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## **Settings Menu Commands**

The commands on the Settings menu have corresponding icons which appear in the Control Panel window. The commands listed here are those for a computer with sound, a network, and MIDI capabilities installed.

Use the [scroll bar](#) to see more commands.

### **Color**

Changes the colors of [screen elements](#).

### **Fonts**

Installs and removes fonts and sets [TrueType](#) options.

### **Ports**

Specifies communications settings for serial ports, and adds or removes serial ports.

### **Mouse**

Specifies settings for pointing devices.

### **Desktop**

Changes desktop options, such as [patterns](#) and [wallpaper](#), [screen savers](#), icon spacing, cursor blink rate, grid size, and border width.

### **Keyboard**

Sets the keyboard delay and repeat rates.

### **Printers**

Opens Print Manager to work with local and network printers.

### **International**

Changes international settings, such as keyboard layout, measurement system, and date/time, currency, and number formats.

### **System**

Specifies the default operating system for startup, changes user environment variables, and defines paging file size.

### **Date/Time**

Changes the system date, time, and time zone.

### **Cursors**

Changes the appearance of the cursor.

### **Display**

Changes the video display settings.

### **Sound**

Assigns sounds to system and application events (such as when Windows NT starts or

displays a message) and turns the warning beep on or off.

### **Drivers**

Installs and configures drivers for multimedia devices such as sound boards and synthesizers.

### **MIDI Mapper**

Changes MIDI settings for output channels, instrument patches, and key assignments.

You do not need to use this option unless you install a sound card or connect a MIDI synthesizer without a MIDI setup provided by Windows NT or the sound-card or synthesizer manufacturer. If you connect a MIDI synthesizer that does not include a MIDI setup, you must create a setup that includes the mapping assignments appropriate to your synthesizer.

### **Network**

Installs and configures network adapter cards and other network software, and adds you to a workgroup or a domain.

### **Server**

Manages the server properties of a computer. Displays summary information about user connections and resource use, allows the computer description to be edited, displays lists of connected users, shared resources, and open resources, manages directory replication, and manages a list of administrative alert recipients.

### **Services**

Manages service startup. Can stop, start, pause, continue, pass startup parameters to, and configure startup for a service.

### **Devices**

Manages device startup. Starts, stops, and configures startup for device drivers.

### **UPS**

Configures the uninterruptible power supply to ensure safe shutdown during a power failure.

### **Sound Mapper**

Configures installed sound drivers and manages priorities assigned to drivers. This icon appears only if you have the necessary hardware installed.


### **Exit**

Quits Control Panel.


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## What Is Control Panel?

Control Panel is a Windows NT application that provides you with a way of modifying your system while working with Windows NT. Each option that you can change is represented visually by an icon in the Control Panel window.



Some of the options in the Control Panel require special privileges. If you do not have the necessary permission, an access denied message will appear to remind you.

Options you can change include:

- Your screen colors.
- Other desktop options that determine the look of your screen.
- The fonts recognized by your Windows NT applications.
- Port and network settings.
- Keyboard and pointing-device settings and cursor appearance.
- International settings.
- Operating system variables.
-  The system time zone, date, and time.
-  The drivers and devices you use.
-  The display resolution and color choices for your screen or adapter.
-  MIDI settings for a synthesizer connected to your computer.
-  The sounds your system uses.
-  User resources.
-  The services available on the computer.
-  UPS settings.

To return to Contents for Control Panel Help, choose the Contents button.

## Using Existing Color Schemes

Windows NT provides several color schemes that you can use to change the colors of all screen elements.

### To use a color scheme

1. In the Control Panel window, choose the Color icon.
2. In the Color Schemes box, select the color scheme you want.

The sample screen changes to reflect your selection.

3. Choose the OK button.

For help with the Color dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Changing Existing Color Schemes](#)

[Removing Existing Color Schemes](#)

[Creating Your Own Colors](#)

## Changing Existing Color Schemes

If you want to change the colors in a color scheme, you can select colors from the Basic and Custom Colors palettes.

### To change the colors of a color scheme

1. In the Control Panel window, choose the Color icon.
2. In the Color Schemes box, select the color scheme you want to change.  
The sample screen changes to reflect your selection.
3. Choose the Color Palette button.
4. Open the Screen Element list, and then select the part of the screen where you want to change the color.  
Or click the part of the screen in the sample screen.
5. From the Basic Colors or Custom Colors palette, select a new color.  
The selected element in the sample screen changes color to reflect your choice.  
To create a new color, use the Define Custom Colors option.
6. Change the color of other parts of the screen, if you want.
7. Choose the Save Scheme button.
8. To assign a new name to the scheme, type the name in the text box.
9. Choose the OK button.
10. In the Color dialog box, choose the OK button.

For help with the Color dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Removing Existing Color Schemes](#)

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[Using Existing Color Schemes](#)



## Removing Existing Color Schemes

If you find that you use only one or two color schemes, you can shorten the list of selections by deleting schemes. The only color scheme that cannot be deleted is Windows Default, the scheme you see the first time you start Windows.

### To remove an existing color scheme

1. In the Control Panel window, choose the Color icon.
2. In the Color Schemes box, select the color scheme you want to delete.
3. Choose the Remove Scheme button.

A message appears, asking you to confirm the deletion.

4. Choose the Yes button.
5. Choose the OK button.

For help with the Color dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Changing Existing Color Schemes](#)

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[Using Existing Color Schemes](#)

## Creating Your Own Colors

You can create your own colors and apply them to [screen elements](#).

### To create your own colors

1. In the Control Panel window, choose the Color icon.
2. Choose the Color Palette button.
3. Choose the Define Custom Colors button.
4. Drag the cursor in the Color Refiner box and the arrow beside the luminosity bar to define your color.

Note that the color you create is shown in the left side of the Color/Solid box.

You can double-click the right side of the box or press ALT+O to use the solid color most closely resembling the one you have created.

5. In the Custom Colors palette, select a box for the color.

Select an empty box or one that contains a color you want to change to the new color.

6. Choose the Add Color button.
7. Create any other colors you want, and add them to the palette.
8. Choose the Close button.
9. Choose the OK button.

For help with the Color and Custom Color Selector dialog boxes, choose the Help button or press F1 while using the dialog boxes.

See Also

[Changing Existing Color Schemes](#)

[Removing Existing Color Schemes](#)

[Using Existing Color Schemes](#)

## **Displaying a Pattern**

When Windows NT is set up, the desktop pattern is a solid color. The background color for the pattern is the same as the desktop color. The foreground color (the lines that make up the pattern) is the same as the color of the Windows Text screen element.

Note: If you already have a wallpaper, the area it covers will overlay any pattern you choose. Certain non-solid colors may be changed to the closest solid color upon displaying a pattern.

### **To choose a pattern**

1. In the Control Panel window, choose the Desktop icon.
2. In the Name box, select a pattern.
3. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Changing a Pattern](#)

[Creating a Pattern](#)

[Removing a Pattern](#)

## Changing a Pattern

You can change a predefined pattern by choosing the Desktop icon and then choosing the Edit Pattern button.

### To change an existing pattern

1. In the Control Panel window, choose the Desktop icon.
2. Choose the Edit Pattern button.
3. In the Name list, select a pattern.

You'll see a sample of the current pattern in the Sample box and a cell in which you can make changes to the pattern. (The cell shows an enlarged version of the pattern.)

4. In the cell, click locations where you want to reverse the colors in the pattern.
5. When the Sample box shows the pattern you want, choose the Change button.
6. Choose the OK button, and then choose the OK button from the Desktop dialog box.

For help with the Desktop-Edit Pattern dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Displaying a Pattern](#)

[Creating a Pattern](#)

[Removing a Pattern](#)

## Creating a Pattern

You can create a new pattern by choosing the Desktop icon and then choosing <None> in the Name list under Pattern. The pattern you define is repeated as many times as necessary to completely fill the background. If you experiment with the patterns, you'll soon understand the effects you can create. Remember, the colors of the pattern are determined by the Desktop and Window Text colors you choose.

### To create a pattern

1. In the Control Panel window, choose the Desktop icon.
2. In the Name list under Pattern, choose <None>.
3. Choose the Edit Pattern button.
4. In the Name list, type a name for the new pattern.
5. Click locations in the cell where you want to reverse the colors in the pattern.
6. When the cell shows the pattern you want, choose the Add button.
7. Choose the OK button.

The new pattern appears in the Name box in the Desktop dialog box.

8. Choose the OK button.

For help with the Desktop-Edit Pattern dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Displaying a Pattern](#)

[Changing a Pattern](#)

[Removing a Pattern](#)

## Removing a Pattern

If you find that you use only one or two patterns, you can shorten the list of selections by removing patterns you no longer use.

### To remove a pattern

1. In the Control Panel window, choose the Desktop icon.
2. Choose the Edit Pattern button.
3. In the Name list, select the pattern you want to remove.
4. Choose the Remove button.

A message appears, asking you to confirm the removal.

5. Choose the Yes button.
6. Choose the OK button, and then choose the OK button from the Desktop dialog box.

For help with the Desktop-Edit Pattern dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Displaying a Pattern](#)

[Changing a Pattern](#)

[Creating a Pattern](#)

## Displaying Custom Wallpaper

You can display a .BMP bitmap graphic on your desktop instead of a solid color or a pattern. Paint programs that produce .BMP files, such as Windows Paintbrush, can be used to create a bitmap or modify a scanned image. After you create the bitmap, save the .BMP file into the `\systemroot` directory. You can save it in a different directory, but you have to specify the full path when choosing the bitmap as wallpaper.

If you select both a pattern and custom wallpaper in the Desktop dialog box, the wallpaper lies over the pattern. If you select the Center option for the wallpaper and the bitmap doesn't cover the entire desktop, you'll see the pattern around the edges of the bitmap. If you want to remove a wallpaper from the list, delete the bitmap file from the `\systemroot` directory.

Note: Windows uses more memory when displaying wallpaper than when displaying a solid color or a pattern on the desktop. If you run out of memory when running an application, you can change to a color or pattern to free some memory.

### To choose a bitmap to display as wallpaper

1. In the Control Panel window, choose the Desktop icon.
2. Under Wallpaper, in the File box, select a bitmap from the list.

If you saved the bitmap in a directory other than the Windows NT directory, enter the full path and bitmap name.

3. Select the Center or Tile option button.

The Center option positions the bitmap in the center of the desktop. The Tile option repeats the bitmap as many times as necessary to cover the desktop.

4. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

## **Preventing Icon Titles from Overlapping**

Sometimes an icon's title is so wide that it overlaps an adjacent icon. You can prevent this by increasing the space between icons, by wrapping the title of an icon onto more than one line, or by doing both. Icon spacing is measured in pixels, the smallest unit of measurement on the screen. Increments of 10 pixels result in noticeable increases in spacing between icons.

### **To increase icon spacing and wrap an icon title**

1. In the Control Panel window, choose the Desktop icon.
2. Under Icons, click the up or down scroll arrow next to the Spacing box to increase or decrease the spacing between icons, or type a number.
3. Select the Wrap Title check box.
4. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.



## **Changing Border Width**

Many windows can be resized by using the mouse to drag the window border to a new size. If a window can be resized, you can make it easier to "grab" the window border by increasing the border width.

### **To change the border width**

1. In the Control Panel window, choose the Desktop icon.
2. Under Sizing Grid, click the up or down scroll arrow next to the Border Width box to increase or decrease the border width.

- Or-

Type a number from 1 to 50, with 1 being the narrowest border.

3. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

## **Changing the Sizing Grid of Windows**

The position and alignment of application windows and icons on your desktop is determined by an invisible grid. When Windows NT is set up, the sizing grid is turned off so that icons and windows remain where you place them on the desktop. When the sizing grid is turned on, application windows and minimized icons align with the nearest invisible grid line. The grid changes in multiples of 8 pixels. A value of 1 creates a grid with 8 pixels between gridlines, a value of 2 creates a grid with 16 pixels between gridlines, and so forth. A value of 0 cancels the grid.

Note: The sizing grid has no effect on document windows and icons. This option only affects application windows and the application icons that appear at the bottom of your screen.

### **To set the grid spacing**

1. In the Control Panel window, choose the Desktop icon.
2. Under Sizing Grid, click the up or down scroll arrow next to the Granularity box to increase or decrease the size of the grid.

- Or -

Type a number from 0 to 49.

3. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

## **Changing the Country**

When you select a country, Windows NT automatically adjusts the settings for the date, time, number, and currency formats.

### **To change the country**


1. In the Control Panel window, choose the International icon.
2. In the Country box, select the country with the standard settings you want to use.
3. Choose the OK button.

For help with the International dialog box, choose the Help button or press F1 while using the dialog box.

## Changing the Language

The language you select affects the way applications sort information and provides ANSI code page, OEM code page, and OEM font information. For example, if the language you are working in includes accented characters, setting this option to that language ensures that your applications will correctly sort words or phrases that include these characters.

You must shut down and restart your computer for the new language setting to take affect.

 You need to be logged on as a member of the Administrators group to change the language options.


### To change the language

1. In the Control Panel window, choose the International icon.
2. In the Language box, select the language you want to work in.
3. Choose the OK button.

For help with the International dialog box, choose the Help button or press F1 while using the dialog box.

## Changing Keyboard Layout

Keyboard layouts vary to accommodate the special characters and symbols used in different languages. This option lists all the keyboard layouts supported by Windows NT.

 You need to be logged on as a member of the Administrators group to change the keyboard options.

### To change the keyboard layout

1. In the Control Panel window, choose the International icon.
2. In the Keyboard Layout box, specify the keyboard layout of your computer.
3. Choose the OK button.

For help with the International dialog box, choose the Help button or press F1 while using the dialog box.

## **Changing the Measurement System**

You can use this option to specify either the metric or English system of measurement.

### **To change the measurement system**

1. In the Control Panel window, choose the International icon
2. In the Measurement box, select the system of measurement you wish to use.
3. Choose the OK button.

For help with the International dialog box, choose the Help button or press F1 while using the dialog box.

## **Changing the Currency Display**

You can control the way currency is represented. For example, you can place the currency symbol in different locations relative to the amount, specify how negative currency values are represented, or change the currency symbol for your country.

### **To change the currency display**

1. In the Control Panel window, choose the International icon.
2. In the Currency Format area, choose the Change button.
3. Set the options you want.
4. Choose the OK button, and then choose the OK button from the International dialog box.

For help with the International-Currency Format dialog box, choose the Help button or press F1 while using the dialog box.

## **Changing the Number Display**

You can control the way numbers are displayed. For example, you can choose the punctuation separating thousands and the punctuation separating the fractional part of a decimal number, or change the decimal display of numbers.

### **To change the number format**

1. In the Control Panel window, choose the International icon.
2. In the Number Format area, choose the Change button.
3. Set the options you want.
4. Choose the OK button, and then choose the OK button from the International dialog box.

For help with the International-Number Format dialog box, choose the Help button or press F1 while using the dialog box.



## Adding Fonts

By using the Fonts option, you can add screen, plotter, TrueType or Type 1 fonts to your Windows NT applications.

### Important

Converting Type 1 fonts to TrueType is governed by the license agreement for your Type 1 fonts. See your license agreement and PRINTER.WRI for additional details.

### To add fonts

1. In the Control Panel window, choose the Fonts icon.

The fonts already installed are listed in the Installed Fonts box.

2. Choose the Add button.

3. In the Add Fonts dialog box, select the font you want to add. If the font is not located in the current drive or directory, select the drive and directory where it is located.

You can add more than one font at a time. You can also select all the fonts listed by choosing the Select All button.

Note When installing Type 1 fonts, use the Install Type 1 Font Files For Use On The PostScript Printer option. Use of the original Type 1 fonts on a PostScript device is recommended. Choose the Convert Type 1 Font To TrueType option to match the screen to the PostScript printer, or to use the font on any non-PostScript printer. If your computer is low on disk space or if you do not want to see the precise fonts on screen, you can choose to install the Type 1 font for use on the PostScript printer only.

4. If you are low on disk space and want to use the fonts directly from the directory (network or local) where they are located, without copying the font files to the \ *systemroot*\SYSTEM directory, clear the Copy Fonts To Windows Directory check box.
5. Choose the OK button.
6. Choose the Close button.

For help with the Fonts and Add Fonts dialog boxes, choose the Help button or press F1 while using the dialog boxes.

See Also

[Installing Type 1 Fonts](#)

[Removing Fonts](#)

[Setting TrueType Options](#)

## Removing Fonts

If you are not using a font, you can remove it to free some memory for your applications. Removing a font deletes the font from the Installed Fonts list, but does not delete the font file from your hard disk, unless you specify otherwise.

### Warning

The MS Sans Serif font is used for most Windows NT dialog boxes. Do not remove this font; if you do, the text in dialog boxes will be difficult to read.

Deleting a font on a particular computer will remove that font for every user on that computer.

### To remove a font

1. In the Control Panel window, choose the Fonts icon.
2. Select the font that you want to remove. You can select several fonts at a time.
3. Choose the Remove button. A message appears, asking you to confirm your decision to remove the font.
4. If you want to delete the font file from the disk in addition to removing it from memory, select the Delete Font File From Disk check box.

### Caution

It is recommended that you do not delete fonts from the disk if you chose not to copy the fonts to your `\systemroot\SYSTEM` directory. If you delete the fonts from the disk, you may not be able to add them again if you decide to use them later.

If you are deleting a Type 1 font or a TrueType font that was converted from a Type 1 font, you can select the Delete Font File From Disk check box to remove both the TrueType conversion files and the original Type 1 font files, depending on your installation choices.

If Delete Font File From Disk is not checked, the files will be kept on your hard disk, but removed from memory.

5. Choose the Yes button or, if you want to remove several fonts at the same time, choose the Yes To All button.
6. Choose the Close button.

For help with the Fonts dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Adding Fonts](#)

[Installing Type 1 Fonts](#)

[Setting TrueType Options](#)

## Setting TrueType Options

Windows NT supports TrueType fonts. TrueType fonts are scalable fonts that appear in your printed document exactly as they appear on your screen. If you are not using TrueType fonts in your documents, you can turn them off to free memory for your applications.

If you are using only TrueType fonts, you can specify that you want to use TrueType fonts exclusively so that other fonts do not appear listed in your Windows NT applications.

In either case, the font files will not be deleted from your hard disk.

### To set TrueType options

1. In the Control Panel window, choose the Fonts icon.
2. Choose the TrueType button.
3. Select the Show Only TrueType Fonts in Applications box.
4. Choose the OK button.

For help with the TrueType dialog box, choose the Help button or press F1 while using the dialog box.

See Also


[Adding Fonts](#)

[Removing Fonts](#)

## Changing the System Date, Time, and Time Zone

Using the Date/Time options, you can change your system's date, time, and time zone. You can also select whether or not you want the computer to automatically switch to Daylight Saving Time. Date and time changes are recognized by Windows NT applications that use the system clock, such as Clock, as well as in the information kept by File Manager for each file you save on your disk.

You must be sure to set the correct time zone before you set the date and time for your system.

 To set the date and time on your system, you must be logged on as a member of the Administrators or Power Users group.

### To change the date, time, and time zone

1. In the Control Panel window, choose the Date/Time icon.
2. In the Time Zone box, select the correct time zone for your area.

If your area uses daylight saving time, select the check box to automatically adjust the time.

3. In the Date box, select the part of the date (day, month, or year) you want to change, and then type a new value, or click the up or down arrow.
4. In the Time box, select the part of the time (hour, minute, second, suffix) you want to change, and then type the new value, or click the up or down arrow.
5. Choose the OK button.

For help with the Date/Time dialog box, choose the Help button or press F1 while using the dialog box.

## **Changing the Format of Date and Time**

You can control the way the date and time are displayed in applications by using the Date and Time options in the International dialog box. For example, you can vary the order of the month, day, and year, or display the time in a 12-hour or 24-hour format.

### **To change the date and time format**

1. In the Control Panel window, choose the International icon.
2. Under Date Format, or under Time Format, choose the Change button.
3. Set the options you want for both the Short Date Format and Long Date Format.
4. Set the options you want for the Time Format.
5. Choose the OK button, and then choose the OK button from the International dialog box.

For help with the International-Date Format and International-Time Format dialog boxes, choose the Help button or press F1 while using the dialog box.

## **Adjusting the Keyboard Delay and Repeat Rate**

You can adjust how long your computer waits after you hold down a key before it repeats that key, and then how fast the key repeats.

### **To change the keyboard delay and repeat rate**

1. In the Control Panel window, choose the Keyboard icon.
2. Drag the Delay box toward Long or Short to increase or decrease the delay, or click the appropriate scroll arrow.
3. Drag the Repeat Rate box toward Fast or Slow to increase or decrease the repeat rate, or click the appropriate scroll arrow.
4. To test the speed, move to the Test box and type or hold down any key on the keyboard. Adjust the box positions until you reach a delay speed or repeat rate you are comfortable with.
5. Choose the OK button.

For help with the Keyboard dialog box, choose the Help button or press F1 while using the dialog box.

## **Adjusting the Cursor Blink Rate**

You can adjust how fast or slow the cursor blinks.

### **To change the cursor blink rate**

1. In the Control Panel window, choose the Desktop icon.
2. In the Cursor Blink Rate area, drag the scroll box or click the right or left scroll arrow to change the blink rate.
3. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

## Changing the Cursor Appearance

You can change the look of your cursor with animated or static cursors provided by Windows NT.

### To change your cursor

1. In the Control Panel window, choose the Cursors icon.
2. In the Cursor Schemes box, open the list box and select a scheme. The default scheme is Windows Default.
3. Modify a current scheme by selecting an action whose cursor you want to change and double-clicking it or choosing the Browse button.
4. In the Directories and Drives boxes of the Browse dialog box, select the drive and directory that contains the cursor files you want to view.
5. In the File Name box, select a file. An example of what the cursor looks like appears in the Preview Window.
6. Choose the OK button to return to the Cursors dialog box.
7. Change the cursors for any other actions, and then choose the Save Scheme button.
8. In the Save Scheme dialog box, type a name for a new scheme or press OK to modify an existing one.

