# Xycom Automation Workstation Recovery Media Software Installation Instructions for Microsoft® Windows® NT Workstation 4.0

| *Revision* | *Description* | *Date* |
|---|---|---|
| A | Manual Released | 10/02 |
| B | Boot floppy disk creation steps added | 4/04 |

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## Overview:

The *XA_WIN_NT_WKST* CD, shipped in the documentation kit that came with your unit, will be used for reinstalling Microsoft® Windows® NT on your Xycom Industrial PC. This will only be necessary in a few cases, including:

- the hard drive on your unit has failed
- you are replacing your hard drive as part of your preventive maintenance program

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### Note

Microsoft® Windows® NT can be reinstalled using the bootable CD-ROM on your Xycom unit, or you can create a set of backup boot floppy disks and use them for reinstalling Windows® NT.

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This procedure will reinstall Windows® NT on your Xycom computer. Drive C will be re-formatted as part of this process, and any data files on that drive will be destroyed. You are urged to make copies of any data files on drive C.

The *XA_WIN_NT_WKST* CD is bootable, which will simplify the reinstallation process on computers with bootable CD-ROM drives. Most Xycom computers ordered with CD-ROM drives support this option. If your Xycom Industrial PC was ordered with a CD-ROM drive, determine whether the BIOS supports this feature. If it does, be sure that the boot order shown in the BIOS will cause the system to check the CD-ROM drive for a bootable image before checking the hard drive for a bootable image (e.g., CD-ROM drive, then floppy drive, then hard drive). Once the BIOS is set, follow the instructions under *"How to reinstall Windows® NT with the bootable CD-ROM"*.

If your system does NOT have a bootable CD-ROM, or if you are not comfortable making modifications to your BIOS settings, you will use the *XA_WIN_NT_WKST* CD to make a backup boot floppy disk for reinstalling Windows® NT. Any desktop, laptop, or industrial PC with a floppy drive, and a CD-ROM drive can be used to create this backup diskette. To create the backup boot floppy disk, follow the instructions under "*How to create a backup boot floppy disk*". Then follow the instructions in "*How to reinstall Windows® NT with the backup boot floppy disk*" to complete the process.

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### NOTE

When reinstalling your operating system, you will be prompted to install a Microsoft® Windows® NT CD or Floppy disk. When you get this prompt, install the *Xycom Automation Recovery Media CD* labeled *XA_WIN_NT_WKST CD* or the set of backup floppy disks labeled *Windows NT Workstation Setup Disk 1, Windows NT Workstation Setup Disk 2,* and *Windows NT Workstation Setup Disk 3* instead. The Microsoft® Licensing Agreement requires that their name shall not be used on the recovery media label or packaging artwork.

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## How to reinstall Windows® NT with the bootable CD-ROM:

You will need:

- your Xycom unit with bootable CD-ROM drive, and
- the *XA_WIN_NT_WKST* CD shipped with your unit
- *Microsoft® Windows® NT Product Identification number* (PID) for your system. The PID for your system can be found on the Microsoft® sticker attached to the rear chassis of your Xycom Automation Industrial Computer. You will see the PID number in the following format: "XXXXX-OEM-XXXXXXX-XXXXX" where X is an alphanumeric character.

1. Verify that your Xycom unit's BIOS is configured to boot to the CD-ROM drive. If your system's BIOS does not support booting to the CD-ROM drive, follow the instructions in "*How to create a backup set of boot floppy disks*" and "*How to reinstall Windows® NT with a backup set of boot floppy disks*".

2. Insert the *Microsoft® Windows® NT* installation CD-ROM, *XA_WIN_NT_WKST*, into the CD-ROM drive and cycle the power on the system.

3. The system will boot to **Windows NT Setup**.

4. You will be presented with several options. Press **Enter** to proceed with the installation.

5. You are now presented with the option to auto-detect mass storage devices. Press **Enter** to continue (recommended) or press **S** to manually select devices.

6. Mass storage devices that were found are now listed at the top of the screen. Now you can manually select additional SCSI adapters or special disk controllers by pressing **S**. Accept the listed devices by pressing **Enter.** To exit the screen, select **F3**.

