



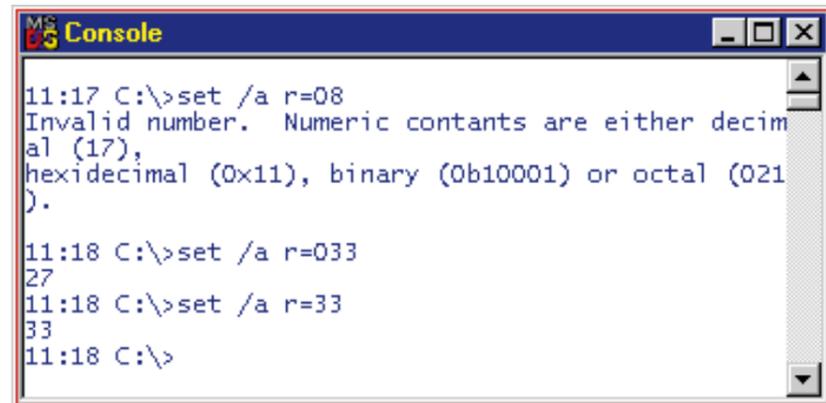
Ready, get set

Dale Strickland-Clark expresses concerns over extended console commands and satisfaction with multiple serial ports. Then he settles down with a good book.

I covered the delights of the console window and NT command prompt last issue, sticking mainly to the functions available in NT prior to 4.0. Thanks to recent work by one of the original NT developers, cranking out code in his spare time, NT 4.0 has been considerably enhanced in this area, with many commands acquiring some very handy extensions. Unfortunately, these extensions have had to be added in such a way as to not interfere with existing batch files, so the syntax, in places, is a little obscure. Nevertheless, I quickly found uses for many of the new features in my growing list of DOSKEY macros and batch files.

You can now count in batch files. Simple arithmetic involving arbitrary expressions is possible, so long as you can make do with integers. The SET command understands arithmetic operators if you follow the command name with the /A switch:

```
set /a count=%count%+1
set /a count=count+1
set /a count+=1
```



The SET command works in hex, octal and binary. The octal notation will generate a lot of fun

Set arithmetic operators new in NT 4

()	grouping
* / %	arithmetic operators (% is modulo)
+ -	arithmetic operators
<< >>	logical shift
&	bitwise and
^	bitwise exclusive or
	bitwise or
=	simple assignment
*= /= %= += -=	compound assignment
&= ^= = <<= >>=	compound assignment
,	expression separator

Table of operators in order of precedence. I can't get parentheses to work at all and have reported it to Microsoft

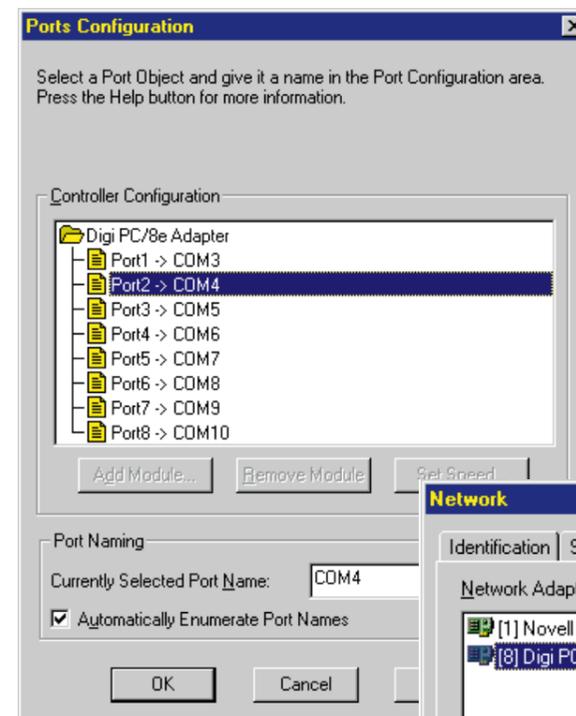
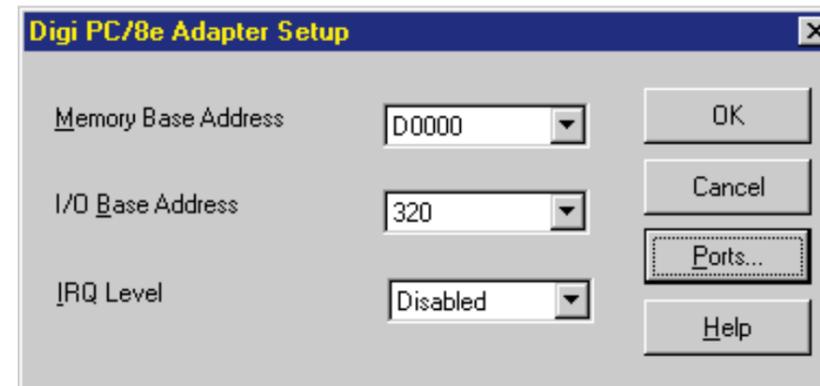
The above are all ways to increment the environment variable, "counter". The second example works because the system assumes that non-numeric strings are environment variables, substituting a value of zero if they don't exist — all of which is very useful in FOR statements. Consider the following command sequence, which should be on one line:

```
(for %i in (*.mid *.wav) do set /a count=%count%+1) & echo %count% sound files found.
```