### To remove a selected scheme

- ▶ Choose the Remove Scheme button.

### To reset the selected action to the system default cursor

- ▶ Choose the Reset button.

For help with the Cursors dialog box, choose the Help button or press F1 while using the dialog box.



## **Customizing Your Mouse or Other Pointing Device**

You can adjust the way Windows NT works with pointing devices, depending on the type of pointing device you are using. Before customizing your pointing device, you need to install it and its driver. For more information, see the documentation for your pointing device.

### **To customize your pointing device**

1. In the Control Panel window, choose the icon for your pointing device.

A dialog box appears for the device you are using.

2. Set the options you want, and then choose the OK button.

The options vary, depending on the pointing device you are using. For details about the options and their settings, see the documentation for your pointing device or use the Help feature if available.

## **Specifying Basic Serial-Port Settings**

Use the Settings dialog box to specify the baud rate, data bits, parity, stop bits, and flow-control settings for the selected serial port.

### **To specify serial-port settings**

1. In the Control Panel window, choose the Ports icon.
2. Double-click the port you want to use, or select the port and choose the Settings button.
3. Display the options for each setting by clicking the scroll arrow to the right of each box.
4. Set the options to match the device connected to the port.

For information about the correct settings, see the documentation supplied with the device.

5. Choose the OK button.
6. Choose the Close button.

For help with the Settings dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Specifying Advanced Serial-Port Settings](#)

## Specifying Advanced Serial-Port Settings

Use the Advanced Settings dialog box to specify an I/O address and an interrupt request line (IRQ) for your serial port, change the port number of a port, and specify to use buffering of incoming data to increase performance.

### To set advanced port options

1. In the Control Panel window, choose the Ports icon.
2. Double-click the port you want to use, or select the port and choose the Settings button.
3. Choose the Advanced button.
4. Change the base I/O address if your serial-port hardware uses address values other than the values that Windows NT detects.
5. If you are using a computer that cannot access COM1 and COM3 or COM2 and COM4 simultaneously, and you want to use these ports, specify a unique IRQ number for each port.
6. Change the port number of a port, for example change COM3 to COM253.
7. Select the FIFO Enabled checkbox to use buffering of incoming data and enable some additional functionality on newer COM ports.
8. Choose the OK button.

Any changes you make will not take effect until you restart Windows NT.

9. To make your changes take effect now, choose the Restart Now button.

For help with the Settings and Advanced Settings dialog boxes, choose the Help button or press F1 while using the dialog boxes.

See Also

[Specifying Basic Serial-Port Settings](#)

## Assigning Sounds to Events

You can assign sounds to different system and application events. For example, you can select a sound to play whenever you start Windows NT. You can also turn sounds and the warning beep on or off. The sounds you can assign are stored in files that have the .WAV extension.

Note: If you do not have a sound board installed or the sound driver is not configured properly, you will hear a warning beep when an error is encountered or you attempt to do something your computer does not recognize. Windows NT does not support playing waveform sounds through the PC speaker; therefore, if you do not have sound hardware, the Test button will appear gray. It is possible to select sounds before you have installed a Sound card, but they won't play until the card is actually installed.

### To assign sounds to events

1. In the Control Panel window, choose the Sound icon.
2. In the Events box, select the event that you want to assign a sound.
3. In the Files box, select the sound file you want to use.

If the file you want is not listed, select the drive and directory where the file is located by scrolling in the Files dialog box, and then select the file. If you do not want to assign a sound to the event, select None.

4. To hear the sound, choose the Test button or double-click the event or filename.
5. To turn the warning beep and all sounds on or off, except for those assigned to Windows NT Exit and Windows NT Start, select or clear the Enable System Sounds check box.
6. Choose the OK button.

For help with the Sound dialog box, choose the Help button or press F1 while using the dialog box.

## **Configuring a Sound Driver**

Sound Mapper is an application that displays a list of installed drivers and identifies the current priority assigned to each one. To use Sound Mapper, you need to install a sound card and a sound driver, and then choose the Sound Mapper icon in Control Panel.

You can configure some drivers in the Sound Mapper Configuration dialog box. If the selected driver does not support this option, the Configure button is not available. You can also get more information about the full name of the driver and the version you have installed in the About dialog box. In addition, the dialog box provides a brief description of what the driver does.

### **To configure a sound driver that supports this option**

1. In the Control Panel window, choose the Sound Mapper icon.
2. In the Sound Mapper Drivers list of the Sound Mapper Configuration dialog box, select the driver.
3. Choose the Configure button.

The settings in the Configure Driver dialog box depend on the driver you choose. For more information, see the documentation that came with the driver.

### **To get more information about a driver**

1. In the Sound Mapper Drivers list of the Sound Mapper Configuration dialog box, select the driver.
2. Choose the About button.
3. To return to the Sound Mapper Configuration dialog box, choose the OK button.

See Also

[Changing the Priority of a Sound Driver](#)

[Disabling a Sound Driver](#)

[Selecting a Preferred Sound Device](#)

## Changing the Priority of a Sound Driver

When an application requests a sound driver, the system searches the available drivers and uses the first one it finds that meets the needs of the application. The priority of installed drivers indicates the order in which the system searches drivers. The system first determines the status of the priority 1 driver, then the priority 2 driver, and so on until an available driver is found.

### To change the priority of a sound driver

1. In the Control Panel window, choose the Sound Mapper icon.
2. From the Sound Mapper Drivers list of the Sound Mapper Configuration dialog box, select the driver whose priority you want to change.
3. Choose the Priority button.
4. From the Priority dialog box, choose the new priority you want to assign to the driver, and then choose the OK button.

When you change the priority, Sound Mapper automatically renumbers the priorities of other drivers to avoid conflicts. For example, assume drivers A, B, C, and D have priorities 1, 2, 3, and 4, respectively. If you change the priority of driver D from 4 to 2, Sound Mapper changes the priorities of drivers B and C to 3 and 4.

See Also

[Configuring a Sound Driver](#)

[Disabling a Sound Driver](#)

[Selecting a Preferred Sound Device](#)

## **Disabling a Sound Driver**

Disabling a driver means Sound Mapper will not consider it when a driver is needed by an application. However, the driver is not removed from your hard disk.

### **To disable a sound driver**

1. In the Control Panel window, choose the Sound Mapper icon.
2. From the Sound Mapper Drivers list of the Sound Mapper Configuration dialog box, select the driver you want to disable.
3. Choose the Priority button.
4. From the Priority dialog box, select the Disable Driver check box, and then choose the OK button.

After you disable a driver, you must enable it before you can use it again. To enable a driver, clear the Disable Driver check box in the Priority dialog box.

See Also

[Configuring a Sound Driver](#)

[Changing the Priority of a Sound Driver](#)

[Selecting a Preferred Sound Device](#)

## Selecting a Preferred Sound Device

You can specify the device to use for playback or recording of sounds. The Sound Device Preferences section of the Sound Mapper Configuration dialog box shows the current selections.

### To specify a preferred device

1. In the Control Panel window, choose the Sound Mapper icon.
2. In the Sound Mapper Configuration dialog box, click the arrow next to Playback or Recording, depending on which preference you want to set. Sound Mapper displays a list of all available devices.
3. From the list, choose the device you want to use as the preferred device.
4. If you only want to use the preferred devices, select the Use Preferred Devices Only check box.

Note: If you select this check box, you will receive an error if the driver is not available (already in use, for example) when an application needs it.

See Also

[Configuring a Sound Driver](#)

[Changing the Priority of a Sound Driver](#)

[Disabling a Sound Driver](#)



## Sound Mapper Configuration

Use the Sound Mapper option to display a list of installed drivers and identify the current priority assigned to each one.

Choose one of the following buttons for information about the dialog box:

- [Sound Mapper Drivers](#)
- [About Button](#)
- [Configure Button](#)
- [Priority Button](#)
- [Sound Device Preferences](#)
- [Use Preferred Devices Only](#)

## **Sound Mapper Drivers**


This list identifies the drivers that are currently installed. The drivers are sorted by priority. When an application needs to play or record audio data, the system uses the first driver it finds available that supports the audio data to be processed. Priority determines the order in which the system polls drivers to see if they are available.

### **About Button**


- ▶ Choose this button to display information about the currently selected driver, such as the version number of the driver.

## **Configure Button**

You can configure some drivers through the Sound Mapper Configuration dialog box. If the currently selected driver does not support configuration through the dialog box, the Configure button is grayed.

 Choose the Configure button to display the Driver Configuration dialog box. The contents of the Driver Configuration dialog box depend on the selected driver.

### **Priority Button**

 Choose this button to display the Priority dialog box. From the Priority dialog box, you can change the priority of an installed driver, or you can disable the currently selected driver.

## **Sound Device Preferences**

The boxes in this group identify the default devices to be used for playing and recording sounds. These options are available when you have multiple sound cards installed.

- In the Playback box, open the listbox and select a device to be used as the default for playing sounds.
- In the Recording box, open the listbox and select a device to be used as the default for recording sounds.

### **Use Preferred Devices Only**

Select this check box to have the system use only the devices indicated in the Playback and Recording boxes for playing and recording sounds.

If you select this check box, you will receive an error if the driver is not available, (already in use, for example) when an application needs it.

## Selecting a MIDI Setup

If you are using an application, such as Media Player, that uses [MIDI setups](#) to play MIDI files, you need to select the MIDI setup for the synthesizer you are using.

### To select a MIDI setup

1. In the Control Panel window, choose the MIDI Mapper icon.
2. In the MIDI Mapper dialog box, open the Name list, and then select the setup you want to use.
3. Choose the Close button.

Note: For a MIDI setup to take effect, the application you are using to play MIDI files or send MIDI information must use the MIDI Mapper. Also, the application must send patch-select messages or a MIDI file must include them. MIDI files authored for Windows NT meet these requirements. Check your application's documentation or contact the vendor of your MIDI files if you are not sure.

For help with the MIDI Mapper dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Creating a MIDI Setup](#)

[Editing Setups, Patch Maps, and Key Maps](#)

[Deleting Setups, Patch Maps, and Key Maps](#)






## Creating a MIDI Setup

If you are using a MIDI synthesizer for which Windows NT does not provide a MIDI setup, you need to create one.

Before creating a MIDI setup, set up the synthesizer to receive MIDI messages on multiple MIDI channels and determine whether your synthesizer is a base-level synthesizer or an extended-level synthesizer, or is capable of playing general MIDI files. For more information about the capabilities of your synthesizer, see your synthesizer manual.

Note: To use the MIDI Mapper option, you should have a basic understanding of MIDI concepts and terminology. It is recommended that you not use the MIDI Mapper to create MIDI setups unless you are experienced with MIDI and understand the results of the changes you make.

There are several steps involved in creating a new MIDI setup. You need to perform these steps in the following order:

-  Create a key map.
-  Create patch maps.
-  Specify channel mappings.

## Creating Key Maps

If you are creating a MIDI setup for a synthesizer that does not use the General MIDI key definitions, you need to create a new key map for percussion instruments. If the synthesizer plays certain sounds at registrations that differ from General MIDI definitions (for example, playing a patch a fifth higher than General MIDI specifies), you may also need to create a melodic key map for registration changes.

### To create a key map

1. In the Control Panel window, choose the MIDI Mapper icon.
2. In the Show area of the MIDI Mapper dialog box, select the Key Maps option.
3. Choose the New button.
4. In the New MIDI Key Map dialog box, type a name and description for the new key map in the text boxes.
5. Choose the OK button.
6. In the MIDI Key Map dialog box, specify the destination keys required by your synthesizer.
7. Choose the OK button.
8. Choose the Yes button to confirm the changes.

For help with the MIDI Mapper, New MIDI Key Map, and MIDI Key Map dialog boxes, choose the Help button or press F1 while using the dialog boxes.

Next Step

[Create Patch Maps.](#)

## Creating Patch Maps

If your synthesizer's patch list differs from the [General MIDI](#) patch definitions, you need to create two [patch maps](#): One for melodic instruments and one for percussion instruments.

### To create a patch map

1. If you are not already in the MIDI Mapper dialog box, choose the MIDI Mapper icon in the Control Panel window.
2. In the Show area of the MIDI Mapper dialog box, select the Patch Maps option.
3. Choose the New button.
4. In the New MIDI Patch Map dialog box, type a name and description for the new patch map in the text boxes.
5. Choose the OK button.
6. If the patch numbers for your synthesizer start at 1 rather than at 0, choose the 1 Based Patches button in the MIDI Patch Map dialog box.
7. Assign a destination patch, volume level, and key map to the source patches.
8. When you are finished, choose the OK button.
9. Choose the Yes button to confirm the changes.
10. To create the second patch map, repeat steps 3 through 9.

For help with the MIDI Mapper, New Patch Map, and MIDI Patch Map dialog boxes, choose the Help button or press F1 while using the dialog boxes.

Next Step

[Specify Channel Mappings.](#)

## Specifying Channel Mappings

Once you have created the patch maps and key maps required by your synthesizer, you can specify the channel mappings for the new MIDI setup.

The MIDI Mapper lists 16 channels. However, not all synthesizers can use all channels. Base-level synthesizers use source channels 13 through 16. Channels 13 through 15 are the melodic channels and 16 is the percussive channel. Extended-level synthesizers use source channels 1 through 10. Channels 1 through 9 are the melodic channels and 10 is the percussive channel.

### To specify the channel mapping

1. If you are not already in the MIDI Mapper dialog box, choose the MIDI Mapper icon in the Control Panel window.
2. In the Show area of the MIDI Mapper dialog box, select the Setups option.
3. Choose the New button.
4. In the New MIDI Setup dialog box, type a name and description for the new setup in the text boxes.
5. Choose the OK button.
6. In the MIDI Setup dialog box, specify a destination channel, a port name, and a patch map for a each source channel used by your synthesizer.
7. Choose the Yes button to confirm the changes.
8. In the MIDI Mapper dialog box, choose the OK button.

For help with the MIDI Mapper, New MIDI Setup, and MIDI Setup dialog boxes, choose the Help button or press F1 while using the dialog boxes.

## **Editing Setups, Patch Maps, and Key Maps**

You can edit the [patch maps](#), [key maps](#), and channel mapping for an existing [MIDI setup](#). Generally, you should not need to do this, unless you are not getting the sounds you expect, or you want to use a setup provided by Windows NT and the setup specifies different port assignments than those used by your synthesizer.

### **To edit patch maps, key maps, or channel mapping**

1. In the Control Panel window, choose the MIDI Mapper icon.
2. In the Show area of the MIDI Mapper dialog box, select the Setups, Patch Maps, or Key Maps option, depending on the type of map you want to edit.
3. Open the Name list, and then select the name of the channel mapping, patch map, or key map you want to edit.
4. Choose the Edit button.
5. In the dialog box, make any changes you want.
6. Choose the OK button.
7. Choose the Yes button to confirm your changes.
8. In the MIDI Mapper dialog box, choose the Close button.

For help with the MIDI Mapper or editing dialog boxes, choose the Help button or press F1 while using the dialog boxes.

See Also

[Creating a MIDI Setup](#)

[Deleting Setups, Patch Maps, and Key Maps](#)

## Deleting Setups, Patch Maps, and Key Maps

If you are not using a particular [patch map](#), [key map](#), or [MIDI setup](#), you can delete it.

You cannot delete (1) the current setup (the setup that is listed in the Name box when the MIDI Mapper dialog box first appears), (2) a key map that is used in a patch map, or (3) a patch map that is used in a MIDI setup. Before deleting key maps and patch maps, make sure that an existing patch map or setup does not reference the key map or patch map you want to delete.

### To delete a setup, patch map, or key map

1. In the Control Panel window, choose the MIDI Mapper icon.
2. In the Show area of the MIDI Mapper dialog box, select the Setups, Patch Maps, or Key Maps option, depending on the type of map you want to delete.
3. Open the Name list, and then select the name of the setup, patch map, or key map you want to delete.
4. Choose the Delete button.
5. Choose the Yes button to confirm the deletion.
6. In the MIDI Mapper dialog box, choose the Close button.

For help with the MIDI Mapper dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Selecting a MIDI Setup](#)






[Creating a MIDI Setup](#)

[Editing Setups, Patch Maps, and Key Maps](#)





## Color

By using the Color option, you can change the colors of Windows NT screen elements.

Choose one of the following buttons for information about the Color dialog box:

-  [Color Schemes](#)
-  [Save Scheme](#)
-  [Remove Scheme](#)
-  [Sample Screen](#)
-  [Color Palette Button](#)

When you choose the Color Palette button, the Color dialog box expands, displaying these additional options:

-  [Screen Element](#)
-  [Basic Colors](#)
-  [Custom Colors](#)
-  [Define Custom Colors Button](#)


See Also

[Using Existing Color Schemes](#)

[Changing Existing Color Schemes](#)

## Save Scheme

Use this dialog box to save the changes you have made to the selected color scheme, or to save a new color scheme you have created.

 To change the selected color scheme, leave the text box as it is, and then choose the OK button.

To create a new color scheme, type a name for your scheme in the text box, and then choose the OK button.

See Also







[Changing Existing Color Schemes](#)



## Custom Color Selector

Use this dialog box to create a color and add it to the Custom Colors palette. You create a color by adjusting its hue, saturation, and luminosity or by specifying its red, green, and blue values.

Choose one of the following buttons for information about the dialog box:

-  [Color Refiner Box](#)
-  [Luminosity Bar](#)
-  [Color/Solid Box](#)
-  [Hue, Sat, Lum](#)
-  [Red, Green, Blue](#)
-  [Add Color Button](#)

See Also

[Creating Your Own Colors](#)

## Date/Time

By using the Date/Time option, you can change the date, time, and time zone of your system's clock. You can also select whether or not you want the computer to automatically switch to Daylight Saving Time. The format of the date and time is set with the Date and Time Format options in the International dialog box.

It is important that your system date and time are always accurate. Many applications, including File Manager and Clock, use your system date and time to record important information. Before setting the date and time on your system, you must set the correct time zone

Choose one of the following buttons for information about the Date/Time dialog box:

- [Time Zone](#)
- [Date](#)
- [Time](#)
- [Automatically Adjust for Daylight Saving Time](#)

See Also

[Changing the System Date, Time, and Time Zone](#)

[Changing the Format of Date and Time](#)

## Cursors

Use this dialog box to change the look of your cursor with static or animated cursors provided by Windows NT.

Choose one of the following buttons for information about the Cursors dialog box:

- [Cursor Schemes](#)
- [System Cursors](#)
- [Information Area](#)
- [Preview Window](#)
- [Browse Button](#)
- [Reset Button](#)

See Also

[Changing the Cursor Appearance](#)

## **Browse**





Use the Browse dialog box to specify the path to a cursor file you would like to open.

Choose one of the following buttons for information about the dialog box:

- File Name
- List Files of Type
- Directories
- Drives
- Network Button

## Printers

Use Print Manager to:

-  Install and configure printers
-  Connect to printers on the network
-  Control printing of documents
-  Remotely administer printers

In Print Manager, each printer you have installed or to which you are connected appears in its own window. Printer windows show you the current activity of the printer, including a list of the documents waiting to be printed. You can use Print Manager to pause and resume printing, arrange the order in which waiting documents are printed, and remove documents that are waiting to print.

If you have several printers available to you on the network, you can use Print Manager to find one that is ready to print and then connect to it.

Use Print Manager to share printers on the network, control access to printers, and set other printer properties such as the hours the printer is available to print.

Print Manager also allows you to remotely install and administer printers by viewing print servers. Like printers, each server appears in its own window. Server windows show the printers connected to the server.

## Desktop

By using the Desktop option, you can change the look of your desktop. For example, you can specify a background pattern or wallpaper, a screen saver, the cursor blink rate, icon spacing, grid size, and border width.

Choose one of the following buttons for information about the Desktop dialog box:

- Pattern
- Applications
- Screen Savers
- Wallpaper
- Icons
- Sizing Grid
- Cursor Blink Rate

## Screen Savers

Use these options to select and customize a screen saver to display while you are not actively using Windows NT. You can use the screen savers provided with Windows NT, or you can use the IdleWild screen savers included in the Microsoft Entertainment Pack.


To use the IdleWild screen savers, the IWLIB.DLL file and the screen-saver files (those with the extension .IW) must be in the same directory. Place these files in your *\systemroot* directory. If you wish, these files may be placed in another directory, but the directory must be included in your path.

Choose one of the following buttons for information about the screen-saver options:


- [Name](#)
- [Delay](#)
- [Test Button](#)
- [Setup Button](#)
- [Password Protected Box](#)

## Pattern

Use this option to select a pattern as the desktop background. Windows NT provides several patterns for you to choose from.

 In the Name box, select the pattern you want to use and choose the OK button.

If you are using a mouse, you can change an existing pattern or create your own.

 To edit or create a pattern, choose the Edit Pattern button, and then complete the Edit Pattern dialog box.




## Applications

Use these options to use fast application-switching or change the look of a window as it is moved.

Choose one of the following buttons for more information about the options in this area:

 [Fast "Alt+Tab" Switching](#)

 [Full Drag](#)

## Fast "Alt+Tab" Switching

Use this option to turn fast application-switching on or off. When fast application-switching is active, you can use the ALT+TAB keys to view and switch among applications quickly.

Select the Fast "Alt+Tab" Switching check box to turn on fast task-switching. Press and hold down ALT and press TAB repeatedly to display the name of the next application Windows NT will switch to.

When you reach the name of the application you want to use, release ALT+TAB to switch to that application. If the application is running as an icon, it is restored.

If, while pressing ALT+TAB, you want to return to your original application, do the following:


Keep holding down ALT, and then press ESC.

### **Full Drag**


Select the Full Drag check box to move an entire window instead of just moving an outline of the window. This makes it easier to see how a window looks when you are resizing the window.


