but it was too late now. I had committed myself. I quickly scanned headers, saving a message here and there for future reference.

The UPS man showed up at my office the following day with an ordinary looking package. I eagerly opened it, and beheld the large, white box bearing the red OS/2 WARP logo down the side. I immediately asked for the rest of the day off. No time to waste and I hurried home with my treasure!

DAY 1

I opened the package and sorted through the contents of various manuals, cards, and a cd-rom with two diskettes. I read some of the preliminary stuff and then appraised my setup. I had 60 meg free on drive C, so I decided on a dual-boot configuration, with Warp installed on C: . I had already read through a compatibility list I retrieved from CIS, and it appeared that I might have a problem with my Hercules Dynamite video card, and perhaps my Sony 55E cd-rom drive, but, what the heck, it was time to begin the installation!

I popped the first installation disk into my B: drive. And then it struck me. This beastie has to be installed from Drive A! Muttering, I pulled the case off my trusty Gateway 486 and began switching ribbon connectors on the floppies. I then rebooted and made the appropriate change in the CMOS. "There," I thought, "that wasn't so bad. Just a minor setback!" I again slipped the first disk in my machine and anxiously waited as the drive churned. I whooped for

joy as the OS/2 Logo appeared! "Piece of cake," I smugly told myself.

I followed the on-screen instructions to change disks, and watched various messages scroll by. It was now time to access the cd-rom to continue. Then, BLAP! "Oh no, the dread red screen!" I had seen references to the *red* screen in the online messages. Not good, Campbell. Warp was telling me it couldn't find my cd-rom drive. Time to go back and bone up on solutions.

I found some references to updated drivers for troublesome Sony drives on Compuserve. I searched the OS libraries and came up with some likely prospects, which I downloaded.

This time, no red screen! Instead, the display informed me that Warp was examining . . .installing files . . . updating . . . configuring . . . examining . . writing . . updating . . . "How long can this go on," I wondered? Finally, after what seemed hours, Warp announced that it was ready to reboot and do its thing. "Alright," I thought, "this is more like it." The reboot proceeded, and, ... BLAP! No, not the red screen this time, but rather a plain-jane screen proclaiming "TRAP! GOTCHA! Write down these twenty-five cryptic numbers and call your technical support folks!" I stared at the message in disbelief. It was now late in the day. Call IBM? No way. I'll just reboot.
The three-finger salute did nothing... my computer was locked up

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tight. So I did a cold boot, and, nothing! No familiar "Loading Ms-Dos". Instead two strange SYS something or other symbols.

I needed some fresh air, so I decided to go out for a walk. But, as I got up to leave, I felt a cold chill in the room. It was as though something sinister was there with me. I looked around but saw nothing. I shrugged and left. Uptown, I passed a bar.

Heretofore my drinking had been limited to maybe a mixed drink during the social hour at the annual hobby convention. I now felt the need , so I went in, sat down and ordered a Rum and Coke. That hit the spot so well that I had another.

When I returned home rather late I was determined to recapture my computer before calling it a night. I searched for my trusty DOS boot disk. Aha! Found it. But wait - it's a 5 1/4 disk so I had to swap drive letters. Cursing, I opened the case, and reversed the drives, then changed the CMOS - again! OK, I was able to get to my DOS prompt and set about the business of getting rid of Warp. Firing up my trusty Xtree, I gasped at the sight of my C drive. New directories under directories, nested under still more directories. Dozens of them - and then my eye caught some strange files in the root directory. I stared in bewilderment at one called EA DATA. SF. "No wonder this thing doesn't work - these files have holes in them," I thought. Muttering, I reached for Norton Disk Editor.

Between Xtree and Norton, I finally excised the last traces of Warp, or so I thought. With a sigh of relief, I rebooted. BLAP! I sat stunned, as the mysterious SYS jargon reappeared. "Surprise, I'm still here," it

proclaimed. I tried to tell myself "get hold of yourself, Campbell, don't let this thing whip you."

Back to the conferences. Surprisingly, another 400 messages had been posted since yesterday. I waded through the pitiful cries for help posted by other Warp newbies. Several messages led me to believe that Warp had tampered with my boot sector. "The nerve of this thing," I muttered . . . I proceeded to do the recommended SYS C. But it was still there. In desperation, I rummaged through my diagnostic disks, and finally found a Norton Emergency disk I had prepared earlier, just in case. No question that this qualified as an emergency, so I popped it into my machine and told it to restore boot sector, partition tables, everything. Success! I was able to reboot.

It was now well past midnight. Exhausted, I turned away from my computer. "Whoa, what's that?" For a moment, I thought that I saw a faint image in the room. And it seemed very cold again. I told myself it was just my imagination. I had to get some sleep. I fell, exhausted, into bed.

DAY 2

I had strange dreams that night- Steve Manes and a bunch of little men wearing blue jackets hammering, sawing and using blow torches on my poor computer. I awoke in a cold sweat. I was supposed to go to work, but I called in sick. This Warp thing had to be tamed. So I headed straight for my computer, armed with a new resolve. I checked the Warp conferences for fresh insight, and was greeted by 650 new messages. Undaunted, I began researching my problem. Time passed. I discovered that I needed something called

"Update Installation Diskettes," and a "FixPak." It seemed that first one, then the other had to be run. But wait, to run this FixPak thing I also needed a "kicker" disk, and had to create disk "images?" I haunted online conferences and downloaded files for what seemed hours. Finally, I had all of the necessary ingredients.

It was past noon, now, and I needed something to take my mind off all this techno stuff. I went to the same bar I had visited yesterday. This time, I ordered a whiskey - straight - and proceded to gulp several more.

I was feeling a bit light-headed and giddy when I returned home. Several neighbors gave me quizzical looks as I walked down the street. "What's their problem" I wondered, "and when was that tree moved into the middle of the sidewalk?"

Back at my computer, I made a note to replace the monitor, which had become a little blurry. Strange, I hadn't noticed that defect before.

It was time to tackle the fixes. Lets see now, I create *Corrective Services Facility* disks 1 and 2, and *FixPak XR0W005 Corrective Service* disks 1, 2 and 3, being sure to label the latter three disks *CSF* so that they will not be mistaken for the first two. Huh? This jargon was enough to baffle someone who was stone, cold sober. I dutifully proceeded as instructed and then began the install process again. The phone rang. It was my boss, asking if I was feeling better and would be at work tomorrow. I told him maybe, and hung up. Can't be disturbed now, I thought. Again, Warp pondered... installed... diagnosed.... updated.... A good half-hour later, it decided it was

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satisfied, and rebooted. My drives churned, then, the Warp desktop appeared! Success! Yes!

It was now evening and I hadn't eaten since morning, so I decided to take a break. I hadn't shaved either, but no matter. I wolfed down a hurriedly microwaved frozen something or other, and returned, excitedly, to my computer. It was time to see what Warp was all about. As I entered the room, I was certain that I saw a fleeting image in a corner. I looked again, but there was nothing there. I shrugged and began studying the strange new desktop image on the screen.

I opened the DOS folder. Five applications stared at me. But these were not stuff I ever used. "Where are MY programs," I shouted! I looked in the Windows folder. Only six applications had survived the migration to Warp? "Steady Campbell," I muttered, maybe the good stuff is in this Windows-OS/2 folder. Whew! My entire Windows desktop! It was still alive! Time now to run my programs. I excitedly clicked and double clicked here and there. I began to get that sinking feeling. Pipeline couldn't find a key file, Acrobat sternly scolded me for daring to open it in Standard Mode, Groliers couldn't find its database, Zoo Animals claimed it didn't exist, and Myst screamed a timer initialization error at me. As for the Windows 3.1 desktop, it merely blinked as I repeatedly clicked it. I fled back to the DOS folder. "I've got to put some good stuff in here, surely my trusty DOS programs will run," I thought.

Without reading the help file (that stuff's for sissies), I opened the File Manager thingy, and proceeded to drag my DOS programs to the desktop. Quickly, I clicked my new OzCIS icon. OZ tried to load, then gave up the ghost, complaining that it couldn't find some file.

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QmPro refused to budge. Not even a blink. Disgusted, I left, slamming the door behind me. I headed for the bar.

DAY 3

It must have been the wee hours of the morning of Day 3 when I staggered home. I don't remember anything more about that day.

I was awakened about noon by the phone ringing. It was the boss again. I made some excuse about seeing a doctor, and hung up. Warp was now an obsession. Surely, I can make it work. I just need to bone up a bit more. I decided I might as well read the manual, and the online help. Hmm, it seems programs have a "Settings Notebook," and there's a bit more to adding programs than dragging them from a file listing. Gee, this is getting involved. The notebook had page after page of settings. Too much, Campbell. I decided to look in the OS/2 folder. Surely that stuff's set up right. I decided to try the Internet Connection. Patiently, I filled in question after question in the dialog boxes. At last, I was ready to go online and get a user account. My modem dialed, then tried to connect, and tried, and tried. I changed settings and tried again. No connect. Now I was getting mad. I decided to go through every blasted modem string the program listed, until I found one that worked. Hours passed. I had tried thirty possibilities, and none worked. I went to the bar.

As I returned home, I noted that several more trees had been

moved into the sidewalk, causing me to be rather badly bruised by the time I crawled back into my house. No matter. I *will* tame this thing. I hated to admit that it was time to call tech support. I called the number, and was greeted by a menu. That menu led to another, and to still another. By then, I wasn't sure where I was in the vast labyrinth that was IBM tech support. Finally, I got a number for someone that handled connection problems. It wasn't toll free, but so what. I called the number. A voice said "hello." I asked if this was IBM. The voice cursed and hung up on me. I went back to the bar.

DAY 4

Some new friends must have taken me home. When I awoke, it was midday. I decided it was time to shave and get something to eat. I went out into the sunlight. Neighbors gave me long and wary looks while hustling their children back into their houses. My boss pulled up and demanded to know what was going on. I told him to bug off. I wouldn't even think of returning to work until I had conquered Warp. He muttered something about everyone being expendable, and left, shaking his head. I went back inside and headed for my computer. This time I was certain that I saw a strange figure in the room. Whatever it was vanished as quickly as it had appeared. I spent the rest of the day changing settings - dozens of them. I actually got one program to run - briefly. I decided to celebrate. I went to the bar.

DAYS 5 - ?

Everything is beginning to run together now. I lost track of the passage of time. Warp had become an addiction. I spent hours on

end changing parameters, following the online conferences, and haunting the bar, which by now, was as much my home as the place where the cursed computer lived. I got a pink slip in the mail. One day I seem to remember a priest stopping by, offering to do an exorcism. The Warp people online were exhorting the faithful to hang in there; that the new Windows was a wimpy system, and that real men stayed with IBM, no matter what the cost. Still, one poor soul pleaded with the sysop to give him Dr. Kevorkian's phone number.

As for me, I continued to tweak, modify, and generally screw up every application I had. Execution files took on strange new names, never to execute again. Data files became mangled beyond belief or salvation. There were online rumors that someone had actually gotten Myst to run under Warp. He became an instant legend. By now I had actually gotten several programs running - I think - as my monitor became more blurry with every passing drink - I mean hour. Finally, my old Windows wheezed and spurted to life on the Warp desktop. I was overjoyed! At last, I had succeeded! I was now curious to see what would happen if I switched to the PC Tools replacement desktop. I moved my mouse toward the icon. Suddenly, I was again aware of a presence in the room. I could swear I heard a chuckle.

I took a deep breath and clicked on the PC Tools icon. The new desktop appeared! But then, strange things began to happen. The Warp screen began to bleed into the new one. Frantically, I began hitting keys. Escape, Break, everything I could think of. But no use. Now, my screen resembled a piece of Picasso art. The Warp and PC Tools screens had become a montage of interleaved bits and pieces. And a strange hissing noise erupted from inside my computer's case. It grew

louder. I panicked and grappled for the power off switch. Too late! My machine emitted a final death rattle as it expired. The monitor blew, scattering pieces of Warp and PC Tools all over the room, knocking me to the floor.

When I regained consciousness, I surveyed the wreckage that once was my beloved computer. I began to cry. Suddenly, a ghostly figure appeared. I rubbed my eyes and stared in amazement. The apparition looked familiar. It was Bill Gates! "Sorry about your computer, Campbell," the ghost began. I have been watching all along, just knowing that something like this was going to happen.

But I am here to offer you salvation." "How did you do this?," I sputtered. "You can't really be here. Is this some kind of Virtual Reality trick?" Gates smiled. He replied "It's not really that hard. Remember, we bought the Roman Catholic Church a while back. Well, now we have access to the Vatican's Vision code. They've pretty much kept visions all to themselves for centuries, you know. We modified it and now call it 'Visional Reality.'"

By now, I was sobbing hysterically. " What do you want" I implored. Gates, still smiling, held out a box. "This is your salvation, Campbell. It's Windows 95. It's User-friendly - easy to install - runs DOS & Windows programs seamlessly -the Operating System of the Future."

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When I awoke, I was in this place. Must be a hospital, I thought. Did it all really happen, or was it just a nightmare?

The door opened, and a man wearing a white jacket entered the room. "Well, I see you're awake, Campbell," he said. "I'm Doctor Jones. We were worried about you for a long time. Some people found you wandering the streets, wild-eyed and raving. But I have every reason to believe you can make a full recovery."

I asked if I could go home now. "Afraid not," replied the doctor. You people who attempt to install Warp usually have to stay at least six months. Takes a long time to recover from that experience."

I looked around. Something didn't look quite right about this place -- bars on the windows, for one thing. "Where am I?," I inquired." The doctor smiled. "Don't worry, Campbell, we will take good care of you here. Welcome to the *FOREST HILLS SANATORIUM*."

***John M. Campbell** is indeed full of all sorts of pleasant surprises. His regular job as Manager of the Unemployment Compensation Board of Elkins, WV doesn't appear to interfere to slow his creative bent. The whimsical line drawings were done by Kathy Skidmore and Shauna Hambrick. John is a regular contributor to WindoWatch.*

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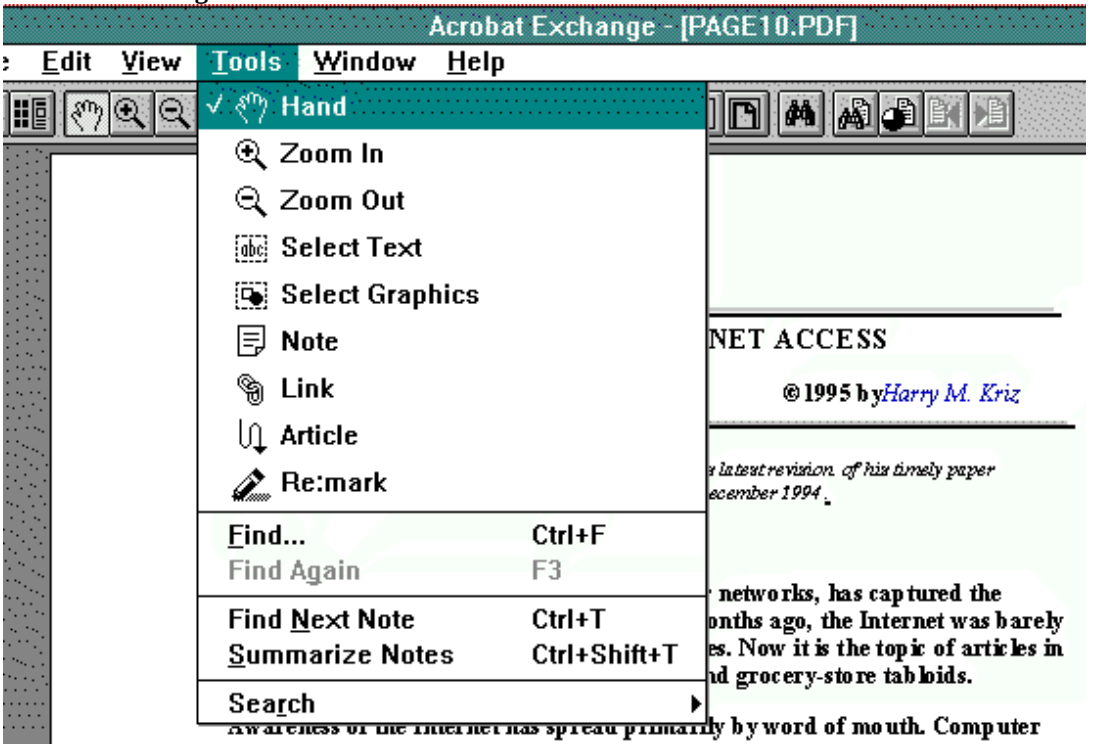
CREATING ACROBAT FILES

Acrobat Exchange Button Bar

Acrobat Exchange Tool Menu



Exchange Tools

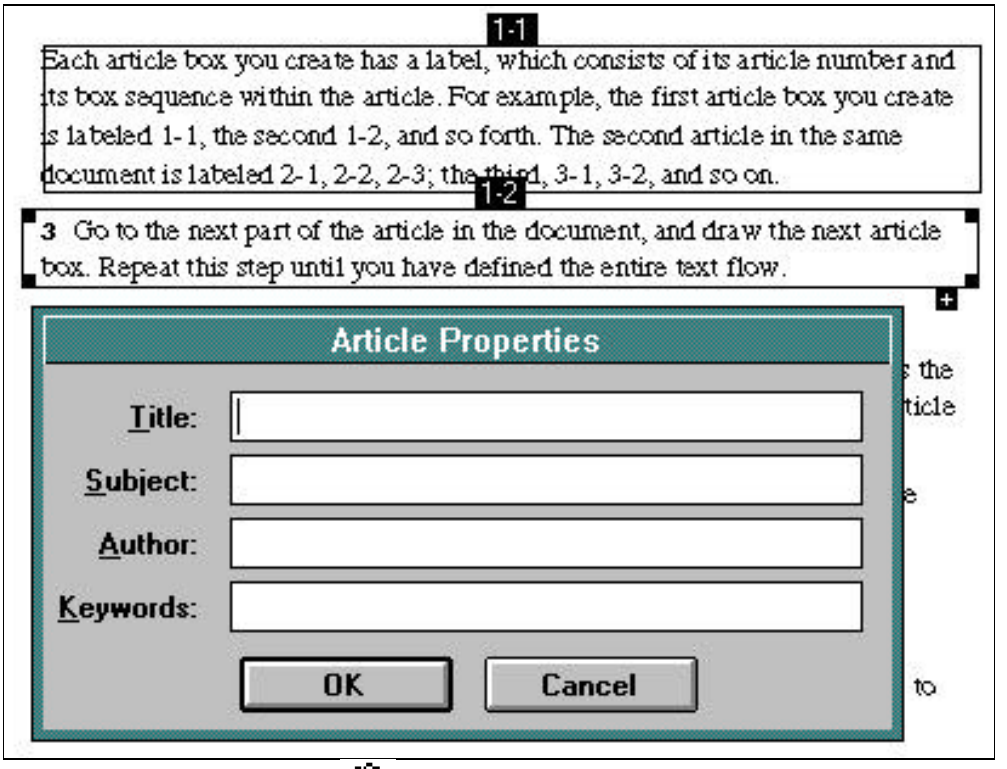
This article will deal with more of the Tools and Utilities in Acrobat Exchange. We will focus on how to create Articles, and fun things to do with Text and Graphics Selections.

