

# Running Interpex Software Under Windows NT®.

## Overview

In this section we will first discuss running Interpex Software in the Windows NT environment. We will tell you how to setup the 16 bit DOS subsystem to accomodate all compatible Interpex software.

The last part of this section will involve copy protection. This section is a must read for NT users of Interpex software. If you do not follow the steps outlined in this discussion, *your software will not run!*

## Configuring the 16 bit DOS Subsystem

When installing or running Interpex software, it is a good idea to remember that the 16 bit DOS subsystem in Windows NT by default only allocates an initial 1 megabyte of memory to the application in question. However, when trying to install a protected mode program like Temix version 4, Resix IP2DI, and Resix 2DI, the installation utility checks the system to see if it has at least 4 Mb of available memory. If not, the installation utility will shut down without transferring any of the files to the hard drive. You can see how this would be a problem. Here we will show you how to “trick” NT into running a DOS protected mode Command Prompt which will allocate as much memory as is needed to any compatible Interpex application.

### Step 1

Start by creating a shortcut in the desktop area of the screen. Right click anywhere in the desktop region to display the drop down menu. Select **New** and then in the next list select the **Shortcut** option.

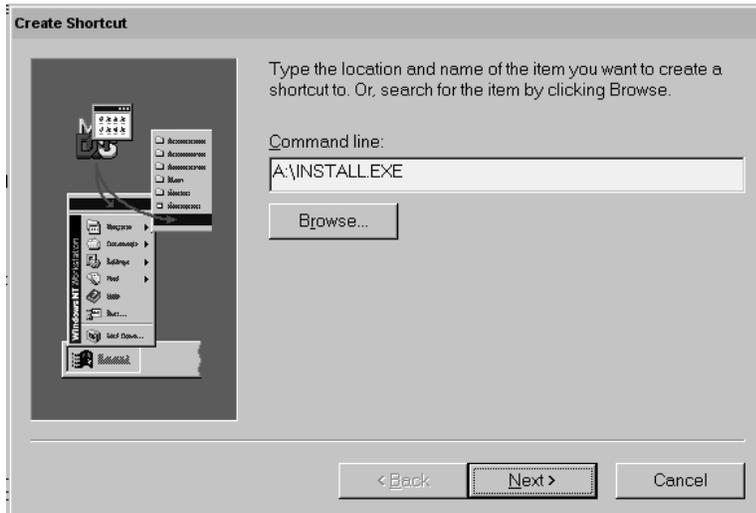


Figure 1: Creating a Shortcut

### Step 2

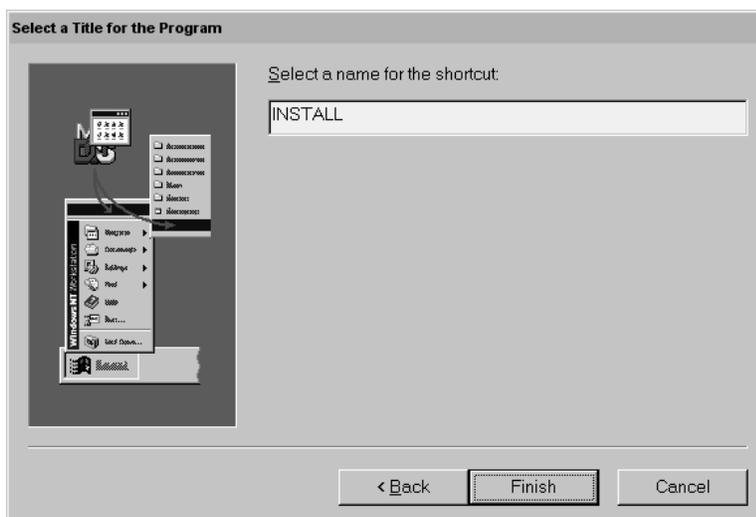
One may only create a shortcut to an existing file. Since we want a generic protected mode command prompt, it would be natural to link the shortcut to C:\WINNT\SYSTEM32\CMD.EXE. But if we do this, we find that the **Memory** tab is unavailable in the properties dialog, and we are right back to our old 1 Mb Command Prompt, with all its limitations.

To get around this here is what we do: when in the Create Shortcut dialog, enter the path and file name to any 16 bit MS-DOS based executable. We chose **A:\INSTALL.EXE**. This will create a shortcut to the installation program on the distribution diskette.



**Figure 2: The Create Shortcut Dialog Box: Naming the Executable**

After selecting the **Next** option you will have to specify a title for the shortcut. We chose the name "INSTALL."



**Figure 3: Selecting A Title For The Shortcut**

After clicking on the **Finish** button a shortcut icon similar to the one shown below will appear on the desktop.