7. If the hard drive has more than 1024 cylinders, you will be shown instructions that relate to hard drive size. Press **Enter**.

**8.** You are now presented with the *Microsoft® Windows® NT Workstation Licensing Agreement*. You must read the agreement, pressing the **Page Down** key to scroll through the document. After you've read the entire agreement, press the **F8** function key to agree to the terms of the License Agreement and proceed with installation.

**9.** Setup will display the computer hardware and software components that have been found. You may use the UP or DOWN arrow keys to select one of the elements on the list. After selection, press ENTER to display a list of alternate choices to choose from.
To accept the list, press ENTER.

**10.** You are now presented with hard drive partition information.

    a) If you are reinstalling Microsoft® Windows® NT Workstation on an existing drive, then the old (original) partitions will be listed here. At minimum, the partition that includes the operating system (NT) should be deleted at this time. You may also delete any other partitions that may be listed.

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## Warning

Deleting the partition(s) will destroy existing data on that partition.

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## Note

You may partition and format any additional partitions after the operating system installation is completed if you prefer not to do so at this point.

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    b) You will see a warning that any existing data will be lost. Press **Enter** to continue.

    c) The warning will appear once again; press **L** to continue.

    d) Now you will see the partition setup screen again. Repeat steps 12a, 12b, and 12c, above, to delete additional partitions if desired.

**11.** Create a new hard drive partition. Press **C**.

**12.** Choose a partition size (in MB). The maximum FAT (MSDOS compatible) partition size is 2000 MB. It is recommended that the primary (operating system) partition be limited to 4096 MB for NTFS file system also.

    a) The default partition size is the entire drive free space. Enter the correct number in MB and press **Enter**.

    b) At this point you will see the original partition setup screen (step 12). If additional hard drive space is available you may now highlight that space by pressing the up or down arrow keys and press **C** to create an additional partition. Repeat step a) above.

**13.** After you have finished creating partitions, highlight the partition to be loaded with the operating system (by pressing the up or down arrow keys) and press **Enter**.

**14.** Setup must now format the new partition. Move the highlight to the desired file system (FAT or NTFS) and press **Enter**. That hard disk partition is now formatted by setup.

**15.** Now you are prompted for a directory (folder) location in which to install Microsoft Windows NT Workstation 4.0. The default directory name is *\WINNT*. Press **Enter** to select the default.

**16.** Press **Enter** to allow setup to test your hard drive. You will then be prompted to install the *Windows NT Workstation 4.0 CD-ROM Disc*. Install the *XA_WIN_NT_WKST CD Disk*, wait for the CD-ROM drive LED to stop flashing and select **OK**. Setup will now begin to copy operating system files from the CD to your hard drive directory.

**17.** Now you will be prompted to remove any floppy or CD disk. Remove them and press **Enter** to restart your computer.

**18.** The system will now restart twice automatically.

**19.** After the second boot (restart), you will be prompted to insert the compact disk labeled *Microsoft® Windows® NT CD* into your CD-ROM drive. Insert the *XA_WIN_NT_WKST CD Disk* **into** the CD-ROM drive, wait for the CD-ROM drive LED to stop flashing, and select **OK**.

If a message about copying files from [CD-ROM DRIVE LETTER]\:i386 appears, click OK. In most cases, this message will not appear.

**20.** You will now be working with the Windows NT Setup Wizard. Select **Next** to allow setup to gather information about your computer.

**21.** Under Setup Options, Typical setup is recommended. Select **Next**.

**22.** Enter your name and organization, then select **Next**.

**23.** Enter your Product ID (PID). This number is printed on your *Microsoft Certificate of Authenticity (COA)* sticker, which was shipped with the computer. Select **Next**.

**24.** Enter a name for your computer (15 characters or less). This name is very important if your computer is attached to a network such as Ethernet. Ask your network administrator if you are not sure. Select **Next**.

**25.** You will be asked for your **Administrator Account Password.** This password is optional. Select **NEXT** (enter no password) to bypass this option. Otherwise, enter an administrator password of 14 characters or less.

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### Note

It is critical that you do not forget that password.