Focusing Your Readers' Attention: Using the Article Tool

One challenge for the electronic document maker is to keep attention focused upon the content of an article, not on the program's techniques for reading it easily. One way to do this is to minimize the needs for paging, scrolling, and zooming in and out to follow the flow of columns. How to minimize such distractions, and how to make manipulations of the material almost transparent is the challenge to Exchange's programmers and the document makers using Exchange. The Article tool is the key technique to a solution. It enables you to chain together the sections of your story or article, regardless of the size or complexity of the entire document, so that the reader can navigate with mouse clicks.

Some planning is required to create a chained article, of course, probably at the authoring stage. Also a sense of how you want to convey the import of the tale. Exchange only gives you tools to make it easier for your reader to grasp the article's contents. You will want to divide your story, for example, into screen-viewable and fairly easy-to-digest chunks. This may require collaboration between the document designer, the editor, and perhaps the writer.

What you do is select the Article Tool from the Tool Menu--note that the cursor becomes a cross hair (+). Draw a rectangle around what you designate as the first area of the article with the left mouse button so as to highlight it. (See graphic below.) Now the cursor changes to the "article flow cursor." Then highlight successive chunks of text and graphics until your article is defined. This will take a few tries and you will likely have to experiment with different flows of the article's sections. Once you are finished creating the sections and the flow, press the End Article button on the status bar. (See Exchange's Help for more instructions on how to resize, insert, and combine article boxes.) You will be able to help your readers to select the articles which interest them by describing the article in a dialog window on Article Properties. (You find this choice in the View menu.)

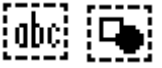


Reading an Article

Articles can be read with either Acrobat Reader or Exchange. When you encounter an article as defined above in a PDF file, your cursor changes to the hand symbol shown above and the message "Read Article" appears on the status bar. Clicking will make the article fill the screen, ensuring good readability. Status bar will read "Follow Article." Once you've read that section, click again. The article will scroll itself to the next section, and so on, following

columns and page jumps throughout a document. When you reach the last section of the article, the status bar will read "Exit Article."

You can return to the beginning of the article by doing a Control-click of the mouse. As you do this the status bar will read "Begin Article."

Selection Tools 

Both the text and graphics in PDF files can be copied into other application files. The Text Selection Tool is in the Tools menu in both Reader and Exchange (or use the ABC icon in the button bar). After the cursor becomes an I-bar, select parts of text to copy and paste in the usual way, or Select All and Copy from the Edit menu. Once the selected text is on the Clipboard, you paste the text into another document which uses a different application with no conversion problems. You can also paste the text into a PDF document note or bookmark. Acrobat converts the PDF text to RTF (Rich Text Format), thereby saving some of the formatting from the PDF document.

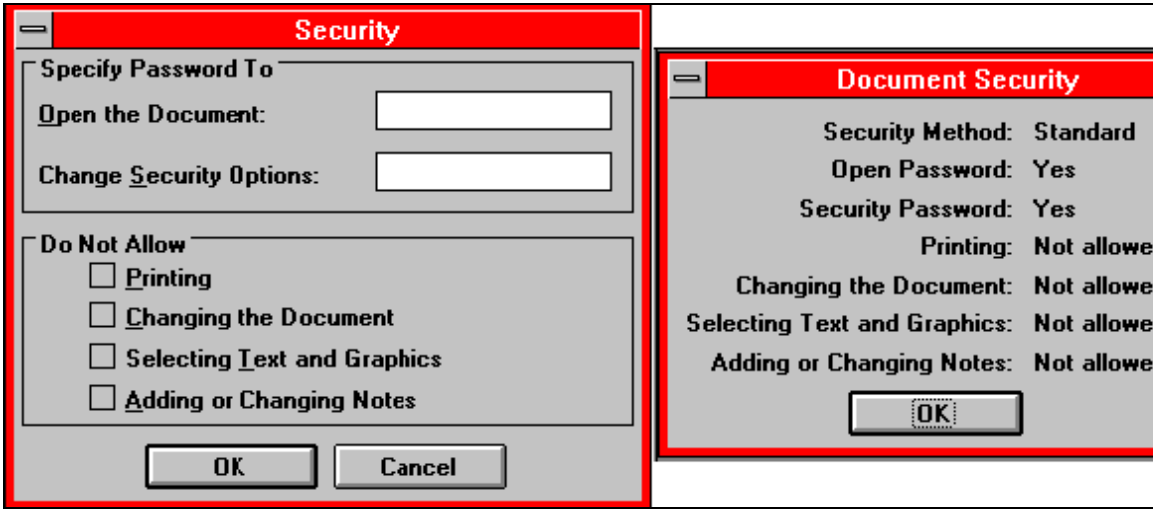
You can convert PDF files to HTML format if you have Word for Windows 6.0a and the free Internet Assistant or Quarterdeck's WebAuthor, both add-ons to Word. Select the text you wish to convert, in Word select Paste Special-not Paste--from the Edit menu and then select Formatted Text (RTF) in the Dialog Box. You now have a semi-formatted RTF file, and a little fix-up can make it look like the original file. Then do a Save As--not Save--and choose HTML as the file type.. Voila! With a little more touch up to this

file and you have a Web-ready document. Unfortunately neither of these program tools have been converted or ported as of May, 1995 to work with any other word processors. In fact, they cannot yet even be used with any other versions of Word.

Selecting and copying Graphics from a PDF file is just as easy. The Select Graphics tool is accessed from the Tools menu (also in both Reader and Exchange). The cursor changes to a cross hair. Drag a rectangle around the graphic, copy to the clipboard, and paste into another application's document. A cautionary note--you may well have to use one of those fancy graphics converter programs to make this work depending on a variety of variables

Some Words About Security

Depending on the degree of security you want your PDF file to have, you can assign passwords and other controls to a PDF file to limit user access to it. PDF documents with passwords or limited functionality are called "secure" files and cannot be inserted into another file. A non-secure file inserted into a secure file inherits the new file's security settings. Pages cannot be extracted from a secure file.



Security is set when you Save As a PDF file. Click on the Security button to open the Security dialog box. Two passwords and four limitations can be set. The choices in the above box shows a completely secure PDF file.

Summary

I hope these articles on creating Acrobat files have been helpful. I have focused on some of the basics to get started. You can get very detailed information from Exchange's Help file with still more information from the Compuserve Acrobat forum, Adobe's BBS, and the comp.text.pdf Usenet newsgroup.

This is the second in an Acrobat Tutorial series from Jim Plumb. Jim is the Editor of the WindoWatch home page. Jim is our resident Acrobat expert and would love to hear from our readers at jplumb@user1.channel1.com

Visual Basic and Delphi

Separate Views of Component Programming

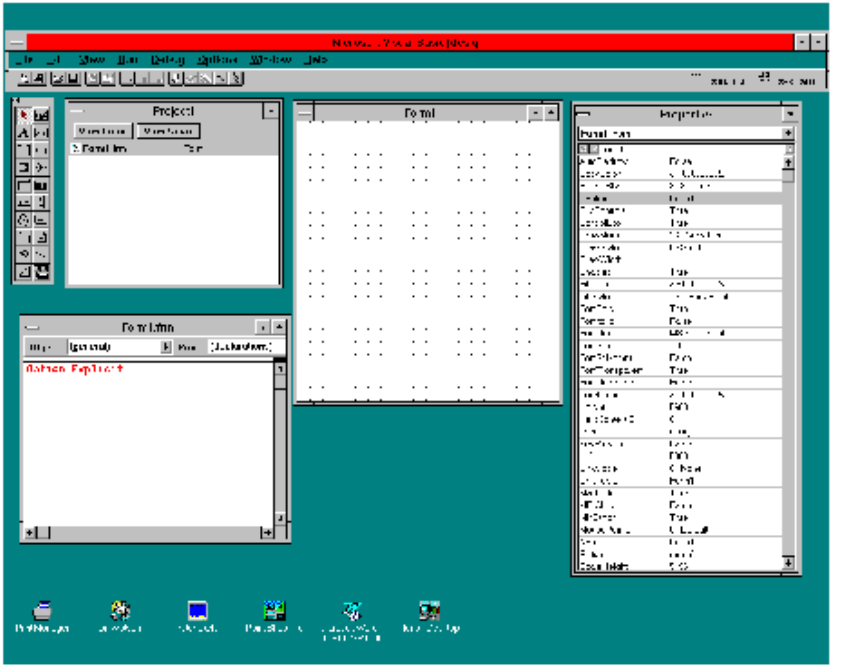
The face of Windows programming changed when Visual Basic entered on the Windows programming landscape. Sure, there were other "visual" programming languages before Visual Basic appeared, and there were even other Windows visual programming tools before Visual Basic, but visual programming gained real popularity for business applications when Visual Basic appeared. Perhaps it was that Microsoft released it, or perhaps that it was mostly based on Basic, a programming language that many programmers started with when they were teenagers. No matter. Visual Basic is a force to be reckoned with in the Windows development arena. For all it's popularity and rapid development capabilities, Visual Basic still is a very limited tool in many ways. In this article, I'll look at one aspect of Visual Basic and Delphi, components, and how they differ in the way they approach components.

Both Visual Basic and Delphi allow programming by using components. In Visual Basic, that mostly means Visual Basic

Extensions (VBXs) but it also can include regular Windows Dynamic Link Libraries (DLLs). For Delphi, it means VBXs that support Version 1.0 interfaces, DLLs, but also a third form, which I will call plain components. I'll first look at the component model that Visual Basic and Delphi have in common, and then the model which only Delphi has.

Component Programming

At first glance, Visual Basic and Delphi appear very much like one another. Their development environments look alike and work somewhat alike too. To give you an idea of how similar Visual Basic and Delphi appear, here are screen shots of each application, ready to begin a new programming project. I've minimized or shut down other things I normally keep running so that you can get a better idea of what the development environments alone look like. (For those of you that notice these things, yes, this is a 1280x1024 desktop, the only way to program. The screen shots are full 1280x1024 bitmaps.)



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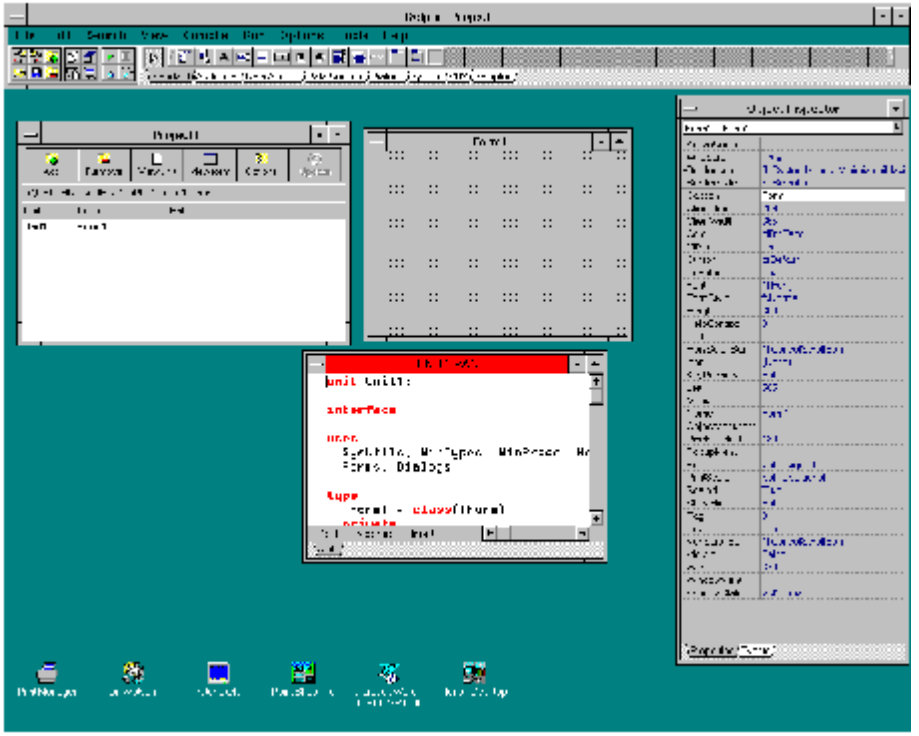


ww

As you can see, the visual aspects of the two development environments are very much like one another. I have deliberately arranged the windows of the design environments so that there is more

correspondence than usual, but I find that I tend to arrange my windows similarly when developing just because I like to keep certain things in certain places. I'm a firm believer in "form follows function" and so does Microsoft and Borland. To no-one's surprise, because both environments look much like one another, they work much like one another too.

In both these programming tools, you develop new applications by first deciding what forms you need. These forms are what end users will see as dialogs and windows. Then you select components and draw them on your forms. This is part of the "visual" aspects of these programming tools. Another part of the visual aspect is the direct access to code by manipulating objects. When you double click on a control in Visual Basic or a component in Delphi, the design environment brings up the code for the default event of the control or the component. The fact that these are Windows development tools forces event-driven programming on you. The development tools makes things a bit easier because they know what event is most common for a given control or component and

help you out by going right to it. Finally, you connect the forms together using program code to structure their relationships. In a nutshell, this the basic approach to Windows programming that you take with these and other "visual" programming tools.

Each control or component has associated with it a set of properties. These properties are sometimes called instance data by computer scientists. The control's properties are a fundamental part of how you program using Visual Basic and Delphi. Properties can define appearance, how they interact with the rest of the program, or how they interact with the user. Some properties can be set only at design time, when you are programming. Others can't be set at all, and yet still others can be accessed only when the program is running.

I'll skip over how the rest of the development environment functions because that isn't why I am here. I'm here to talk about components and their evolution. Visual Basic was one of the first popular visual programming languages to come out that used a component model of programming. It uses components as a way to package function and data into a single object that programmers and users can interact with to do something. Components defined the Visual Basic way are pluggable objects that you can package up and put into programs when you need them, just like a mechanic puts the tools they need into their toolbox. While you are designing,

it's easy to add and remove components as needed. You don't finalize the component list until you are ready to build the executable version of the program. Delphi follows this model of components closely enough that, for all practical purposes, you can treat a Delphi component the same as a Visual Basic control if you want.

So, at first glance, Delphi is nothing more than a refined Visual Basic with Borland benefiting from more than 4 years of industry experience with visual programming with Visual Basic. If that were all that made up Delphi, there wouldn't be much point in continuing this article and, frankly, not much point in this article in the first place. That clearly isn't the case though. Borland's strength and Microsoft's weakness in programming languages is objects and object-oriented technology. Delphi is significantly more than just components, it uses object-oriented-components. Visual Basic 4.0 doesn't do objects, no matter what Microsoft says, because the underlying Basic language doesn't do objects. Delphi does objects, and that is where the future lies.

Object-oriented Programming and Design

So far, I've been talking about how Visual Basic and Delphi are alike. However much they are alike on first glance, Visual Basic and Delphi come from very different roots and design philosophies. The key to the most fundamental difference is that Visual Basic's underlying language is a structured programming language while Delphi's underlying language is an object-oriented programming language. What does this mean? Let's review some basics of object-oriented programming.

What does it mean to say that a programming language is an object-oriented programming language? The four classic things that an object-oriented programming needs to have are: abstraction, encapsulation, modularity, and inheritance. What do each of these mean?

Abstraction

When programmers talk about abstraction, they talk about modeling complex things. Modeling is the process of capturing enough of the essential aspects of something complex so that you are able to understand and work with it, but at the same time not capturing so much that it is still too complex. This is not the only type of abstraction there is, but it is probably the most common one that programmers encounter.

For example, creating an object model of your checkbook requires knowing that it needs to keep track of your bank transactions, checks you write, and your balance. It also requires knowing that you can make deposits and withdrawals and what they do to your balance. Knowing what kind of paper your checks are printed on and where you keep it are probably not important for a program that manages your checkbook. Everything about your checkbook gets stored in a class. It's this class definition that gets turned into a programming language and that you use in a program.

An object-oriented programming language allows you to create and manage entities that model something that you work with in your program. What distinguishes an object-oriented programming language like Object Pascal from an ordinary structured programming language like Visual Basic in terms of abstraction is that the object-oriented programming language allows the programmer to enforce the abstraction. The abstraction is more than just a series of conventions that are shared by several procedures. The abstraction becomes a fundamental aspect of an object and the compiler can make sure that no-one using the object breaks the rules of how to use it.

Encapsulation

Object oriented programming languages also feature encapsulation. This is a fancy way of saying that an object class knows things about itself that it is not going to share with anyone else. If you want to know something about it from another object, you have to ask nicely. Asking nicely means using something the object supplies to obtain the information.

Your class doesn't need to know how a checkbook object stores the current balance, or that it even stores one at all. Maybe, because of how your program needs to work with a checkbook, you don't even keep a running total. Maybe it calculates one each time someone needs to know the total. The details of what goes on inside the checkbook class are known only to the checkbook class itself. No other class needs to know. All they need to know is that the checkbook class has a procedure named Balance and that when they use it, they get the current balance of the account.

Object-oriented programming languages allow you to enforce data hiding or encapsulation. You can tell the compiler that something isn't to be known outside of the object. The only way to access it is via member functions in C++ parlance, or methods in Object Pascal. Object Pascal enforces the object class's degree of encapsulation by the way the programmer designed the class. If the class implementation is written in Object Pascal, which they usually are, you can change the class to encapsulate differently using the

language itself. Visual Basic enforces encapsulation by making a VBX something that is written in an entirely different language. You can't use Visual Basic to write VBXs.

Modularity

Modular programming has been around for a long time and has been seen as a good thing for nearly as long. Modularity is what most programmers think about when they think components. If you can take a component from one program and put it into another program (written in the same language usually) and have it work the same, you've got modularity.

With good design, we should be able to use the checkbook class in both a investment management system and in a small business accounting system in addition to being part of your electronic checkbook. Modular components can do enough by themselves to be useful, but also can work well with other object classes to build something more powerful or more complex.

Visual Basic's components are essentially VBXs. The rest of the design of Visual Basic makes it hard to reuse code and forms in other projects. There is just, by nature too much interdependency

to allow pulling a form out of a project and drop it into another project without a lot of work. Delphi's Object Pascal makes the process somewhat easier. You can, with good design, package anything from a simple control like a button to an entire application as a module and place it into a new application. Object oriented programming makes this easier than the older structured programming style of programming. This doesn't mean you can't do the same thing in Visual Basic, just that it is harder. You have to do the work on your own. You won't get any help from the compiler.