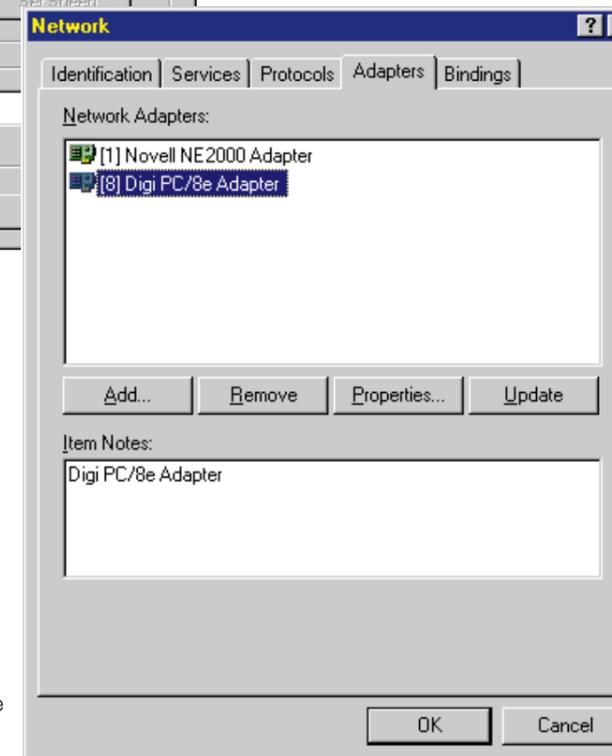
This is intended to count the number of sound files in a directory. The FOR statement executes the command following DO for each file matching the pattern(s) in the parentheses. It might look fine until you realise that all environment variable substitution is performed before any part of the line is executed. Both occurrences of %count% will be substituted for blank (perhaps) before the command is executed.

Removing the "%" from the SET command or using the format from the third example above solves part of the problem. The ECHO command, however, is still not going to work.

If the whole command is executed from within a DOSKEY macro, replacing the "&" character with \$T splits the line into two distinct commands, each sent to the command handler separately. If it's in a batch file, the only solution I can find is to split the command at the "&" into two lines.



Above There's no IRQ to worry about, but you'll need the hardware manual or a good dose of luck to match the DIP switches with the base I/O address. Left You can map any of the Digi's ports to any COM port on NT. Below The drivers for the Digi board are in the Networking section Control Panel



The SET command supports a choice of arithmetic and logical operators plus numbers specified in hex (0x12), octal (012) and binary (0b11). Yes, you read correctly, octal numbers are identified by a leading zero. That means 012 is equal to 10 and 09 is an invalid number.

This is a remarkable cock-up. Given the new ability of a batch file to work with data read from external files or piped from other commands (a new function of the FOR command that I'll look at in a future issue), giving leading zeros the ability to corrupt your data is unwelcome, to say the least. It might have been bearable if there was a simple way of stripping leading zeros from a number, but there isn't.

I have written to Microsoft on this, suggesting a hasty change to use 0Q (zero 'Q') to introduce octal numbers. I'll let you

know how it goes.

See my review of NT 4 in the September PCW for a list of all the console commands that have been

extended. For details of specific commands, enter "HELP command" or "command /?". I'm putting together an HTML document describing all the extensions in detail and ways they can be used. It'll be on the cover CD as soon as it's finished.

Serial ports

I've long itched to resolve the irritating lack of serial ports on every PC I've used. Two is insufficient — as soon as your mouse and modem are plugged in, you're left with none. I need a minimum of four ports.

Thanks to the loan of an eight-port Digi board by The Telecommunications Management Group, near Leeds, I've had the chance to configure one of my NT systems with ten ports and, I have to say, I'm hooked.

The Digi board is one of a family of products, two of which add eight or 16 ports to a PC on a standard ISA bus expansion board. Expanding the system in this way is very convenient for two reasons. One is that this board doesn't use a single precious IRQ. The other is that the drivers are supplied with NT, making installation as simple as it could be. And I'm sure it would have been simple if I'd been given the

hardware manual with the rest of the bits in the box. Without it, I fumbled around guessing at what the settings might be, but admitted defeat until I tracked down the chap with the manual.

Once I'd jotted down the DIP switch settings over the phone and correctly configured the base I/O address, we were off. I was now able to connect an old battery-powered pocket modem to the new COM3 for use as a dialler. I haven't been able to use the modem on COM2 for this purpose because it isn't connected to the same phone line as my telephone.