## Wallpaper

Use this option to change the desktop background to a wallpaper bitmap. For wallpapers, you can use bitmaps created by Paintbrush or any other painting application that produces .BMP files.

 Open the File list, and then select the wallpaper file you want to use.

Use the Center or Tile option to position the wallpaper on your screen.

 Select Center to position the wallpaper in the center of your screen.

 If you selected a small wallpaper bitmap that is easily hidden by application windows, select Tile. This option repeats the bitmap as many times as is necessary to cover the entire screen.

If you select both a pattern and custom wallpaper in the Desktop dialog box, the wallpaper overlays the pattern.

## Icons

Use this option to specify spacing between icons and whether the icon title wraps onto another line.

In the Spacing box, click the up or down arrow to increase or decrease the number by one. Or type a number.


Icon spacing is measured in pixels, or pels. The maximum value you can specify is 512 pixels.

Select the Wrap Title check box to wrap the icon descriptions onto another line.

## Sizing Grid

Use the options in the Sizing Grid area to specify the width of window borders and to set the spacing of the invisible grid that Windows NT uses to line up windows and icons on the desktop.


Choose one of the following buttons for information about the options in this area:

 [Granularity](#)

 [Border Width](#)

## Cursor Blink Rate

Use this option to specify how fast the text cursor blinks.

 Drag the scroll box toward Fast or Slow to increase or decrease the cursor blink rate. Or use the RIGHT and LEFT ARROW keys.

## **Edit Pattern**

Use the Edit Pattern dialog box to create a new pattern, change, or remove existing patterns.

Choose one of the following buttons for information about the Edit Pattern dialog box:

- [Name](#)
- [Editing Cell](#)
- [Add Button](#)
- [Change Button](#)
- [Remove Button](#)

Note: You must use a mouse to change or create patterns. You cannot do this with the keyboard.



## Marquee Setup

Use this dialog box to change the settings for the Marquee screen saver. The Marquee screen saver displays a line of moving text across the screen. You specify the text you want displayed. As you change settings, your changes appear in the Text Example box.

Choose one of the following buttons for information about the dialog box:

- [Position](#)
- [Background Color](#)
- [Speed](#)
- [Text](#)
- [Format Text Button](#)

## **Format Text**

Use the Format Text dialog box to change the font used in the Marquee screen-saver text.

Choose one of the following buttons for information about the dialog box:

- Font
- Font Style
- Size
- Effects
- Color
- Sample

## **Mystify Setup**

Use this dialog box to change the settings for the Mystify screen saver. The Mystify screen saver displays shapes on the screen in colors that you specify.

Choose one of the following buttons for information about the dialog box:


- Shape
- Active
- Lines
- Colors to Use
- Clear Screen

## Starfield Simulation Setup

Use this dialog box to change the settings for the Starfield Simulation screen saver. The Starfield Simulation screen saver displays stars that move at a speed you specify.

Choose one of the following buttons for information about the dialog box:

 [Warp Speed](#)

 [Starfield Density](#)

## **Flying Windows Setup**

Use this dialog box to change the settings for the Flying Windows screen saver. The Flying Windows screen saver displays the Windows NT logo moving at a speed you specify.

Choose one of the following buttons for information about the dialog box:

Warp Speed

Density

## Beziers Setup






Use this dialog box to change the settings for the Beziers screen saver. The Beziers screen saver displays a three dimensional moving object at a speed you specify. Choose one of the following buttons for information about the dialog box:

- Length
- Width
- Speed

## Fonts

Use the Fonts option to add fonts to and remove fonts from your Windows NT applications, and to set TrueType options.

Choose one of the following buttons for information about the Fonts dialog box:

-  [Installed Fonts](#)
-  [Sample](#)
-  [Add Button](#)
-  [Remove Button](#)
-  [TrueType Button](#)

See Also

[Adding Fonts](#)

[Removing Fonts](#)

[Setting TrueType Options](#)

## TrueType

Use this dialog box to specify whether to use TrueType fonts exclusively.

If you are not using certain fonts in your documents, turning them off frees memory for your applications. Turning off fonts does not remove them from your system.

Choose the following button for information about the dialog box:

Show Only TrueType Fonts in Applications

See Also

[Setting TrueType Options](#)



## Add Fonts

Use this dialog box to add additional screen, TrueType, or Type 1 fonts that you might purchase or receive with another application.

When installing Type 1 fonts, use the Install Type 1 Font Files For Use On The PostScript Printer option. Use of the original Type 1 fonts on a PostScript device is recommended. Choose the Convert Type 1 Font To TrueType option to match the screen to the PostScript printer, or to use the font on any non-PostScript printer. If your computer is low on disk space or if you do not want to see the precise fonts on screen, you can choose to install the Type 1 font for use on the PostScript printer only.

Choose one of the following buttons for information about the dialog box:

- [List of Fonts](#)
- [Directories](#)
- [Drives](#)
- [Copy Fonts to Windows Directory](#)
- [Select All Button](#)

See Also

[Adding Fonts](#)

[Installing Type 1 Fonts](#)

## International

By using the International option, you can specify international settings for applications that use these settings.

Choose one of the following buttons for information about the dialog box:

- Country
- Language
- Keyboard Layout
- Measurement
- List Separator
- Date Format
- Currency Format
- Time Format
- Number Format

## **Date Format**

Use the Date Format dialog box to specify the date format used in Windows NT applications.

### **Short Date Format**

The short date format displays the date as three numbers, representing month, day, and year; for example, 10/07/92.

The Short Date Format includes the following areas:

- Order
- Separator
- Day Leading Zero
- Month Leading Zero
- Century

### **Long Date Format**

The long date format displays the date as a combination of words and numbers; for example, Monday, October 14, 1992.

The Long Date Format includes the following areas:

- Order
- Day of the Week
- Month
- Day of the Month
- Year
- Separators (3)

## **Time Format**

Use the Time Format dialog box to specify the time format for Windows NT applications.

Choose one of the following buttons for information about the dialog box:

- 12 Hour or 24 Hour
- Separator
- Leading Zero
- Time Marker

## Number Format

Use this dialog box to specify the format for displaying numbers in Windows NT applications.

Choose one of the following buttons for information about the dialog box:

- Negative Format
- 1000 Separator
- Decimal Separator
- Decimal Digits
- Leading Zero

## Currency Format

Use this dialog box to specify the format for displaying currency in Windows NT applications.

Choose one of the following buttons for information about the dialog box:

- Positive Format
- Negative Format
- Symbol
- 1000 Separator
- Decimal Separator
- Decimal Digits

## Keyboard

By using the Keyboard option, you can specify how long your computer waits after you press and hold down a key to repeat that key, and how fast the key repeats.

Choose one of the following buttons for information about the dialog box:

[Delay Before First Repeat](#)

[Repeat Rate](#)

[Test](#)

See Also

[Adjusting the Keyboard Delay and Repeat Rate](#)

## Mouse

By using the Mouse option, you can change the options for your mouse.

Choose one of the following buttons for information about the dialog box:

- [Mouse Tracking Speed](#)
- [Double Click Speed](#)
- [Swap Left/Right Buttons](#)
- [Snap to Default](#)




See Also

[Customizing Your Mouse or Other Pointing Device](#)



## Ports

By using the Ports option, you can specify the communications settings for the serial (COM) port you select.

-  Select the name of the port for which you want to specify communications settings and choose the Settings button.
-  To add a new serial port to your system, choose the Add button.
-  To delete a port, select it in the the Ports box and choose the Delete button.

See Also

[Specifying Basic Serial-Port Settings](#)

## Port Settings

Use this dialog box to specify the communications settings for the selected serial (COM) ports.

Choose one of the following buttons for information about the dialog box:

- Baud Rate
- Data Bits
- Parity
- Stop Bits
- Flow Control
- Advanced Button

See Also

[Specifying Basic Serial-Port Settings](#)

## Advanced Port Settings

Use this dialog box to specify the I/O addresses and the interrupt request line (IRQ) for the selected port, change the port number of a port, and specify to use buffering of incoming data to increase performance.

If you are adding a new port, the settings for Base I/O Port Address and IRQ that appear are the recommended choices, not default settings. In the Base I/O Port Address box, the first two addresses, 3F8 and 2F8, are usually reserved for COM1 and COM2. If you use these addresses for a port you have created, your COM1 or COM2 ports may not function.

Choose one of the following buttons for information about the dialog box:

- COM Port Number
- Base I/O Port Address
- Interrupt Request Line (IRQ)
- FIFO Enabled

The changes you make in this dialog box do not take effect until you restart Windows NT. When you choose the OK button, a dialog box appears, asking whether you want to restart Windows NT.

- To restart Windows NT, choose the Restart Now button.  
To stay in your current Windows NT session, choose the Don't Restart Now button.

See Also

[Specifying Advanced Serial-Port Settings](#)

## **COM Port Number**



You can change the port number of a port. Windows NT supports a maximum of 256 COM ports. Any new ports that are added must be between 3 and 256, since COM1 and COM2 are the only two reliably directed COM ports recognized by most BIOS.

**FIFO Enabled**

A checkbox to enable the serial chip (UART) to use on-chip buffering of incoming data and to allow some additional functionality for newer COM ports.

## **Browse**

Use this dialog box to find and select the drive and directory where the driver file is located.

-  Open the Drives list, and then select the drive that contains the driver file. The Directories list displays the directories on the selected drive.
-  Open the Directories list, and then select the directory that contains the driver file.

## Sound

Use the Sound option to assign sounds to system and application events and to turn the Windows NT warning beep and system sounds on or off. Windows NT does not support playing waveform sounds through the PC speaker; therefore, if you do not have sound hardware, the Test button will appear gray. It is possible to select sounds before you have installed a Sound card, but they won't play until the card is actually installed.

Choose one of the following buttons for information about the dialog box:

- [Event](#)
- [Files](#)
- [Enable System Sounds](#)
- [Test Button](#)

See Also

[Assigning Sounds to Events](#)

## MIDI Mapper

You can use the MIDI Mapper option to select a MIDI setup for a sound device, create a new setup, or edit existing [key maps](#), [patch maps](#), and channel mappings. Windows NT supplies MIDI setups for the sound devices it supports.

Choose one of the following buttons for information about the dialog box:

- [Show](#)
- [Name](#)
- [Delete Button](#)
- [Edit Button](#)
- [New Button](#)

### Warning

Do not use the MIDI Mapper option to create or edit MIDI setups unless you have a basic understanding of MIDI concepts and terminology and understand the results of the changes you make.

See Also

[Selecting a MIDI Setup](#)

[Creating a MIDI Setup](#)

[Editing Setups, Key Maps, and Patch Maps](#)

[Deleting Setups, Key Maps, and Patch Maps](#)



## MIDI Setup

Use this dialog box to specify channel mappings for a new or existing MIDI setup.

Choose one of the following buttons for information about the dialog box:

- [Src Chan](#)
- [Dest Chan](#)
- [Port Name](#)
- [Patch Map Name](#)
- [Active](#)

See Also

[Editing Setups, Key Maps, and Patch Maps](#)

[Specifying Channel Mappings](#)

## MIDI Patch Map

Use this dialog box to edit or create a [patch map](#). If you are creating a new MIDI setup for a synthesizer whose patch list differs from the [General MIDI](#) patch definitions, you need to create two patch maps: One for melodic instruments and one for percussion instruments.

Choose one of the following buttons for information about the dialog box:

- [1 Or 0 Based Patches Button](#)
- [Src Patch](#)
- [Src Patch Name](#)
- [Dest Patch](#)
- [Volume %](#)
- [Key Map Name](#)

See Also

[Creating Patch Maps](#)

[Editing Setups, Patch Maps, and Key Maps](#)

## MIDI Key Map

Use this dialog box to edit or create a [key map](#). If you are creating a new MIDI setup for a synthesizer whose percussion key definitions differ from [General MIDI](#), you need to create a key map for percussion instruments.

If your synthesizer plays certain sounds at registrations that differ from General MIDI definitions (for example, if your synthesizer plays a patch a fifth higher than General MIDI specifies), you may also need to create a key map for registration changes.

Choose one of the following buttons for information about the dialog box:

- [Src Key](#)
- [Src Key Name](#)
- [Dest Key](#)


See Also


[Creating Key Maps](#)

[Editing Setups, Patch Maps, and Key Maps](#)

## **New MIDI Setup**

Use this dialog box to specify a name and a description for the MIDI setup you want to create.


 Type a name for the setup in the Name box. The name can be up to 15 characters long.


 Type a description of the setup in the Description box. The description can be up to 31 characters long.

When you choose the OK button, a dialog box appears in which you can specify the channel mapping for the new setup.

## **New MIDI Patch Map**

Use this dialog box to specify a name and a description for the patch map you want to create.


 Type a name for the patch map in the Name box. The name can be up to 15 characters long.


 Type a description of the patch map in the Description box. The description can be up to 31 characters long.

When you choose the OK button, a dialog box appears in which you can specify the settings for the new patch map.

## **New MIDI Key Map**

Use this dialog box to specify a name and a description for the key map you want to create.

 Type a name for the key map in the Name box. The name can be up to 15 characters long.





 Type a description of the key map in the Description box. The description can be up to 31 characters long.

When you choose the OK button, a dialog box appears in which you can specify the settings for the new key map.

## Drivers

Use the Drivers option to install, remove, and configure drivers that control additional devices, such as sound cards and video players, that you add to your system.

Choose one of the following buttons for information about the dialog box:

-  [Installed Drivers](#)
-  [Add Button](#)
-  [Remove Button](#)
-  [Setup Button](#)

See Also

[Installing Device Drivers](#)

[Removing Device Drivers](#)

[Setting Driver Options](#)

## **Exit**

Quits Control Panel.



## **Contents**

Starts Help and displays the topics in Control Panel Help.

## **Search for Help on**

Opens the Search dialog box for Control Panel Help. You can look up Help information by using keywords in this dialog box.

## **How to Use Help**

Describes how to use Help.

## **About Control Panel**

Displays version, mode, and copyright information about Windows NT.

## **Control Menu**

The Control menu contains the following commands:

### **Restore**

Restores the window to its former size after it has been maximized or minimized.

### **Move**

Enables you to use the keyboard to move the window to another position.

### **Size**

Enables you to use the keyboard to change the size of the window.

### **Minimize**

Reduces the window to an icon.

### **Maximize**

Enlarges the window to its maximum size.

### **Close**

Quits Control Panel, or closes a window or dialog box.

### **Switch To**

Opens Task List, which you can use to switch between running applications and to rearrange their windows and icons on your desktop.

## **The WIN.INI File**

The WIN.INI file is an initialization file that provides Windows NT with information about your system configuration, such as the type of printer and pointing device you are using, and about software options, such as network options and how your screen should look while Windows NT is running. Windows NT searches the WIN.INI file for your system's configuration and software options so that Windows NT will run the way you want it to.

## Color Schemes

Windows NT provides several predefined color schemes that you can use to change the colors of several screen elements at once. You can also change the color of one element at a time, modify the existing color scheme, or create a new one by saving your changes.



Open the list, and then select the color scheme you want to use.  
The colors in the sample screen change to show you how the new color scheme will look.

## Save Scheme Button

You can modify an existing color scheme by changing the color of particular screen elements and then saving your changes. You can also create a new color scheme by saving your changes under a new name.



Choose the Save Scheme button to save your changes.



## **Remove Scheme Button**


If you are not planning to use a color scheme, you can remove it from the Color Schemes list.



Choose the Remove Scheme button to remove the selected color scheme.

## Sample Screen

The sample screen displays the currently selected screen element colors. The colors of each screen element change to match the color scheme you select.

 If you have a mouse, click the screen element you want to select. If you are using the keyboard, use the Screen Element list to select an element.

### **Color Palette Button**


The Color dialog box includes an expanded dialog box from which you can choose colors for individual screen elements.



Choose the Color Palette button to display the rest of the Color dialog box.

## Screen Element

The Screen Element box displays a list of the screen elements whose colors you can change.

 Open the list, and then select the screen element you want to change. Or click the element in the sample screen.

## Basic Colors

Basic Colors is a palette of the preset colors available for your screen.



Click the color you want to use.

Or press **TAB** to move to the palette, use the arrow keys to move to the color you want, and then press the **SPACEBAR** to select the color.

For some screen elements, Windows NT uses only solid colors. If you select a nonsolid color (a color produced by a pattern of dots that simulate the desired color) for the following screen elements, Windows NT will use the solid color that most closely matches the selected nonsolid color:



Window Frame



Window Text



Window Background



Menu Bar



Menu Text



Button Text



Button Face



Button Shadow



Button Highlight



Highlight



Highlighted Text



Title Bar Text

## Custom Colors


Custom Colors is a palette of any colors you have created in the Custom Color Selector dialog box. A new color is added to the selected square after you have defined the custom color.



Click the color or empty square you want to use.


Or press `TAB` to move to the palette, use the arrow keys to move to the color or square you want, and then press the `SPACEBAR` to select the color or square.

### **Define Custom Colors Button**

 Choose this button to display the Custom Color Selector dialog box for creating your own custom colors.

### **Color Refiner Box**


The Color Refiner box shows all the nonsolid colors (colors that are produced by a pattern of dots that simulate the desired colors) available for your system.

 Drag the color refiner cursor to the area of the box that shows the color you want. If you are using the keyboard, adjust the values for Hue and Sat.

The color is shown on the left side of the Color/Solid box. The closest solid color appears on the right.



### **Luminosity Bar**

 Drag the arrow up or down to adjust the luminosity of the color. If you are using the keyboard, type a value in the Lum box.

The luminosity change is shown to the left of the Color/Solid box.

### **Color/Solid Box**

This box shows the changes you make to the hue, saturation, and luminosity of a color. As you make changes, the new nonsolid color is displayed on the left side of the box. The right side of the box shows the solid color closest to the selected color.



Double-click the right side of the box to select the solid color.

## Hue, Sat, and Lum

These options show the number values for the hue, saturation, and luminosity of the selected color.




Type values in these boxes or click the arrows to the right of each box to increase or decrease the value.

The color refiner cursor and the arrow for the luminosity bar move to reflect the new values.


## **Red, Green, and Blue**

These options show the numbers for the red, green, and blue values of the selected color.

 Type values in these boxes. Or click the arrows to the right of each box to increase or decrease the values.

The color refiner cursor and the arrow for the luminosity bar move to reflect the new values.


### **Add Color Button**

 Choose the Add Color button to add the new color to the selected square in the Custom Colors palette.

**Date**

To change the date, select the month, day, or year, and then type a new value.  
Or click the up or down arrow to increase or decrease the selected number by one.

## **Time**

-  To change the time, select the hours, minutes, or seconds, and then type a new value.  
Or click the up or down arrow to increase or decrease the selected number by one.


**Automatically Adjust for Daylight Saving Time**




Select the check box if your area uses daylight saving time.




## **Time Zone**

 Use the scroll box to view the available choices and then select the appropriate zone for your area.

## Cursor Schemes


 Open the list box and select a scheme. The default scheme is Windows Default. Modify a current scheme by selecting an action whose cursor you want to change and double-clicking it or choosing the Browse button.

Change the cursors for any other actions, and then choose the Save Scheme button. In the Save Scheme dialog box, type a name for a new scheme or press OK to modify an existing one.

 Choose the Remove Scheme button to remove a selected scheme.

## **System Cursors**

The System Cursors box shows each cursor and the action it is associated with.

 Select an action whose cursor you want to change, and then choose the Browse button.

## **Information Area**

The information area appears at the bottom of the Cursors dialog box. If you choose a static cursor, the file where the cursor came from is shown. If you choose an animated cursor, additional information about the title and creator appear. For default cursors, no information is available.

## **Preview Window**

The preview window box shows an example of the selected cursor.

## **Browse Button**

Use the Browse Button to view and select cursors.



Select an action and then choose the Browse button.

## **Reset Button**

Use the Reset button to change the selected cursor back to the system default cursor. Only the cursor for the selected action changes; all other cursors stay the same.



Select an action and then choose the Reset button.


### **Screen Saver Name**



Open the list, and then select the screen saver you want to use.



### **Screen Saver Delay**

 Click the up or down arrow to increase or decrease the number of minutes of inactivity before the screen saver appears. Or type a number larger than zero in the text box.


### **Screen Saver Test Button**



Choose the Test button to test the screen saver.

To return to Windows NT, press any key or move your mouse.

### **Screen Saver Setup Button**

 To change the settings for the screen saver, choose the Setup button, and then complete the Setup dialog box.

## **Screen Saver Password Protected Box**

You can ensure that unauthorized users do not have access to your work by password protecting a screen saver.



Check the Password Protected box to turn the password option on.

If someone tries to use your computer once the password protected screen saver is displayed, a Lock Workstation dialog box appears. To unlock the computer, the same password used to log on to the computer must be entered.

## Granularity

Use this option to specify the spacing of the sizing grid. The grid is measured in increments of 8 pixels, or pels.




Click the up or down arrow to increase or decrease the granularity of the grid by one. Or type a number.

You can specify a value between 0 and 49. The smaller the grid setting, the more flexible the placement of windows and icons can be. When this option is set to 0, the grid is turned off.

**Note:** The sizing grid you specify only affects application windows and icons, not secondary (document) windows and icons. Setting the sizing grid too high may make it difficult to position your windows and icons on the screen.

## **Border Width**

Use this option to specify the width of the borders around application and document windows.

 Click the up or down arrow to increase or decrease the border width by one pixel (pel). Or type a number.

You can specify a value between 1 and 50, with 1 as the narrowest border.

**Note:** Setting the value for the border width too low may make it difficult to size windows by using the mouse.

**Name**

This option displays a list of patterns to choose from.



In the Name list, select a pattern for editing, or type a name for the new pattern you want to create.

The pattern you selected appears in the Sample box and an enlarged view appears in the editing cell.

## Editing Cell

This area shows an enlarged view of the selected pattern.



Click each cell in the pattern that you want to change.

The Sample box displays how the pattern will look on your screen.

Note: You must use a mouse to change or create patterns. You cannot do this with the keyboard.



