

No. 97. Win 98's Built-in System Information

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You may not know that Windows 98 has a wealth of information, plus quite good diagnostic tools, built right into the operating system. Lets explore this a bit this month so that you become familiar with these capabilities. It is not only interesting, but it can also help you to diagnose problems of all kinds. This can be a real timesaver when you install a new device and it will not work, or when a previously working device suddenly stops working.

Click **Start**, then **Programs**, then **Accessories**, then **System Tools**, and then **System Information**. Yes, Microsoft buried the tools using a long, tortuous pathway, perhaps purposefully so that most folks would never find them! If you think that statement is unfair, recall that their corporate stance has often been that there are some things the end user should not know. However, I digress – and should save the “soapbox” for another time...

When you get to the System Information screen, you will be presented with a listing of a summary of some main information. You will see described how you (or someone else) installed Win98, the version of Internet Explorer on your machine and how long Windows has been up and running. Also shown are what kind of CPU you have, how much RAM you have, what percentage of system resources are free, and how much available space there is on your hard drive(s). Not bad! It represents a fairly comprehensive description of the essential elements of your machine.

There is much, much more. Note the panel on the left. There you find Hardware Resources, Components, Software Environment and Internet Explorer, all under System Information. Each one of these categories will open to reveal sub-entries if you click the plus sign. Furthermore, in many cases the sub-entries themselves will open with a click of yet another plus sign next to them, to expose increasingly nested entries. In this way, you can explore nearly everything Windows knows about itself and your machine. Be careful to stifle the urge to print the whole thing – it can easily produce a document of well over 100 printed pages!

Click the plus sign next to **Hardware Resources**, then click **Conflicts/Sharing**. If you have a late model machine, you will likely find that some of the listed IRQs (Interrupt Request lines) are shared between something called PCI Steering and the device. For example, my IRQ 9 is shared by PCI Steering and my PCI Audio device. My IRQ 11 is shared by PCI Steering and my modem. Sharing is OK. Sharing means the two devices are cooperating to use an IRQ line – and both likely know about the presence of the other. Alternatively, at least, one of the two knows about the other, and is careful not to conflict. This is much like two friends doing homework and sharing a pencil eraser. “Can I use the eraser now?” Cooperation is good – the eraser is really earning its keep because it is being fully utilized – more so than if only one person was using it.

On the other hand, if you have entries in Conflicts/Sharing highlighted in color (bright blue on my machine) and sporting a warning message, that is a conflict. Two devices are using the same resource but not cooperatively, and one may not know about the presence of the other. That is not good, because both may try to use the same resource (IRQ line) at the same time, which can cause one or both not to work properly. Some of you may remember the old days (!) when you inadvertently put your mouse and modem on the same IRQ. The only predictable outcome in that situation was that you could be certain that both would not work at the same time!

Other categories of interest are:

- DMA -Direct Memory Access – movement of data between a device and memory, without direct control of the central processing unit.
- Forced Hardware - Plug-n-Play is disabled for that device and the resources have been manually entered.
- I/O - memory address ranges for all input/output devices.
- IRQs - there are 16 IRQs, but computer engineers don't count like normal people, so they are numbered zero through 15. It is amusing to watch a computer engineer count their fingers! "Zero, one, two ... eight and finally, nine. Yep, I have all ten.

We may continue our exploration of this interesting resource in the future. Happy computing!