Inheritance

Up until now, I have only talked about features of an object-oriented programming language that exists to some degree in ordinary, non-object-oriented languages. Inheritance is where the two make a clean break. Inheritance exists only in object-oriented languages and nowhere else. Inheritance means that I can use a class as a model and "inherit" from it most of the things that it does, without copying the model class, and modify (override) what things I need changed.

Suppose you needed to make a daily interest checking account class. In the non-objected-oriented way of programming, you would either go into the checkbook source code and make it know how to

do both ordinary checkbooks and daily interest ones, or you would copy the checkbook code and change it to do daily interest calculations. In an object-oriented programming language like Object Pascal, you would derive a new class from the checkbook class, call it something different, like daily interest checkbook, and add a method to calculate interest daily and deposit it to the checking account. You don't look at the old source code, and you don't change the old source code. You say, in effect, I'm just like that class over there, except for these differences. If someone using your new class needed to make a deposit, they would use the Deposit method, just like they used to with the old class. The same thing would happen, because it's the old (we say ancestor) class's method gets called. It just so happens that we have magically materialized a Deposit method in our own class, all because we inherited from the checkbook class. Our class is free to use all of the methods too. In the Daily Interest method, the simplest thing to do would be to calculate the interest earned and then call the our own Deposit method.

Now how does this relate to VBXs and Delphi components. Well, you can't inherit from VBXs. There's nothing to inherit from because VBXs aren't classes, and even if they were, they are written in a completely different programming language anyway. You could put an object oriented wrapper class around a VBX (something that happens in Delphi and other Windows C++ tools),

but that still requires the language itself to support object oriented programming. Visual Basic doesn't. Delphi's components are almost all written in Delphi itself. There are a few token VBXs to show that Delphi is compatible with them, but even then, they have object-oriented wrappers that make them look like classes. Where you are supposed spend your time is with components written in Delphi itself. They are true classes and follow all the rules of inheritance that is so key to this discussion.

I Want a Widget Almost Like That One

If you replaced the word widget with VBX, you would describe the anguish of many Visual Basic programmers. You can't modify how a VBX works except by changing its properties. If there isn't a property to change what you want, you are out of luck. You either have to make do without that feature, buy someone else's VBX, or write your own. Since you can't write a VBX in VB, you probably need a separate programming staff just for VBX writing, or you have to learn a lot more about Visual Basic than you want. This probably explains the huge VBX market. Most VBXs do almost what you want.

The situation much different in Delphi. Because the components are written in Delphi itself and are written as classes, if you want something slightly different, you can derive a new object and make it slightly different. Deriving your own new object classes are a fundamental part of programming in Delphi, so you are not doing anything different from what you would do in normal programming. Just as important, if you derive a new class and find that it's handy to have around for other project, you can make it a part of your standard component libraries, use it, and derive from it, just like you would from the components that Borland supplies with Delphi.

Summary

Inheritance, one of the most powerful features of object-oriented programming, makes Delphi's components hugely more flexible than the VBXs in Visual Basic. VB 4.0's new OCXs are nothing more than VBXs with a new, and much more complex, mask. Visual Basic is still not object oriented and OLE components have not much to do with objects, despite what Microsoft says.

Delphi has the foundation of an object-oriented programming language. With the foundation, you can use or build an entire object framework and class hierarchy to organize your components. Being object-oriented, standard object-oriented

techniques of object-oriented design and programming extend the framework and component class hierarchy. If you have ever said to yourself that you'd like a VBX almost like that one, but not quite, it's time for you to switch to Delphi.

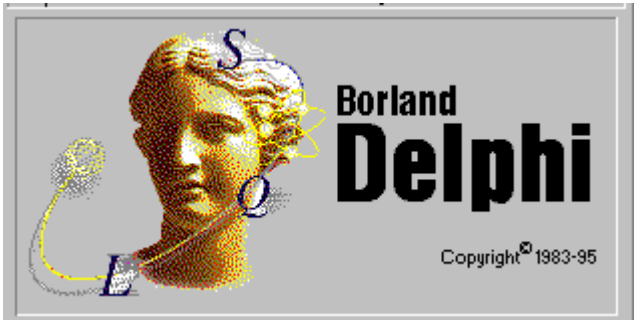
***Herb Chong** continues to present technical material in very understandable language.*
Herb has been a Contributing Writer to various publications like Windows Sources and Inside Microsoft Windows as well as his leadership as the WindoWatch Contributing Editor. This article is the beginning of a Delphi Tutorial Series.

A Product Review

DELPHI

A Programming Language from Borland International

A Review © 1995 by *Peter Neuendorffer*



Borland International has recently released a rapid application development language - a brand new programming language for Windows. It is Delphi, and it promises to bring the power of object oriented programming and the structure of Pascal to the Visual programming world. Much has been already said about Visual Basic; the point and click language that allows rapid prototyping of Windows programs using reusable graphical objects like list boxes and text boxes. Certainly were there no Visual Basic, there would be no Delphi.

Borland is obviously very proud of this new software, and it has been eagerly anticipated in the past year. They boast over 700 third party software and services already. The Borland Developer's conference will be in San Diego from Aug. 6-9. Delphi topics there will include Rapid Application Development, objects, Windows 95 and Delphi, and Database design. (Call 1-800-350-4244 for reservations.)

This review will talk a bit about rapid application development, and some of the features of Delphi that I find noteworthy. This past week, I was able to port a DOS Pascal (Turbo Pascal 7.0) database application into Windows using Delphi. It was a relatively painless process, and large portions of my code stayed the same. Translating a DOS application to Windows in less than two weeks would have been unheard of a couple years ago. I remember hearing John Dvorak speak about how companies usually farmed out their Windows version releases to a third party, as people didn't know what to do with Windows.

The Language

The File Input/Output language syntax in Delphi is almost identical to Turbo Pascal. Old style error trapping -what to do when an error occurs, say when a file is opened that does not exist- is supported. Delphi also has a new system of exception handling that can trap any type of error, including data range errors.

One of the advantages of Delphi is that it is Pascal based. Long regarded as the ugly sister language, Pascal is strongly typed. That means that data has very definite characteristics. It is pretty hard to go awry when writing in it. Most developers have preferred C for it's seat of the pants "devil may care" aspects. But when dealing with Windows, in my opinion, having a highly structured language prevents a lot of bugs and makes for a sturdier application.

There is an increasing demand in the industry for easy to use interfaces, or windows (small case here) to large database engines. The office worker can have the ease of use of Windows, combined with the power of SQL databases on a network. This vertical development is made much easier with Visual Basic. Delphi's Client/Server edition takes this process even further.

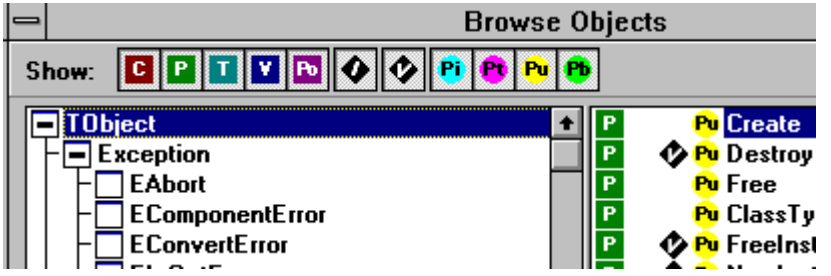
According to Borland, local database applications created with Delphi can be ported to the Client/Server edition by simply recompiling the application with the Client/Server version of Delphi.

Delphi has full Object Oriented language structure. This means that the programmer can modify graphical or logical objects in an orderly way with object oriented programming. Because the action code procedure is encapsulated into the object, programs are much

sturdier. Sending messages and modifying the behavior of these objects - say a modified memo box -becomes a matter of adapting or "deriving" a child object from a more generic one, much as the composer does a variation on a theme.

Rapid Application Development

Someday, hopefully, the average bright office worker will be able to put together an application in real time, much as we can now draw a
picture in Paintbrush, thus I suppose throwing a lot of us out of work.



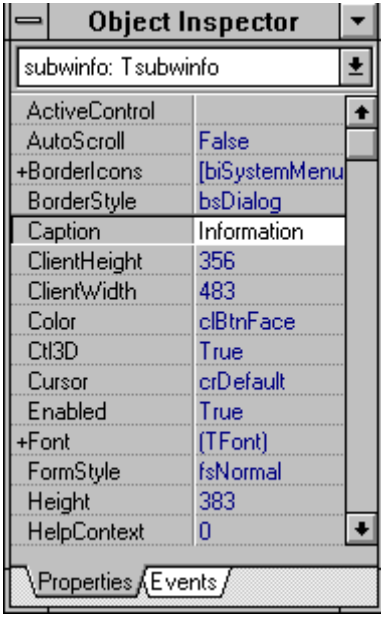
Applications that self modify could be used to adapt to changing needs. In the meantime, it is a blessing to have the new Visual programming languages. They present graphical objects without having to write a line of code. You just click the list box onto your Window and then click it on to write the code for what to do when the user clicks on it.

The problem with previous Visual languages, was that you could not customize the behavior of these objects. With Delphi, you can

design your own components- something that had to be done in C previously. You can write your own DLLs (dynamic link libraries). You can use other libraries. A number of third party ones are advertised in the Delphi literature, including Graphics Server from Pinnacle, and Fax Plus and Comm Library 3 communications routines from Microhelp.

Applications created with Delphi are claimed to be fully compatible with Windows 95, and NT, by the way. To convert Delphi applications to 32bit mode, the developer simply does a single mouse click in the forthcoming Windows 95 version of Delphi, without having to change a line of code.

Object Inspector



Much like Visual Basic, Delphi provides an Object inspector where you can make settings for your graphical objects at design time. These menus are visually exciting, and offer many properties not available with Visual Basic. You can set a Window to always be on top, and you can set a text box to read only. Text boxes are called memos in Delphi. Much like trying to learn Spanish after French, the close relation of Delphi to Visual Basic can be disconcerting - the same thing having two different names. The memo was well thought out by Borland. You can control and access particular lines of text as they are in a special string array type. This allowed me to put pop-up colored tags next to my text box to point out certain lines of text. These string arrays can be easily copied to other controls. Thus a list box list can be transferred to a memo with one line of code.

An internal graphics editor - a small drawing program - is a welcome addition, allowing you to quickly create bitmaps for inclusion in your programs. Many more controls are standard with Delphi than with Visual Basic. The menu designer is intuitive and "what you see is what you get". A great deal of effort went into making these sub areas easy to use.

Writing The Application

At first I was miffed that so little documentation was provided with Delphi. This is my only complaint about Delphi. However, an exploration of the online Help usually, but not always, provides answers to questions. Developers familiar with Borland's usual strong documentation providing cookbook examples are going to be disappointed. On the Internet's World Wide Web, Borland has a site htpp://www.borland.com. There I was able to download for free the Object Pascal Language Reference Guide (objlang.zip 929k) which is available in hard copy from Borland for a fee. Technical support via telephone is available at $2.00 per minute or on account.

The code editor uses all the familiar Brief style editing commands. I didn't care for the Find utility, but other features are great, including the ability to color highlight your code by types of words. The nice thing about Delphi code writing is that you have a clear sense that you are dealing with separate and complete files. You can page through them as text files, and are not boxed into little windows as in Visual Basic. Certain things are required of you to make units available to one another, something that was automatically available in Visual Basic, but in a limited fashion.

When you compile your program, a single .EXE is created. You no longer have to distribute a myriad of .DLL or .VBX files for installation of your application. The VBRUN300.DLL runtime library of Visual Basic has no counterpart in Delphi. This is because Delphi is a full native code compiler. Your program is in machine

language. Visual Basic has an ingenious interpreter system, but, as a result, Visual Basic programs run more slowly than Delphi ones.

When you compile your program, only those files that have changed are re-compiled. Also, with smart linking, only code that is used is compiled as "dead code" is ignored. This problem has plagued C programmers, but users of Turbo Pascal have long had the advantage of this "smart linking." You can manage dynamic memory with a variety of simple schemes, also familiar to Turbo Pascal users. File input output is identical to Borland Pascal and Turbo Pascal, thus allowing those of us who have worked in Pascal to easily port applications.

Delphi is fun to use, and has a lot of nice touches - not the least of which is an easy way to move seamlessly between the graphics and the code. Whether Delphi will replace the other Visual programming languages or not, I can't say.. It looks like Borland has a winner, and barring serious problems in the field, should keep developers happily busy for a long time.

Delphi, a Visual Pascal-based development language for Windows. Price: The regular Delphi is priced at $495, with a $199.00 promotional price for 90 days.

The Delphi Client/Server edition has a suggested retail of $1000.

Platform: Intel 386-based PC or higher
Microsoft Windows 3.1 or later, 100% compatible version.
6MB of extended memory or higher, 8Mb for Client/Server.
30Mb hard disk space, 50Mb for Delphi Client/Server

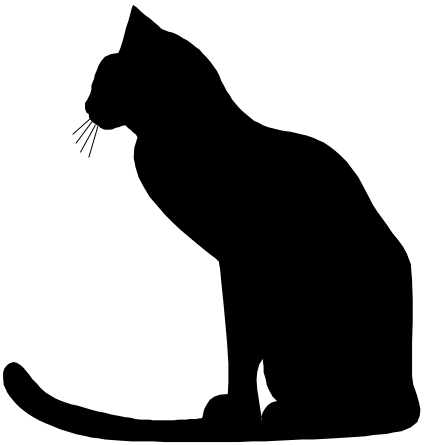
CD-ROM drive (3.5" disks available separately for $19.95)

**Strongest point: Combines the power of object oriented programming
with the structure of the Pascal Language with an interface vastly improved over Microsoft's Visual Basic.**

Weakest point: Curiously poor documentation. The manual is an overview, and the online help requires search skills that assume you already have a strong knowledge of the language.

***Peter Neuendorffer** is a Windows and DOS programmer. He is the author of MBTA Directions on the Boston Transit (mbta127a.zip) for DOS; My New Project (mynewp13.zip) Project Management for Windows and Scrubble Text file scrambler (scrubb10.zip)*

The Cat's Out of The Bag!



The twenty pound black and white furry Windows expert!

Bob Miller's Stanley Does Windows

Word for Windows 6.0x

I just tried to print out an envelope for the first time. First, I noticed that the old envelope icon in Winword 2.0 is gone, replaced by a cumbersome procedure for printing an envelope. When I printed out an envelope, the address was double-spaced! Looked bad, and of course, I couldn't get the entire address printed.

Envelopes and labels are probably one of WinWord's worst implementations. No matter what kind of formatting you have for the text, when you copy it into the envelope box, it is formatted as ENVELOPE ADDRESS, which is one of the styles in the NORMAL style sheet. Likewise, the return address is formatted as ENVELOPE RETURN. You must go into the FORMAT STYLE menu and change the para-graph and font attributes for these two

styles to whatever you want. In particular, you should specify single space and no first line indent. Save all this stuff to the template, and thereafter the envelope should print properly.

Labels are even worse because no matter what font you want, the default remains the same, so if you want something other than the default you must change it each time. I added the envelope icon back on the tool bar, and hooked it to the envelope and label macro.

I frequently need to open files that don't end in .doc and it is a pain to have to keep changing the file open extension. Is there anyway that I can make Word default to all files instead of just .doc?

To change the default file extension in the FileOpen dialog for Word for Windows 6.0, you can edit your FileOpen command to look as follows:

```
Sub MAIN
Dim dlg As FileOpen
GetCurValues dlg
dlg.Name = "*.*"
n = Dialog(dlg)
If dlg.Name <> "*.*"
And n = - 1
Then FileOpen
dlg
End Sub
```

Bob Miller really does have a Stanley! Stanley is a very computer literate cat and came to the desktop by way of main frames. He's been mousing around Bob's system for some time and has become a real expert! lbl

Understanding PC Memory by *Paul Williamson*

***Paul Williamson** is an onsight consultant for the Chase Manhattan Bank. He is a well known contributor to the various networks and sits on the **WindoWatch** Editorial board. He and Kyle Freeman, each with their separate articles, developed this memory suite.*

Conventional Memory

Conventional memory is the first 640K of memory in your machine. MS-DOS has a limit of 1024K of addressable memory (conventional memory plus the UMA), and all MS-DOS applications must run within this conventional memory.

Between the top of conventional memory at 640K and the start of extended memory at 1024K lies the 384K *Upper Memory Area* (UMA). This area does not contain physical memory. Mapped into the 384K UMA are the system *BIOS* (basic input/output system) *ROM* chips (in the F000 to FFFF address space) and the *Display Adapter* memory (in the A000 to B7FF address space). When you install other accessory cards, such as network adapters, they may also occupy space within the 384K UMA. It is important to remember that the 384K UMA is always located in the same area of the IBM-compatible computer's address space: from 640K to 1024K (A000 to FFFF hexadecimal). There are no exceptions to this rule.

This means that a standard IBM-compatible machine with 640K of conventional memory installed really has 1 MB of *address space*. The system addresses conventional memory in the first 640K, and the UMA in the next 384K, the area from 640K to 1 MB (1024K). This does not mean that the machine has 1 MB of physical memory. A machine with 1 MB of physical memory has an address space of 1408K. This consists of the 640K of conventional memory, the 384K UMA, and the 384K of extended memory starting at 1024K.

EXTENDED MEMORY

Extended memory is the simplest type of add-on memory to understand. It is also the type of memory used by Windows 3.x running in either *standard* or *386 enhanced* operating mode. Extended memory is a seamless continuation of the original 1 MB address space on 80286 and 80386 (and higher) computers. Extended memory always starts exactly at 1024K, where the 384K UMA ends. There are no exceptions.

It is not possible for an 8086 or 8088 machine to have extended memory. This is a hardware limitation of the 8086/8088 processors, which can handle only 1024K of total address space (that is, 640K of system memory plus the 384K UMA). This is one reason why Windows 3.1 cannot run on 8086/8088-based machines, as it requires a minimum of 256K of extended memory (or 1024K for enhanced mode). The 80286 processor can address 16 MB of total memory, and the 80386 processor can address up to 4 gigabytes (GB). *Note: PC manufacturers often refer to extended memory as*

expansion memory, which is not to be confused with expanded memory.

Due to the way DOS addresses memory, the actual amount of memory that can be physically addressed is 64K more than 1M. This means that the first 64K of extended memory can be directly accessed by DOS. With version 5.0 of MS-DOS, this area was designated the *High Memory Area* (HMA) and is normally reserved for DOS use.