### **Change Button**



Choose this button to save the changes you have made to the selected pattern.

### **Remove Button**



Choose this button to delete the selected pattern.

### **Add Button**



Choose this button to add a new pattern.

This button is unavailable until you type a new name for the pattern in the Name box.

## **Background Color**

 Open the list, and then select the color you want to use for the text background.

To select a color for the text itself, choose the Format Text button, and then select a color from the Color list in the Format Text dialog box.

## **Position**

Use these options to position the text on your screen.

- If you want the text to move across the center of your screen, select the Centered option.
- If you want the text to move across the screen in different places, select the Random option.

## **Speed**

Use this option to specify how fast you want the text to move across the screen.



Drag the scroll box toward Fast or Slow to increase or decrease the speed. Or use the LEFT and RIGHT ARROW keys.


**Text**

Use this option to specify the text that you want to display.



Type the text in the box.

### **Format Text Button**

 To select a font and size for the displayed text, choose the Format Text button, and then complete the Format Text dialog box.



## Font



Select a font from the list.

You can see what the font looks like in the Sample box. You can use the other areas in the Format Text dialog box to change the size and the style of the font.


## Font Style



Select any style options you want to apply to the new font.


You can see what the style looks like in the Sample box. You can use the other areas in the Format Text dialog box to change the font and the font size.

## Size

 Choose a font size from the list. The larger the size you choose, the larger the characters appear on your screen.

You can see what the size looks like in the Sample box. You can use the other areas of the Format Text dialog box to change the font and the style.

## Effects

 If you want the text to appear with a line through it, select the Strikeout check box. If you want the text to appear underlined, select the Underline check box. You can use both options at the same time.

## **Color**




Open the list, and then select a color for the text.  
To select a color for the background, use the Background Color option in the Marquee Setup dialog box.

**Sample**

This box shows what the selected font, styles, size, effects, and color would look like in the screen saver.

## Shape

 Open the list, and then select the shape--Polygon 1 or Polygon 2--that you want to specify settings for.

**Active**


Select the Active check box to make the selected shape active.

If the selected shape is not active, it does not appear on your screen when the screen saver is in use. Also, you cannot specify line and color options for it (the Lines and Colors To Use options are unavailable).




## Lines

Use this option to specify the number of lines the selected shape will have.

 Click the up or down arrow to increase or decrease the number by one. Or type a number in the box.

## Colors to Use

Use this option to specify the colors of the selected shape.

 Select Two Colors to display the selected shape in two alternating colors. Select one color from each list. The color of the shape will alternate between these colors.

Select Multiple Random Colors to display the selected shape in several alternating colors, determined by the screen saver.


### **Clear Screen**

Use this option to specify whether to clear the screen before displaying the shapes. Clearing the screen does not affect your work.

Select this check box to display the shapes on a black background. Clear this check box to display the shapes over your work.


## **Warp Speed**

Use this option to specify the rate at which the stars move on your screen.

 Drag the scroll box toward Fast or Slow to speed up or slow down the rate. Or use the RIGHT and LEFT ARROW keys.


### **Starfield Density**

Use this option to specify the number of stars that are used.

 Click the up or down arrow to increase or decrease the number of stars. Or type a number in the box.


## **Warp Speed**

Use this option to specify the rate at which the windows move on your screen.

 Drag the scroll box toward Fast or Slow to speed up or slow down the rate. Or use the RIGHT and LEFT ARROW keys.


## Density

Use this option to specify the number of windows that are used.

 Click the up or down arrow to increase or decrease the number of windows. Or type a number in the box between 10 and 200.

## Beziers Length


Use this option to specify the number of Beziers in each loop.

 Click the up or down arrow to increase or decrease the number of Beziers, from 1 to 10. Or type a number in the box.




## Beziers Width

Use this option to specify the number of lines in a Bezier.

 Click the up or down arrow to increase or decrease the number of lines, from 1 to 100. Or type a number in the box.

## Beziers Speed

Use this option to specify how fast the Beziers revolve around the screen.

 Drag the scroll box toward Fast or Slow to speed up or slow down the Beziers. Or use the RIGHT and LEFT ARROW keys.

## **Installed Fonts**

This area displays a list of fonts that are already installed. You can use fonts supplied by printer and font manufacturers in addition to the screen and printer fonts supplied with Windows NT.




To select a font, click it. Or use the arrow keys.

**Sample**


This area shows a sample of the selected font in all the available sizes, unless it is a plotter font or a TrueType font. Plotter fonts are shown in the point size in which they were created. TrueType fonts are shown in a size of about 14 to 16 points.

## **Remove Button**


 Choose the Remove button to remove the selected font from memory and the Installed Fonts list.

Note: The MS Sans Serif font is used for most Windows NT dialog boxes. Do not remove this set, or the text in the dialog boxes will be difficult to read.

## **Add Button**

 To add a font, choose the Add button, and then complete the Add Fonts dialog box.

### **TrueType Button**

 To use TrueType fonts exclusively, choose the TrueType button, and then complete the TrueType dialog box.

## **Show Only TrueType Fonts in Applications**

This option lets you list only TrueType fonts for use in your applications, but you are still able to view every font in the Fonts dialog box.


Select this check box to list TrueType fonts exclusively in your Windows NT applications. Turning off all other fonts will free up memory.

Note: Some applications do not support listing TrueType fonts exclusively. If you select this check box and no TrueType fonts appear in your application, do not use this option.



## List of Fonts

This option lists the fonts you can add. You can select and install more than one font at a time.

 Select the font you want to add. To select all the fonts at once, choose the Select All button.

If the font you want is not listed, you may have to change drives or directories first.

## Directories

This option lists the directories on the current drive.




Select the directory that contains the fonts you want to add.

When you select a directory that contains fonts, the fonts appear in the List Of Fonts box. If the directory you want does not appear in the list, you may have to change drives first.

## **Drives**

This option lists the disk and network drives on your computer.

 Open the list, and then select the drive that contains the fonts you want to add to your system.

When you select a drive, a list of the directories on the drive appears in the Directories list.

## **Copy Fonts to Windows Directory**

This option is useful if you are low on disk space.

Clear this check box if you want to use fonts directly from the drive and directory in which they are located, without copying them into your Windows NT directory.

Select this check box if you want to copy the fonts into your Windows NT directory. This is the default setting and is recommended if you are using fonts that are located on a network or on an external disk drive.

If you select this check box and are running Windows NT from a network, the fonts will be copied to your Windows NT SYSTEM directory.


### Select All Button



Choose the Select All button to add all the fonts in the List Of Fonts box at once.


## **Country**

This option lists the countries supported by Windows NT.

 Open the list, and then select the country with the standard settings you want to use.

When you select a country, the other Format options in the dialog box change to show the formats for that country.

## **Language**

 You need to be logged on as a member of the Administrators group to change the language options.

 Open the list, and then select the language you want to work in.

Windows NT applications that provide language-specific tasks, such as sorting or case conversion, use this setting. You must shut down and restart your computer for the new language setting to take affect.

## Keyboard Layout

This option lists the keyboard layouts supported by Windows NT. The keyboard layout for a language accommodates the special characters and symbols that are part of the language for that country.

You need to be logged on as a member of the Administrators group to change the keyboard options.

Open the list, and then select the keyboard layout you want to use.

The following keyboard layouts are for use only with Unicode applications and require installing the Unicode font, Lucida Sans Unicode:

Czech

Greek

Hungarian

Polish (Programmers)

Russian

Slovak


Turkish F

Turkish Q

To install the Lucida Sans Unicode font, use the Font option in Control Panel. The font is available on the Windows NT compact disc.



## Measurement

 Open the list, and then select the measurement system, English or Metric, that you want to use.


### List Separator



In the box, type the character that you want to use to separate elements in a list.


## **Date Format**

This option shows the way short and long date formats are displayed in Windows NT applications.

 To change the format, choose the Change button, and then complete the Date Format dialog box.


## **Time Format**

This option shows the way time is displayed in Windows NT applications.

 To change the format, choose the Change button, and then complete the Time Format dialog box.


## **Currency Format**

This option shows the way currency is displayed in Windows NT applications.

 To change the format, choose the Change button, and then complete the Currency Format dialog box.

## **Number Format**


This option shows the way numbers are displayed in Windows NT applications.

 To change the format, choose the Change button, and then complete the Number Format dialog box.

**Short Date Format: Order**

Select the option for the order in which you want the month (M), day (D), and year (Y) to appear in the date.

### **Short Date Format: Separator**

 In the box, type the character you want to use to separate the month, day, and year. You can specify any character as the separator. The most common separator characters are the slash (/) and the hyphen (-)



**Short Date Format: Day Leading Zero**



Select this check box to specify a two-digit day display.

**Short Date Format: Month Leading Zero**



Select this check box to specify a two-digit month display.

**Short Date Format: Century**



Select this check box to specify a four-digit year display.

**Long Date Format: Order**


Select the option for the order in which you want the month (M), day (D), and year (Y) to appear in the date.

### **Long Date Format: Day of the Week**



Open the list, and then select a full or abbreviated day-name format.

### **Long Date Format: Month**

 Open the list, and then select a full or abbreviated month-name or month-number format.

### **Long Date Format: Day of the Month**



Open the list, and then select a day format with or without leading zeros.


### **Long Date Format: Year**




Open the list, and then select a two- or four-digit year format.



### **Long Date Format: Separators (3)**

 In the box, type the character you want to use to separate the month, day, and year. You can specify any character as the separator. The most common separator characters are the slash (/) and the hyphen (-)

## **12 Hour or 24 Hour**

 Select the format, 12- or 24-hour clock, that you want to use to display the time. You can select only one format.


If you are using the 12-hour format, type the words or symbols (for example, A.M. or P.M.) that you want to denote before or after noon in the text box.

If you are using the 24-hour format, you can type a suffix (for example, PST for Pacific Standard Time).

## Separator

In the box, type the character you want to use to separate hours, minutes, and seconds. You can use any character. The colon (:) is the most common one used.

### **Leading Zero**


 Select the format for the hours before 10 that you want to use. For example, you can display 9 o'clock as 9:00 or as 09:00. You can select only one format.

### **1000 Separator**




In the box, type the character you want to use to separate thousands.

### **Decimal Separator**

 In the box, type the character you want to use to separate decimal digits from whole numbers.

### **Decimal Digits**

 In the box, type the number of digits you want to display to the right of the decimal separator.

### **Leading Zero**

Select the option (a zero in front of the decimal or no zero in front of the decimal) that you want to use for displaying a number less than 1. You can select only one option.




### **Time Marker**




Select the option that you want to use for displaying the order of suffixes.


### **Positive Format**

 Open the list, and then select the format you want to use for positive currency values.

## **Negative Format**

 Open the list, and then select the format you want to use for negative currency values.

## Symbol

 In the box, type the currency symbol that you want to use for the selected country. To specify the placement of the symbol, use the Symbol Placement option.


### **Decimal Digits**



In the box, type the number of digits that you want to display after the decimal point.


### **Delay Before First Repeat**

Use this option to adjust how long it takes your computer to repeat a key after you press and hold the key down.

 Drag the Delay box toward Long or Short to increase or decrease the delay, or click the appropriate scroll arrow.

## **Repeat Rate**

Use this option to adjust how fast a key repeats when you press and hold it down.

 Drag the Repeat Rate box toward Fast or Slow to increase or decrease the repeat rate, or click the appropriate scroll arrow.

Note: Some keyboards do not support changes to the repeat rate.

## **Test**

Use this option to test the new settings for the keyboard delay time and repeat rate.



To test the settings, type any characters you want in the Test box.



## **Mouse Tracking Speed**


Use this option to adjust the rate at which the pointer travels across the screen.




Drag the scroll box toward Slow or Fast to decrease or increase the rate. Or use the RIGHT and LEFT ARROW keys.

## Double Click Speed

Use this option to adjust the speed at which Windows NT registers a double-click.

 Drag the scroll box toward Slow or Fast to decrease or increase the speed. Or use the RIGHT and LEFT ARROW keys.

 Double-click the Test button to see whether Windows NT recognizes your double-clicks.

If the button changes color, Windows NT recognizes your double-clicks. If it does not change color, decrease the double-click speed.

## Swap Left/Right Buttons

Many applications use the left button as the primary tool for selecting text and choosing items. If you are left-handed, you might find it more convenient to switch the two buttons.


Select the check box to swap left and right mouse buttons. The mouse diagram above the check box changes to reflect your choice.

Note: Swapping the left and right mouse buttons takes effect immediately, before you close the dialog box. If you swap buttons, press the right button to choose OK or Cancel, or to swap the buttons again.


**Snap to Default**

If the Snap to Default checkbox is marked, the cursor moves to the default button of a dialog when the dialog box is opened. For example, if you open a dialog in which the default is OK, the cursor would be on the OK button when the dialog box opens.

## **Baud Rate**

 Open the list, and then select a rate for how fast you want information transferred through the port.

### **Data Bits**


 Open the list, and then select the number of data bits you want to use for each character. Most characters are transmitted in 7 or 8 data bits.

## Parity




Open the list, and then select a method for error checking.

### **Stop Bits**


 Open the list, and then select a number for the time between transmitted characters. Stop bits are not actually bits; they are the timing units between bits.



## **Flow Control**

 Open the list, and then select a method for controlling the flow of data. Xon/Xoff is the standard for the software method. Select Hardware if your device controls data flow.

### **Advanced Button**

 To specify advanced options for the selected port, choose the Advanced button, and then complete the Advanced Settings dialog box.

### **Base I/O Port Address**

Use this option to change the base port address for the COM port you want to use. Use this option only if the device connected to your serial port uses an address value that differs from the detected value displayed in the text box. See the manual for your device for information on the base port address that it uses.



Open the list, and then select an I/O address. Or type a value in the text box.

## **Interrupt Request Line (IRQ)**

Assigning unique interrupt request lines (IRQ) for each serial port enables you to use COM ports 1 and 3 and/or 2 and 4 simultaneously on a computer that normally does not support this capability.

Before assigning IRQ numbers to serial ports, determine which interrupts are used by the devices connected to the serial ports and which ones are not being used by other cards or boards installed in your computer. You may need to adjust your serial card to use available interrupts. For information, see your serial-card documentation.



Open the list, and then select an IRQ. Or type a value in the text box. You can specify a value between 2 and 15.

## Event

You can assign sounds to system and application events (for example, when Windows NT starts or displays a message).

When you assign sounds to events, the sounds play as specified by the application you are using. For example, some applications play the sound assigned to the Default Beep whenever you click the mouse button outside an open dialog box. Other applications may play the sound assigned to Exclamation or Asterisk whenever you encounter a warning message.




Select the event you want to assign a sound to.

The name of the sound file assigned to the selected event is selected in the File list.

## Files

The sounds you can assign are stored in sound files. Sound files have the extension `.WAV`.

 Select the sound file that you want to assign to the selected event. If you do not want to assign a sound, select None.

If the sound file you want is on a different drive or in a different directory, select the drive or directory that contains the sound file.

## **Enable System Sounds**

If you do not have a sound card installed in your computer, Windows NT uses a warning beep when it encounters an error or you attempt to do something your computer does not recognize.

You can turn the warning beep and other sounds on or off, except the sounds assigned to Windows NT Exit and Windows NT Start.



Select or clear the Enable System Sounds check box.

If you do not want a sound to play when you start or quit Windows NT, assign None to the Windows NT Start or Windows NT Exit events.

### **Test Button**



Choose the Test button to find out what the selected sound file sounds like.  
Or double-click the event or filename.




## **Show: Setups, Patch Maps, Key Maps**

Use these options to select the type of map you want to create, edit, or delete.

- Select the Setups option to create or edit channel mapping for a MIDI setup, or to delete a MIDI setup.
- Select the Patch Maps option to create or edit the patch maps used in a MIDI setup, or to delete a patch map.
- Select the Key Maps option to create or edit the key maps used in a patch map or to delete a key map.

## **Name**

This option lists the names of existing MIDI setups, patch maps, and key maps, depending on which option you select in the Show area.

 Open the list, and then select the setup, patch map, or key map that you want to edit or delete.

A description of the selected setup, patch map, or key map appears in the Description line below the Name box.

### **Delete Button**




Choose this button to delete the selected setup, patch map, or key map.


The name of the selected setup, patch map, or key map appears in the Name box.

Note: You cannot delete key maps that are used in patch maps or patch maps that are used in setups. You must first edit the patch map or setup and remove all references to the key map or patch map you want to delete.

### **Edit Button**

-  Choose this button to display the Edit dialog box for the selected setup, patch map, or key map. Use the Edit dialog box to change setup, patch map, or key map settings. The name of the selected setup, patch map, or key map appears in the Name box.

### **New Button**

 Choose this button to display the New dialog box for creating a new setup, patch map, or key map.

You select the type of map you want to create by selecting an option in the Show area.


**Src Chan**

This column lists the MIDI channels that can be included within a MIDI message sent by an application or stored in a MIDI file. You cannot change these values.

With the MIDI Mapper, not all synthesizers can use all channels. Base-level synthesizers use source channels 13 through 16. Channels 13 through 15 are the melodic channels and 16 is the percussive channel. Extended-level synthesizers use source channels 1 through 10. Channels 1 through 9 are the melodic channels and 10 is the percussive channel.

## **Dest Chan**

Use this column to specify the channel that you want your synthesizer to use to play the sounds on the source channel. The default value is the same as the value for the source channel. If your synthesizer supports General MIDI channel definitions, you do not need to change the default value.

-  To change the value, select the Dest Chan box, and then click the up or down arrow until the destination channel number you want is displayed.  
Or select the number, and then type a new number.

## Port Name

Use this column to specify the name of the MIDI output port that the sounds on the source channel are sent to.



To specify the port name, open the Port Name list, and then select the port you want.

You do not need to use the same port for each channel. For example, if you are using two synthesizers, such as an Ad Lib and a synthesizer connected to the MIDI output port of your computer, you could send some sounds on certain channels to the Ad Lib port, and other sounds on other channels to the MIDI output port.



## Patch Map Name

Use this column to specify the patch map used with a particular channel.



Open the Patch Map Name list, and then select the patch map you want.

The patch map you select depends on whether the source channel is melodic or percussive. For melodic source channels, select the patch map you created for melodic instruments. For percussive source channels, select the patch map you created for percussion instruments. On base-level synthesizers, melodic channels are 13 through 15 and the percussive channel is 16. On extended-level synthesizers, melodic channels are 1 through 9 and the percussive channel is 10.

## Active


Use this column to specify whether MIDI information for a particular channel is sent to the selected port. When you select a port name, this box is selected automatically, indicating that MIDI information will be sent to the port.



To change the setting, click the Active box.

Or press `TAB` until the box is selected, and then press the `SPACEBAR`.

### **1 Or 0 Based Patches Button**

 Choose this button if your synthesizer defines patch numbers (either starting with 0 or with 1) differently from how they are displayed in the MIDI Patch Map dialog box.

**Src Patch**


This column lists the MIDI patch numbers that can occur within MIDI messages that are in a MIDI file or that are sent by an application. Some synthesizers define patch numbers from 0 through 127; others define patch numbers from 1 through 128. You cannot change these values.

**Src Patch Name**

This column displays the names of the standard sounds or instruments associated with the source patch numbers for melodic channels, as defined by the General MIDI specification. Use these names as a reference when creating a patchmap for melodic instruments. If you are creating a patchmap for percussion instruments, you can ignore these names.

## **Dest Patch**

Use this column to specify the patch numbers on your synthesizer that match the sounds or instruments displayed in the Src Patch Name box. For synthesizers that support General MIDI, this number is the same as the Src Patch number.

-  To change the destination patch, select the Dest Patch box, and then click the up or down arrow until the destination patch number you want is displayed.  
Or select the number, and then type a new number.

## Volume

Use this column to specify the volume of the destination patch. This value is measured as a percentage of the volume specified by a MIDI volume message in the MIDI file. The default value is 100, which specifies that the patch will play at the volume indicated in the MIDI file.




To change the volume setting, select the Volume % box, and then click the up or down arrow until the volume percentage you want is displayed.

Or select the number, and then type a new number.

To increase the volume, use a number greater than 100. To decrease the volume, use a number less than 100.

## Key Map Name

Use this column to specify the key map used with each patch.

 To specify a key map, open the Key Map Name list, and then select the key map you want.

If you are creating the patchmap for percussion instruments, specify the key map name you created for percussion for all the source patches.

If you are creating the patchmap for melodic instruments and your synthesizer produces certain sounds using a registration that differs from General MIDI definitions, select a key map for the patch corresponding to that sound, so that the keys play at the appropriate registration. For example, if your synthesizer plays Chorused Piano one octave higher than defined by General MIDI, select the -1 octave key map for the patch that corresponds to Chorused Piano.



**Src Key**

This column lists the MIDI keys that can occur within MIDI messages that are in a MIDI file or that are sent by an application. You cannot change these values.


**Src Key Name**

This column displays the names of the percussion instruments associated with the source keys, as defined by the General MIDI specification.

Use these names as a reference when creating a key map for percussion instruments. If you are creating a key map to correct registration changes for melodic instruments, you can ignore these names.

## **Dest Key**

Use this column to specify the key that is played on your synthesizer when the source key number is sent by an application or encountered in a MIDI file.

-  To change the destination key, select the Dest Key box, and then click the up or down arrow until the destination key number you want is displayed.  
Or select the key number, and then type a new number.


## Installed Drivers

This list shows the drivers that are already installed. You can select a driver to either remove it or to change its settings.



Select the driver that you want to remove or configure.

## **Add Button**

 Choose the Add button to display the Add dialog box. Use the Add dialog box to install a new driver.

## **Remove Button**

If you are no longer using a device, you can remove its driver from the Installed Drivers list.




Choose the Remove button to remove the selected driver from the list.

### **Caution**

The drivers that are automatically installed during Setup are required by your system. If you remove one of these drivers, your system may not work properly.


## **Setup Button**

Some drivers require special settings to work properly with Windows NT.