As a Psion Series 3a user, all my contact phone numbers are out of convenient reach of my PC, so a quick and dirty dialler was needed. A DOSKEY macro sprung to my aid:

```
DOSKEY dial=(echo atdt$* & sleep
5)>com3
```

I love the simplicity of this. The sleep command is necessary to prevent the output stream to COM3 being closed as soon as the echo command is finished. It needs to be long enough for the modem to complete the dialling of the longest number you're likely to enter. Sleep is one of the little utility programs that comes with the NT resource kit reviewed last month. It is available on the internet as part of a monster 7Mb download from ftp://ftp.microsoft.com/bussys/wint/winntpublic/reskit/nt35/i386/i36.exe or, extracted for your convenience on this month's cover CD.

While the simplicity appeals to me, the limited function will soon irritate. I need to be able to interrogate my contact database on the Psion and extract entries based on a string search. The second new serial port offers tantalising possibilities to resolve this, because now plugged in here is the serial interface to the Psion Series 3a. The hassle of disconnecting and reconnecting cables meant that it wasn't often connected to a PC — just for the occasional backup. Now, however, I'm making full use of the very serviceable PsiWin software, which runs perfectly happily on NT, and have



Use an extra serial port to connect your Psion and make use of its PsiWin software

consequently rediscovered the flexibility of the Psion. In addition to the Data and Agenda applications upon which I've relied for years, I now find myself rather taken by Andy Clarkson's Plan, a project planning package that mimics and interoperates with Microsoft Project to some extent.

The files from the Series 3a's Data application have their own peculiar format which PsiWin will translate into text or .dbf for you, but unless you have been strict with your use of labels, identifying what's what in an entry isn't easy. The next step

Books

Webmaster Expert Solutions

Author Mike Morgan & Jeff Wandling

Publisher Que

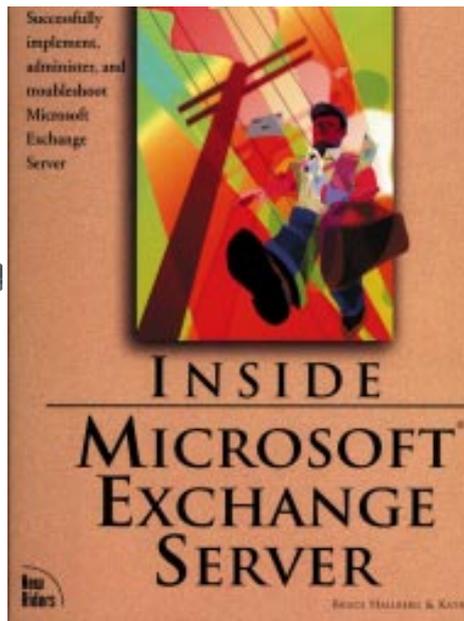
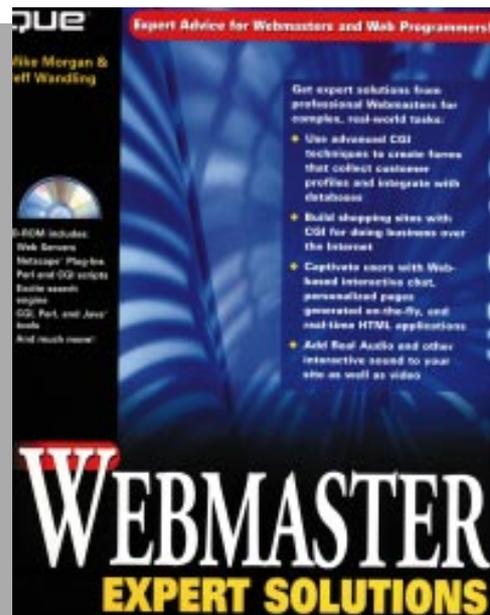
Price £56.49 (incl VAT)

Pages 1140

(Includes CD-ROM)

This is, without doubt, the find of the month. Putting it simply, Morgan and Wandling have produced the definitive reference work for anyone building dynamic websites. Without getting bogged down in the specifics of any browser or any server, this book details all aspects of building a website, from improving performance, building shopping malls and handling security, to creating virtual reality worlds.

There are dozens of code examples in Perl and many complete projects, such as a web-based chat server. But don't go taking any style guidelines from these. If I had to find something to pick holes in, it would be that the authors had based their Perl style on Visual Basic.



Inside Microsoft Exchange Server

Author Bruce Hallberg & Kathy Ivens

Publisher New Riders

Price £36.99 (plus VAT)

Pages 480

Exchange Server is one of the most complex and configurable pieces of software ever from Microsoft. This is really a book for people who don't get on with the standard manuals (or choose not to buy them) because there doesn't appear to be anything here that you wouldn't find written up by Microsoft. It's a fairly light read with a chatty style, but glosses over some complex issues. For example, I could find no mention of the difficulties you're likely to experience setting up dynamic RAS connection for the Internet Message Transfer Agent.

may need to be a Perl routine to unscramble the Data files and save them in a format suitable for a more helpful dialler, but I'm not ruling out the possibility of having to reorganise all of my Psion data files. More on this in the future.

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