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**26.** Select **Next** to continue.

**27.** Select **Create an emergency repair disk**, then select **Next**.

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### Note

Choosing to create an emergency repair disk is at the user's discretion. You can continue with the Setup Wizard if you decide not to create an emergency repair disk.

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**28.** Select **Install most common components**, then select **Next**.

**29.** You are now given the option to proceed with network installation, *however, please read the following warning before continuing with this step:*

> **Warning:** Xycom Automation recommends that you do not proceed with the network installation until after the setup is completed. Selection of the wrong Network Interface Card (NIC) driver during the Windows NT installation will cause the system to crash and installation will have to be started over. The NIC diver can be installed later by opening Start Menu/Control Panel and selecting Add/Remove Hardware. Please note that if your network interface board/component was shipped with your Xycom system, the correct driver can be found on either your Xycom Documentation CD or on the Xycom web site at www.Xycom.com.
>
> If you require network installation, you must understand the requirements of your network. If you do not understand those requirements, have your network administrator perform this function at a later time.

> To bypass network installation at this time, select the top check box (Do Not Connect) and then select **Next**.

**30.** You will now be presented with the **Date and Time dialog box**. Set as necessary and select **OK**.

**31.** The default VGA video driver is now loaded. Do not try to install the appropriate video driver at this point in setup; that must be done later. Select **OK**.

**32.** After the system automatically copies files, a request for the insertion of a blank floppy disk into the floppy drive will appear. Insert the blank disk and select **Next**. The emergency repair disk mentioned in step 27 (above) is now created. When completed, remove the floppy disk and label it *Windows NT Workstation 4.0 Repair Disk for Xycom Automation Model [Your Model Number]*. Remove the CD-ROM disk and select **Restart Computer**. The computer will now restart.

**33.** Allow the computer to boot and press **Ctrl +Alt +Delete** to log on.

If you entered a password in step 25, then you must enter it now and select **OK**. Otherwise, select **OK**.

The initial installation is now complete. You will be presented with a Welcome To Windows NT dialog box. Select **Close** in order to complete the installation. Go to the section *"How to install the video driver"* now to load the drivers.

## How to create a backup set of boot floppy disks:

You will need:

- a computer with a floppy drive and a CD-ROM drive (bootable drive optional) and is running Windows® NT,
- the *XA_WIN_NT_WKST* CD, shipped with your unit,
- 3 blank high-density diskettes labeled:
  "Windows NT Workstation Setup Disk 1"
  "Windows NT Workstation Setup Disk 2"
  "Windows NT Workstation Setup Disk 3"
- *Microsoft® Windows® NT Product Identification number* (PID) for your system. The PID for your system can be found in the bag of media shipped with your Xycom Automation Industrial Computer. You will see the PID number in the following format:
  "XXXXX-OEM-XXXXXXX-XXXXX" where X is an alphanumeric character.

You can use any computer create the set of backup floppy disks, even your Xycom unit. After selecting the computer you want to use, follow the instructions below.

1. Insert the XA_WINT_NT_WKST compact disk into a CD-ROM drive.

2. If the computer you are using is running Windows NT, from the Run command type:
   D:\I386\\*winnt32/ox*

3. You will be prompted:

   Please insert one of the diskettes into drive A. This diskette will become "Windows NT Workstation Setup Disk #3.

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### Note

Please note that the diskettes are created backwards. Windows NT Workstation Setup Disk #3 is created first; Windows NT Workstation Setup Disk #2 next; and Windows NT Workstation Setup Disk (i.e. #1) is created last.

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4. Follow the instructions as they appear on the screen until all three diskettes are created.

5. Type **Exit** at the prompt when you are finished.

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### Note

If the computer you are using is running MS-DOS® or Windows® version 3.1, Windows® for Workgroups, or Windows® 95, type winnt /ox at the command prompt, press **Enter**, and follow the instructions. The winnt /ox and winnt32 /ox commands that you can use to create Setup boot disks with Microsoft® Windows® NT 4.0 and earlier versions do not work with Windows® 2000. In Windows® 2000, the winnt32 /ox command starts Help, giving you more information about Winnt32.exe.