Windows 3.x and all applications running under Windows 3.x access extended memory through the *Microsoft Extended Memory Specification* (XMS). Rather than accessing extended memory directly, access is made through an *XMS driver*. The driver supplied by Microsoft for this purpose is called HIMEM.SYS. Older MS-DOS applications, ones that check available extended memory through interrupt 15, service 88H, will not see any extended memory with an XMS driver loaded. Such applications must be rewritten to use the XMS, instead of interrupt 15, to access extended memory.

EXPANDED MEMORY

It is important to understand the concept of expanded memory if you still run DOS applications that use it. There are two different kinds of expanded memory, differentiated by their *Lotus/Intel/Microsoft* (LIM) *Expanded Memory Specification* (EMS) version numbers.

LIM 3.2 Expanded Memory

We discussed earlier how PC/XT machines with 8086/8088 processors can address only 1024K of memory, of which only 640K can be used as RAM for MS-DOS and MS-DOS applications. You can't add more than 640K of conventional memory to the system, but you can provide more than 640K through a technique *called bank switching*. Expanded memory uses an empty area in the 384K UMA of the machine to provide this functionality, called the *Page Frame*.

To use an expanded memory card, you must load a device driver to let the card know how to communicate with the PC. This device driver is called an *Expanded Memory Manager* (EMM). A LIM 3.2 EMM establishes a 64K page frame within the 384K UMA to perform EMS bank switching. The 64K page frame consists of four contiguous 16K pages. LIM 3.2 expanded memory won't work without a 64K contiguous page frame.

The page frame is the area where the EMM maps information into and out of the RAM of the expanded memory card. Information is not physically copied from the EMS card to the RAM of the computer; the device driver simply makes the page frame point to the data on the expanded memory card. The data then appears in the page frame, and your application can access it.

LIM 4.0 Expanded Memory

LIM 3.2 expanded memory is fine for storing data such as spreadsheets in expanded memory; however, because the LIM 3.2 specification does not allow programs to run in expanded memory, it is not useful for multitasking.

With LIM 4.0 you can have many more than four 16K pages. LIM 4.0 supports up to 64 pages, which are enough to bank 1 MB of memory at once. Second, the page frame itself no longer must be four contiguous 16K pages. In fact, you need no page frame at all. Whichever EMS version you are dealing with, the basic operating principle of bank switching is still at work. Although LIM 4.0 is a standard that offers many advantages over LIM 3.2, few applications have yet been written to take advantage of LIM 4.0.

Backfilling

With LIM 4.0's limit of 64 16K pages, you have enough pages to bank switch the entire conventional address range of the processor. However, there must be no active ROM or RAM of any sort where you put an expanded memory page. Thus, you can't map EMS pages on top of anything that is already occupying address space in your machine (such as loaded MS-DOS or video/system ROM). On the 80286 processor, you should disable as much motherboard memory as possible (down to 256K) and let the expanded memory card supply that memory. This process is called *backfilling*. This doesn't mean that your computer will have only 256K — your programs still see a 640K machine. But because the expanded memory card is now supplying the memory, it can bank switch the memory. This capability is called *large page frame* EMS, and it

allows programs to run executable code in expanded memory, a major improvement over LIM 3.2.

The 80386 processor has a built-in ability to readdress any page of memory to any other location. This means you don't have to backfill on an 80386 to get large page frame LIM 4.0 functionality, nor do you need an expanded memory board. It's easy to convert your 80386's extended memory to expanded memory with an 80386 EMM such as Microsoft's EMM386.EXE.

If you're using an expanded memory board on an 80386 machine, read your manual carefully before you backfill. Not all memory boards have the register support to supply more than four 16K pages (LIM 3.2). Though a memory driver may conform to the LIM 4.0 specification, that does not mean the hardware can provide more than four pages. Also, because Windows 3.1 supports extended memory directly, backfilling expanded memory will not give you any advantages, and the memory on the motherboard is often faster than memory on an expanded memory board.

LIMulators

Some programs, known as *LIMulators*, emulate expanded memory on 8088- and 80286-based machines using hard disk space and/or extended memory. These programs are not much of an advantage, because although they supply expanded memory, they are not hardware. They must locate a 64K EMS page frame in conventional memory and also take up space for the driver itself. LIMulators generally take close to 80K of conventional memory to run. Because conventional memory is the most precious memory on

your machine, these types of programs are not recommended. They are also typically extremely slow.

On 80386 machines, it is possible to use a 386 Expanded Memory Manager (such as EMM386 or Quarterdeck's *QEMM*) to emulate expanded memory. These LIMulators use the XMS rather than interrupt 15 memory to emulate expanded memory and are much more efficient than other types of LIMulators.

Expanded Memory Difficulties

LIM 3.2 expanded memory requires a page frame to work, and the page frame is located within the 384K UMA of your machine. Unfortunately, your EMM is not the only competitor for that memory space. Add-on boards, such as network cards; 3270 emulation cards; RLL, SCSI, and ESDI disk controllers; and even high-resolution video cards, can contend for this address space. Several potential difficulties can arise due to this contention:

1. ***Lack of Space*. The major problem is simply finding at least 64K of contiguous free space in which to locate the LIM 3.2 page frame. LIM 4.0 does not require a 64K page frame but is almost useless without it, as very few applications have been written to take advantage of the LIM 4.0 specification. Frequently, the address areas of various adapter cards need to be shuffled to open a contiguous 64K page frame. Complicating this process are boards such as the IBM 3270, which have nonmovable addresses in most machines.**

2. ***Mapping Conflicts*** **. Most 386 EMMs (such as EMM386.EXE and Windows 3.1 386 enhanced mode) use a search algorithm to find unused memory addresses between C000 and DFFF located in the 384K UMA to use as page frames. Some cards (adapters) do not reserve their address space until you access the card, so the memory manager can inadvertently map EMS pages on top of an address the card will request. This is often true of Token Ring network adapters and can cause hanging and intermittent operation.**

In case of problems, the first thing to do is disable expanded memory. This procedure will determine whether a page conflict is causing your difficulty. If the problem goes away without expanded memory, the memory manager must be told to exclude the address the adapter is occupying from consideration as a page location. Consult your memory manager's documentation for information on how to exclude an address range. The adapter may also have to be moved; you do this in different ways with different memory managers.

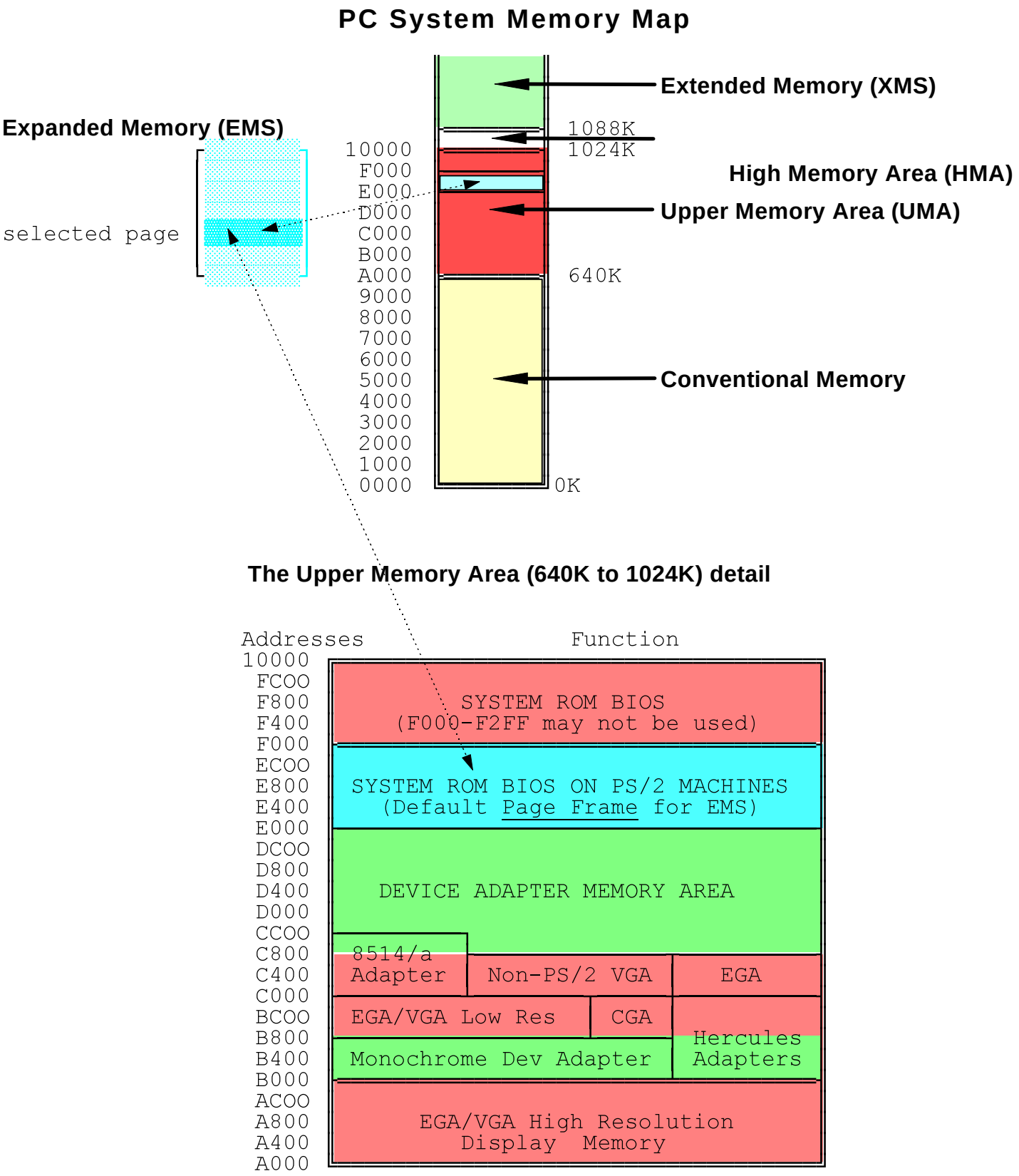

PC System Memory Map
Extended Memory (XMS)
Expanded Memory (EMS)
1088K
1024K
10000
F000
E000
D000
C000
B000
A000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0000
High Memory Area (HMA)
Upper Memory Area (UMA)
selected page
640K
Conventional Memory
0K
The Upper Memory Area (640K to 1024K) detail
Addresses
Function
10000
FCOO
F800
F400
F000
ECOO
E800
E400
E000
DCOO
D800
D400
D000
CCOO
C800
C400
C000
BCOO
B800
B400
B000
ACOO
A800
A400
A000
SYSTEM ROM BIOS
(F000-F2FF may not be used)
SYSTEM ROM BIOS ON PS/2 MACHINES
(Default Page Frame for EMS)
DEVICE ADAPTER MEMORY AREA
8514/a
Adapter
Non-PS/2 VGA
EGA
EGA/VGA Low Res
CGA
Hercules
Adapters
Monochrome Dev Adapter
EGA/VGA High Resolution
Display Memory

Figure 1

There’s Memory and Then There’s Memory

THANKS FOR THE MEMORY

If it hasn't happened to you yet, be assured it will! You've just gotten that new computer loaded with RAM. Windows is running as smoothly as a Mozart minuet; you're multitasking like a carnival juggler. Then one day you try to run some program, probably a great new game, and you're greeted with a rude message telling you that you don't have enough memory. You try it again without any other programs running and still you get the same message. "But I've got eight, or sixteen or thirty-two megs of RAM?

How come I can't run this one program?"

There are lots of reasons you can run out of memory in Windows, especially if you are running DOS programs in a DOS window. You can also run out of resources long before you run out of memory. But if you fail to get past this guardian dragon while running only one program, then what you've probably run into are conflicting demands for two types of RAM: expanded memory (EMS) and extended memory (XMS).

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Windows programs use XMS but this new game or spreadsheet or flight simulator requires EMS, or at least will run better with EMS. If you optimize your machine for Windows, it will use XMS, but if you set it up to use EMS, it will usually cost you a big chunk of RAM, which can slow Windows performance, sometimes drastically. How can you get the best of both of these memory worlds, without having to buy a second computer?

There is a way -- two, in fact. Both require some trade off in convenience, but the cost is really minimal. What follows will explain what to do, when in fact, you have this conflict. Check the documentation of the program that is giving you this out of memory message. If it says that you should use expanded memory with it, then what follows, is the solution to your problem. Or it may be that you've already set up your system (or someone else has set it up for you) to use EMS, but now you're running into the other side of that coin, and your Windows programs don't get enough memory because of the RAM your EMS setup is eating. In short, you can either set up a multi-bootup menu or make a special bootup disk. Neither is difficult to do. I'll show you how to do both later on, as we'll go through each step by step. But first let's take a quick trip down your computer's memory lane to examine the secret life of RAM.

While Gertrude Stein may have been right that a rose is a rose is a rose, RAM would have caused her to think again. Not all RAM is created equal. Of course, all your RAM holds little bits of information the same way, but the areas it fills and the rules governing those areas differ. Let's look at five aspects of RAM, all of which play some part in resolving your expanded vs. extended conflict.

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Conventional Memory

First, as you probably know, no matter how much RAM your computer has, the critical number is 640K. That's the first 655,360 bytes of memory that your CPU addresses (1 Kilobyte is 1024 bytes; 640x1024 = 655,360). It's called conventional memory, or the lower 640, as opposed to all the rest of your RAM, which is "above" the first 640K. When you run out of memory, it's usually this lower 640K that you've used up. All your DOS programs use this memory, and some Windows programs use bits of it, too.

Upper Memory Area

This 640 K limitation came about because Intel's first chip, the 8086, addressed 1 megabyte of memory in what is now called "real mode." When IBM designed its first personal computer to use this chip, it decided to set aside some of this 1 MB, 384K in fact, for video cards, system ROM (Read-Only Memory), BASIC expansion cards, and various other cards. The 384 Reserved memory message you see when your computer boots up or when you check your memory usage by typing "mem" refers to this area. So Microsoft designed its disk operating system (DOS) for IBM to use what was left of the original 1 MB, which turns out to be 640K.

However, this never happens, primarily because using the *Reserved* area that way would be like harnessing Pegasus as a plowhorse. First, the ROM at those addresses is read through your BIOS, which is much slower than the speed with which your machine can access RAM. So to make the whole operation much faster, most BIOS's now have the ability to take the information stored in those addresses,

remap the addresses to RAM, and then write the information for those addresses to its new home in RAM. Then when your system is looking for something that it expects to find in those addresses, it finds it at exactly the address it was looking for, but now that address is in RAM. This is known as shadowing. Videocards and system ROM are the things most usually shadowed.

In addition, as it turns out, machines rarely if ever use all of that 384K of reserved addresses for the things for which they were set aside. Instead, through the use of special software (DOS uses HIMEM.SYS andEMM386.EXE), some of those addresses are mapped out as upper memory blocks (UMB) that can then be used to load all kinds of things that would otherwise be forced to take up some of your lower 640 K. But before we can discuss the creation of UMBs, we have to look at the kind of memory from which UMBs are formed.

Extended Memory

XMS came about when Intel introduced the 80286 chip, which could access 16MB of memory. IBM used this chip in its AT class machine, which could access XMS. XMS is all the memory that exists above the 1 MB mark. To access this memory, programs need to run in what's called protected mode. All DOS programs run in real mode and can't access this XMS. For one thing, this memory has no addresses. Memory addresses stop at the 1 MB limit. Windows can use this memory, but it's unavailable to DOS without some program designed to run in protected mode. HIMEM.SYS is the DOS program that coordinates the use of your system's XMS so that programs calling for it don't conflict with each other. It also gives access to something called the High Memory Area.

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High Memory Area

Another wrinkle of the 286 chip was its ability to carve out one more little space called the High Memory Area (HMA) that DOS could reach in real mode. It's the first 64K of memory past the 1 MB limit. By design the only things that can be assigned there are DOS itself, the system buffers, and the DoubleSpace driver. (Actually, DesqView could fit there, too, but I'm assuming you're using Windows or you wouldn't be having this conflict to start with.) We'll come back to this later, as filling it properly can have a small but perhaps crucial effect on your EMS v. XMS problem.

Expanded Memory

To allow DOS programs to use some of this extra memory, Lotus, Intel, and Microsoft put their heads together to create something called the Expanded Memory Specification (thus the LIM EMS you may have seen). Through software managers, like EMM386.EXE, some of that XMS can be made to act like ("simulate" is the term usually used) extra, or expanded, lower 640K memory, which doesn't require going into protected mode. Thus DOS programs can use it as if it's an extension of the basic lower 640K, which in fact it is.

But before the alchemy that transforms XMS into EMS, EMM386 must first create an area in the first 1 MB of addressable memory that can hold it. Naturally, the place to do that is in the 384K of reserved addresses. EMM386 looks at all those addresses, finds what isn't being used, which is usually a lot, then maps those unused addresses with some of your XMS, otherwise unusable by DOS, thus creating

the Upper Memory Area. It can then put some of your programs that would normally fit in the lower 640 into these UMBs. This is where your Terminate and Stay Resident (TSR) programs are often loaded, as well as sound card, CDROM, and network drivers. Windows itself loads its translation buffers there, also in a 64K segment. In 386 enhanced mode, Windows allocates buffers in the Upper Memory Area to translate MS-DOS & network application program interface (API) calls from Windows protected mode to MS-DOS real mode.

In addition to creating the Upper Memory area, EMM386 also manages EMS. When a DOS program needs EMS, it calls EMM386, which then creates what's called a "page frame" in the Upper Memory Area that always requires 64K. EMM386 takes some RAM from the pool of expanded memory you've asked it to use, assigns it to some available addresses in Upper Memory, then puts the data from the program there in 16K segments. Only data can go in the page frame; executable code can't. EMM386 pages through the data as it's called by the program that uses the data, until the calls by some greedy DOS program exceed 64K. It then looks for other areas in Upper Memory in which to write the new data while keeping up with where the first 64K worth of calls were allocated. This is called bank switching. By means of it, EMM386 can handle several megabytes of data by switching these 64K segments.

This is the core of the conflict between XMS and EMS. Ideally, there would be enough free space in the Upper Memory area to place both the translation buffers & an EMS page frame. But on many systems there's not. If you've set up your system to use all this Upper Memory for your TSRs, Smartdrv, your mouse, and whatever else, it's usually pretty well full up. If you ask EMM386 to use EMS, it must carve out

a 64K page frame, which will push out many of those TSRs and drivers into the only other place they can fit, which is the lower 640K. To deal with both heads of this hydra, you can use the multi-bootup capacity built into DOS or you can make a special bootup disk. The following assumes you're using DOS 6.0 or higher. If you've still got an older version of DOS, then my advice is UPGRADE! It's the best $50 you can spend on your machine.