 Choose the Setup button to display the Setup dialog box for specifying driver settings.

If you select a driver that does not require special settings, the Setup button appears dimmed.

### **Device Contention: Ports List**

 To specify device contention for a device, select the port that the device you want to use is connected to.



**Device Contention: Always Warn**

Select this option to display a message each time an application tries to use a device that is already in use. The message asks you to choose the application that should get control of the port.

**Device Contention: Never Warn**

Select this option to allow any application to use the device at any time, without displaying a message.

Use this option only if you are sure that no more than one application will be using the device at a time. If two applications try to use the device at the same time, it may result in incorrect information.

**Device Contention: Idle**

Select this option to specify the number of seconds to elapse after an application stops using a device and before another application can use the same device, without displaying a warning message. You can specify a number between 1 and 999.

**File Name**

Displays the default file specification and a list of the files in the current directory.



Type the name of the file you want to open, or select it from the list.

### **List Files of Type**

Lists the available file formats.



Open the list box to select different formats.

## **Directories**

Lists the current directory and any subdirectories.



Double-click different directories to change your path.

## **Drives**

Lists the available drives.



Open the list box to select a different drive.

**Read Only**




Select this check box if you want to view the file, but don't want to save changes to it.





**Network Button**

Connects to shared directories on the network and displays additional options.

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## **Switching Between Applications**

Windows NT allows you to run multiple applications at one time. However, when doing this, it is sometimes difficult to locate a specific application window. You can use fast application switching to easily switch between applications you have running. If the Fast Task Switch check box is selected in the Desktop dialog box, you can quickly cycle through the names of the applications running at that time. If the Fast Task Switch check box is not selected, pressing ALT+TAB still works, but only the title bar of each window is highlighted. This format makes it more difficult to see which application is selected.

### **To use fast application switching**

1. In the Control Panel window, choose the Desktop icon.
2. In the Desktop dialog box, select the Fast "Alt+Tab" Switching check box.
3. Choose the OK button.
4. Press ALT+TAB to cycle through the running applications. When you see the name of the application you want, release the keys.

If, while moving through the applications by pressing ALT+TAB, you want to return to your original application, press ALT+TAB+ESC.

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## Selecting and Testing a Screen Saver

When Windows NT is set up, a default screen saver is selected. However, several other screen savers are available. Once you have selected a screen saver, you can see how it looks on your screen by choosing the Test button. Move the mouse or press any key to turn off the screen saver.

### To select a screen saver

1. In the Control Panel window, choose the Desktop icon.
2. Under Screen Saver, select a screen saver in the Name box.

-Or-

Press TAB to reach the box, and then press ALT+DOWN ARROW to select a screen saver.

3. In the Delay box, click the up scroll arrow to increase, or click the down scroll arrow to decrease, the number of minutes of inactivity you want to elapse before the screen saver appears.
4. To test the screen saver, choose the Test button.
5. To return to Windows, move the mouse or press any key.
6. When you find the screen saver you want, choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Customizing a Screen Saver](#)

[Specifying a Password for a Screen Saver](#)



## Customizing a Screen Saver

Some screen savers can be customized. For example, you may be able to change the colors of the object displayed, the number of lines the object contains, or any text that is displayed. The settings you can change depend on the screen saver.

### To customize a screen saver

1. In the Control Panel window, choose the Desktop icon.
2. Under Screen Saver, select a screen saver in the Name box.
3. Choose the Setup button (if the screen saver cannot be customized, a message appears, notifying you that the screen saver has no options that you can set.)

The Setup dialog box appears, with options specific to the screen saver you selected.

4. Change any settings you want.
5. Choose the OK button and then choose the OK button from the Desktop dialog box.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Selecting and Testing a Screen Saver](#)

[Specifying a Password for a Screen Saver](#)

## **Specifying Password for a Screen Saver**

When you use a screen saver provided by Windows NT, you can ensure that unauthorized users do not have access to your work by password protecting a screen saver. The Password Protect check box in the Desktop dialog box turns the password option on or off. If someone tries to use your computer once the password protected screen saver is displayed, a Lock Workstation dialog box appears. To unlock the computer, the password used to log on to the computer must be entered.

### **To turn password protection on or off**

1. In the Control Panel window, choose the Desktop icon.
2. Under Screen Saver, select a screen saver in the Names box.
3. Select the Password Protect check box.
4. Choose the OK button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Selecting and Testing a Screen Saver](#)

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## Installing Device Drivers

When you add new devices to your system, such as a new sound board or video player, you need to install the driver that controls the device. Although the device may be installed in or connected to your computer, Windows NT will not recognize the device until after you install and configure the appropriate driver.

Note: Drivers written for Windows 3.1 cannot be installed through the Drivers option in Control Panel. Application setup programs can install some Windows 3.1 multimedia drivers. Drivers should be written specifically for Windows NT. If a driver can't be installed, a message indicating the problem will be displayed.

Most devices come with the appropriate driver. Windows NT also supplies sound drivers for common sound devices, such as sound boards and synthesizers. If you do not have a driver for your device, contact your device dealer or manufacturer about providing one.

 To install kernel drivers (drivers which access hardware), you must be logged on as a member of the Administrators group. The drivers you install will be available to all users.

You cannot install an updated version of a driver that is already installed on your system until you remove the old driver. If you do not remove the old driver, you will receive an error message while attempting to install the new driver.

### To install a new driver

1. In the Control Panel window, choose the Drivers icon.
2. In the Drivers dialog box, choose the Add button. The drivers listed in the Add dialog box are those supplied by Windows NT.
3. In the List Of Drivers box, select the driver you want to install.  
If the driver is not listed, select Add Unlisted Or Updated Driver.
4. Choose the OK button.
5. Insert the disk with the driver in drive A, or type a drive letter and directory path in the text box.

You can also use the Browse button to find and select the drive and directory where the driver file is located. When you finish using the Browse dialog box, choose the OK button.

6. In the Install Drivers dialog box, choose the OK button.

If you are installing a driver not included with Windows NT, the Unlisted Or Updated Drivers dialog box appears, listing your drivers. Select the driver you want, and then choose the OK button.

If the driver requires specific settings to work properly with Windows NT, a setup dialog box appears.

7. Select the settings required by the driver.

It is important that the settings you specify do not conflict with the settings used by other devices installed on your system, such as a mouse or network card. For example, the interrupts used by each device must be unique. See the manuals for your devices to determine the settings they are using. Then see the manual that came with the device you are configuring for information about its settings.

8. Choose the OK button.

When you install a driver, Windows NT installs any additional related drivers automatically. These drivers may also require settings. In this case, other setup dialog boxes may appear.

9. Repeat steps 7 and 8 until all related drivers have been configured.

The new driver and any changed driver settings may not take effect until you restart Windows NT. A dialog box may appear, asking whether you want to restart Windows NT.

10. Choose the Restart Now button if you want the new driver to take effect immediately.

For help with the Drivers, Add, Install, Browse, and Add Unlisted Or Updated Drivers dialog boxes, choose the Help button or press F1 while using the dialog boxes.

See Also

[Removing Device Drivers](#)

[Setting Driver Options](#)

## Removing Device Drivers

If you are no longer using a device, you can remove its driver from the Installed Drivers list in the Drivers dialog box. Removing a driver from the list does not remove the driver file from your hard disk. If you find that you want to use the same device later, you can install the driver again.

### Warning

The drivers that are automatically installed during Setup are required by your system (these are the drivers that are displayed when you first opened the Drivers dialog box). If you remove one of these drivers, your system may not work properly.



You need to be logged on as a member of the Administrators group to remove some drivers.

### To remove a driver

1. In the Control Panel window, choose the Drivers icon.
2. In the Drivers dialog box, select the driver you want to remove.
3. Choose the Remove button.

A dialog box appears, asking you to confirm your decision to remove the driver.

4. Choose the Yes button.

The driver is removed from the list.

5. In the Drivers dialog box, choose the Close button.

A dialog box appears, asking whether you want to restart Windows NT.

6. Choose the Restart Now button if you want the removal to take effect immediately.

See Also

[Installing Device Drivers](#)

[Setting Driver Options](#)

## Setting Driver Options

After you have installed a driver, you can change any of its settings. If you want to use more than one set of settings for the same driver, you need to install that driver twice.

### To adjust driver settings

1. In the Control Panel window, choose the Drivers icon.
2. In the Installed Drivers list, select the driver you want to configure.
3. Choose the Setup button.

The Setup dialog box appears only if the driver you select requires specific settings. The options in this dialog box vary according to the driver you are configuring.

4. Set the options as described in your device's manual.
5. Choose the OK button.

The changes you make do not take effect until you restart Windows NT. A dialog box appears, asking you if you want to restart Windows NT.

6. To have the new settings take effect immediately, choose the Restart Now button.

For help with the Desktop dialog box, choose the Help button or press F1 while using the dialog box.

See Also

[Installing Device Drivers](#)





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## **Change Password**

Use this dialog box to set a password for the screen saver.

The Change Password dialog box includes the following options:

### **Old Password**

Use this option to specify the old password. This box is unavailable if you are specifying a password for the first time.

Type your old password in the box.

### **New Password**

Type your new password in the box.

Passwords can contain up to 20 characters, including punctuation, and are not case sensitive. An asterisk (\*) appears in the box for each character you type.

### **Retype New Password**


Use this option to confirm your password.

Type your new password again in the box.

## **Add Drivers**

Use this dialog box to install a new driver.

The drivers supplied by Windows NT are shown in the List Of Drivers. When you purchase a new device, the appropriate drivers should be included with your device. Contact your sound-device manufacturer if you do not have a driver for your device.

 Select the driver you want to install. If the driver is not listed, select Add Unlisted Or Updated Driver.


A dialog box will appear, prompting you to insert the disk that contains the driver file.

See Also

[Installing Device Drivers](#)

## Install Driver

This dialog box prompts you for the disk or the drive and directory where driver information or a driver file is located.

 Type the appropriate drive letter and directory path in the text box. If the driver file or information is located on a floppy disk, insert the disk in drive A, and then choose the OK button.

If you are not sure where the driver file or information is located, (for example, if you want to use a driver that is located on a network drive and you are not sure which directory it is in), choose the Browse button to locate and select the drive and directory.

If the driver requires additional settings to work properly with Windows NT, a setup dialog box appears. In the setup dialog box, specify the settings as described in the manual for your device.

## **Add Unlisted or Updated Driver**

This dialog box lists additional drivers that are found on the disk you inserted or on the drive and in the directory you specified in the Install Driver dialog box.



Select the driver you want to install, and then choose the OK button.

If the driver requires additional settings to work properly with Windows NT, a setup dialog box appears. In the setup dialog box, specify the settings as described in the manual for your device.



























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## Using the System Tool

### To use the System tool

-  Choose the System icon in Control Panel.

The System dialog box shows the settings for the user whose profile is currently active on this computer. To get help with the System dialog box, choose the Help button or press F1.

You can use the System tools to define several options related to the operating system. Choose one of the following buttons for more information about using the System tool.

-  [Changing the Environment Variables](#)
-  [Changing the Virtual-Memory Paging File](#)
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## **Defining Options for the Operating System**

If you have more than one operating system installed on your computer, you can use the System tool to specify the operating system that flex boot will use the next time you start your computer.

### **To specify the default operating system for startup**


1. In the Control Panel window, choose the System icon.
2. In the Startup box of the System dialog box, select the new default operating system from the list of systems installed on your computer. This is the operating system that flex boot will propose to boot automatically the next time you start your computer.
3. In the Show List For box, specify the number of seconds the list of choices should be displayed before flex boot automatically starts the default operating system.
4. Choose the OK button.


See Also

[Defining the Alternate Startup Operating Systems](#)

## Defining the Alternate Startup Operating Systems

The method for adding a startup operating system (other than Windows NT) depends on the kind of processor in your computer. Choose one of the following buttons for more information:

 [x86-Based Computer](#)

 [RISC-Based Computer](#)

For systems with either kind of processor, Windows NT Setup detects any operating systems present during the initial installation of Windows NT.

You cannot necessarily take advantage of the alternate startup option for all operating systems that might be installed on an x86-based computer. Some operating systems such as MS-DOS or OS/2 require certain files to be present in the computer's root directory, and Windows NT can provide the alternate startup option for only one such root-based operating system on a computer. However, you can specify alternate startup options for any number of Windows NT versions or other nonroot-based operating systems.

See Also

[Editing the BOOT.INI File for x86-Based Computers](#)

## Editing the BOOT.INI File for x86-Based Computers

To define an alternate startup operating system for an x86-based computer, you must edit the BOOT.INI file in the root directory of your C drive.

To edit BOOT.INI, use a nonformatting text editor such as Notepad to add the name and location of the alternate system in the **[operating systems]** section. The descriptive text you specify will appear in the Startup box of the System dialog box.

There are no rules for how you refer to each kind of operating system listed in BOOT.INI, except that you must include the path for the drive and directory where the source files for the operating system are stored. For example:

```
[operating systems]
    c:\winnt="Windows NT 3.5"
    c:\="MS-DOS"
```

See Also

[Defining the Alternate Startup Operating Systems](#)

## Changing the Environment Variables

Windows NT requires certain information to find programs, to allocate memory space for some programs to run, and to control the behavior of various programs. This information called the system and user environment variables can be viewed in the System dialog box. These environment variables are similar to those that can be set in the MS-DOS operating system, such as PATH and TEMP.

The system environment variables are defined by Windows NT, and are the same no matter who is logged on at the computer. If you are logged on as a member of the Administrators group, you can add new variables or change the values.

You can change user environment variables in the System dialog box. They include any environment variables you want to define or variables defined by your applications, such as the path where application files are located.

After you change any environment variables in the System dialog box and choose the OK button, Windows NT saves the new values in the registry so they are available automatically the next time you start your computer.

Note Path settings, unlike other environmental variables, are cumulative. The full path (what you see when you type **path** at the command prompt) is created by appending the path contained in AUTOEXEC.BAT to the paths defined in the System option of Control Panel.

### To change environment variables for your computer

1. In the Control Panel window, choose the System icon. The System dialog box shows the current system environment variables and the environment variables for the user whose profile is currently active on this computer.
2. To change the value of an existing variable, select the variable you want to change. (If you are an administrator on this computer, you can change variables in either the System Environment Variables box or the User Environment Variables box. If you are not an administrator, you can change only variables in the User Environment Variables box.)

The name of the selected variable appears in the Variable box, and its current value appears in the Value box.

In the Value box, type a new value for the variable, then choose the Set button.

3. To add a new user environment variable, first select any variable in the User Environment Variables box. Then type the name of the new variable in the Variable box, type the value in the Value box, and choose the Set button.

If you are an administrator, you can add a new system environment variable by selecting any variable in the System Environment Variables box. Then type the name of the new variable in the Variable box, type the value in the Value box, and choose the Set button.

4. To remove a variable completely, select it and then choose the Delete button.
5. When you have completed all changes you want to make to environment variables, choose the OK button.


Choose the Cancel button at any time to remove all changes made in the System dialog box and restore the previous values.

Changes to these variables are stored immediately, but the changes won't affect programs that are already running when the changes are made. You must restart your computer to see the effects of the changes while running, for example, the command prompt.



## Changing the Virtual-Memory Paging File

Windows NT uses a special file on your hard disk called a virtual-memory paging file (or swap file). A virtual-memory paging file is created automatically on your computer when you install Windows NT. Usually, you should leave the paging file at its recommended size for each drive. However, you might want to change the file size if, for example, you frequently work with applications that require a large amount of memory.

 If you are logged on as a member of the Administrators group for a computer, you can change the size of the virtual-memory paging file or create additional paging files on other local hard drives.

Note: The virtual-memory paging file is named PAGEFILE.SYS, usually located in your system partition. You cannot delete this file while running Windows NT. If you delete this file while running under another operating system, a new paging file is created automatically the next time you start Windows NT.

### To change the size of your system's virtual-memory paging file

1. In the System dialog box, choose the Virtual Memory button.
2. In the Drive box of the Virtual Memory dialog box, select the drive for which you want to change the paging file size.
3. In each of the Paging File Size boxes, type a number in megabytes to specify the new initial size or maximum size for the paging file, and then choose the Set button.

For best performance, set the initial size to be equal to or greater than the recommended size in the Total Paging File Size for All Drives box.

For example, type **20** in the Initial Size box to create a 20 MB paging file.

4. Choose the OK button to return to the System dialog box.

You may have to restart your computer to see the effects of the changes.

## **Changing Application Response Time**

By default, Windows NT gives priority to the application running in the foreground, or the active window which is topmost on your screen. This application receives more processor time than other applications running in the background.

You can change how Windows NT gives priority to the foreground application relative to background applications.

### **To change the size of your system's virtual-memory paging file**

1. In the System dialog box, choose the Tasking button.
2. In the Tasking dialog box, select Best Foreground Application Response Time (the default), Foreground Application More Responsive Than Background (the foreground application gets more time than background applications, but less time than it would in the default), or Foreground and Background Applications Equally Responsive.
3. Choose the OK button to return to the System dialog box.


## Configuring System Recovery Options

When a severe error (called a *STOP error*, or *fatal system error*) occurs on Windows NT Server 3.5, by default the system writes an event to the system log, alerts administrators, dumps system memory to a file you can use for debugging, and then automatically reboots the server.

Because Windows NT Server automatically reboots, rather than waiting for administrator intervention, fatal system errors cause less server downtime than they would otherwise.

The dump of system memory to a log file can be valuable for debugging the cause of the STOP error. If you contact product support about the error, they may ask for the log file. Notice that Windows NT writes the log file to the same filename (MEMORY.LOG, by default) each time a STOP error occurs; to preserve log files, you should copy them to a new filename each time a STOP error occurs.

Note that you can save some memory if you configure a server to not do any of the following when a STOP error occurs: dump system memory to the log file, write the event to the system log, or alert administrators. The amount of memory you would save varies for each computer, but on a typical system is about 60-70K. The savings comes from not having to keep in memory at all times certain drivers that enable these features.

 You must be logged on as a member of the Administrators group to select or deselect options in the Recovery dialog box.

### To change how Windows NT acts when a STOP error occurs

1. In Control Panel, choose the System option.
2. in the System dialog box, choose the Recovery button.
3. In the Recovery dialog box, select the Write An Event To The System Log check box to have Windows NT write an event containing information about the error to the system log when a STOP error occurs.
4. Select the Send An Administrative Alert check box to have Windows NT send an alert to administrators when a STOP error occurs.
5. To have Windows NT write the contents of system memory to a log file when a STOP error occurs, select the Write Debugging Information To checkbox, and type the path and file name of the log file in the text box. To have this log file overwrite any file of the same name, select the Overwrite Any Existing File check box. If you clear this check box, then Windows NT will not write a log file if there is already a file by that name.
6. Select the Automatically Reboot check box to have the computer reboot automatically after a STOP error.
7. Choose the OK button.

After you change System Recovery options, you may have to restart the server to have the new options take effect. If so, a message will appear instructing you to restart the server.

Note: To use the Write An Event, Send An Administrative Alert, or Automatically Reboot options, the computer must have at least a 2 MB paging file on the system drive (the drive defined by the SYSTEMROOT environment variable). To use Write Debugging Info, the paging file on the system drive must be large enough to hold all of physical RAM plus 1 MB.

For more information on the various options in the Recovery dialog box, choose the Help button or press F1 while using the dialog box.

## Using the UPS Tool

You can choose the UPS icon in Control Panel to set various options in the UPS dialog box for controlling how UPS services work on a computer. The actual options for configuring the UPS service depend on the specific UPS hardware installed on your system. The options you can set with the UPS tool include:

- The serial port where the battery is connected.
- Whether the UPS service sends a signal if the regular power supply fails, if battery power is low, or if UPS allows remote shutdown.
- The time intervals for maintaining battery power, recharging the battery, or sending warning messages after power failure.

See Also

[Installing UPS Services](#)

[Configuring the Uninterruptible Power Supply \(UPS\)](#)

## Installing UPS Services

You can use the UPS tool to turn UPS services on or off for a computer.

### To install UPS for a computer

1. In the Control Panel, choose the UPS icon.
2. In the UPS dialog box, select the Uninterruptible Power Supply Installed On check box, and then specify the serial port where the UPS battery is connected.

The other options in this dialog box are not available until you select this check box.

### To turn UPS off for a computer

- In the UPS dialog box, clear the Uninterruptible Power Supply Installed On check box.

### To start the UPS services

- In Control Panel, choose the Services icon, and then select UPS Services in the dialog box. You start or stop the service, and also configure whether the service starts automatically or manually when you start Windows NT.

## Configuring the Uninterruptible Power Supply (UPS)

You can use the UPS tool in Control Panel to configure various options for the UPS services.

### To configure UPS options

1. In the UPS dialog box, select the Uninterruptible Power Supply Is Installed On check box, and then specify the serial port where the UPS battery is connected. The other options in this dialog box are not available until you select this option.
2. If the UPS device on your system can send a message if the power supply fails, select the Power Failure Signal check box. This setting corresponds to the CTS (clear-to-send) cable signal for the UPS serial port connection.
3. If the UPS device on your system can send a warning when battery power is low, select the Low Battery Signal check box. This setting corresponds to the DCD (data-carrier-detect) cable signal for the UPS serial port connection.
4. If the battery can accept a signal from the UPS service telling it to shut down, you must specify the correct interface voltage, even if you do not enable remote shutdown. If the voltage is set incorrectly, some UPS devices may shut down your computer immediately upon loss of power. Beside the Remote UPS Shutdown check box, select Positive or Negative to specify the interface voltage. To enable remote shutdown, select the Remote UPS Shutdown check box. This setting corresponds to the DTR (data-terminal-ready) cable signal for the UPS serial port connection.
5. For each item that is checked in the UPS Configuration group, specify Positive or Negative for the UPS Interface Voltage. This setting defines how your UPS device communicates with the UPS service based on pin settings for the COM port. For information about making this choice, see the documentation for your UPS device.
6. In the Expected Battery Life box, specify the time in minutes that the system can run on battery power. The range is 2 to 720 minutes; the default is 2 minutes.
7. In the Battery Recharge Time box, specify the time in minutes that battery must be recharged for every minute of run time. The range is 1 to 250 minutes; the default is 100 minutes for each minute of battery run time.
8. In the Time Between Power Failure box, specify the time, in seconds, between when a power failure occurs and when the first message is sent to notify users. The range is 0 to 120 seconds; the default is 5 seconds.
9. In the Delay Between Warning Messages box, specify the interval, in seconds, between messages sent to notify users of a power failure and to advise them to stop using the computer. The range is 5 to 300 seconds; the default is 120 seconds.
10. Choose the OK button.