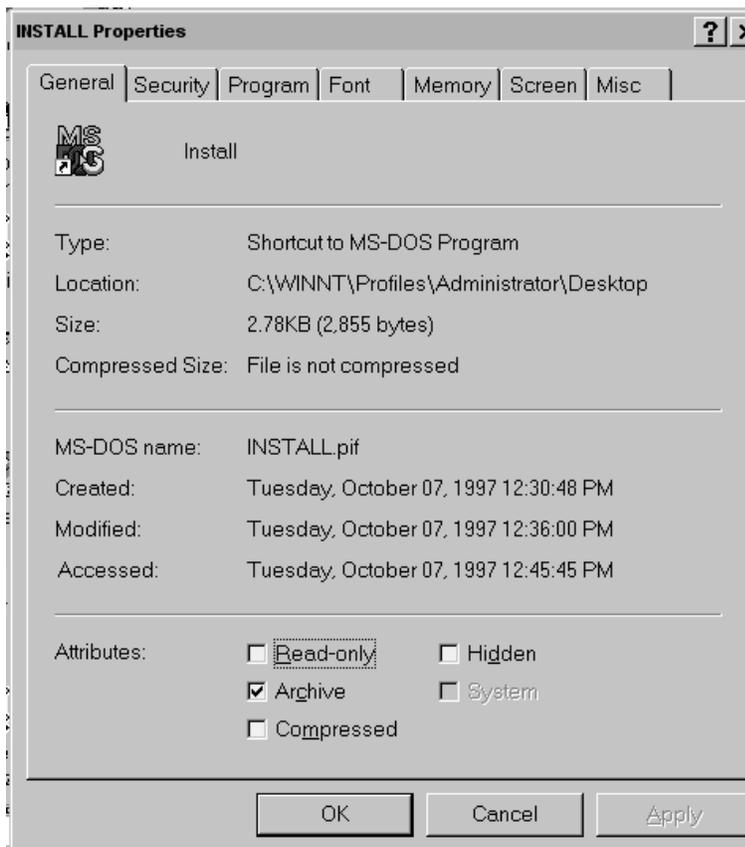
### Step 3

We must now edit the properties so that rather than pointing at the Install utility, the shortcut is pointing at the NT DOS Command executable (Cmd.exe). Right click on the Install icon and select the **Properties** option from the list.



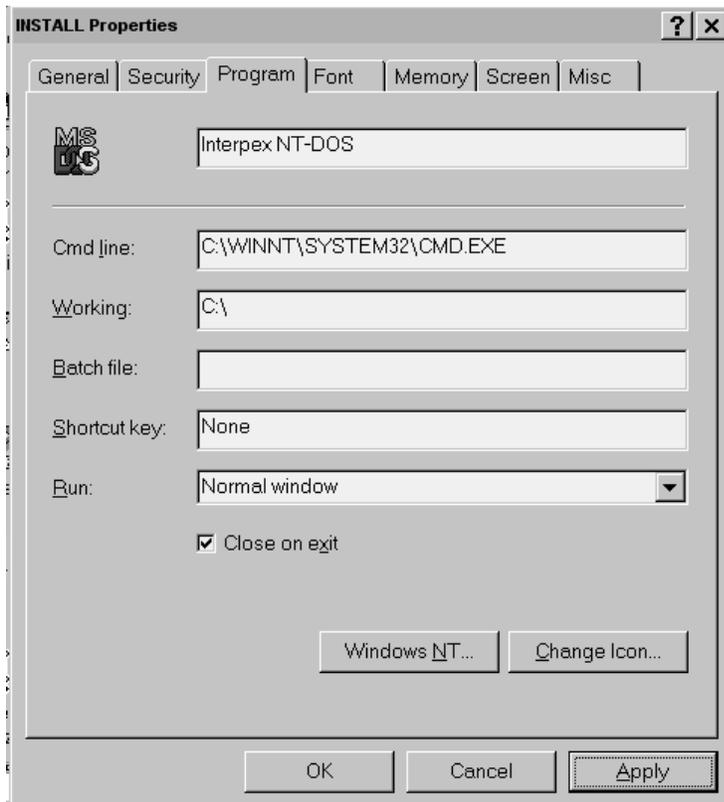
**Figure 4: Install Icon Drop Down Menu**

The install Properties Dialog Box Appears.



**Figure 5: Properties Dialog For The New Shortcut**

Select the **Program** tab, and replace the contents of the MS-DOS Application Name field with a name of your choosing, we called it “**Interpex NT-DOS.**” Change the **Cmd line** field to C:\WINNT\SYSTEM32\CMD.EXE. This points the shortcut to the Command Prompt application.



**Figure 6: Program Tab: Specifying File Name And Path**

We must next establish the size of the DOS session.