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## How to reinstall Windows® NT with the backup set of boot floppy disks:

1. Verify that your Xycom unit's BIOS is configured to boot first to the floppy drive. This is almost always the case. If it is not, modify the configuration to support booting to the floppy drive.

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### Note

If you are not comfortable making modifications to the BIOS settings, it is safe to assume that the settings are correct. If you perform step 2 and the installation messages do not appear, call Xycom Tech Support at 734.429.4971 for assistance.

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2. Insert *Windows NT Workstation Setup Disk* (#1), which you just created, into the floppy drive on your Xycom unit and power on the unit.

3. Power up the system. The system will boot to "Windows NT Setup".

4. You will then be prompted to insert *Windows NT Workstation Setup Disk #2* into drive [floppy drive letter]. Insert the disk and press **ENTER**.

5. You will be presented with several options. Press **ENTER** to proceed with installation.

6. You are now presented with the option to auto-detect mass storage devices (floppy/hard drive/CD-ROM, etc). Press **Enter** to continue (recommended) or press **S** to manually select devices.

7. You will then be prompted to insert *Windows NT Workstation Setup Disk #3* into drive [floppy drive letter]. Insert the disk and press **ENTER**.

8. If the hard drive has more than 1024 cylinders, you will be shown instructions that relate to hard drive size. Press **Enter**.

9. You are now prompted to insert the compact disk labeled *Microsoft Windows NT Workstation CD-ROM* into your CD-ROM drive. Insert the *XA_WIN_NT_WKST CD Disk* in the CD-ROM drive. Wait for the CD-ROM drive LED to stop flashing. Press **Enter**.

10. You are now presented with the *Microsoft® Windows® NT Workstation Licensing Agreement*. You must read the agreement, pressing the **Page Down** key to scroll through the document. After you've read the entire agreement, press the **F8** function key to agree to the terms of the License Agreement and proceed with installation.

11. Setup will display the computer hardware and software components that have been found. You may use the UP or DOWN arrow keys to select one of the elements on the list. After selection, press ENTER to display a list of alternate choices to choose from.
To accept the list, press ENTER.

12. You are now presented with hard drive partition information.
    a) If you are reinstalling Microsoft® Windows® NT Workstation on an existing drive, then the old (original) partitions will be listed here. At minimum, the partition that includes the operating system (NT) should be deleted at this time. You may also delete any other partitions that may be listed.

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### Warning

Deleting the partition(s) will destroy existing data on that partition.

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### Note

You may partition and format any additional partitions after the operating system installation is completed if you prefer not to do so at this point.

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b) You will see a warning that any existing data will be lost. Press **Enter** to continue.

c) The warning will appear once again; press **L** to continue.

d) Now you will see the partition setup screen again. Repeat steps 12a, 12b, and 12c, above, to delete additional partitions if desired.

**13.** Create a new hard drive partition. Press **C**.

**14.** Choose a partition size (in MB). The maximum FAT (MSDOS compatible) partition size is 2000 MB. It is recommended that the primary (operating system) partition be limited to 4096 MB for NTFS file system also.

a) The default partition size is the entire drive free space. Enter the correct number in MB and press **Enter**.

b) At this point you will see the original partition setup screen (step 12). If additional hard drive space is available you may now highlight that space by pressing the up or down arrow keys and press **C** to create an additional partition. Repeat step a) above.

**15.** After you have finished creating partitions, highlight the partition to be loaded with the operating system (by pressing the up or down arrow keys) and press **Enter**.

**16.** Setup must now format the new partition. Move the highlight to the desired file system (FAT or NTFS) and press **Enter**. That hard disk partition is now formatted by setup.

**17.** Now you are prompted for a directory (folder) location in which to install Microsoft Windows NT Workstation 4.0. The default directory name is *\WINNT*. Press **Enter** to select the default.

**18.** Press **Enter** to allow setup to test your hard drive. You will then be prompted to install the *Windows NT Workstation 4.0 CD-ROM Disc*. Install the *XA_WIN_NT_WKST CD Disk*, wait for the CD-ROM drive LED to stop flashing and select **OK**. Setup will now begin to copy operating system files from the CD to your hard drive directory.