You can also configure the UPS option to execute a command file immediately before system shutdown. For example, such a file might run a command to close remote connections. This command file must execute within 30 seconds. Failure to complete execution in 30 seconds jeopardizes the safe shutdown of your Windows NT computer.

### To set up the UPS service to execute a file before system shutdown

1. In the `\systemroot\SYSTEM32` directory, create a command file with one of the following file extensions: `.BAT`, `.CMD`, `.EXE`, or `.COM`.

2 Select the Execute Command File box.

3. In the UPS dialog box, type the name of the file in the File Name box.



## UPS

Use the UPS dialog box to configure options for the uninterruptible power supply. This dialog box appears when you choose the UPS icon in Control Panel.

Choose one of the following buttons for information about this dialog box:


- [UPS Installed On](#)
- [Power Failure Signal](#)
- [Low Battery Signal](#)
- [Remote UPS Shutdown](#)
- [UPS Interface Voltages](#)
- [Execute Command File](#)
- [Expected Battery Life](#)
- [Battery Recharge Time](#)
- [Time Between Power Failure and Warning](#)
- [Delay Between Warning Messages](#)


See Also

[Configuring the Uninterruptible Power Supply \(UPS\)](#)

## Execute Command File

You can configure the UPS option to execute a command file immediately before system shutdown. For example, such a file might run a command to close remote connections. This command file must execute within 30 seconds. Failure to complete execution in 30 seconds jeopardizes the safe shutdown of your Windows NT computer.

 In the `\systemroot\SYSTEM32` directory, create a command file with one of the following file extensions: .BAT, .CMD, .EXE, or .COM, and then select the Execute Command File box.

 In the File Name box, type the name of the file.

## Virtual Memory

Use the Virtual Memory dialog box to create and define virtual-memory paging files for your hard disk(s). This dialog box appears when you choose the Virtual Memory button in the System dialog box in Control Panel.

The virtual-memory paging file is a file named PAGEFILE.SYS, usually located in your system partition. You cannot delete this file while running Windows NT. If you delete this file while running under another operating system, a new paging file is created automatically the next time you start Windows NT.

If you are not logged on as a member of the Administrators group, you cannot change the size of your computers paging file.

Choose one of the following buttons for information about this dialog box:

- Drive[Volume Label]
- Initial Size
- Maximum Size
- Total Paging File Size
- Registry Size

See Also

[Changing the Virtual-Memory Paging File](#)

## System Dialog Box

Use the System dialog box to specify the default operating system proposed at startup, to define user environment variables, and to define the size of virtual-memory paging files. This dialog box appears when you choose the System icon in Control Panel.

Choose one of the following buttons for information about this dialog box:

- Operating System Startup
- Show List For
- System Environment Variables
- User Environment Variables
- Variable
- Value
- Set and Delete Buttons
- Virtual Memory Button
- Recovery Button
- Tasking Button

See Also

[Changing the Environment Variables](#)

[Changing the Virtual-Memory Paging File](#)

[Defining Options for the Operating System](#)

[Defining the Alternate Startup Operating Systems](#)

[Editing the BOOT.INI File for x86-Based Computers](#)

## System

Use the System dialog box to specify the default operating system proposed at startup, to define [environment variables](#), and to define the size of [virtual-memory paging files](#). This dialog box appears when you choose the System icon in Control Panel.

If you are an administrator on this computer, you can change variables in either the System Environment Variables box or the User Environment Variables box. If you are not an administrator, you can change only variables in the User Environment Variables box.

Choose one of the following buttons for information about this dialog box:

- [Operating System Startup](#)
- [Show List For](#)
- [System Environment Variables](#)
- [User Environment Variables](#)
- [Variable](#)
- [Value](#)
- [Set and Delete Buttons](#)
- [Virtual Memory Button](#)
- [Recovery Button](#)
- [Tasking Button](#)

See Also

[Changing the Environment Variables](#)


[Changing the Virtual-Memory Paging File](#)

[Defining Options for the Operating System](#)

[Defining the Alternate Startup Operating Systems](#)


[Editing the BOOT.INI File for x86-Based Computers](#)

### **Power Failure Signal**

 If the UPS device on your system can send a message when power fails, select this option. Then select Positive or Negative to specify the UPS Interface Voltage.

This setting corresponds to the CTS (clear-to-send) cable signal for the UPS serial port connection.

### **Low Battery Signal**

 If the UPS device on your system can send a warning when battery power is low, select this option. Then select Positive or Negative to specify the UPS Interface Voltage.

This setting corresponds to the DCD (data-carrier-detect) cable signal for the UPS serial port connection.

### **Remote UPS Shutdown**


- To enable remote UPS shutdown, select the Remote UPS Shutdown check box.
- If the battery can accept a signal from the UPS service telling it to shut down, you must specify the correct interface voltage, even if you do not enable remote shutdown. If the voltage is set incorrectly, some UPS devices may shut down your computer immediately upon loss of power. Select Positive or Negative to specify the UPS interface voltage.  
This setting corresponds to the DTR (data-terminal-ready) cable signal for the UPS serial port connection.



### **Uninterruptible Power Supply Installed on Port**


To specify that UPS is installed, select this option. Then select the serial port where the UPS battery is connected.

### **Time Between Power Failure and Warning Message**

 To specify the time between when a power failure occurs and when the first message is sent to notify users, select a time in seconds.


The default is 5 seconds. The range is 0 to 120 seconds.

### **Delay Between Warning Messages**

 To specify the interval between messages sent to users after a power failure until the system is shut down, select a time in seconds.


The default is 120 seconds. The range is 5 to 300 seconds.

**Drive [Volume Label]**

 To specify the hard drive or volume where you want to create a virtual-memory paging file, select a drive in the list.

The list also shows the current size of that drive in megabytes (MB).


### **Initial Size of Paging File for Selected Drive**

 To specify the new initial size for the virtual-memory paging file, type a number in this box in megabytes. Then choose the Set button.

For best performance, set the initial size to be equal to or greater than the recommended size in the Total Paging File Size for All Drives box.


For example, type **20** to create a 20 MB paging file.

### Maximum Size of Paging File for Selected Drive

 To specify the new maximum size for the virtual-memory paging file, type a number in this box in megabytes. Then choose the Set button.

For example, type **70** to specify a maximum size of 70 MB.

## Registry Size

 To specify a new maximum size for the Registry size, type a number in this box in megabytes.


When you set a Registry limit, it limits both the page pool size and the amount of disk space. Setting the Registry size sets the maximum size the Registry can be; it is not an allocation. The value you set will only be used if it is actually needed by the Registry. It does not guarantee that much space will be available for use in the Registry.

**Total Paging File Size**

Specifies the total size of the paging file available on all your hard drives.




## **Operating System at Startup**

 To specify the default operating system among the operating systems installed on your computer, select a name in this list.

The selected operating system is the one that flex boot will propose to start automatically each time you turn on your computer.


**Show List For**

 To specify how long flex boot should display the list of alternate operating systems before starting your system with the selected default, enter a number in seconds in this box.

## **System Environment Variables**

These environment variables are defined by Windows NT, and are the same no matter who is logged on at the computer. If you are logged on as a member of the Administrators group, you can add new variables or change the values.


Environment variables describe information that the operating system uses to find programs, allocate memory, and control application behavior.

 To change an environment variable used by applications, select the variable you want to change in this list. Then click in the Value box, enter a new value, and then choose the Set button.

Or, click in the Variable box and enter a new variable name. Then enter a value in the Value box, and choose the Set button.


## **User Environment Variables**

User environment variables include any environment variables you want to define or variables defined by your applications, such as the path where application files are located.


 To change an environment variable used by applications, select the variable you want to change in this list. Then click in the Value box, enter a new value, and then choose the Set button.

Or, click in the Variable box and enter a new variable name. Then enter a value in the Value box, and choose the Set button.



## Variable

 To add a new environment variable, type a variable name in this box. Then enter a value in the Value box and choose the Set button.


## **Value**

 To add or change an environment variable, select a variable in the list or type a name in the Variable box. Then enter a value in the Value box and choose the Set button.

### **Set and Delete Buttons**


-  To specify a value for an environment variable, select the variable in the list or type a name in the Variable box. Then enter a value in the Value box and choose the Set button.
-  To delete an environment variable, select the variable in the list, and then choose the Delete button.

### **Virtual Memory Button**


 To display the Virtual Memory dialog box for specifying the size of paging files, choose this button.




### **Recovery Button**

 To use the Recovery dialog box to specify how Windows NT acts when a STOP error occurs and halts the computer, choose this button.


### **Tasking Button**

 To use the Tasking dialog box to specify how much priority Windows NT gives to foreground applications versus background applications, choose this button.

### **Defining the Installed Operating Systems for RISC-Based Computers**

 For a RISC-based computer, run the appropriate ARC setup program to install the alternate operating system. Windows NT detects the new alternate operating system automatically. All system startup information is stored in nonvolatile RAM.

### **Defining the Installed Operating Systems for x86-Based Computers**

 For an x86-based computer, install the operating system in the usual way, and then edit the BOOT.INI file, which Windows NT automatically creates in the root directory of the computer's main hard disk. All system startup information is stored in the BOOT.INI file.

## **Page File**

With virtual memory under Windows NT, some of the program code and other information are kept in RAM, while other information is temporarily swapped to a virtual-memory paging file. When that information is required again, Windows NT pulls it back into RAM and, if necessary, swaps other information to virtual memory. This activity is invisible, although you might notice that your hard disk is working. The resulting benefit is that you can run more programs at one time than your system's RAM would usually allow.

## **Recommended Paging File Size**

The recommended size for the virtual-memory paging file, which Windows NT identifies as the size that ensures the best performance, is equivalent to the amount of RAM available on your system plus 12 MB. However, the size of the file also depends on the amount of free space available on your hard disk when the paging file is created. The minimum required size is 2 MB.

## **Uninterruptible Power Supply (UPS)**

UPS is a battery-operated power supply connected to a computer to keep the system running during a power failure. The UPS service for Windows NT manages a safe system shutdown if the power fails, or keeps the system running until power is restored or until the system is shut down by an administrator.


### **Expected Battery Life**



Select the time in minutes for Expected Battery Life for the fully charged battery. The range for Expected Battery Life is 2 to 720 minutes; the default is 2 minutes.




### **Battery Recharge Time**

 If you select Power Failure Signal and do not select Low Battery Signal, select the time in minutes for Battery Recharge Time.

The range for Battery Recharge Time is 1 to 250 minutes; the default is 100 minutes for each minute of battery run time.

### **UPS Interface Voltages**

 If you select any UPS Configuration check box, select Positive or Negative to specify the UPS interface voltage.

## Tasking

Use this dialog box to change the relative responsiveness of applications that are running at the same time. When more than one application is running in Windows NT, by default the foreground application receives more processor time, and so responds better, than applications running in the background.

For information about the options available in the Tasking dialog box, choose one of the following topics:

- Best Foreground Application Response Time
- Foreground Application more Responsive Than Background
- Foreground and Background Applications Equally Responsive

**Foreground Application**

The application that runs in the active window, the topmost window whose title bar is highlighted.

### **Best Foreground Application Response Time**

Choose this option to give the foreground application as much processor time as possible. This option is the default.

### **Foreground Application More Responsive than Background**

Choose this option to give the background a better responsive time than it would have by default, but to still give more processor time to the foreground application.

**Foreground and Background Applications Equally Responsive**

Choose this option to give all applications equal amounts of processor time.

## Recovery

Use this dialog box to change how Windows NT acts when a STOP error occurs.

For information about the options available in the Recovery dialog box, choose one of the following topics:

- Write an event to the system log
- Send an administrative alert
- Write debugging information to
- Overwrite any existing file
- Automatically reboot



**STOP Error**

A severe error that causes Windows NT to stop all processes, and requires the computer to be restarted. Also called a fatal system error.

**Write an event to the system log**

Select this check box to have Windows NT write an event to the system log. The event contains some information about the error.

**Send an administrative alert**

Select this check box to have Windows NT send an alert to administrators when a STOP error occurs.

**Write debugging information to**

Select this check box and specify a file name to have Windows NT write the contents of system memory to a log file. The contents of this log file will be useful when debugging to find the cause of the error.

**Overwrite any existing file**

Select this check box to have the log file you specified in Write Debugging Information To overwrite any existing file of the same name. If this check box is cleared, then a new debugging information file is not created if a file by this name already exists.


**Automatically reboot**

Select this check box to have Windows NT automatically reboot whenever a STOP error occurs.

## Remove Font

You can remove the selected font from memory and the Installed Fonts list.

Note: The MS Sans Serif font is used for most Windows NT dialog boxes. Do not remove this font, or the text in the dialog boxes will be difficult to read.

 Select the Delete Font File From Disk to delete the font from your hard disk in addition to removing it from memory.

### Caution

It is recommended that you do not delete fonts from the disk if you chose not to copy the fonts to your `\systemroot\SYSTEM` directory. If you delete the fonts from the disk, you may not be able to add them again if you decide to use them later.

See Also

[Removing Fonts](#)

## Installing Type 1 Fonts

You can install a Type 1 font for use as a screen font, printer font, or both.

### Important

Converting Type 1 fonts to TrueType is governed by the license agreement for your Type 1 fonts. See your license agreement and PRINTER.WRI for additional details.

By default, all check boxes in the dialog box are selected. The scenarios described below vary depending on your system configuration.

If the manufacturer's disk contains .pfb and .pfm files for Type 1 fonts, in order to install the Type 1 font you must point to the directory with .pfb files. The .pfb file must be in the same directory as .pfb or in the parent directory.

If the manufacturer's disk contains .inf and .afm files instead of .pfb files, in order to install the Type 1 font you must point to the directory with the .inf file. For the installation to succeed, the .inf, .pfb, and .pfb files must be in the same directory, or the .pfb file must be the parent directory of the .inf file and the .afm file has to be in the \afm subdirectory of the parent directory. For example, this directory structure would be recognized by the Type 1 font installer:

**c:\psfonts** (.pfb files here)

**c:\psfonts\pfb** (.pfb files here)

**c:\psfonts\afm** (.afm files here)

**c:\psfonts\fontinfo** (.inf files here)

If the component Type 1 font files are distributed on multiple floppy disks, you must first copy all font files to the same directory on your hard drive. Then use the Add Fonts option in Control Panel to install from that directory.

See Also

[Adding Fonts](#)

[Removing Fonts](#)



## Install Type 1 Font

You can install a Type 1 font for use as a screen font, printer font, or both.

### Important

Converting Type 1 fonts to TrueType is governed by the license agreement for your Type 1 fonts. See your license agreement and PRINTER.WRI for additional details.

By default, all check boxes in the dialog box are selected. The scenarios described below vary depending on your system configuration.

If the manufacturer's disk contains .pfm and .pfb files for Type 1 fonts, in order to install the Type 1 font you must point to the directory with .pfm files. The .pfb file must be in the same directory as .pfm or in the parent directory.

If the manufacturer's disk contains .inf and .afm files instead of .pfm files, in order to install the Type 1 font you must point to the directory with the .inf file. For the installation to succeed, the .inf, .pfm, and .pfb files must be in the same directory, or the .pfb file must be the parent directory of the .inf file and the .afm file has to be in the \afm subdirectory of the parent directory. For example, this directory structure would be recognized by the Type 1 font installer:

**c:\psfonts** (.pfb files here)

**c:\psfonts\pfm** (.pfm files here)

**c:\psfonts\afm** (.afm files here)

**c:\psfonts\fontinfo** (.inf files here)

If the component Type 1 font files are distributed on multiple floppy disks, you must first copy all font files to the same directory on your hard drive. Then use the Add Fonts option in Control Panel to install from that directory.






See Also

[Adding Fonts](#)

[Removing Fonts](#)

## Devices

Use the Devices dialog box to start or stop devices. For more information, choose one of the following buttons.

-  [Device](#)
-  [Status](#)
-  [Startup](#)
-  [Start button](#)
-  [Stop button](#)
-  [Startup button](#)

See Also

[Starting and Stopping Devices](#)

[Configuring Device Startup](#)

**Device**

Lists the available devices. One device at a time can be selected. Once selected, a device can be stopped, started, or have its startup type configured.

**Status**


If Started is displayed in the Status column for a device, that device driver is loaded. If the Status column is blank, that device driver is not loaded.

## **Startup**


The startup type of the device.

A startup type of Boot, System, or Automatic indicates that the device is started automatically every time the system starts. Manual allows the device to be started by a user or a dependent device. Disabled prevents the device from being started by a user.

### **Start button**

 To load a device driver, select the device from the list, and then choose the Start button.


### **Stop button**

 To stop a device driver that is started, select the device, and then choose the Stop button.

Some devices are essential to system operation and cannot be stopped. When such a device is selected, the Stop button is unavailable.

## **Startup button**

To manage the startup type for a device, you must be logged on to a user account that has membership in the Administrators local group.

 To change the startup type for a device, select the device, choose the Startup button, and complete the dialog box that appears.



## Device Startup

Use the Device Startup dialog box to configure when and how the selected device is started. For more information, choose one of the following buttons.


- [Startup Type](#)
- [Boot](#)
- [System](#)
- [Automatic](#)
- [Manual](#)
- [Disabled](#)

See Also

[Starting and Stopping Devices](#)

[Configuring Device Startup](#)

### **Startup Type**

 To specify the startup type of the device, choose one of the options and then choose the OK button.

### **Caution**

Changing the startup type of a Boot or System device can leave the system in an unusable state.

**Boot**

Boot devices start every time the system starts. Boot devices start before any other devices. Use for critical devices essential to system operation.

**System**

System devices start every time the system starts. System devices start after Boot devices. Use for critical devices essential to system operation.

**Automatic**

Automatic devices start every time the system starts. Automatic devices start after Boot and System devices. Use for devices that are not critical for basic system operation.

**Manual**

Manual devices can be started by a user or a dependent device.

**Disabled**

Disabled devices cannot be started by users. However, disabled devices can be started by the system.

## **Starting and Stopping Devices**

### **To start or stop a device**

1. In the Control Panel window, choose the Devices icon.
2. In the Devices dialog box, select a device.

If Started is displayed in the Status column for a device, that device driver is loaded.  
If the Status column is blank, that device driver is not loaded.

3. Choose the Start or Stop button.

Some devices are essential to system operation and cannot be stopped. When such a device is selected, the Stop button is unavailable.

4. Choose the Close button.

See Also

[Configuring Device Startup](#)



## Configuring Device Startup

To configure device startup, you must be logged on to a user account that has membership in the Administrators local group.

### To set the startup type of a device

1. In the Control Panel window, choose the Devices icon.
2. In the Devices dialog box, select a device.
3. Choose the Startup button.
4. Under Startup Type, select Boot, System, Automatic, Manual, or Disabled.

### Caution

Changing the startup type of a Boot or System device can leave the system in an unusable state.

5. Choose the OK button.
6. In the Devices dialog box, choose the Close button.

See Also

[Starting and Stopping Devices](#)

## **Using the Network Option**

You can choose the Network icon in Control Panel to make changes in the computer's network configuration if you are logged on as a member of the Administrators group for this computer.

To use a network with Windows NT, you must specify at least one network adapter card and network software for at least one protocol (or transport) driver.

### **To use the Network option**

1. Choose the Network icon in Control Panel.
2. After you set the options you want in the dialog box, choose the Close button.

See Also

[Adding Network Adapter Cards and Software](#)

[Configuring Network Bindings](#)

[Configuring Network Software and Adapter Cards](#)

[Updating or Removing Network Components](#)

## **Adding Network Adapter Cards and Software**

To communicate over the network, a computer must have a network adapter card installed. Windows NT uses a network device driver, which is software that coordinates between the adapter card and the computer's hardware and other software, controlling the function of the network adapter cards.

Windows NT also uses network software (or protocol) drivers that bind to the adapter card driver. You can add supporting software for network components in the Network Settings dialog box.

### **To install one or more network adapter cards or network software**

1. In the Network Settings dialog box, choose the Add Adapter button to install a driver for a network adapter card.  
Or choose the Add Software button to install any supporting network software that is not a driver for an adapter card.
2. In the Network Adapter Setup or the Add Network Software dialog box, select the name of the network component you want to install.  
If you have a disk with software from a vendor, select <Other>.
3. Choose the Continue button.  
If Setup asks for a disk, insert the disk in the drive, and then choose the OK button. You might also be asked for specific Windows NT disks. Setup copies the appropriate files to a Windows NT subdirectory.

When you complete all your changes and close the Network Settings dialog box, a message reminds you to restart your computer for the changes to take effect.

## **Configuring Network Software and Adapter Cards**

Most Windows NT networking software is self-configuring. However, you can configure many adapter cards and their supporting software for your system. You set the appropriate configuration for network components by choosing the Network option in Control Panel.

### **To configure network software or adapter cards**

1. In Control Panel, choose Network.
2. In the Network Settings dialog box, select the name of the item you want to configure in either the Installed Network Software or Installed Adapter Cards list.
3. Choose the Configure button.

Windows NT displays a dialog box specifically for the selected component, as provided by the component manufacturer. Choose the Help button or press F1 for information about the dialog box. For additional information, refer to the documentation for your network adapter card or software.