#### *Step 4*

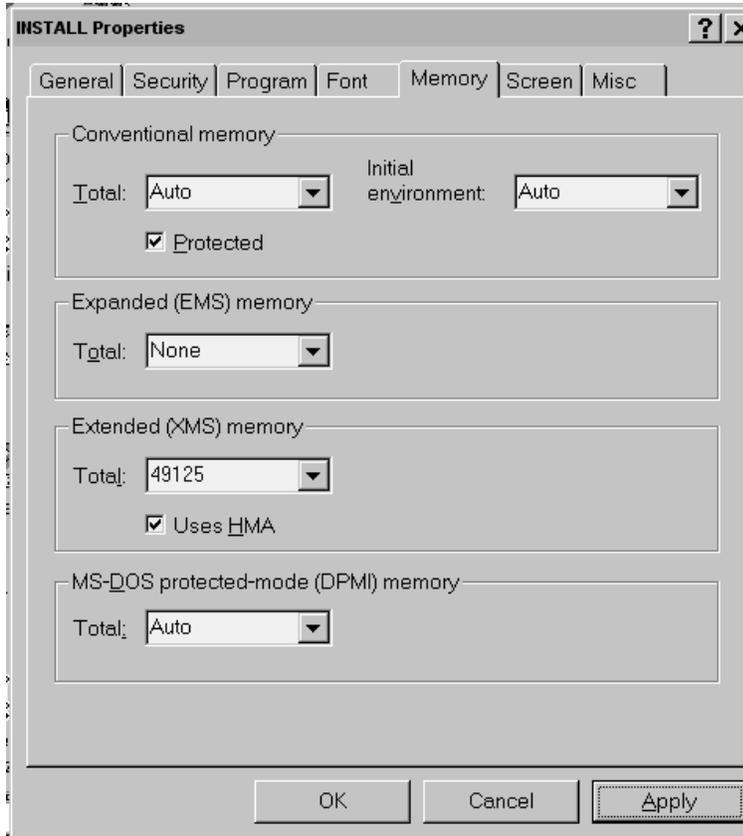
Select the **Memory** tab at the top of the Properties dialog. The memory size parameters in these fields are in kilobytes. Let NT decide how much “conventional” memory the application needs. Set **Total Conventional memory** to **Auto**.

Since **Initial environment** is used only when the application is running under Windows 95, set it to **Auto** as well. To avoid general protection faults or other memory errors that could cause your application to be shut down by NT, always check **Protected**.

**Expanded memory** emulation is not required with any Interpex software. So set it to “None.”

The **Extended (XMS) memory** field is where your application will receive all of its allocated memory. The list only goes up to 16384 in NT version 4 but you may specify any amount up to but not including 64 megabytes (65535 kilobytes).

**MS-DOS protected mode (DPMI) memory** - Since this feature is used only when the application is being run in Windows 95, set it to **Auto**.



**Figure 7: Command Prompt Shortcut Memory Configuration**

From this point on the NT setup is identical to Windows 95 step 7 and 8.

## Configuring NT to Use Hardware Copy Protection

### *Introduction*

Interpex software is usually protected to prevent unauthorized copying, distribution, or other forms of software piracy. In a less than perfect world, it is a tolerable solution to a problem which pervades the industry. Using copy protection safeguards the integrity of the licensee, protecting them from the consequences of unlawful reproduction of our product, at the same time helping to keep retail prices down. All in all these are acceptable tradeoffs with any apparent inconvenience inherent in employing such means.

### *Types of Copy Protection*

Copy protection comes in two varieties: *software* and *hardware*. Software protection uses a sort of encoded “finger print” on the distribution diskette. This impression may be kept on the same diskette, or

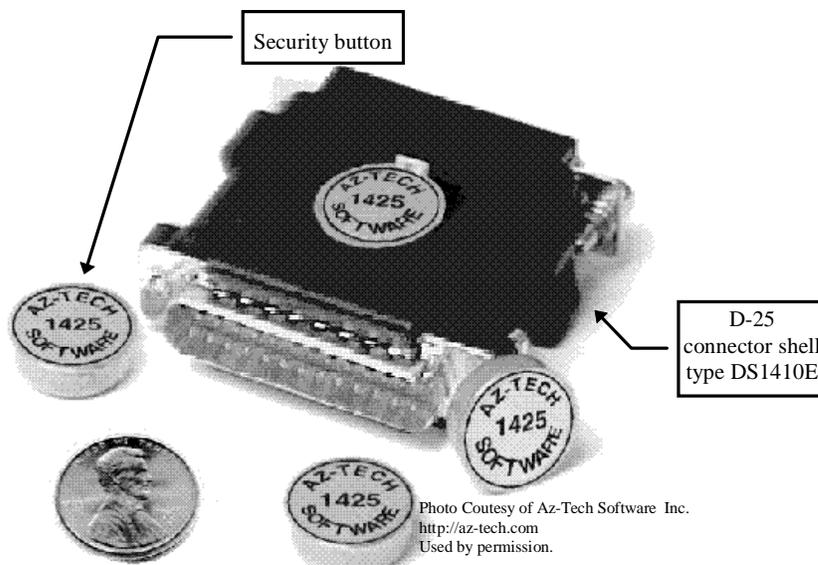
transferred to the fixed drive of the computer system which is using the Interpex software. In either case the protected application will search for the key until it finds it.