**19.** Now you will be prompted to remove any floppy or CD disk. Remove them and press **Enter** to restart your computer.

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### Note

If your computer is restarted without removing those disks,
then the installation will fail.

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**20.** The system will now restart twice automatically.

**21.** After the second boot (restart), you will be prompted to insert the compact disk labeled *Microsoft® Windows® NT CD* into your CD-ROM drive. Insert the *XA_WIN_NT_WKST CD Disk* **into** the CD-ROM drive, wait for the CD-ROM drive LED to stop flashing, and select **OK**.

**22.** You will now be working with the Windows NT Setup Wizard. Select **Next** to allow setup to gather information about your computer.

**23.** Under Setup Options, Typical setup is recommended. Select **Next**.

**24.** Enter your name and organization, then select **Next**.

**25.** Enter your Product ID (PID). This number is printed on your *Microsoft Certificate of Authenticity (COA)* sticker, which is included in the packet containing the *XA_WIN_NT_WKST* CD-ROM. Select **Next**.

**26.** Enter a name for your computer (15 characters or less). This name is very important if your computer is attached to a network such as Ethernet. Ask your network administrator if you are not sure. Select **Next**.

**27.** You will be asked for your **Administrator Account Password.** This password is optional. Select **NEXT** (enter no password) to bypass this option. Otherwise, enter an administrator password of 14 characters or less.

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### Note

It is critical that you do not forget that password.

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**28.** Select **Next** to continue.

**29.** Select **Create an emergency repair disk**, then select **Next**.

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### Note

Choosing to create an emergency repair disk is at the user's discretion. You can continue with the Setup Wizard if you decide not to create an emergency repair disk.

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**30.** Select **Install most common components**, then select **Next**.

**31.** You are now given the option to proceed with network installation, *however, please read the following warning before continuing with this step:*

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**Warning:** Xycom Automation recommends that you do not proceed with the network installation until after the setup is completed. Selection of the wrong Network Interface Card (NIC) driver during the Windows NT installation will cause the system to crash and installation will have to be started over. The NIC diver can be installed later by opening Start Menu/Control Panel and selecting Add/Remove Hardware. Please note that if your network interface board/component was shipped with your Xycom system, the correct driver can be found on either your Xycom Documentation CD or on the Xycom web site at www.Xycom.com.

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> If you require network installation, you must understand the requirements of your network. If you do not understand those requirements, have your network administrator perform this function at a later time.

To bypass network installation at this time, select the top check box (Do Not Connect) and then select **Next**.

**32.** You will now be presented with the **Date and Time dialog box**. Set as necessary and select **OK**.

**33.** The default VGA video driver is now loaded. Do not try to install the appropriate video driver at this point in setup; that must be done later. Select **OK**.

**34.** After the system automatically copies files, a request for the insertion of a blank floppy disk into the floppy drive will appear. Insert the blank disk and select **Next**. The emergency repair disk mentioned in step 29 (above) is now created. When completed, remove the floppy disk and label it *Windows NT Workstation 4.0 Repair Disk for Xycom Automation Model [Your Model Number].* Remove the CD-ROM disk and select **Restart Computer**. The computer will now restart.

**35.** Allow the computer to boot and press **Ctrl +Alt +Delete** to log on.

**36.** If you entered a password in step 27, then you must enter it now and select **OK**. Otherwise, select **OK**.

The initial installation is now complete. You will be presented with a Welcome To Windows NT dialog box. Select **Close** in order to proceed with Video Driver Installation.

## How to install the video driver

Before installing the video driver, you need to load Windows 2000 Service Pack 3 (SP3) first. See *Installing the Service Packs (optional)* in this document for more information. The video driver can be installed by following these steps:

**1.** To get to the video display settings, select **Start**, then **Settings**, then **Control Panel**.

**2.** After the **Control Panel** opens, double click the **Display** icon.

**3.** Select the **Settings** tab at the top.

**4.** Select **Display Type**.

**5.** In the **Adapter Type** box, select **Change**.

**6.** Select **Have Disk**. The correct video driver is shipped with your Xycom Automation computer on either floppy or CD-ROM disk. It can also be downloaded from the Xycom Automation web site at www.xycom.com.