Before we go through these options, however, you should first get your system optimized for however you plan to run it most of the time. In most cases that will be to run Windows, and therefore you'll want to give all your computer's memory above 1 MB to EMM386 to use as XMS. To do that, put the following line in your CONFIG.SYS file:

DEVICE=C:\DOS\EMM386.EXE NOEMS

You probably have such a line already. If it contains some other switches after the NOEMS, like X=C000-C7FF, or I=B000-B7FF, leave them as they are. They are exclusions and inclusions of UMBs that either are or aren't being used. EMM386 is instructed to use these addresses to provide more UMBs.

Next, optimize the order in which you've loaded everything in both your AUTOEXEC.BAT and CONFIG.SYS. Here are a few helpful tips. First, if you plan to use Windows most if not all of the time for this particular setup, you don't need to load a mouse driver in AUTOEXEC.BAT. That driver only works for DOS programs in DOS. Windows loads a mouse driver automatically, so you can save some valuable memory by omitting it here.

If you must load one, move it up to the top of your AUTOEXEC.BAT file. Mouse drivers require a lot of RAM to initialize, nearly 50K, then a much lesser amount, usually between 14 and 20K, once installed. You'll want your mouse driver to load in upper memory, but if it can't find a UMB with about 50K of free space, it will load low, robbing you of much needed lower memory. It's got a much better chance of finding that 50K if it's loaded first. It will then give back the rest of that 50K it isn't using after it initializes so other programs can load high.

Next, if you're using SETVER.EXE, put REM in front of it. SETVER fools older programs that require a specific version of DOS, like 2.0, into believing they've found it. Few programs require it. You'll save some memory by excluding it. If you find that something you run needs it, then of course you will then have to remove the REM to let it load. But in most cases, it's simply a memory waster.

The same is true of the FCBS line you may have. File Control Blocks are similar to SERVER. Some older programs require them, but not many. If you have a line that sets FCBS=16,0, as an alarming number of systems do, quite needlessly, you can safely change it to FCBS=1. COMMAND.COM requires one file control block, but it's a safe bet that nothing else you have needs one. If you have no FCBS line, the value defaults to 4. You can save a couple hundred bytes of RAM by adding FCBS=1, but unless you're hell-bent to get every last byte of RAM, you needn't go to the trouble.

Too many buffers can take up memory as well. Buffers fit into the HMA, along with DOS. Nothing else goes in the HMA, so you want to fill it with as many buffers as you can without an overflow into low

memory. A reliable rule of thumb is to use BUFFERS=40 if you aren't using DoubleSpace, and 17 if you are. In DOS6.22, you can check to see how much of your HMA is filled by your present buffer setting by entering MEM /A. If the amount of space left in the HMA is several K, you should include more buffers until it's full. You can also add a little bit of Upper Memory by excluding the address set aside for monochrome video. If you have a color monitor, you're probably not using this area anyway, although it's always possible that something you installed has figured this out and appropriated it. But probably not. So in your DEVICE=C:\DOS\EMM386 NOEMS line, add a space and X=B000-B7FF. This will give Windows an extra UMB to fill with TSR's. If you do this, you must also add DEVICE=C:\DOS\MONOUMB.386 to the [386Enh] section of your SYSTEM.INI file in Windows. Make sure you have a file in your DOS directory called MONOUMB.386; you might have erased it thinking it did you no good. If you're using QEMM or 386MAX as your memory manager, you must use a file called MONOUMB2.386.

DoubleSpace takes up a big chunk of memory, about 50K. It's not something you're likely to be able to alter: either you use it because you need it, or you've got a big enough drive that you merely smile at it in passing whenever you do a search of your DOS directory. If you're thinking about using it, be aware that it will make whatever memory problems you may have all the more acute.

One last tip is to check the line of your AUTOEXEC.BAT that loads your MS DOS Extender for your CDROM (MSCDEX.EXE). It should look something like this:

LH C:\SB16\DRV\MSCDEX.EXE /D:MSCD001 /L:F /M:20

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The "/M:x" switch usually found there sets aside a number of buffers for your CDROM. The "x" is the number of buffers you're telling your system to use. While it would be ideal to have as large a number of buffers as possible, those buffers take up lots of RAM. A number between 10 and 20 is usually optimum. If by some chance your system was set up with a number near the limit of your CDROM, such as 64, you're being robbed of about 100K of RAM by that little stinker.

So, after getting these two files in fighting trim, run memmaker (or whatever equivalent you might have, e.g., QEMM), make sure no gremlins attacked your machine and that everything works as it should, then copy these files somewhere safe, and go back to do it all over again. This time you want to change the NOEMS switch on your EMM386 line to RAM.

This will be the setup to use for those programs that require EMS. If the documentation for your EMS programs state you need to set aside a specific amount of EMS, add that number, in kilobytes, after RAM. For example, King's Quest asks for 2 MB of EMS, as I recall, so your line would read

DEVICE=C:\DOS\EMM386.EXE RAM 2048

Because the RAM switch will set up a 64K page frame in upper memory, other things that used to go there will be squeezed out. Since you will be using this setup for specialized purposes no doubt less frequently than the first one, you can probably jettison some things from your AUTOEXEC.BAT and CONFIG.SYS files that you won't use with this setup.

If, for instance, you'll not be using your CDROM or your SoundBlaster with the programs that require EMS, don't load those

drivers. It's doubtful this will be the case, as whatever that new program is that's causing your memory problems probably uses one or both. Exclude your network drivers if you don't intend for this setup to run over your network.

One thing to change will probably be your FILES= line in CONFIG.SYS. Windows uses lots of file handles, but the game or flight simulator or whatever may not need near as many. Find out the most files specified in the documentation for all of the programs for which you need EMS, and set the FILES= line to that number. If none of those programs specify anything about files, try using 20. If anything hollers, you can bump it up as need be. Also look for DEVICE=C:\DOS\ANSI.SYS. It's unlikely that you'll need ANSI for both of your setups. Leave it out, if you have it, for the one that doesn't need flashy prompts or screen colors dependent on ANSI. Also remove all the LH /L:1,16790 type stuff from all the lines in your AUTOEXEC.BAT and CONFIG.SYS Don't remove the rest of the line: just the LOADHIGH or LH /L:xxx part. You're going to rerun memmaker to let it put all these things where they can fit after it's added a page frame. And of course, if your first setup goes into Windows as the last line of your AUTOEXEC.BAT, remove that.

Now rerun memmaker. You'll get a different set of LH addresses and a different amount of free memory. Here is the fun part. You get to choose either a multi-bootup setup or a special boot disk. The easiest is probably to copy this second set of AUTOEXEC.BAT and CONFIG.SYS files to a bootup disk, one that has COMMAND.COM, io.sys, msdos.sys, and if relevant, dblspace.bin. You won't see the last three with a directory search, as they are hidden, system files, unless you use a comma after "dir" when looking. They'll all be in lower

case, which is DOS's way to show you that a file has the hidden attribute.

If you don't have a bootup disk, you can make one in a few seconds by putting a formatted disk in drive A and typing "SYS C: A:" and pressing Enter. This will copy all your system files to the floppy. Then copy the original pair of AUTOEXEC.BAT and CONFIG.SYS files back to your root directory after putting the second pair on this disk. Then whenever you boot up, you'll get the setup optimized for Windows, and whenever you want to run your EMS programs, you can reboot using the bootup disk you have just created.

If, however, you tend to lose disks or have so many around you can never find the one you're looking for, or people at work come by on a regular basis to "borrow" your disks and don't return them, or for whatever reason you'd prefer to have this choice of setups on your hard drive, there's another way to accomplish this. It's a bit more involved, but it works well and it's always there for you.

You'll want to set up a multiboot sequence in your CONFIG.SYS and AUTOEXEC.BAT files. To do this, you'll need both sets of files you've just created. Open an ASCII text editor (you have at least three, if you've got DOS 5 or above and Windows: type EDIT at a DOS prompt, or use Notepad or Write in Windows). Import your first CONFIG.SYS file. Put "[menu]" as the first item in the new CONFIG.SYS, with two "menuitem=" lines under it. (Don't, of course, type in the quotation marks.) The menuitem entries will specify the names of the two bootup regimes you will use. You can call them anything you want: Standard and Games, or Extended and

Expanded, or Yin and Yang. It doesn't matter, so long as you know what each name means. So you might put

[menu]
menuitem=Windows
menuitem=Games

Then below those lines add a section called "Windows" enclosed in brackets. Underneath those brackets copy the entire CONFIG.SYS file from the first setup you copied into some safe place. It will be the one with the EMM386 line that had the NOEMS switch. E.g.,

[Windows]
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS
command
command
command

Then type the other section name below that. Be sure to call it the same name you gave the second menuitem. Then copy the entire CONFIG.SYS file from the second set of setup files you created earlier. E.g.,

[Games]
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE RAM
command
command
command

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I've found that it's dangerous to make a [common] section, as the DOS 6 help docs tell you, because DOS executes all the lines in the [common] section before it goes to the individual menuitems. Thus, if you try putting everything in the [common] section except the EMM386 line, which may be the only thing different in your two CONFIG.SYS files, DOS waits to do the EMM386 lines last. It will load all the drivers in the common section low, since EMM386 hadn't yet begun to manage any upper memory. So I've found it best to make two complete menuitem sections. Once you have the CONFIG.SYS properly divided into the number of setups you want, save your CONFIG.SYS file in your editor, and then open up your AUTOEXEC.BAT file. Start this AUTOEXEC.BAT file with the line

goto %config%

and then have two sections that begin with a colon and the name of the two menuitems you defined in CONFIG.SYS. So using the example above, your new AUTOEXEC.BAT file should look like this:

```
goto %config%
:Windows
command
command
command
goto END
:Games
command
command
command
goto END
:END
```

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Of course, you put underneath the Windows heading all the commands and their specific addresses that the first memmaker run gave you for your AUTOEXEC, and the second set of AUTOEXEC commands and addresses under Games. You'll then get a choice upon bootup thereafter asking you which of the two you want to use.

Whichever you defined first will be the one on which the cursor rests as the default, so you'll save a keystroke on each bootup if you put first, the one you plan to use most often.

That's all there is to it. You can now laugh in scorn at the memory problems that once bedeviled you. You might even think of Bob Hope as you hum or whistle "Thanks for the Memory."

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A Product Review **© 1995 by Frank McGowan**

A follow-up review of last month's WindoWatch Plug of the Month

PLUG-IN FOR WINDOWS

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Phone: 404-998-8664
FAX: 404-998-8197

Like the House Republicans, with another month's experience under my belt, I've kept my promise and am now an official, registered user of Plug-In ! So, do I still think it's worth the $20 (plus shipping)? In a word, ubetcha! After less than two months as a user, I'm hopelessly hooked. After using it for just a few weeks, I couldn't imagine not having it at my disposal.

I still haven't figured out all the bells and whistles, but I can claim a lot more insight than a month ago. For one thing, I know that it's a whole lot easier moving around from program to program via the QuickRun menu than it is the old Windows route: I can get to my best-loved programs, like File Manager and Print Manager, with just a couple of clicks, without having to switch to Program Manager and open up the group icon. The analogy is that of a direct flight compared to making a connecting flight with a long layover (and in a terminal on the wrong side of the airport). It's not

as good as non-stop, but it's a heck of an improvement all the same. I also enjoy the flexibility of picking my "cursor of the day": I sometimes feel like using the guy with the big nose as a pointer and the stoplight as the wait cursor; and sometimes I'm more in the mood for a baton pointer and a "Please wait, I'm trying to think" wait cursor. It seems like a little thing, but those little things do add up.

Something that's a little more significant is the ability to put program groups inside other program groups. When you start approaching the Windows maximum, I believe it's forty, you will appreciate being able to stick your Accessories group inside your Main group, for instance. Once it's in there, you can spot it quickly, because it has little chevrons next to its >name< .... something like that! And, you can put more than one group within another, so you can open up a lot of space on your desktop.

Among the more meaningful features is the low resources alert, which can be a real lifesaver. If you're about to run out of memory or disk space, you'll be told far enough in advance to avoid a catastrophe - at least most of the time. In truth, the warning came a little late for me on one occasion. I was lucky and was able to recover with little damage.

Alarms, both simple and complex, are another neat bell and whistle and is literally so if you have a sound board. Even if you have just the rudimentary sound capability, you can set up an alarm that will make a suitably alarming noise at the appointed time. Again, this is a major improvement over the alarms you can set via the Calendar program. Another example of filling a gaping hole.

One thing I especially like is that most, although not quite all, of the *Help* screens come up maximized. It's really annoying to have to fish around for the scroll bar, only to realize that the screen is at only 90% of its maximum size. One thing I would suggest, however, is that they teach the writer the difference between "it's" and "its." In case you're wondering, "it's" is a contraction for "it is"; "its" is the possessive form of "it." This kind of error is bothersome and detracts from the content.

Also, while they're at it, they could tone down some of the snideness. Is it really necessary to chide Microsoft as in the *Help* screen describing the System Information feature, by noting that you can see how long it's been since you started Windows and have a contest with your friends to see who can keep Windows alive the longest? Although it's just a little sophomoric and gratuitous, I suppose there's no harm done.

Aside from these small niceties, Plug-In is just so darned convenient. It's always at your disposal, by means of a small icon in the shape of a (are you ready?) plug (which you can change to a socket), so you can easily reconfigure it to suit your needs or your mood. Or, if you decide you desperately need to have the Calculator on hand for immediate access, just click the plug and click Accessories. If that still isn't fast enough for you, make the calculator a menu item of its own.

I suppose I have to point out the few warts I've found, just to give this some balance. I've already mentioned their confusion between

it's and its - not a biggie unless you're an old fogy (like me). I should also mention that it's available for some programs, such as WordPerfect and AmiPro, only if you do some finagling involving the Exclude List, which lives in the Title Bar option of the Configure Plug-In menu, hidden under the General button. All of this is explained in a Help screen, but of course, if you didn't know it was there, why would you ever try to find it? I actually didn't find it. A very inquisitive colleague with much too much time on his hands was the one who stumbled onto it, and only because he couldn't stand not having this feature available when he was using WordPerfect.

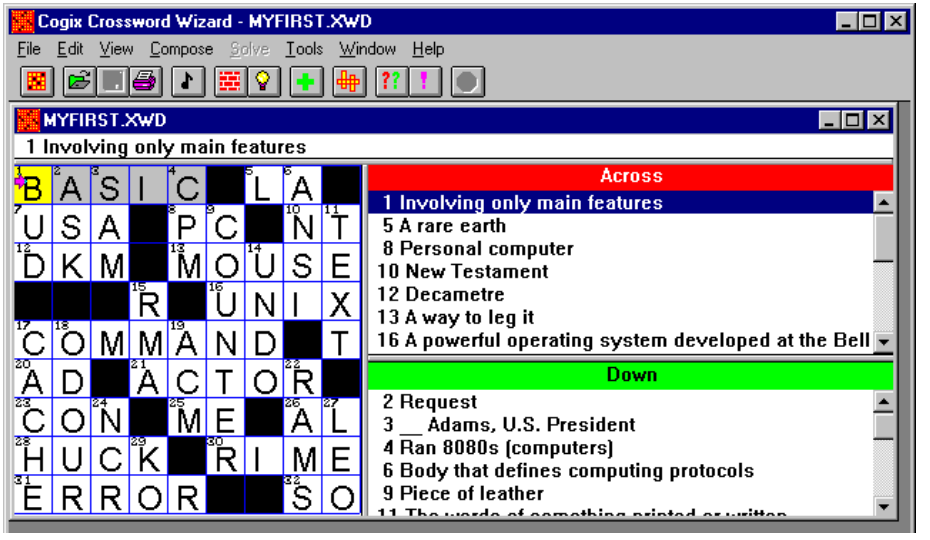
I also think it would be a good thing to be able to double-click on Exit Windows, rather than having to click the OK button or press Enter. Phew! That about exhausts my long list of complaints. I'm just wondering what they'll do for an encore when Windows '95 makes its long anticipated debut. As for how sold I am - well, I'm one of those folks who never recommend anything (books, restaurants, movies, etc.) because invariably the people who take my recommendation end up hating the book/restaurant/movie (and, by extension, me). But with Plug-In, I'm an enthusiastic, if not downright zealous, proselytizer. I've turned several of my work-mates on to it, and so far no one has been anything less than happy. Of course, there is this one guy for whom nothing's ever good enough...maybe this once I'll...nah, let that sleeping dog lie!

***Frank McGowan** is a computer consultant with many years of tech writing and teaching under his belt. His background includes employment by some of the biggies in the industry. With his wife Sue, or he with her 'cause she's the proud owner of a CD Rom drive, they will start looking at some of the new CD Rom titles coming to market. Frank is a regular **WindoWatch** contributor.*

ENTERTAINMENT FOR SOME

© by 1995 *Jerome Laulicht*

We have been threatening to add a fun page for big kids from the beginning of our short history. With this evaluation of The Crossword Wizard and Idea Wizard by Cogix Corp., we begin -- and none too soon! We believe that there will be a marked increase in games and puzzles, including a spruce up of old favorites, with the advent of new multimedia tools developed for Windows95 game programmers.



ww

Our first effort is Crossword Wizard, chosen because crosswords can be challenging fun, are good candidates for computer treatment, and their ad *was* so informative! It is especially appealing if you want to *learn* how to create or solve crosswords. It also will create challenging puzzles for you to solve and is technically a well-done Windows program. With its interesting features, although at times awkward, it is an excellent alternative to newsprint paper and pencils.

Like other intellectually challenging entertainment, crosswords continue to attract a varied audience, off and on-line. Cogix has not replaced the puzzle on paper so eminently useful to stave off boredom while waiting for doctors, dentists, children, planes, etc. These can, however, be an alternative to Doom as a break from work, while having the advantage of being useful in a multitasking environment. Aficionados are skilled at spending ten minutes at a time on a puzzle so there is no problem mixing it up with a bit of work , which can allow you to think about the remaining problems in the puzzle *in the background* .

The challenge is to use the computer to enhance the process enough to make it worth having a crosswords program. The Cogix effort meets the challenge sufficiently well to be a good choice. It goes well beyond presenting you with interesting puzzles to solve which is about all my previous program did. The program does come with some ready made puzzles. Children and beginners can start with easy puzzles, gradually building up to those creations where you can quietly curse--the epitome of adult entertainment. Experts will find much to like and puzzle over while spotting weaknesses, as they are required to do.

ww

Probably the most interesting and powerful enhancement in a crossword program is one which helps you to learn how to create puzzles more easily and with less tedium. My past experience with a crossword program was disappointing--good puzzles but too awkward to use happily and a tedious and difficult help file on the construction of puzzles. With Cogix, construction is easier to learn and do, with the added ability to easily try words out and then quickly see results. This has the bonus of speeding up learning because a surprisingly small amount of text suffices, along with commands provided to show you alternatives and display results. I've oversimplified a bit but the steps are really intuitive.