If the key has been installed on the fixed drive along with the application, it must always be recalled to the distribution diskette in order to be used with the same Interpex application, with the matching serial number, on another system.

On the other hand, hardware protection uses a hardware key or dongle to achieve the same ends. A *dongle* is a security or copy protection device for commercial microcomputer programs consisting of a serialized EPROM (Electrically Programmable Read-Only Memory), and assorted drivers in a D-25 connector shell, which must be connected to an I/O port of the computer while the program is run (in our case it is the parallel port). Programs that use a dongle query the port at startup, and terminate if it does not respond with the dongle's programmed validation code. Thus, users may make as many copies of the program as they want but must pay for each dongle. Almost all dongles on the market today (since 1993) will pass data through the port and monitor for magic codes (and combinations of status lines) giving minimal if any interference with devices further down the line. This innovation was necessary to allow daisy-chained dongles for multiple pieces of software, as well as connected printers and other parallel I/O devices.

(This definition was adapted from *The Jargon File* dictionary found on the Internet at <http://beast.cc.emory.edu/Jargon30/JARGON.HTML>).

Below is a picture of the hardware key and security button offered by Az-Tech Software Inc.. The security button is far more sophisticated than a mere EPROM, and serves as the heart and soul of the hardware protection mechanism. In fact, if the D-25 connector shell is damaged, the security button may be removed and inserted into any model DS1410E shell. The older, DS1410 shells are not compatible with NT.



**Figure 8: The Hardware Key And Security Button Offered By Az-Tech Software Inc.**

As mentioned the hardware key is attached to the parallel port of the computer.

### ***Which Protection Scheme May Be Used?***

The answer to this question depends on the version of NT that you are currently using. If you have NT version 4 (build 1381) with service Pack 2 or higher you will be able to use our hardware protected software. If you are using a previous version of NT, then none of the protection schemes employed by Interpex will work for you. As of this writing (October 1997), software protection is not an option for NT users. You must use the hardware protection key.

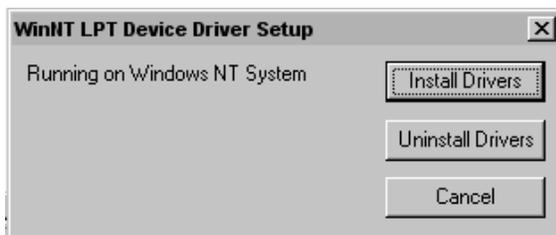
### ***Installing The Hardware Protection Drivers for NT.***

Due to NT's flexible multi-processor platform capabilities, the system requires a special driver that will allow the protected software the privilege of querying the parallel port for the presence of the key. When you order the software ensure you tell the Interpex representative that you are using Windows NT as your operating system. A diskette labeled "WinNT LPT Device Driver Setup" will be included with your software and key.

If you have Internet access, enter the following address into your web browser's address field:

**ftp://ftp.interpex.com/interpex**

Search for the file NTSETUP.ZIP, and click on it to download the Zip file. You must use PkUnzip version 2.04g or higher to decompress this file. Place the contents of the Zip file in an appropriate directory. When all of the files in the NTSETUP archive have been extracted, execute the **Ntsetup.exe** application. It will pop-up the **WinNT LPT Device Driver Setup Menu**. Select "Install Drivers."



**Figure 9: Win NT LPT Device Driver Setup Menu**

After the installation is complete, you will have to reboot the operating system to load the driver into active memory.

### **Conclusion**

If you have followed the instructions in this supplement carefully, you will be able to run most Interpex software in an NT environment. You will be able to create a DOS session that has the muscle it takes to process your client's data, and you will have the use of software and hardware that will make copy protection problems a thing of the past.

The only considerations we have not addressed are the problem of hardware compatibility. To see if your video hardware is compatible with any Interpex package, simply access the ftp site mentioned above, download the respective demonstration program, and run it. If you can view the graphics in the View categories, you can run the software in NT. The only software that will absolutely not run in NT is Gradix version 1.xx and Seistrix version 3.xx.

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