**7.** Insert the disk into the drive and then select the proper disk drive letter on the dialog box.

**8.** Select the proper driver INF file and then select **Open**.

**9.** Select **OK**.

**10.** Choose the video adapter and select **OK**.

**11.** Select **Yes** to install a third party driver.

**12.** After installation, select **OK**.

**13.** Select **Close** on the **Display Type** dialog box.

**14.** Select **Apply**. Other settings must be changed later after the computer is restarted.

**15.** You are now prompted to restart the computer. Remove any floppy or CD-ROM disk(s) and select **Enter**.

> **NOTE:** The correct video driver is shipped with your Xycom Automation computer on either floppy or CD-ROM disk. It can also be downloaded from Xycom Automation at www.xycom.com.

**16.** Repeat steps 35 and 36 in the Installation Instructions section to log on to the computer.

**17.** Go to the **Display Properties** dialog box again.

**18.** Now you may choose an alternate color palette, font size, pixel ratio, and refresh rate. To insure proper settings, check the Xycom Automation documentation CD that shipped with your computer. The manual is also available on the Web in PDF format at www.xycom.com.

**19.** Choose **Test** to check your video settings.

**20.** Select **Apply**.

**21.** Follow the dialog box instructions.

**22.** Restart the computer.

## Device Driver Installation

Device drivers for items such as a mouse, touch screen, keypad, Ethernet, and/or CD-ROM need to be installed.

> **NOTE:** The correct device drivers are shipped with your Xycom Automation computer on either floppy or CD-ROM disk. It can also be downloaded from Xycom Automation at www.xycom.com.

## Installing the Service Packs (optional)

Your *Xycom Automation Recovery Media CD*, **XA_WIN_NT_WKST CD Disk 1 of 1,** for Microsoft Windows NT Workstation 4.0 includes three service packs:

- Service Pack 3 (in **SP3** folder);
- Service Pack 5 (in **SP5** folder);
- Service Pack 6.0a (in **SP6** folder).

If you require a service pack to be installed (and you probably do), then perform the following steps to install the service pack of your choice.

1. Start Windows NT Explorer.

2. Double click on the CD-ROM drive to display the contents of the *Xycom Automation Recovery Media CD-ROM,* **XA_WIN_NT_WKST CD Disk 1 of 1.**

3. Copy the desired folder from the CD-ROM disk to the hard disk drive (e.g. **C:\**).

4. Double click the new **SP** folder on the hard disk drive to display the contents.

5. The **SP** folder will include one executable file. That file is the compressed, self-extracting Microsoft Service Pack. To extract and install the Service Pack, simply select the executable file and follow the instructions on the dialog box.

## Running Disk Administrator

1. The Disk Administrator is used to assign/change drive letters, create partitions, format partitions, etc. Because you have formatted your hard disk drive as part of the installation above, you should run the Disk Administrator at this time in order to write a signature to physical Disk 0. You may also create partitions to provide access to any free drive space that has not yet been partitioned.

2. Select **Start**, then **Programs**, then **Administrative Tools**, and then **Disk Administrator**.

3. The Disk Administrator dialog box will appear. Select **OK**.

4. Select **Yes** to write the signature to Disk 0.

5. You may now create an additional partition to use any free (unpartitioned) disk space left on the drive.

6. Select **Free Space**.

7. On the toolbar, select **Partition** to drop down the partition menu.

8. Click **Create**.

9. Type in the partition size you prefer, or simply select **OK** to detect default size (all remaining free space).

10. Select **Yes** on the **Confirm** dialog box.

11. On the toolbar, select **Partition**, then **Commit Changes Now** from the menu - follow the instructions.

12. On the toolbar, select **Tools**, then **Format** from the menu.

13. For **File System** select **FAT** (MSDOS compatible, 2 GB maximum size), or **NTFS**. Enter the **Volume Label** if desired (optional) and select format options (the default settings are recommended).

14. Select **Start**, then **OK**, to continue. The partition format will take several minutes depending upon the size. When complete, close the dialog box.