There are three ways to construct new puzzles. The easiest is to command the program to make an original puzzle for you and then choose among several possible sizes and three levels of difficulty. You can get a cup of coffee or a beer or even work while waiting for the words to be chosen and the clues to be displayed. If your computer is rather slow you can be patient or limit the construction time. Or you could just watch the program sift through its "database of over one million word associations". Staring at and thinking about this process a few times and reading a few paragraphs gives you a rather clear idea of what is going on.

Something called a "sophisticated combinatorial search algorithm is used in puzzle creation. And get this, the "word associations are derived from WordNet, an artificial intelligence lexicon developed at a Cognitive Sciences Laboratory". Information about this is coming from Cogix for those who are interested in AI.

Yet another way demands even more input from you to build a puzzle around your own choice of six words with their clues. If you watch the rather fast process, try several different sets of words, and think about any problems you encounter, you will get even more insight into what is involved. In a few tries, I learned that when I opted for a large-sized puzzle the program could not create one, even with its one million word associations to choose from. Politely, I was told to try again but to substitute a shorter word for the longest one. Probably limitations of the available dictionary and some unexplained program restrictions.

The last possibility is wide open and even more demanding. You choose everything, including ALL the words with clues, and fit them all together. This is my next fun! project. A variety of help is provided by learning to use the program's tools. For example, there is a sizable vocabulary of words organized alphabetically and by length. Some of your words will actually be two to five words. If you need a seven letter word starting with the letters FA, you can see a display of all words in the list meeting these specs and choose one, or replace it with another choice to find the best fit.

Probably the second most powerful feature of a crossword program are the nature and variety of the hints it lets you call upon. Again the Cogix effort passes muster. You can demand one letter or one

word, get visual and/or spoken reactions to your choices, and much more. This helps beginners to learn since they can gradually wean themselves from the help. It is also a neat way to move toward the capability to solve many of the hardest puzzles Cogix presents for your frustration--and the hardest ones are indeed difficult.

What Crossword Wizard lacks are full blown tutorials with practice for you and reactions to some of your errors to teach you how to solve puzzles or to completely construct your own. Ideally this would be pitched at several levels including one for kids and one for adolescents so that even beginners could at least get a good sense of things.

With CD-ROM's, it is easier to provide a mixed learning experience for difficult tasks and Cogix has already incorporated spoken words, music and visual clues in the current version. Obviously such an effort demands a potential for enough sales to warrant the effort. This is one of those programs which many more people would probably buy if they could borrow it first for a week to get a sense that they could use it. Cogix does offer a 30-day money-back guarantee. Wouldn't it be nice, however, if we could go to libraries to borrow a program like this--with protection for the developer so that it could not be copied?

Orders--800-455-3388 * Phone--415-454-7217 * Fax--415-457-4089
Price--$40 with a thirty day money-back guarantee
Requirements--386 or better; Windows 3.1, Win95, WinNT

Jerry Laulicht **is a retired professor from the University of Pittsburgh. A NYTimes crossword addict, his proficiency is notable. He also cheats!**

Accessing the Internet Using Windows95

What is Windows 95?

Windows 95 is, or in due course will be, the next version of Microsoft's Windows. At present available only in beta, Windows 95 is due for formal release in August 1995. As part of the pre-release testing process, Microsoft has released beta versions to a variety of beta programs. The currently available beta is build 347 and is also known as M8 or Windows Preview Program (WPP). Later builds of Windows 95 have been provided to a small group of developers and testers. This paper is being written using build 445 and 450 although all testing and dialogue boxes shown in this document relate to M8 (build 347).

If you install Windows 95, remember this is a beta version of an operating system and does have bugs. In the development of this piece, the author has experienced numerous crashes and hangs - Windows 95 (along with the applications noted) is NOT yet stable. Thus far, only unsaved work has been lost - this amounts to several pages of typed work - but it is all re-doable. You might not be so lucky.

How do I get Windows 95

If you don't already have it, the chances are you can't, or won't get it before it is formally released. Potential sources of Windows 95 are the MSDN Level II subscription and being a Microsoft Solution Provider.

How do I connect to the Internet with Windows 95?

There are two broad approaches to Internet connectivity with Windows 95. First, you can connect to the Microsoft Network which (eventually) will support a

use Dialup Networking. While the MSN will possibly be easier to use, it does not currently offer Internet connectivity.

In general, Windows 95 follows a layered approach to Internet connectivity, the key layers being:

- **physical (i.e. modem or Ethernet)**
- **transport (i.e. TCP/IP)**
- **client applications (e.g. mail, news, etc.).**

There are several ways to connect these various layers, but first you have to have a modem installed and working.

Connecting a Modem

Setting up your modem is pretty straightforward. First, you must have a modem which is compatible with Windows 95. Microsoft issues a Hardware Compatibility List (HCL) which specifies hardware which has been tested and will work under Windows 95. . At present, this list has about 100 modems which are alleged to work. If your modem is not on this list but is Hayes compatible, it will probably work. If it not on the list and is not Hayes compatible, it may not. For best results, use a modem on the HCL.

To set-up the modem, you should run control panel (Start/Settings/Control Panel). Then select the Modems to bring up the Install New Modems set-up wizard. This will guide you through the process of installing your modem. Usually, you can let Windows 95 *find* your modem, but at this point in time, Windows 95 is not all that good at autodetecting all modems and may detect a modem which is somewhat different than the modem you actually have! Such is the state of the art in modems. You can also select your modem from the supplied list of supported modems.

If you have a modem which is NOT on the list, you can try to set-up a 'standard modem' - this is a generic Hayes compatible modem driver and certainly seems to work for some modems. However, the generic Hayes compatible modem driver may not enable all the features which your modem actually has. Modems which are known to work with both Windows 95 and Demon are as follows:

Modem	*Detected/Used As*
US Robotics V.34	**US Robotics V.Everything**
US Robotics World Port 14400 Fax/Data	**US Robotics World Port 14400**
Hayes Ultra 144 V-Series Smartmodem	**Standard Modem**
Supra V32.bis faxmodem	**Standard Modem**
Courier HST Dual Standard with V.32bis and ASL	**Standard Modem (detected)** **Courier 14400 Dual Standard (used as)**

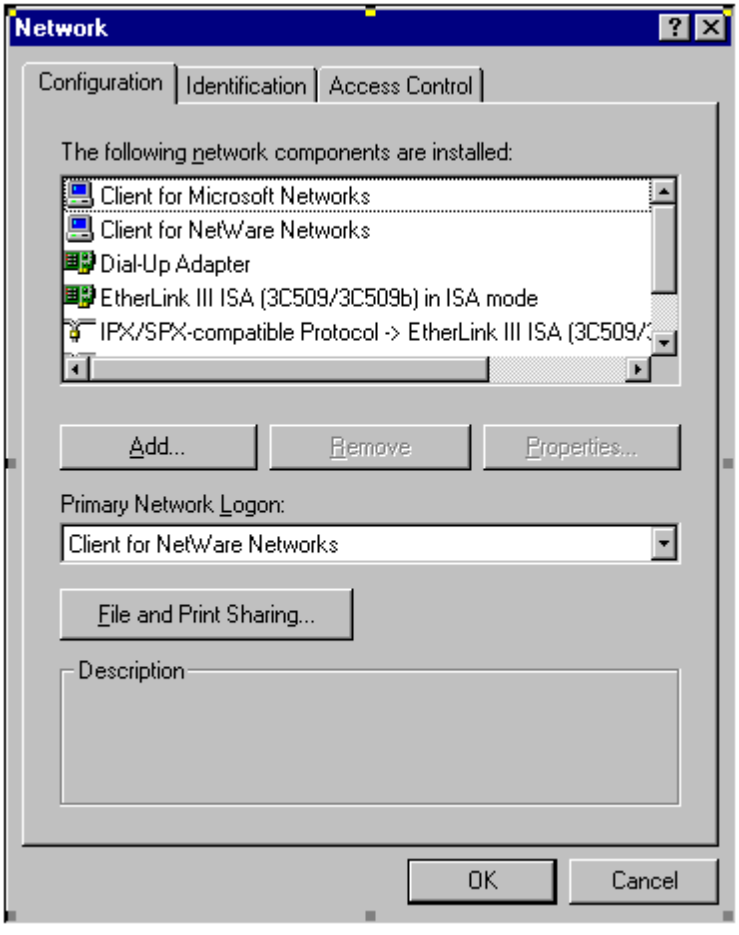
Note: this list is obviously a subset of the modems supported by Windows 95 and the absence of your modem from this list does not mean that will not work. The above modems, on the other hand, have been shown to work when connecting to a variety of Internet services. Additions to this list are welcome!

Setting up TCP/IP

Once you have set up your modem, you must then set-up TCP/IP to run on top of the modem. For Windows 95 users, the best option is the 95's built in TCP/IP stack. You install this using the Network set-up facility by first running Control Panel and then selecting Network. This will bring up the Network set-up dialogue.

The much discussed Network set-up dialogue is a very complex procedure. You will need to get all the options right in order to use the Windows 95 stack fully.

conferences for assistance. The smallest error will affect your success. The next page shows a capture of the Network setup dialogue and looks like this:

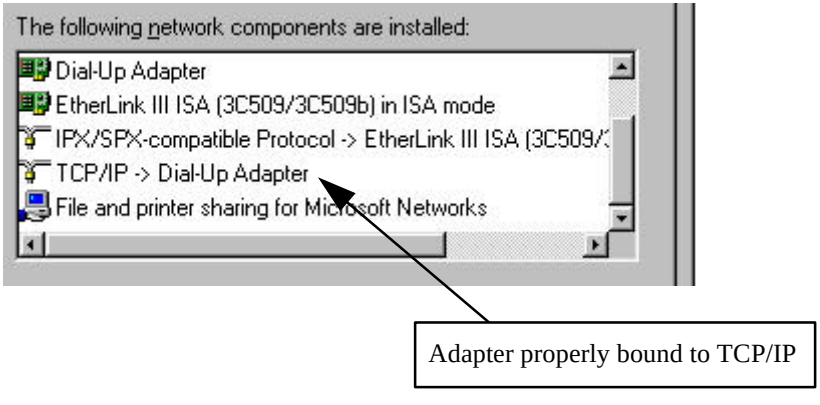


Using the Configure tab, you must 'Add' an adapter and a protocol. The adapter should be the Microsoft Dial-up Adapter. This will bind the protocol

stack to the modem. Next, you must add the TCP/IP protocol. Once the TCP/IP protocol is added, you must configure the protocol.

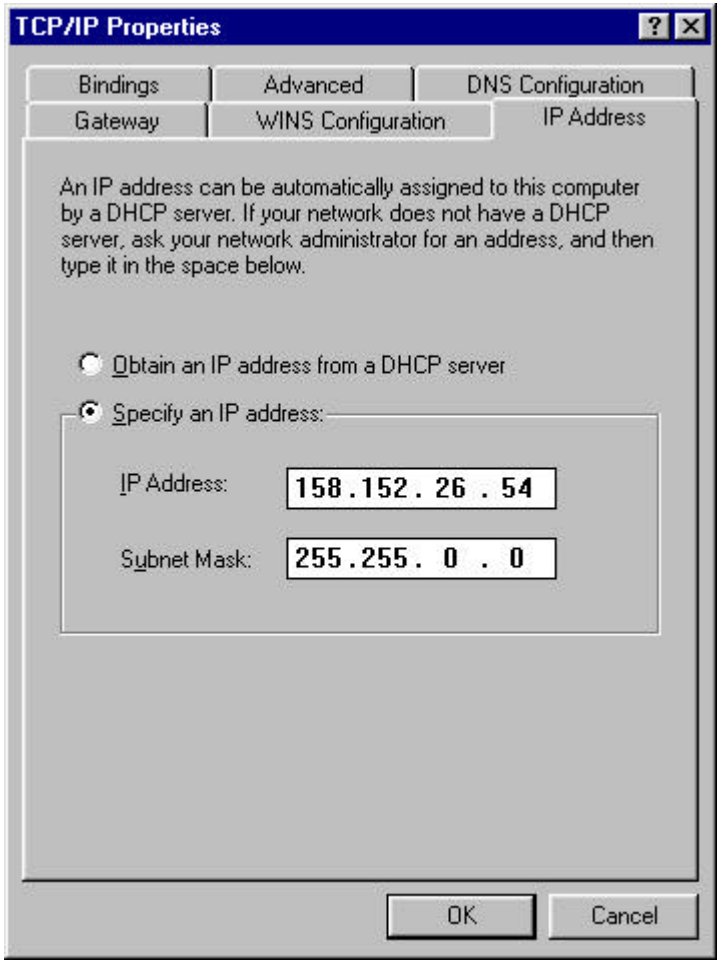
Before proceeding, you should check to ensure that the TCP/IP stack is bound to the Microsoft Dialup Adapter. In earlier beta versions of Windows 95, it took some effort - taking things out and putting them back in (with a reboot in between). In the window on the top of the Network dialogue box, you will see the 'Network components installed; - this should show TCP/IP bound to the adapter!

The Network Setup Dialogue Box should look something like:-



You might see something different to this dialogue box - but the key thing to ensure is that TCP/.IP is properly bound to the Dial-Up adapter. With TCP/IP properly bound to the adapter, you will next need to configure TCP/IP. This is easy (if you understand TCP/IP!) and involves configuring the properties of the TCP/IP running on the Dialup Adapter To do this, highlight TCP/IP bound to the Dial Up Adapter and select Properties (or double click it!).

This will result in a dialogue box which looks like follows:

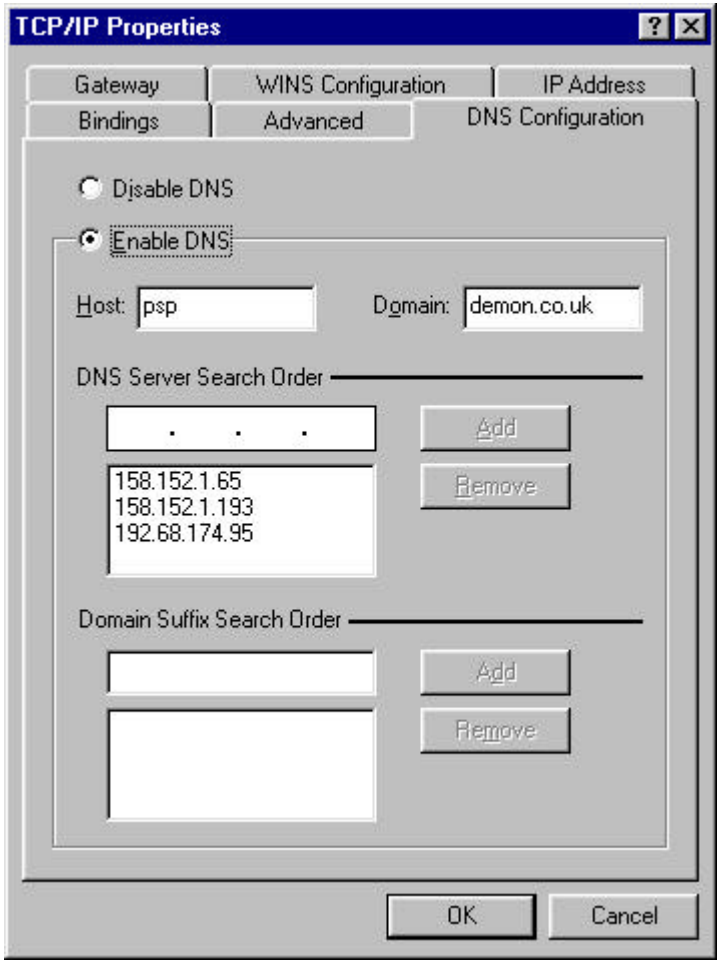


Using the TCP/IP properties dialogue, you must configure, at a minimum, the IP Address, the Gateway and the DNS configuration. For IP address, you should add the IP address issued to you by your Internet Services (e.g. 158.152.26.84). Please note - you will need to configure your own IP address in the IP address

mask. Normal dial up customers should use 255.255.0.0, as you are a single node on most Internet providers' network.

Next, you must configure your Default Gateway. Configuring the gateway should look like this:

DNS configuration is similar, and would look like:-



You will need to put in your providers name and domain in this dialogue box. The author's node name is PSP and the domain for all Demon Dial Up customers is DEMON.CO.UK.

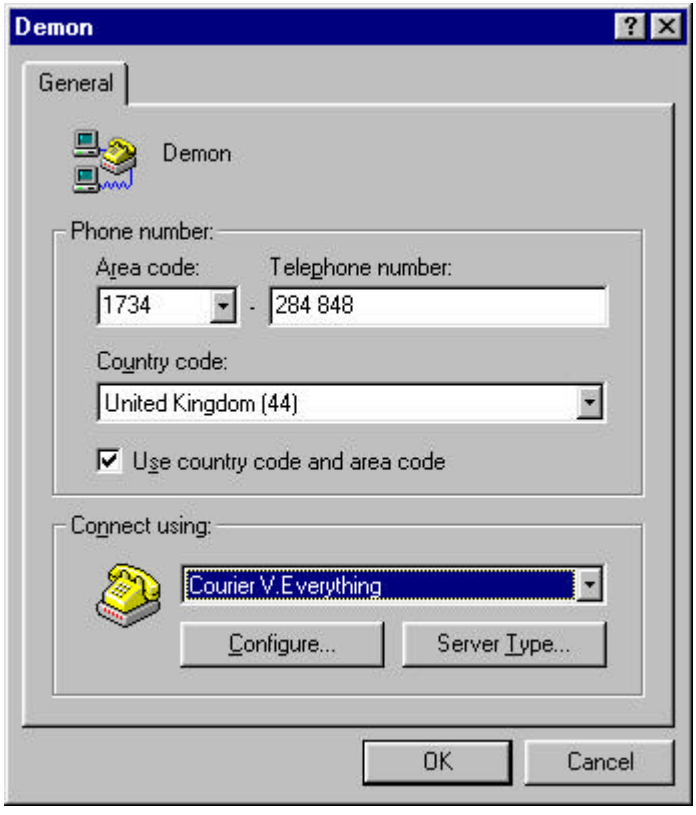
So with these IP addresses, etc. configured, you are almost ready to go. All you have to do is to configure Dial Up Networking - the last step in the process.