4. Specify your choices in the dialog box, and then choose the OK button.

When you complete all your changes and close the Network Settings dialog box, a message reminds you to restart your computer for the changes to take effect.

## **Joining a Workgroup**

You can choose the Network option in Control Panel to assign the workgroup for the current computer. Or, if the computer will participate in a domain, you can use the Network option to add the current computer to the domain.

Note: If you are unsure about the correct domain name or other items in this dialog box, be sure to choose the Workgroup Name option.

### **To join a workgroup**

1. In the Network Settings dialog box, choose the Change button beside the Domain or Workgroup name.
2. In the Domain Settings dialog box, select Workgroup, and then type the name of the workgroup you want the computer to join.  
The workgroup name must be different from the computer name.
3. Choose the OK button.

See Also

[Joining a Domain](#)

## Joining a Domain

Joining a Windows NT Server domain makes the shared resources of the domain available at your computer. To join a domain, you must be logged on as a member of either the Administrators local group or the Domain Admins global group.

In addition, your Windows NT computer must have an account on the domain. To obtain a domain account for your computer, ask your network administrator. If you also have an account that is a member of the Domain Admins global group for the domain you want to join, you can add the computer account to the domain at the same time you join the domain.

### To join a domain

1. In the Network Settings dialog box, choose the Change button beside the Domain or Workgroup name.
2. In the Domain Settings dialog box, select the Domain option, and then type the correct domain name for the domain you want the computer to join.
3. If you are the domain administrator, type the username and password for your account in the domain you are joining.  
If you choose this option, the computer name specified is automatically added to the specified domain if there is not yet an account for that computer.
4. Choose the OK button.
5. When you have successfully joined the domain, a welcome dialog box appears. Choose the OK button in the dialog box.
6. In the Network Settings dialog box, choose the OK button.
7. You cannot log onto the new domain until you restart Windows. To switch to the new domain immediately, choose the Yes button in the dialog box that asks you to restart your computer.

When you join a domain, any authorized user can log onto the domain from your computer. This procedure does not, however, give you a user account on the domain. If you do not have a user account on the domain you are joining, request one from your network administrator.

See Also

[Joining a Domain from a Remote Computer](#)

[Joining a Workgroup](#)

## Joining a Domain from a Remote Computer

If you are working at a remote computer, you can join a Windows NT Server domain by connecting to a Remote Access Server on the network. Your computer must be a Remote Access Services (RAS) client.

Joining a Windows NT Server domain makes the shared resources of the domain available at your computer. To join a domain, you must be logged on as a member of either the Administrators local group or the Domain Admins global group.

In addition, your Windows NT computer must have an account on the domain. To obtain a domain account for your computer, ask your network administrator. If you also have an account that is a member of the Domain Admins global group for the domain you want to join, you can add the computer account to the domain at the same time you join the domain.

### To join a domain

1. Start the Remote Access Service and connect to the network.
2. In Control Panel, choose Network.
3. In the Network Settings dialog box, choose the Change button beside the Domain or Workgroup name.
4. In the Domain Settings dialog box, select the Domain option, and then type the correct domain name for the domain you want the computer to join.
5. If you are the domain administrator, type the username and password of your account on the domain you are joining. If you choose this option, the computer name specified is automatically added to the specified domain if there is not yet an account for that computer.
6. Choose the OK button.
7. When you have successfully joined the domain, a welcome dialog box appears. Choose the OK button in the dialog box.
8. In the Network Settings dialog box, choose the OK button.
9. The new domain setting does not take effect until you restart Windows NT. To switch to the new domain immediately, choose the Yes button in the dialog box that asks you to do so.

When you join a domain, any authorized user can log onto the domain from your computer. This procedure does not, however, give you a user account on the domain. If you do not have a user account on the domain you are joining, request one from your network administrator.

See Also

[Joining a Domain](#)

[Joining a Workgroup](#)

## Configuring Network Bindings

You can choose the Bindings button in the Network Settings dialog box to add or remove network bindings. For example, if you rarely use a particular physical network, you can simply unbind (disconnect) that network adapter card from all network components.

Note: Do not attempt to change binding settings unless you are an experienced network administrator familiar with the requirements of your network software.

### To view bindings for network components

1. In the Network Settings dialog box, choose the Bindings button.
2. In the Show Bindings For box of the Network Bindings dialog box, select the component whose bindings you want to view. Or select All Components to see a list of all bound components.

### To enable or disable binding paths for selected network components

1. In the Network Bindings dialog box, select a binding path.  
The left side of the box shows a dimmed light bulb if the binding path is disabled, and shows a shining light bulb if the binding path is enabled.
2. To enable the binding path, choose the Enable button. To disable the binding path, choose the Disable button. The icon beside the selected binding shows the current state of that binding path.
3. Choose the OK button.



## **Updating or Removing Network Components**

You can choose the Network option in Control Panel to update or remove the configuration information for network software or adapter cards installed on your computer.

### **To update a network component**

1. In the Installed Network Software or the Installed Adapter Cards list of the Network Settings dialog box, select the component you want to update.
2. Choose the Update button.
3. Complete the dialog boxes that appear and, when asked, insert disks from the manufacturer that contain the updated driver information for the selected component.

### **To remove a network component**

1. In the Installed Network Software or the Installed Adapter Cards list of the Network Settings dialog box, select the component you want to remove.
2. Choose the Remove button.
3. If a dialog box appears, complete the requested information. Choose the Help button in the dialog box or press F1 for more information.

When you remove a network component, the information is removed from your system configuration. The related software remains on your hard disk.

When you complete all your changes and close the Network Settings dialog box, a message reminds you to restart your computer for the changes to take effect.

## Network Settings

If you log on as a member of the Administrators group for your computer, you can use the Network Settings dialog box to change the computer's network configuration, to change the computer name, and to change the workgroup or domain that the computer is a member of.

Choose one of the following buttons for information about this dialog box:

- [Add Software](#)
- [Add Adapter](#)
- [Bindings](#)
- [Configure](#)
- [Description](#)
- [Change \(Computer Name\)](#)
- [Change \(Domain or Workgroup\)](#)
- [Installed Adapter Cards](#)
- [Installed Network Software](#)
- [Networks](#)
- [Remove](#)
- [Update](#)

## Domain Settings for Windows NT

Use the Domain Settings dialog box to join a workgroup or domain. This dialog box appears when you choose the Change button beside the domain or workgroup name in the Network Settings dialog box.

Choose one of the following buttons for information about this dialog box:

- Workgroup
- Domain
- Administrator User Name and Password

See Also

[Joining a Domain](#)

[Joining a Workgroup](#)

## Domain Settings for a Domain Controller

Use the Domain Settings dialog box during Windows NT Setup to specify whether the current computer is a primary domain controller or a backup domain controller. This dialog box appears automatically during Setup.

If multiple computers are running Windows NT Server in a domain, one is the primary domain controller. You should configure at least one other computer in the domain as a backup domain controller. If the domain has servers at different physical sites connected by a WAN link, then each site should have at least one backup domain controller.

After Setup is complete, you can add or promote domain controllers by choosing Server Manager.

Choose one of the following buttons for information about this dialog box:

- Primary Domain Controller in New Domain
- Backup Domain Controller in Domain
- Administrator Name and Password

## Network Provider Search Order

Use the Network Provider Search Order dialog box to specify the order in which networks are searched in certain network and print operations. This dialog box appears when you choose the Networks button in the Network Settings dialog box. This option is only available if your site uses more than one kind of network provider.

After you specify the order for searching networks in this dialog box, Windows NT always searches in that order. After Windows NT finds the specified server, directory, or other item on one network, it does not continue to search the networks listed lower in the search order.

### Show Providers For

Open the list box and choose the provider whose search order you want to change. For example, you can have different search orders for searching the network for file servers than you do for searching the network for print providers.

### Access Providers in This Order

Select a network name whose search order you want to change.

### Up and Down Button

Choose the Up or Down button to move the selected network higher or lower in the search order.

See Also

[Setting Network Provider Search Order](#)

## **Setting Network Provider Search Order**

If you have more than one kind of network installed at your site, you can specify the order in which Windows NT searches the various networks for certain operations.

After you specify the network search order, Windows NT will always search in that order. After Windows NT finds the specified server, directory, or other item on one network, it does not continue to search the networks listed lower in the search order.

### **To set network provider search order**







1. In the Network Settings dialog box, choose the Networks button.  
This button is dimmed if no other network providers are available.
2. In the Show Providers For box, open the list box and choose the provider whose search order you want to change. For example, you can have different search orders for searching the network for file servers than you do for searching the network for print providers.
3. In the Access Providers In This Order box, select the name of the network whose order you want to change, and then choose the Up or Down button to move that network higher or lower in the search order.
4. Continue selecting network names to define the order until all networks are listed in the order you want for searching, and then choose the OK button.

## Network Bindings

Use the Network Bindings dialog box to add or remove bindings between network components. Bindings make the component's services available to other network components that can benefit from them. If your computer has more than one network protocol, you can also use this dialog box to change the binding path order. This dialog box appears when you choose the Bindings button in the Network Settings dialog box.

The icons at the left of the list of current binding paths shows whether each binding is enabled or disabled. A lighted bulb indicates that the binding is enabled, a dimmed bulb that the binding is disabled.

Choose one of the following buttons for information about this dialog box:

-  [Show Bindings For](#)
-  [Upper/Lower Bindings List](#)
-  [Enable](#)
-  [Disable](#)
-  [Up Arrow](#)
-  [Down Arrow](#)

See Also

[Configuring Network Bindings](#)


**Binding Path Order**

Binding paths are processed in the order listed. If the network protocol you use most frequently is first in the binding list, average connection time is lower.


Some protocols are faster than others for certain network topologies. Putting the faster protocol first in the binding list improves performance.



### **Up Arrow**

 If your Windows NT computer uses more than one network protocol, choose the Up Arrow button to move the selected binding path up in the binding list.


### **Down Arrow**

 If your Windows NT computer uses more than one network protocol, choose the Down Arrow button to move the selected binding path down in the binding list.

## Network Adapter Card Installation

Use this dialog box to select the network adapter or software component that you want to install.

### Network Adapter Card

 Click the arrow at the right of the setting you want to change, and then scroll through the list to choose the network component you want to install. Or press TAB to move the selection cursor to the setting you want to change, and then press ALT+DOWN ARROW to select a setting.

If you have a disk with software from a vendor, select <Other>.


Choose the Continue button. Follow the instructions on the screen to supply disks. Then complete the information in the dialog box that appears. Choose the Help button in that dialog box for more information.

See Also

[Adding Network Adapter Cards and Software](#)

## Installing TCP/IP and SNMP

The [TCP/IP](#) internetworking components, including [SNMP](#), are not installed as part of the Windows NT product during Express Setup. After Windows NT is installed, any TCP/IP components can be installed by choosing the Network option in the Control Panel.

 You must be logged on as a member of the Administrator group to install and configure TCP/IP and its components, including SNMP.

### To install TCP/IP internetworking components, including SNMP services

1. Start the Network utility in Control Panel. The Network Settings dialog box appears.
2. Choose the Add Software button. The Add Network Software dialog box appears.
3. Select TCP/IP Components And Related Protocols in the Network Software list, and then choose the Continue button. The Windows NT TCP/IP Installation Options dialog box appears.
4. Check the options for the TCP/IP components you want to install.

Windows NT Setup displays a message asking for the full path to the Windows NT distribution files. Provide the appropriate location, and choose the Continue button. All necessary files are copied to your hard disk.

After TCP/IP is installed, continue with the configuration procedures, as described in the following topics. TCP/IP must be configured in order to operate. See the TCP/IP Help file for more information about installing and configuring DHCP servers.

See Also

[Configuring TCP/IP](#)

[Configuring SNMP](#)

## Windows NT TCP/IP Installation Options

The Windows NT TCP/IP Installation Options dialog box appears when you select TCP/IP Components and Related Protocols in the list of software to add in the Add Network Software dialog box.

Choose one of the following buttons for information about this dialog box:

- [TCP/IP Internetworking Protocol](#)
- [Connectivity Utilities](#)
- [SNMP Service](#)
- [TCP/IP Network Printing Support](#)
- [FTP Server Service](#)
- [Simple TCP/IP Services](#)
- [Enable Automatic DHCP Configuration](#)

See Also

[Configuring TCP/IP](#)

[Configuring SNMP](#)

[What You Need to Know to Configure TCP/IP](#)

## Windows NT TCP/IP Installation Options

The Windows NT TCP/IP Installation Options dialog box appears when you select TCP/IP Protocol and Related Components in the list of software to add in the Add Network Software dialog box.

Choose one of the following buttons for information about this dialog box:

- [TCP/IP Internetworking Protocol](#)
- [Connectivity Utilities](#)
- [SNMP Service](#)
- [TCP/IP Network Printing Support](#)
- [FTP Server Service](#)
- [Simple TCP/IP Services](#)
- [DHCP Server Service](#)
- [WINS Server Service](#)
- [Enable Automatic DHCP Configuration](#)

See Also

[Configuring TCP/IP](#)

[Configuring SNMP](#)

[What You Need to Know to Configure TCP/IP](#)

### **TCP/IP Internetworking Protocol**



Select this option to install TCP/IP on your computer.

This option supports TCP/IP and Windows Sockets protocols and the TCP/IP diagnostic utilities.

For a Windows NT computer, these are installed automatically.

### Connectivity Utilities

Select this option to install the TCP/IP connectivity utilities, which include **finger, ftp, rcp, rexec, rsh, telnet, and tftp**. These utilities are also installed automatically with TCP/IP: **arp, hostname, ipconfig, nbtstat, netstat, ping, and route**.



### **SNMP Service**

Select this option to install the SNMP service, which allow this computer to be administered remotely using remote management tools, such as SUN<sup>®</sup> Net Manager or HP<sup>®</sup> Open View. This option also allows you to monitor statistics for TCP/IP services using Performance Monitor.

### **TCP/IP Network Printing Support**

Select this option if you want to print to UNIX print queues or shared printers that are connected directly to the network.

This option allows this computer to print directly over the network using TCP/IP. Select this option if you want to print to UNIX print queues or TCP/IP printers that are connected directly to the network

This option must be installed if you want to use the Lpdsvr service so that UNIX computers can print to Windows NT printers.

### **FTP Server Service**

- Select this option if you want to use TCP/IP to share files with other computers. This option allows files on this computer to be shared over the network with any remote computers that support the file transfer protocol (FTP) and TCP/IP.

### **Simple TCP/IP Services**

Select this option to allow this computer to respond to requests from other systems that support these protocols.

This option provides the TCP/IP services Echo, Daytime, Chargen (character generator), Discard, and Quote (quote of the day).

## **DHCP Server Service**



Select this option if this computer is to be a DHCP Server.

This option provides the server software required to support automatic configuration and addressing for computers using TCP/IP on your internetwork.


If you select this option, you must manually configure the IP address, subnet mask, and default gateway for this computer. You must also provide configuration information for the systems that will use this service for automatic TCP/IP configuration.

### **WINS Server Service**

Select this option if this computer is to be installed as a primary or secondary WINS server.

This option provides the server software required to support Windows Internet Name Service, a dynamic name resolution service for computers on a Windows internetwork.

### **Enable Automatic DHCP Configuration**


 Select this option if there is a DHCP server on your internetwork to support dynamic host configuration.

This option turns on automatic configuration of TCP/IP parameters for this computer. This is the preferred method for configuring TCP/IP on most Windows NT computers.

This option is not available if the DHCP Server Service or WINS Server Service options are selected.

## Configuring SNMP

The SNMP service is installed when you check the related option in the Microsoft TCP/IP Installation Options dialog box. After the SNMP service software is installed on your computer, you must configure it with valid information for SNMP to operate. The SNMP configuration information identifies communities and trap destinations.

 You must be logged on as a member of the Administrator group for the local computer to configure SNMP.

### To configure SNMP

1. Start the Network utility in Control Panel. The Network Settings dialog box appears. In the Installed Network Software list box, select SNMP Service, and choose the Configure button. The SNMP Service Configuration dialog box appears.
2. To identify each community to which you want this computer to send traps, type the name in the Community Names box. After typing each name, choose the Add button to move the name to the Send Traps With Community Names list on the left.

Community names are case sensitive.

Typically, all hosts belong to public, which is the standard name for the common community of all hosts. To delete an entry in the list, select it and choose the Remove button.

3. To specify hosts for each community you send traps to, after you have added the community and while it is still highlighted, type the hosts in the IP Host/Address Or IPX Address box. Then choose the Add button to move the host name or IP address to the Trap Destination for the *selected community* list on the left.

You can enter a host name, its IP address, or its IPX address.

To delete an entry in the list, select it and choose the Remove button.

4. To enable additional security for the SNMP service, choose the Security button. Continue with the configuration procedure for the SNMP Security Configuration dialog box.
5. To specify Agent information (comments about the user, location, and services), choose the Agent button. Continue with the configuration procedure for the SNMP Agent dialog box.
6. When you have completed all procedures, choose the OK button. When the Network Settings dialog box reappears, choose the OK button.

The Microsoft SNMP service has been configured and is ready to start. It is not necessary to restart the computer.

See Also

[Installing TCP/IP and SNMP](#)



**Community**

A group of hosts to which a server running the SNMP service belongs. You can specify one or more communities to which the Windows NT computer using SNMP will send traps. The community name is placed in the SNMP packet when the trap is sent.


When the SNMP service receives a request for information that does not contain the correct community name and doesn't match an accepted host name for the service, the SNMP service can send a trap to the trap destination(s), indicating that the request failed authentication.


**Trap Destinations**

The names or IP addresses of hosts to which you want the SNMP service to send traps with the selected community name.

## Configuring TCP/IP

For TCP/IP to work on your computer, it must be configured for the IP addresses, subnet masks, and default gateway for each network adapter on the computer. Microsoft TCP/IP can be configured using two different methods:

 If there is a DHCP server on your internetwork, it can automatically configure TCP/IP for this computer. This method, which uses DHCP, is the best method for ensuring easy and accurate installation of TCP/IP.

 If there is no DHCP server, you must manually configure all TCP/IP settings. You must configure TCP/IP settings manually for DHCP servers.

### To configure TCP/IP using DHCP

1. Make sure the Enable Automatic DHCP Configuration option is checked in either the TCP/IP Installation Options dialog box or the TCP/IP Configuration dialog box.
2. When you restart the computer after completing installation, the DHCP server automatically provides the correct configuration information for your computer.

### To configure TCP/IP manually

1. In Control Panel, choose the Network icon. The Network Settings dialog box appears.
2. In the Installed Network Software list, select TCP/IP Protocol and then choose the Configure button. The TCP/IP Configuration dialog box appears.
3. Complete the options in the TCP/IP Configuration dialog box.

See Also

[Installing TCP/IP and SNMP](#)

[What You Need to Know to Configure TCP/IP](#)

## What You Need to Know to Configure TCP/IP

The network administrator must supply the answers to these questions.

### To configure Microsoft TCP/IP on a Windows NT computer, you need to know:

- Is there a DHCP server on your network so that you can use automatic DHCP configuration? (You cannot choose automatic DHCP configuration if this computer will be a DHCP server.)
- If this is a Windows NT Server, will this computer be a DHCP server?
- If this is a Windows NT Server, will this computer be a WINS server?
- Will this computer be a WINS proxy agent?

### If you cannot use automatic DHCP configuration, you need to know:

- What is the IP address and subnet mask for each network adapter card installed on the computer?
- What is the IP address for the default gateway (IP router)?
- Should you enable Domain Name System (DNS)?  
If so, what are the IP addresses of the DNS servers on your network?
- Are WINS servers available on your network? If so, what are the IP addresses for the primary and secondary WINS servers?

### To configure the SNMP service on your computer, you need to know:

- What are the community names in your network?
- What is the trap destination for each community?
- What are the IP addresses or the host names for the SNMP management hosts?

After TCP/IP is installed, see the TCP/IP Help file for more information about installing and configuring DHCP servers.

See Also

[Configuring SNMP](#)

[Configuring TCP/IP](#)

**DHCP**

Dynamic Host Configuration Protocol. A protocol that provides safe, reliable, and simple TCP/IP configuration. There must be one or more DHCP servers installed on the network for users to take advantage of automatic DHCP configuration.

When DHCP configuration is used, the computer is automatically configured for TCP/IP when the computer is started after the Microsoft TCP/IP software is installed.

**DHCP Server**

A DHCP server is a Windows NT Server computer that is running Microsoft TCP/IP and Dynamic Host Configuration Protocol server software.

When one or more DHCP servers are installed and configured on an internetwork, Windows NT client computers can use the servers to automatically configure their IP addresses, subnet masks, default gateways, and other information.

**WINS**

Windows Internet Name Service. A protocol for a distributed database for registering and querying computer names-to-IP address mappings in a routed network environment.

**WINS Proxy Agent**

Windows NT client computers can query WINS servers directly to resolve computer names as IP addresses. Foreign systems (non-Windows networking computers) can use WINS proxy agents, which intercept name query broadcasts from other computers and resolve computer names via WINS servers.

Any Windows NT computer can be designated a WINS proxy agent on an internetwork where WINS servers are available with TCP/IP installed.



**WINS Server**

A Windows NT Server computer running Microsoft TCP/IP and the Windows Internet Name Service server software.

When WINS servers are installed and configured on an internetwork, almost all users (even those working with non-Windows networking systems) can enjoy the benefits of using computer names (rather than IP addresses) to communicate with systems that are not on the local network.

## TCP/IP Configuration

After the Microsoft [TCP/IP](#) software is installed on your computer, you must manually provide valid addressing information if you are installing TCP/IP on a DHCP server or if you did not use the automatic [DHCP](#) configuration option when you installed TCP/IP.

Use the TCP/IP Configuration dialog box to specify settings for TCP/IP. When you are installing TCP/IP, the TCP/IP Configuration dialog box appears automatically when you choose the Continue button in the Windows NT TCP/IP Installation Options dialog box.