Setting Up Dial Up Networking

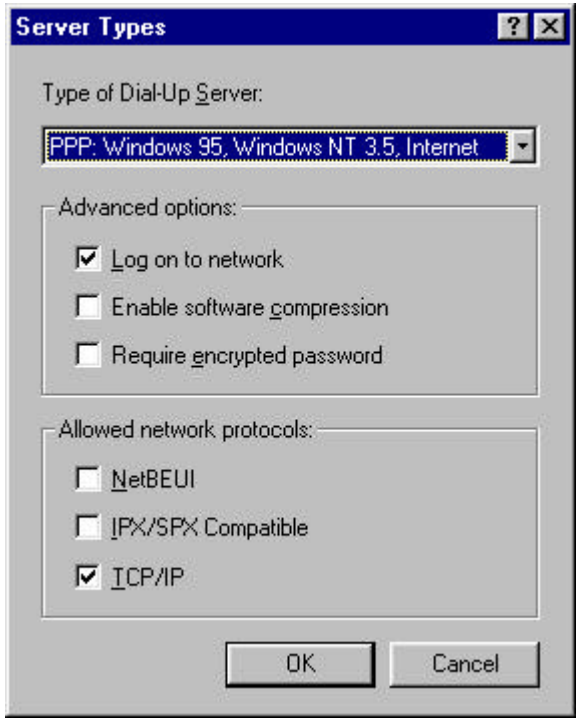
Dial up Networking enables the user to connect to a remote computer and access information held on the remote system, DUN (Dial Up Networking) is the Windows 95 Version of Remote Access Service (as found in Windows NT and Windows for Workgroups 3.11).

To set up dial up networking to connection, first select the Dial Up Networking Folder. This folder is under the Start button (Start/Accessories/Dial-Up Networking). If you intend to use this a lot, as the author does, you might find it convenient to create a shortcut to the folder on your desktop. Next, you should select the Make a New Connection icon to bring up a connection Wizard. The first screen in the Wizard allows you to create a name for your connection (e.g. Demon) and the modem you wish to use. The next screen allows you to enter the phone number of the computer you wish to call - this is the name of the POP/vPOP nearest you. You must specify the Area Code (this is the dialing code - but without the leading zero!), the telephone number and the country code. This creates your connection and all you need to do is to configure this.

To configure the connection, right click the connection and bring up the Property sheet, which looks like this:-

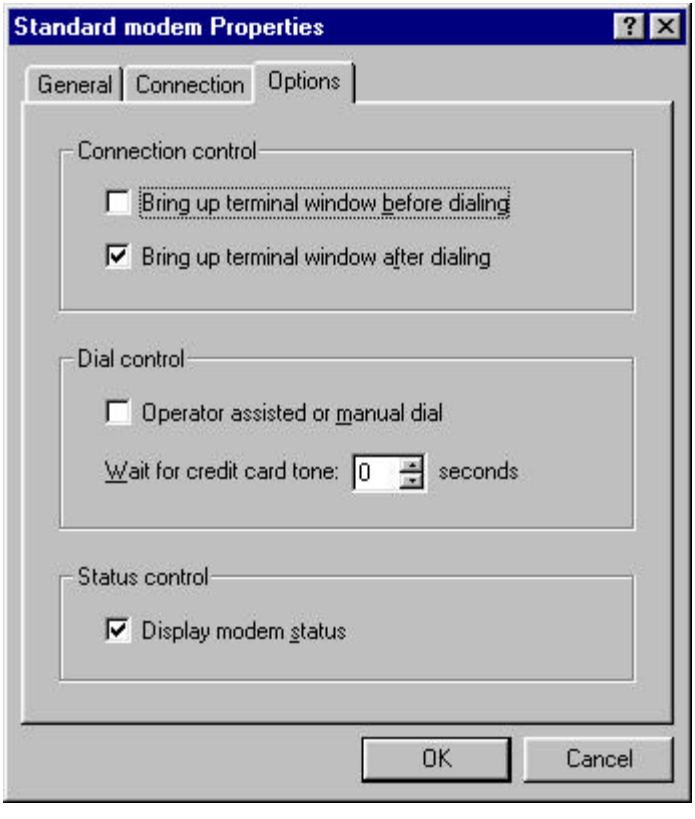


First click on Server Type to bring up the server type dialogue, which looks like:-



Be sure to disable the Enable Software Compression and Require Encrypted Password check boxes. Also, you should only have the TCP/IP protocol selected. You can then Click on OK.

Selecting Configure on the connection property screen, brings up another tabbed dialogue box, as follows:-



Under the General Tab, you should select the Com port your modem is attached to (e.g. Com1 and the maximum DTE speed (i.e. 57600). If your modem is fully supported and has a speaker, you can also select speaker volume. Under the Connection tab, you must enter Data Bits (8), Parity (none) and Stop bits (1). You should also select Wait for dial tone before dialing. Under the Options Tab, select Bring up terminal windows after dialling. You should also bring up the modem status.

Using this configuration with a Dial Up Networking

Assuming all the above instructions have been followed, you are ready to connect to the Internet. Just double click on the new configuration connection in the Dial Up Networking folder, select connect and Windows 95 will dial up your provider and present you with a Terminal Window. You must logon, entering your login name, your password and connection type (i.e. PPP). Then hit F7 and Windows 95 will finish creating the connection. Once you are logged on, you can minimize the Dial Up Networking icon and begin to use your Internet applications. See Section 6 for more details.

Once you have all this working, you can tidy your desktop up by dragging your new connection onto the desktop, onto the Start Menu or to somewhere else you might find useful. The author has a folder on the desktop with all related utilities, etc.

Automating the Connection

Out of the Box, Windows 95 does not support dialling scripts - thus necessitating the manual entry of your node name, etc. in the Terminal Window. Some third party add-ons have been developed to simplify this process. One such utility is Robodun.
Robodun can be found using url:
ftp://ftp.demon.co.uk/pub/ibmpc/winsock/win95/rdun60.zip.

This utility comes with a good help file. Several folks have found Robodun easy to set-up and use - providing you get Dial Up Networking set up properly. The faq author has found it unreliable - working on only 25% of connections. Note that Robodun stores your dialing scripts in the registry. Robodun does this automatically.

Troubleshooting

If you setup Windows 95 as described, all should work. But such is the theory of things. Some things to try:

- **If you're upgrading from a Trumpet based Winsock environment, make sure you don't have multiple winsock.dll files in your path.**
- **Unless you have a particular need, use PPP over SLIP. All Winsock clients work with Demon over PPP.**

Applications

This section will describe applications known to work or not to work using Win95. The presence here of any application does not constitute an endorsement and the absence of an application does not do the reverse. Unless explicitly stated, all applications noted here are either built into Windows 95 or are available on ftp.demon.co.uk. Where possible, URLs will be given.

Mail

Windows 95 comes with a built in mail client, Exchange. Exchange is based on POP3 and does not fully support SMTP. The MAILOPT.INF file on the CD has the relevant lines commented out for some reason - presumably since the code is not stable. The comment for the comments say something about a maintenance release. To fix this after the install, you need to hack the registry using REGEDIT.

To enable Internet Mail under Windows 95 (build 347), you should follow the following steps:

- **Find the key HKEY_LOCAL_MACHINE\: Software\Microsoft\Windows\CurrentVersion\Setup\OptionalComponents**
- **Add a string value with the name and value of "Route66".**
- **Add a subkey also called "Route66".**
- **Add the following values under this new key:**
  Default = (undefined)
  Inf = mailopt.inf
  Installed = 0
  Section = route66
- **Reboot and use then Control Panel / Add Software / Windows Components wizard to *install the SMTP mail handler. Then, a*dd it to your Exchange profile in the usual way.**
- **Now - the above is easy and the author has done it doing exactly the above. If any of this is not straightforward to you, DO NOT ATTEMPT IT. The author will accept no liability for the reader totally screwing up his/her/their registry. Note that Microsoft don't usually stop things from working without a good reason. Caveat emptor. Be Careful.**

<u>News</u>

No built in News client is currently available within Windows 95, although Microsoft have suggested that a NNTP client may be built into exchange at some point.

WinVN works well, although you must be logged in to utilize it. Given the currently poor level of performance of Demon's news server, this is probably not an option except during highly unsociable hours.

WWW Browser

Netscape 1.0N works well, although does occasionally GPF. It can be found at:
ftp://ftp.mcom.com/netscape/windows/ns100-16.exe.

Version 1.1 is now available from ftp.mcom.com in both 16-bit and 32-bit format. A 32-bit version is available from URL:
ftp://ftp.mcom.com/netscape/windows/n32e11b3.exe.

FTP

Windows 95 comes with a basic text mode FTP client which is adequate for most things.

WS_FTP32 (ftp://ftp.demon.co.uk/pub/ibmpc/winsock/apps/ws_ftp/ws_ftp32.zip) also works well and has the distinct advantage of being windows based. Some users have had problems with this software, but the author has found it stable.

Gopher

WS_Gopher works extremely well and is very stable. A version can be obtained from: ftp://ftp.demon.co.uk/pub/ibmpc/winsock/apps/wsgopher/wsg-12.exe.

Finger

Ws_Finger (Version 1.4) works acceptably and is available from:
ftp:/ftp.demon.co.uk/pub/ibmpc/winsock/apps/wsfinger/wsgngr14.zip.

Archie

WS Archie - ftp://ftp.demon.co.uk/pub/ibmpc/winsock/apps/wsarchie/wsarch07.zip, works OK. If you select an appropriate FTP client (e.g. WS_FTP) and have the executable either in the path or in the wsarchie directory, archie will automatically retrieve files found.

Ping

WS_ping 32 (ftp://src.doc.ic.ac.uk/computing/systems/ibmpc/windows3/winsock/wsping32.zip) works well. The 16-bit Windows Socket Ping (Wsping) seems to not work properly under Windows 95.

Telnet

The built in version of Telnet is adequate but only manages VT100 emulation.

Acknowledgements

The following have added material used in this article.

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Thanks to Susan Lee Tanner (slt@psp.co.uk) for the most excellent proof-

This document was initially prepared as a FAQ (a frequently asked/answered questions document) for demon.ip.support.win95. It was mainly concerned with explaining how to connect Windows 95 to the Internet using Demon Internet Services. That it may be helpful in other ways was not the primary intent. The original can be found at

ftp://ftp.demon.co.uk/pub/ibmpc/win95/win95faq.zip. The text version is found at ftp://ftp.demon.co.uk/pub/ibmpc/win95/win95faq.txt. The text version will also be posted periodically in demon.ip.support.win95.

Thomas Lee **is a partner in PS Partnership, a small United Kingdom training and education consultancy. PS Partnership is a Microsoft Solution Provider specializing in Microsoft Back Office and Windows 95. Thomas is a Microsoft Certified System Engineer and Certified Trainer. He can be contacted at tfl@psp.co.uk or Thomas_Lee@msn.com**

A WindoWatch feature

IDIOTS-REDUX © 1995 by Bob Miller

Time now for yet another installment in our never ending saga of the idiocies published as *advice* in our leading computer magazines. We have a banner collection this month.

Windows Magazine, June, page 226

[on the subject of how large to make the permanent swap file] My advice is to make it half the size of installed RAM, but the authors of Wintune benchmarks suggest the following formula: 16MB minus installed RAM.

> **"So, for a 4 meg system, he wants a 2MB PSF while the benchmark people want a 12MB. Both are foolish. 2 is nowhere near enough and 12 is ridiculous overkill."**

Same issue.

"If you have more than 16MB of RAM and you run WFWG 3.11, consider doing away with your swap file altogether.....Provided that you have more RAM than you need, this selection should speed operations by preventing the use of your hard disk for virtual memory."

On the contrary, the lack of a PSF (permanent swap file) will always SLOW Windows down. Without one, it conducts a complete sweep of memory twice a second to see what can be discarded if needed -- even with lots of memory available. A PSF eliminates this time wasting step.

Infoworld, May 22, page 96

"So, bottom line, this version [OS/2 Warp Connect] is more lead than gold....IBM simply needs to do a lot more testing before calling the alchemist. Given these problems can be ironed out, Warp Connect is easily my favorite corporate OS."

Leaving aside the fact that the latter sentence is not correct grammatically, does one detect, perhaps, a slight prejudice here? "more lead than gold" equals "favorite ..OS"? Logic 101 anyone?

Infoworld, May 15, page 49

"...we took time off to walk one of the maybe 30,000 miles along the Great Wall."

Fact checkers, anyone? If the Great Wall were 30,000 miles long, it would more than circumnavigate the entire Earth. One tenth that length is closer to the actual amount.

Infoworld, May 8, page 108

"Way back when I used Windows 3.1, the first thing I loaded...was Norton Desktop for Windows. I found Windows to be virtually unusable without it."

Really? I could find 60,000,000 users who would disagree.

PC Magazine, May 16, page 104

"[Windows 3.1] File Manager does offer an awkward form of drag and drop copying. Most users just fill in the command line."

Not the users I know. Drag and drop is simple and fast.

Same issue from a review of the Packard Bell machine.

"Page 411. Service and Reliability.....E [as in awful]
Page 413. .....makes the Packard Bell ...a smart investment."

Maybe they define "investment" differently that I do.

PC Computing, June, page 50

"Desktop Apps. Top Pick
Word Processor MS Word 6.0
Spreadsheet MS Excel 5.0
Database Lotus Approach 3.0"

Now it is possible to argue with these selections but they are certainly reasonable. How then, can the top of that list be:

“Software SuiteWordPerfect PerfectOffice 3.0.”

Something does not compute here.

PC World, June, Page 278

“If you want Windows to use the buffer of a serial port’s 16550 UART chip, place this line ...in system.ini: COMnFIFO=On.”

In reality, due to a bug in the logic, that will turn the buffer OFF. The absence of the line or setting it to “1” will turn it on but this won’t.

Same Issue Page 230

“[discussing the “high problem rates and terrible service] Ransom [VP Marketing] grades Packard Bell’s support efforts as “a C, moving towards an A”.”

Of course, if you want an honest view of a service problem, you ask the VP of Marketing...NOT!

Same Issue Page 168.

“[review of the Supra FaxModem 288] Alas, the modem came in dead last in all our benchmarks, sending data at only about half the rate of the faster modems, and making connections in less than a

quarter of the attempts made. Were it not for its poor performance, the FaxModem 288 might have had a shot at a best buy."

And if pigs had wings..... How foolish can you get?

Same Issue Page 66

[review of Word Pro -- formerly Ami Pro]

"The early beta release shows plenty of innovation.....the spelling checker highlights unrecognized words."

What a wonderful innovation! Gee, didn't Word Star do this in 1985?

Same Issue Page 60.

"After installing the operating system [Win95] on a 486 Deskpro with...a 120 MB hard drive, we had a mere 79MB left for other applications. ..... Since the Deskpro lacked a CD-ROM drive, we spent over 2 hours swapping the program's 12 disks."

41 megs for Windows and DOS combined is hardly excessive -- especially with the debug code still in the product. And who in their right mind thinks a 120MB drive is sufficient for any version of Windows today? Further, I have installed Win95 from floppies. It takes well under an hour. Perhaps they were too busy checking out the "innovations" above to swap disks on a timely basis.

Same Issue Page 228

"Primary activity: Word Processing and E-mail
Minimum configuration: 66mhz 486DX2, 8MB of RAM, 15 inch monitor."

That is a nice system but is hardly a "minimum configuration"

Same Issue Page 229

"How many pages a day? This is the minimum configuration
More than 20 8 ppm PCL 5
20 or fewer 4ppm to 6ppm PCL 5"

Get real! I print 30 pages a day and I need an 8 page per minute printer? Not hardly.

Insert ad for Prodigy.

"We'll send you software in Windows 3.5 format."

Really? I know Windows 3.1 and 3.11, WFWG 3.10 and 3.11 and NT 3.5 but what is Windows 3.5? And, if they mean 3 1/2 inch format, what does Windows have to do with it?

PC Computing, June page 214

"RAM disks are useful, however, as a place to put temporary files."

No they are not. Not many apps use temp files and those that do use large ones. Few people can afford enough RAM to create a RAM disk big enough to hold a WinWord document with a couple of embedded graphics. If your RAM disk is too small, - crash city!

PC Magazine, June 13, page 30

"MSN prowls around your hard disk, grabs your autoexec.bat and config.sys files....."

It does no such thing. It does compile a list of some of your installed software and the hardware that it recognizes but does nothing with it unless you expressly authorize it to transmit the information. There is no default -- you must allow or not allow it.

Same issue, page 91, from our Idiot's Hall of Fame honoree, John Dvorak.

"Now I hear that Windows 95 is a November product. At least, that is what one fellow "close to the programmers" told me."

Gee! And my sister-in-law's babysitter's former boyfriend's pizza delivery man's one time roommate's gardener told me that John Dvorak picks his nose in public. Nothing like factual information from a reliable source.

Idiots Redux is the invention of Bob Miller who has a huge collection of Conference Host assignments from both RIME and Ilink competing with time for his collection of stamps. A very knowledgeable Windows writer, Bob is the head of a Mental Health Agency and can be found at bob.miller@channel1.com He and Stanley are regular WindoWatch contributors.

Alice Delivers the Mail

You have to realize Alice and I work in a very upscale neighborhood. Both of us are on the Coffee Cart Committee, and both are quite educated. There has been a big difference between us lately, though.

You see, Alice is now the Network Supervisor, and I am still at my same desk. She has instituted new mail policies, which she says were inevitable given the climate of competition and back stabbing in our foyer. She says that people are not aware of the problems that their email can cause.

Alice started as network supervisor by changing everybody's passwords. At some future date, she says she will give everyone their new passwords, but for the time being, requests must be made in writing twenty-four hours in advance of each access. This has been approved by the President of the company, a liberal gentleman from CalTech.

The other day I happened to write my mother a long email letter and mentioned Alice several times. However, when I quizzed Mom on the letter, she said there was nothing about Alice in it. I called up Alice and she told me that that omission was due to a recent random intercept solution she was instituting immediately.

I asked her if she read people's mail at home. "Oh certainly not," she said, "it is illegal to open the mail at home". But in the work place, you have no right to free speech. Congress cannot make laws restricting speech, as you know. But we can."

Alice showed me her new Nonsense Obfuscation Software. It uses search and replace to substitute words in mail for their opposites. She says that she can selectively target certain transmissions, on purpose or at random to turn them to gibberish and create the correct level of disinformation. "Nonsense," I said. "Exactly my point," she retorted. She continued: "I am also starting a new program redirect mail to different addresses in an effort to promote homogeneousness. It is high time that people started sending responsible correspondence. This will guide us back to a sane information policy that I can live with."

I can hardly wait until next year when I will be Network Supervisor and Alice will be back at her old desk. I am just grateful that the government will never read my mail. It's bad enough with Alice. She says I am totally paranoid, but somehow she seems to know so much about me lately.

Peter Neuendorffer is a DOS and Windows programmer. He and Alice have been contributors to WindoWatch from its inception authoring many articles and reviews.

The Mail's In!

The Fine Art of Techno-Gibberish

There was a hiccup on the net and the following messages I sent to alt.pointless got posted here by mistake.

mw>Jim, you're a professional and I need some clarification on mw>something. If you're not too busy doing INI nerd stuff, could you mw>explain the difference between the preview release of Windows 95 mw>and shareware? ... mable.wicks@somewhat.com

"Why sure, Mable. I'll just shut down the Killer Morphs from Pluto game and will enlighten you."

"You see, shareware is a means of distributing working copies of programs. Generally, they are limited a bit in their functions but you get to see what they do and how they do it. You can use them for a specified period of time. If you're pleased, and want to keep using the software, you send in a registration fee and will receive the real thing."

"You can download shareware from an on-line service or BBS, or you can order it from a distribution company. The cost is roughly the same if you have to pay connect charges or long distance fees, usually around

$3 per program or about the same per disk to have a distributor mail them to you."

"Windows 95 preview, - that's a whole different thing! What happens here is you get a working copy of the program, which is limited in that all the features aren't ready yet. You can use it for a limited time, or in this case until late August. If you decide that you like it, you can then buy the final version which will be, hopefully, - ready!

Distributing a preview is different, too. For example, Windows 95 preview comes on a CD along with twelve diskettes. Including tax, tag and dealer prep, this comes to about $36. Now if you were to order twelve diskettes from a distributor, that would also come to a total of $36."

HH>Hey, if you can break away from all your hi-tech wheeling and HH>dealing for a few minutes, could you offer any advice on what HH>system I should buy in order to have the latest and greatest HH>technology in the world? You see, I feel that I need bragging HH>rights when I tell everyone what I have.
HH>harry.hitech@we.still.run.cpm.com

"Sure friend, glad to. I just finished some emergency plumbing repairs down in the scary basement, really a crawl space, and haven't started on another project yet. Yuck!"

"First of all, you need to be aware that there never was, and never will be, the latest and greatest technology. CPUs are an excellent example. A seventy gz (gazillion) megahertz model is announced. Vendors all claim to have a new system using that CPU. Unfortunately, there is a six

month lead time because the new CPU really isn't being manu-factured yet. All they have are some prototypes to test with. So you go ahead and order the seventy and are told ‘soon, very soon’. This really means you have a six month's wait before actual delivery.”

“In the meantime, five months later, an eighty gz (gazillion) megahertz model is announced. This way, when your new system actually arrives it is at least into a month of obsolesence. At this point, you must understand that you won’t be able to read any of the current crop computer magazines without crying real tears for the rest of the year. Your brand new seventy gz (gazillion) megahertz $5000 system is now priced at $2500. If you had waited a few months longer you could have gotten the eighty gz (gazillion) for what you paid and found that the ninety gz (gazillion) megahertz model had just been announced.”

“In spite of all this, even though you won't have ultimate bragging rights, you will have something that you can't type fast enough to keep up with regardless of which model you get. They all exceeded your keyboarding capacity several years ago.”

“Think deeply on that, my friend!”

TH>Mr. Gunn, help! I see that you are an INI nerd and know all TH>about the contents of all those control files.

TH>My system displays black text on a white background just fine. TH>However, I have the uncontrollable desire to change it to red on a TH>purple screen with title bars in dull orange. I'd also like to change

TH>the look of all the 3D buttons to round rather than rectangular.
TH>Could you tell me what lines to change in my INI files?
TH>tim.hands@strange.edu

“Just finished an intense cookie and dog biscuit session with Lady, my office manager, so I'll take a brief break and offer advice.”

“Format your hard drive, then either sell the system or donate it to a charity. Join the peace corps or another useful service. You obviously have nothing meaningful to do with a computer.”

SR>Jimbo. What is the meaning of life? Why does my monitor
SR>flicker? snide.remark@doggie.org

“Well, being in-between massive projects at the moment and having read all my E-mail, I think I can safely answer that. First let me address life.”

“For normal people, it is a process of growth, pain, discovery and futility. There are good times and bad, things that are desired and things that are achieved. It is a condition that lasts for only a finite period yet the duration is different and unknown for everyone. It is an adventure that one didn't ask to go on, but no one wants the journey to end. Life is a sorrowful joy.”

“To INI nerds, life is understanding what

UseScreenOnThursdays=000.210.0043,75,006
SweepBothMiddleSections=PERHAPS
KeyboardUseAforB=C

means in WIN.INI and actually caring. It is the course we take towards understanding why anyone bothers with the Internet or why people buy cellular phones. Discovery of the true meaning of the 640K barrier and the search for a final and absolute definition of what the term "client server" actually means are driving forces. We progress in stages throughout the term of our existence until we finally reach an age, where when faced with Windows 95's explorer, we discover that our mind set is; "This is stupid! What was so wrong with File Manager?" It is the realization that we have acquired deep and unshakable religious convictions about the particular word processor or backup program we have finally learned to use well and death to anyone who blasphemes by disagreeing."

"Basically, it's a mess."

"Now for the monitor part of your question; I have no idea. Have you considered taking it as something personal?"

Jim Gunn **is a bearded guy living in Salt Lake City, UT (a.k.a. Salt Puddle) who smokes Benson & Hedges menthols. He actually has a thirteen year old blue merle collie named Lady who acts as office manager and Pollyanna to clients, deliverymen and employees. As a sideline, he is president of Sterling Consulting and is officially considered certifiable ... even by Microsoft (case #1198).**

A "Typical" User Reports:

On Windows95

A few thoughts now that I've removed Windows95 from my system.

1. I miss it.

2. I'd forgotten how great WFWG really is.

My purpose in experimenting with the beta was exactly that -- an experiment. And it was fascinating!

I love the interface. One thing I had hated about Windows 3x was opening and closing the program groups to find what I was looking for. In the few weeks I ran '95, I added shortcuts to my most often used program groups and especially applications. It was nice to let my mouse glide over the menus when I was looking for something else. Smooth.

It may only be my imagination, but it seemed that even though most of my drives were stacked, that once Windows was loaded and the specific application finally stopped churning my harddrive, every thing was a bit faster. Even WPWIN 6.1.

Internet access using the old Trumpet Winsock worked fine. I felt much more comfortable leaving Eudora open while I web surfed and had fewer on-line glitches while running under '95 than under

WFWG. However, the drive churning with Netscape that had finally been eliminated with 32b file access and 32bdrive access under WFWG returned using ‘95. This hung my computer for several seconds...over and over again.

Hang ups were the real problem. I accepted the long loading period but for some reason even when '95 appeared to be ready my mouse often was not. At the strangest times my generic serial mouse seemed to go berserk.. A look into the control panel indicated the device was not found or that drivers were missing. Unfortunately something happened to my CD in the process. I could no longer access it and therefore couldn't replace or change the drivers. I think I damaged my SCSI card when reinstalling all of my cards to try to determine if the mouse problem related to a poorly seated I/O card. The CD still isn't working even under DOS. It’s fortunately time for an upgrade as it’s single speed.

If it wasn't the mouse, it was something else. Applications would suddenly hang up and I'd have to get out of the system out with a cold boot which is of course, not recommended. Once I did do a reinstall right over the original using the floppies, but too many things still hung up. So.. for now at least, I gave up.

Back to my post mortem. In fairness, I suspect most of the problems I had were directly related to the fact that my machine is an odd collection of pawn shop and recycled parts and that the old WFWG on my system may already have quirks from my unmitigated tinkering.

Other gripes:

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1. I really think MS should have made long filenames an option. And should have made it OFF by default. If they had done so, '95 would not have rendered so many utilities unusable and would have permitted DOS backups without the inelegant LFNBK. By naming some of the WIN 95 subdirectories and files with long filenames Microsoft consigned all of us to long file name hell.

2. Not so long ago, Doublespace and Stacker were virtually -no pun intended- the same. '95 handles Doublespace and Drivespace drives in full 32 bit mode. Could '95 really not recognize and handle Stacker in 32 bit mode? Certainly so, if MS had wanted to. These wouldn't be marketing ploys, would they?

3. Speaking of marketing ploys-- ta daaaa>>>> MSN. The Microsoft Network has a long way to go. When I access the Internet directly its fast. Even on my 14,400 modem I find access acceptable (except for the Netscape churning I mentioned before). MSN is slow and the interface is awful. I never did find the files that were available for download and found getting around impossible even though I'm a refugee from CIS and GEnie with an occasional visit to AOL and Prodigy.

4. Further, the fact that MSN was able to recognize that I needed the software update without my telling it to check for it, was scary. What else was MSN reporting about my machine? I can't judge whether this is a plus or a minus-- there are so many ways to do everything that it gets confusing.

Until only a few months ago I was quite satisfied with DOS and only came kicking and screaming into Windows for easy Internet access. Therefore the move from 3.1 to WFWG to 95 has been rather fast. I know that I still have a lot to learn. In any case, this was only

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an experiment. I'll probably return again for a longer visit. In the meantime:

I hadn't really fully appreciated how well WFWG worked for the things I do. I'm not heavily into multi-anything. I use a suite of Internet clients, along with WPWIN 6.1, WP5.1 (DOS), Telix (DOS), SLMR (DOS), Printshop Deluxe and a few other applications on a regular basis. Now that I am back in WFWG, I have created icons for my most used DOS applications and find they run as well, if not better, full screen under WFWG. Taking a hint from the '95 desktop, I have cleared the clutter. All I see when I load windows is my open "Internet Suite" including Telix and Slmr with the iconized internet clients along with four program groups. Everything else is below the screen and if I really need them there is the scroll bar.

My office is just beginning its migration to Windows using WFWG. I realized that I can be more useful to them if I learn more about WFWG.

***Leonard Grossman** is a Chicago attorney with the Office of the Solicitors: the Department of Labor and is a booster of the great BBS that got him started: Chicago Syslink, now based in Berwyn, Illinois. He is active in several local user groups.*

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The WindoWatch

PLUG OF THE MONTH

Another Shareware SuperStar!

This month's selection has won almost every shareware award available. To make its evolution and development even more spectacular, this old friend can run under Windows95 with nothing more than a fresh installation. I don't need to hawk its strengths because as soon as the name is mentioned, experienced windows users will nod in agreement. When one talks about Personal Information Managers this software must be included among the best and most aggressive PIM contenders notwithstanding the very low price tag it carries.

The inclusion of a very sophisticated data base engine can be configured to include a universe of information.

Therefore, for these reasons and more.....

The *WindoWatch* Plug of the month is...

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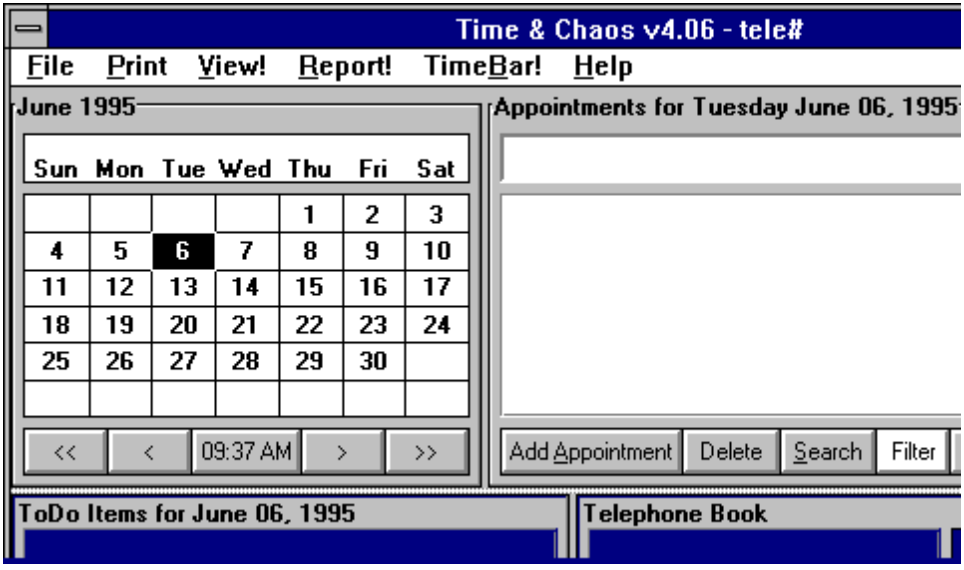
Time and Chaos 4.0



Above you will see the T&C desktop.

Time and Chaos v 4 can be ordered from the developer for $29.95 There will be a full review of the product in Issue #6 by Frank McGowan.

iSBiSTER International, Inc.
1111 Beltline Road, Suite 204
Garland, Texas 75040
Voice 214 495-6724

CompuServe ID: 74017,3424
BBS Support: 214-5302762
Fax: 214-530-6566

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The Last Word

CAN I SEE YOUR LICENSE, BUDDY?

But officer...

As business becomes increasingly reliant upon computers and computer consultants proliferate there is a growing clamor for standards and certification of computer professionals, and in some places outright licensing. As a computer professional I have some admiration for their efforts, but I have to reject this idea, at least for the short term.

I'd love to not have to compete with cut-rate, inexperienced, amateurs who poison the waters for those of us who really do work hard to obtain and maintain the skills necessary to serve our client's needs. Certification would help to thin the ranks of the "PC Magazine Experts" who hang out their shingles as computer consultants and make the rest us look bad.

But who will be charged to set the standards? A private organization or government? It would seem that government would have to be involved, lest we end up with competing private organizations espousing competing certifications. For specialties, such as the CNE or MCE that would be fine, but as an all-

encompassing "Certified Consultant" program it could be merely confusing to have multiple programs. And, what happens when somebody realizes that he/she can get rich by offering a "certification" for a fee and a two question true or false quiz?

Unfortunately....

"Public office is the last refuge of the incompetent."
-Boies Penrose-

How many politicians are experienced enough in business technology to know if a certification program or exam is comprehensive enough, current and a fair measure of consulting skills?

What will those standards be? Computer technology is a *huge* and rapidly advancing field. Before any test could even be printed, the technology being tested would be technically obsolete. I've taken Artisoft's skills tests on diskette, and was disappointed to discover that a significant percentage of the test was on either old versions of the software or Artisoft products that none of my customers were interested in. How many accountants are using the Sounding Boards?

Are we going to quiz prospective consultants on RLL hard drive technology? How about video conferencing? How to configure a sound card? How to underline a paragraph in Ami Pro? No, I think the better quiz would be one tested a consultant's integrity, business sense and ability to OBtain information...rather than REtain it. Half the questions my clients ask I don't have answers

for...but I do have resources which give me the tools and sufficient knowledge to ask the appropriate questions. The ability to *find* anything is more important that the ability to *know* everything. But is there an effective way to test for that?

Of what value would the certification be? How many of you service Novell Networks? How many of you are CNEs? I'm willing to bet that at least half of the Netware service done is done by people who aren't CNEs. And the certification is even LESS valuable if the customers aren't aware of it.

There is an organization called the ICCA. Ten points to anyone who can tell me what that is. A very broad hint: It's the Independent Computer Consultants Association. Is there any value in advertising that you are a member of the ICCA? I have over 200 clients and I'd be surprised if any of them have ever heard of the ICCA. Being an ICCA member carries no more weight with them than being a member of AAA.

If the certification is to be meaningful, customers must place some value on hiring certified consultants. In my opinion, the cut-rate consultants, certified or not, are still going to be out there, getting their $20/hour from customers who don't want to hire professionals. I'm sure I'll get some mail from cut-rate consultants who are irritated at the implication that they're not professionals, but here in Los Angeles skilled consultants can, and do, demand and get much higher rates. The people getting lower end fees tend to be hobbyists or people with skills or experience that merit little more in this very competitive Los Angeles market. My apologies to

those of you who are simply underpaid or work in less affluent markets.

So! What of licensing? This faces the same dilemma as certification. What would be required for the license? What value will the customer place on that license? Could there be civil or criminal penalties for doing computer work without the license? I find it hard to believe that the government, particularly with the recent Republican surge, would involve itself in creating the massive new bureaucracy required to license and regulate the computer consulting industry.

The question has been posed: Can the Internet be used to help in the qualification and certification process? In my opinion...no. The Internet is a big anonymous warehouse full of data and information...but everyone is faceless and anybody can be anybody. For finding a qualified consultant, the Internet is no better than chance and a cut or so less useful than a business man casual luncheon. The exposure to knowledgeable people is, of course, useful. You can chat and ask questions and lurk or "eavesdrop" on other professionals discussing relevant issues. It still boils down to what the consultant knows, is able to convey and able to accomplish when he (or she) rolls up their sleeves and gets to work on your project.

When all of the dust and rhetoric settles, bottom line is still establishing standards for certification and the big three questions:

1. Who sets the standards?
2. How do you make the certification valuable?

3. How do you account for all of the specialties and subspecialties within the industry?

Until there are answers to those three questions, effective certification and licensing remain impossible.

What it comes down to is that it's still up to each and every one of us to demonstrate our worth and skills to each customer and prospect and then to market them. What tools do we have available to do that? Well, here are a couple that come to mind:

1. Referrals from existing clients. Encourage clients to refer their friends and associates to you. When someone provides a particularly strong lead perhaps a token gift just to say thanks! A little appreciation goes a long way. Obviously, if you combine that with doing a great job for that new referral (which reflects positively on the person doing the referring) that client is that much more likely to be on the lookout for more new business for you. An existing client's words (especially to a friend of theirs) can carry a lot of weight towards establishing your value.

2. Establish yourself as a recognized expert by being published or doing guest speaking. Offer to speak at local service clubs, schools or other community events. Don't make a sales pitch out of it, but rather speak to inform on a subject you know well. If you are clear and intelligent, your audience will perceive your expertise and they will seek you out for your knowledge and assistance. Write articles or columns for established publications that cater to your target market.

3. Don't underrate yourself. If you charge a low rate, prospects perceive a low value. They'll acknowledge that you're $20 cheaper than the competition but wonder why. In fact, your rate can be a status symbol for a client to say that they have an "expensive" consultant on the payroll.

Don't be outrageous about it, but find out what other computer professionals in your area are charging and don't be shy to charge in the same range. If you're good, the value is there and the client will be happy to pay your rate.

There *is* a lot of competition out there. Especially in California there are a lot of former employees who've been laid off and are promoting themselves as *computer consultants* at least until they can find another job. We can't expect a reasonable, workable or effective certification or licensing program to separate the wheat from the chaff so it's up to each of us to set ourselves apart.

As always I'd love to hear from you and get your opinions on this or other computer or business issues. E-Mail me at ben.schorr@bcsbbs.com.

***Ben Schorr** is a computer consultant in Los Angeles. He is also the Host of the Ilink consultants conference. He has been associated with **WindoWatch** since issue #1 and has had his recent WindoWatch article A Computer in Every Pot reprinted in the Redwood Chips newsletter.*