If you are reconfiguring TCP/IP, start the Network utility in Control Panel. The Network Settings dialog box appears. In the Installed Network Software list box, select TCP/IP Protocol, and choose the Configure button. The TCP/IP Configuration dialog box appears.

To configure TCP/IP, you must know the [IP address](#) and [subnet mask](#) for your network adapter.


Choose one of the following buttons for information about this dialog box:

- [Adapter](#)
- [Enable Automatic DHCP Configuration](#)
- [IP Address](#)
- [Subnet Mask](#)
- [Default Gateway](#)
- [Primary and Secondary WINS Servers](#)
- [DNS](#)
- [Advanced](#)

See Also

[Configuring TCP/IP](#)

## Default Gateway

 For each network adapter, type the correct IP address value in the Default Gateway box, as provided by the network administrator.

This value specifies the IP address of the default gateway (or IP router) used to forward packets to other networks or subnets. This value should be the IP address of your local gateway.

This parameter is required only for nodes on internetworks. If this parameter is not provided, IP functionality will be limited to the local subnet unless a route is specified with the TCP/IP **route** command.

## **Adapter**




Select a network adapter for which you want to set IP addresses.

The Adapter list contains all network adapters to which IP is bound on this computer. Initially, this list includes all adapters installed on this computer.


You must set the IP addressing information for each bound adapter. The bindings for a network adapter determine how network protocols and other layers of network software work together.

## **IP Address**

 For each bound network adapter, type the correct values in the IP Address box. This parameter must be configured for each adapter with correct values provided by the network administrator.

This value identifies the IP address for your local computer, or if more than one network card is installed in the computer, for the network adapter card selected in the Adapter box.

### **Subnet Mask**

 Enter the value in the Subnet Mask box that identifies the host ID and network membership for the selected network adapter.

If you check the Enable Automatic DHCP Configuration option, any values you enter manually in this dialog box will override the automatic values that DHCP sets. If you turn on automatic DHCP configuration in this dialog box, you do not need to enter values and you will not be able to enter IP address or mask values.

### **Caution**

Microsoft TCP/IP attempts to detect and prevent duplicate IP addresses. If duplicate addresses do occur, this might cause some computers on the network to function unpredictably.


### **Enable Automatic DHCP Configuration**

To turn on automatic configuration of TCP/IP parameters for this computer, check this option if there is a DHCP server on your internetwork to support dynamic host configuration. This is the preferred method for configuring TCP/IP on most Windows NT computers.

This option is not available if the DHCP Server Service or WINS Server Service options were selected when you installed TCP/IP.


If you check this option, any values you enter manually in this dialog box will override the automatic values that DHCP sets.

## **Advanced**


 If you want to configure the advanced TCP/IP options, choose the Advanced button, which displays the Advanced Microsoft TCP/IP Configuration dialog box.



## **DNS**

 If you want to use the Domain Name System (DNS) for host name resolution, choose the DNS button, which displays the TCP/IP Connectivity Configuration dialog box.

### **Primary and Secondary WINS Servers**

 If you want to use WINS in combination with name query broadcasts to resolve computer names to IP addresses, type the IP address for the primary and secondary WINS servers in these boxes.

Your network administrator must supply these addresses. These are global values for the computer, not just individual adapters.

If a WINS server address is not provided, Microsoft TCP/IP uses name query broadcasts plus the local LMHOSTS file to resolve computer names to IP addresses.

### **LMHOSTS and HOSTS Files**

These files are stored on the local computer and contain lists of known IP addresses mapped with corresponding host names. This method of name resolution was the predecessor to DNS and is still used in Windows NT for small-scale networks or remote subnets where WINS is not available. The computer checks its LMHOSTS file to find an IP address for a particular remote host.

## Advanced Microsoft TCP/IP Configuration


Use the Advanced Microsoft TCP/IP Configuration dialog box if your computer has multiple network adapters connected to different networks using TCP/IP. To display this dialog box, choose the Advanced button in the TCP/IP Configuration dialog box. Use this dialog box to configure options for the adapters, configure alternate default gateways, or to enable routing between the adapters.

Choose one of the following buttons for information about this dialog box:


- Adapter
- IP Address and Subnet Mask
- Default Gateway(s)
- Enable DNS for Windows Name Resolution
- Enable LMHOSTS Lookup
- Import LMHOSTS Button
- Scope ID
- Enable WINS Proxy Agent
- Enable IP Routing
- Config Relay Agent Button

### **Config Relay Agent Button**

A BOOTP/DHCP Relay Agent allows a computer to relay BOOTP/DHCP messages across an IP LAN.


 Choose this button to select the maximum number of hops, to configure the time delay before packets are forwarded, and to specify which DHCP servers to forward packets to.

## **Adapter**

 Select the network adapter for which you want to specify advanced configuration values.


The IP address and default gateway settings in this dialog box are defined only for the selected network adapter.

### **IP Address and Subnet Mask**

 Type an additional IP address and subnet mask for the selected adapter. Then choose the Add button to move the IP address to the list on the right. Repeat this process for each additional IP address. The network administrator should provide the correct values for this parameter.


This list specifies up to 5 additional IP addresses and subnet masks for identifying the selected network adapter. This can be useful for a system connected to one physical network that contains multiple logical IP networks.

### **Default Gateway(s)**


 Type the IP address for an additional gateway that the selected adapter can use. Then choose the Add button to move the IP address to the list on the right. Repeat this process for each additional gateway. The network administrator should provide the correct values for this parameter.

This list specifies up to 5 additional default gateways for the selected network adapter.

#### **To change the priority order for the gateways**

 Select an address to move and use the up or down arrow buttons.

#### **To remove a gateway**

 Select it and choose the Remove button.



### **Enable DNS for Windows Name Resolution**

Check the Enable DNS for Windows Name Resolution option if you want to use DNS for name resolution on Windows networks.

This option uses the IP address specified in the TCP/IP Connectivity Configuration dialog box to identify the DNS server .

### **Enable LMHOSTS Lookup**

Check the Enable LMHOSTS Lookup option if you want to use the LMHOSTS file for name resolution. Choose the Import LMHOSTS button to specify the directory path for the LMHOSTS file you want to use.

## Enable IP Routing



Check the Enable IP Routing option to turn on static IP routing.

You should check this option if you have two or more network cards and you want to route between them. You may need to make additional static routing entries in the static routing tables. For information about creating static routing tables, see the **route** command in NTCMDS.HLP.

This option is not available if your computer has only one network card and one IP address.

### **Enable WINS Proxy Agent**


Check the Enable WINS Proxy Agent option if you want this computer to be used as a gateway to a WINS server.

#### **Important**

You can only enable a WINS proxy agent if WINS servers are available on your internetwork.

This option allows other computers configured for broadcast name resolution to use this computer as a gateway to a WINS server. This option is available only if a WINS server address is specified in the TCP/IP Configuration dialog box.

**Scope ID**

 Type the computer's scope identifier, if required.

To be able to communicate, all computers on a TCP/IP internetwork must have the same scope ID. This identifies information to use if a DNS server is not found for name resolution. Usually this value is left blank. The network administrator should provide the correct value for this parameter, if required.

## **BOOTP Relay Agent Setup**

If you have a subnet and no local DHCP server, but you have a remote DHCP server on another subnet, then a BOOTP relay agent can be used to forward DHCP messages to the remote server.

- Maximum Hops
- Seconds Threshold
- DHCP Servers

**Maximum Hops**

This option checks the hop count field in a DHCP message and drops the message if the hop count field exceeds the Maximum Hops value.

**Seconds Threshold**

This option sets the amount of time the relay agent waits before forwarding messages.


By default, the BOOTP relay agent never forwards messages. The relay agent ignores the message for a few seconds which allows the DHCP server to pick it up.


This option is useful if your local DHCP server is down and you want the BOOTP relay agent to forward messages to a remote DHCP server.



## **DHCP Servers**

Use this option to add and remove DHCP servers to the list of servers to which the BOOTP relay agent can forward DHCP messages.

 In the IP Address box, type the address of a DHCP server, and then choose the Add button. The Server Addresses box shows the list of DHCP servers to which the messages are relayed.

 To remove a DHCP server from the list, in the Server Addresses box, select the IP address and then choose the Remove button.

## DNS Configuration

Use the DNS Configuration dialog box to set a number of options for Microsoft TCP/IP and other TCP/IP-based applications. This dialog box appears when you choose the DNS button in the TCP/IP Configuration dialog box.

Contact the network administrator to find out whether you should configure your computer to use DNS. Usually you will use DNS if you are using TCP/IP to communicate over the Internet or if your private internetwork uses DNS to distribute host information. Windows networking provides a dynamic name resolution system of its own for the local network.

If you choose to use DNS, you must configure how your computer will use DNS and the HOSTS file. TCP/IP must be installed before you set up the DNS connectivity options. DNS configuration is global for all network adapters installed on a computer. If you are reconfiguring your computer, the new configuration will take effect immediately without rebooting. If this is a new installation of TCP/IP, the settings take effect after you restart the computer.


Choose one of the following buttons for information about this dialog box:

- [Host Name](#)
- [Domain Name](#)
- [Domain Name System \(DNS\) Search Order](#)
- [Domain Suffix Search Order](#)

See Also

[Configuring TCP/IP](#)


## Host Name

 Optionally, type a name in the Host Name box (usually your computername). The name can be any combination of A - Z letters and 0 - 9 digits, plus the hyphen (-) and period (.) characters.

To determine the correct host name to use, ask your network administrator.

The host name is used to identify the local computer by name for authentication by some utilities. Other TCP/IP-based utilities, such as **rexec**, can use this value to learn the name of the local computer. By default, this value is the Windows NT computer name, but your network administrator can assign another host name without affecting the computername. Names are stored on DNS servers in a table that maps to Internet Protocol (IP) addresses for use by the Domain Name System (DNS).

## Domain Name

 Optionally, type a name in the Domain Name box. This is usually an organization name followed by a period and an extension that indicates the type of organization, such as microsoft.com.


The name can be any combination of A - Z letters and 0 - 9 digits, plus the hyphen (-) and period (.) characters.

To determine the correct Domain Name for your group, ask your network administrator.

This Domain Name is used with the host name to create a fully qualified domain name (FQDN) for the computer. The FQDN is the host name followed by a period (.) followed by the domain name. For example, this could be **corp01.trey-research.com**, where **corp01** is the host name and **treyresearch.com** is the domain name. During DNS queries, the local domain name is appended to short names.

Note: A DNS domain is not the same as a Windows NT or LAN Manager domain.

### **Name Resolution Search Order**

 Specify how you want host names to be resolved by selecting an option in the Name Resolution Search Order group.

These options allow advanced users to take advantage of WINS and a local HOSTS file to extend the network's DNS availability.

### **HOSTS File Only**

- Choose this option if no hosts with which you will communicate participate in DNS. The system will resolve host names by using the local HOSTS file. If this option is selected, all other controls in this dialog box are not available.

### **HOSTS File First, Then DNS**

Choose this option if most hosts with which you will communicate do not participate in DNS, but some do.

The system will resolve host names by first using the local HOSTS file, and then using DNS if necessary.

### **DNS First, Then HOSTS File**

Choose this option if most hosts with which you will communicate participate in DNS, but some don't.

The system will resolve host names by first using DNS, and then using the local HOSTS file if necessary.




**DNS Only**

- Choose this option if all hosts with which you will communicate participate in DNS. The system will resolve host names by using DNS servers on the network.

### **Enable WINS Resolution**

- Choose this option if WINS servers are available on your network. The system will first consult WINS servers on the network to resolve host names in addition to whatever other option is selected. The option is only available if a WINS server address is specified in the TCP/IP Configuration dialog box.

### **Domain Name System (DNS) Search Order**


 Type the IP address of a DNS server that will provide name resolution. Then choose the Add button to move the IP address to the list on the right. The network administrator should provide the correct values for this parameter.

You can add up to three IP addresses for DNS servers. The servers running DNS will be queried in the order listed.

To change the list order, select an entry. Then from the Order buttons, choose the Up button to move the entry higher in the list, or choose the Down button to move it lower in the list. To remove an IP address, select it and choose the Remove button.

If the Name Resolution method is Hosts File Only, this option is not available.

### **Domain Suffix Search Order**

 Type the domain suffixes to add to your domain suffix search list, and then choose the Add button.





This list specifies the DNS domain suffixes to be appended to host names during host name resolution. You can add up to 6 domain suffixes. To change the search order of the domain suffixes, select a domain name to move, and use the up and down arrow buttons. To remove a domain name, select it and choose the Remove button.

## SNMP Service Configuration

Use the SNMP Service Configuration dialog box to specify parameters for SNMP services. This dialog box appears when you select SNMP Service in the Network Software list in the Network Settings dialog box and then choose the Configure button.


When you choose the OK button in this dialog box, the Microsoft SNMP service has been configured and is ready to start. It is not necessary to restart the computer.

Choose one of the following buttons for information about this dialog box:

-  [Send Traps with Community Names](#)
-  [Trap Destinations for <Community Name>](#)
-  [Security](#)
-  [Agent](#)

See Also  
[Configuring SNMP](#)

### **Send Traps with Community Name**


 To add an entry, type the community name in the Community Names box on the right, and then choose the Add button. To remove a community, select its name in the list on the left, and then choose the Remove button.

A community is a group of hosts that a server running the SNMP service belongs to. You can specify one or more communities to which the current computer will send traps. The community name is placed in the SNMP packet when the trap is sent.

By default, this list contains the name Public. If the SNMP service is installed and running, this list also contains community names previously specified.

## **Trap Destinations**

Trap destinations are the names or IP addresses of hosts to which you want the SNMP service to send traps.


 To add a trap destination for the selected community name, type the host name or IP address in the box on the right and then choose the Add button. To remove a trap destination, select its name in the list on the left and then choose the Remove button.

## **Agent**

 To configure the agent for SNMP services (comments about the user, location, and services), choose the Agent button, which displays the SNMP Agent dialog box.



## Security

 To configure security for SNMP services, choose the Security button, and complete the options in the SNMP Security Configuration dialog box that appears.

## SNMP Security Configuration

Use the SNMP Security Configuration dialog box to specify security parameters for SNMP services. This dialog box appears when you choose the Security button in the SNMP Service Configuration dialog box.

SNMP security allows you to specify the communities and hosts that a computer will accept requests from and to specify whether to send an authentication trap when an unauthorized community or host requests information.

Choose one of the following buttons for information about this dialog box:

- [Send Authentication Trap](#)
- [Accepted Community Names](#)
- [Accept SNMP Packets from Any Host](#)
- [Only Accept SNMP Packets from These Hosts](#)


See Also  
[Configuring SNMP](#)

### **Send Authentication Trap**

Select this option to specify whether an authentication trap is sent for failed authentications.

The SNMP service can send a trap to the trap destination(s) when it receives a request for information that does not contain the correct community name and that does not match an accepted host name for the service. The trap indicates that the request failed authentication.

### **Accepted Community Names**

 To add an entry, type the community name in the box on the right, and then choose the Add button. To remove an entry, select its name in the list on the left, and then choose the Remove button.

For the SNMP service to accept requests from a host, that host must belong to a community that appears in this list. Typically, all hosts belong to public, which is the default name for the common community of all hosts.

Community names are case sensitive.

### **Accept SNMP Packets from Any Host**

Select this option to ensure that no SNMP packets are rejected on the basis of source host ID.

If this option is selected, no SNMP packets are rejected on the basis of source host ID. The list of hosts under Only Accept SNMP Packets From These Hosts has no effect.

### **Only Accept SNMP Packets from These Hosts**

Select this option to ensure that SNMP packets are accepted only from the hosts listed.

In the IP Host/Address Or IPX Address box, type the host names, IP addresses, or IPX addresses of the hosts from which you will accept requests. Then choose the Add button to move the host name or IP address to the list box on the left. To delete an entry in the list, select it and choose the Remove button.

**Packet**

In a packet-switching network, a packet is a transmission unit of fixed maximum size that consists of binary information representing both data and a header containing an ID number, source and destination addresses, and error-control data.

## **Domain Name System (DNS)**

A hierarchical naming service usually provided on networked UNIX systems for mapping host names with Internet Protocol (IP) addresses.

Although TCP/IP uses IP addresses to identify and reach computers, users typically prefer using names. Domain Name System (DNS) is a naming service generally used in the UNIX networking community to provide standard naming conventions for IP computers. TCP/IP utilities, such as **ftp** and **telnet**, can also use DNS in addition to the HOSTS file to find systems when connecting to foreign hosts or systems on your network.



## **SNMP**

Simple Network Management Protocol. SNMP is used to monitor and control hosts and gateways on an internetwork. With SNMP, an administrator can set parameters on a remote host or gateway. The Windows NT SNMP service allows a Windows NT computer to be monitored remotely, but does not include an agent that can do the monitoring.

SNMP sends status information to one or more hosts when the host requests it or when a significant event occurs on the server. The SNMP service can also report network information called traps to a host. SNMP uses host names and IP addresses to recognize the hosts to which it reports information and from which it receives requests.

## **TCP/IP**

Transmission Control Protocol/Internet Protocol (TCP/IP) is a networking protocol that provides communication across interconnected networks made up of computers with diverse hardware architectures and various operating systems. TCP/IP can be used with Windows NT alone, to communicate with devices using other Microsoft networking products, or to communicate with non-Microsoft hosts, such as UNIX®.

The TCP/IP protocol family is a standard set of networking protocols, or rules, that govern how data is passed between computers on a network. TCP/IP is used to connect the Internet, the worldwide internetwork connecting universities, research labs, U.S. defense installations, and corporations. (By convention, Internet is capitalized when referring to the worldwide internet.) The same protocols are used in private internetworks that connect several local area networks.

For more information, see the TCPIP.HLP file.

**Subnet Mask**

A 32-bit value that is used by the IP software to extract the network ID and host ID from the IP address.

The subnet mask is usually represented in dotted decimal notation, with each of the 4 bytes of the address separated with periods. For example: 255.255.0.0

To determine your correct subnet mask, ask your network administrator.

## **IP Address**

The Internet Protocol (IP) address is used to identify a node on a network and to specify routing information on an internet. Each node on the internet must be assigned a unique IP address, which is made up of the official *network ID* (assigned by the Defense Data Network-Network Information Center) plus a unique *host ID* assigned by the network administrator.

An IP address is usually represented in dotted decimal notation, with each of the 4 bytes of the address separated with periods. For example: 102.53.94.97

To determine the correct IP address, ask your network administrator.

## **Default Gateway**

TCP/IP networks are connected by gateways, or routers, that know which networks are connected on the internet. The default gateway is the local IP router that is used to find destinations beyond the local network. The default gateway forwards packets to other gateways until the packet is eventually delivered to a gateway connected to the specified destination.



## **SNMP Agent**

Use the SNMP Agent dialog box to provide information to network administrators who need to remotely configure SNMP for your computer. This dialog box appears when you choose the Agent button in the SNMP Service Configuration dialog box.

SNMP agent information allows you to specify comments about the user and the physical location of the computer and to indicate the types of service to report. The types of service that can be reported are based on the computer's configuration.


The information in this dialog box is for the network administrator's information only. It does not affect the operation of your Windows NT computer.

For information about the SNMP Agent dialog box, choose one of the following topics:


-  [Contact](#)
-  [Locations](#)
-  [Service](#)

See Also  
[Configuring SNMP](#)

**Contact**

 Enter the name and telephone number of the person the network administrator should contact if there are any questions or problems concerning your SNMP configuration. These are comments that will be used as text and cannot include embedded control characters.

**Location**

 Enter the physical location of your computer, for example, Building 3, Room 124. These are comments that will be used as text and cannot include embedded control characters.



## Service

Check all boxes that indicate network capabilities provided by your Windows NT computer. SNMP must have this information to manage the enabled services.

- Physical:** Select this check box if your Windows NT computer manages any physical TCP/IP device, such as a repeater.
- Datalink/Subnetwork:** Select this check box if your Windows NT computer manages a TCP/IP subnetwork or datalink, such as a bridge.
- Internet:** Select this check box if your Windows NT computer acts as an Internet Protocol (IP) gateway.
- End-to-End:** Select this check box if your Windows NT computer acts as an IP host. This option should be selected for all Windows NT installations.
- Applications:** Select this check box if your Windows NT computer includes any applications that use TCP/IP, such as electronic mail. This option should be selected for all Windows NT installations.

## **DEC EtherWORKS LC Adapter Card Setup**

Use this dialog box to configure settings for the DEC EtherWORKS LC adapter card (sometimes referred to as DEC100).

### **IRQ Level**

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **Memory Address**

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

### **I/O Port Address**

Select Primary if this is the first (primary) adapter card. Select Secondary if another card is your primary network adapter.

## **DEC EtherWORKS Turbo Adapter Card Setup**

Use this dialog box to configure settings for the DEC EtherWORKS Turbo adapter card (sometimes referred to as DEC201).

### **IRQ Level**

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **Memory Base Address**

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

### **I/O Port Base Address**

Select Primary if this is the first (primary) adapter card. Select Secondary if another card is your primary network adapter.

## **DEC Turbo Channel Ethernet Adapter Card Setup**

Use this dialog box to configure settings for the DECstation adapter card.

### **Slot Number**



Select a number to specify the slot in the computer where the adapter card resides.

## **DEC Etherworks PC Adapter Card Setup**

Use this dialog box to configure settings for the DEC PC adapter card.

### **Slot Number**



Select a number to specify the slot in the computer where the adapter card resides.


## **3Com Etherlink 16 Adapter Card Setup**

Use this dialog box to configure settings for the 3Com Etherlink II 16 adapter card (sometimes referred to as Elnk16).


For more information on this adapter card, choose one of the following topics:

- [IRQ Level](#)
- [I/O Port Address](#)
- [Memory Address](#)
- [Memory Size](#)
- [Transceiver Type](#)
- [Zero Wait State](#)

### **IRQ Level**


 Select an interrupt level for this adapter card. IRQ3 is the default setting. If you have two COM ports (COM1=IRQ4 and COM2=IRQ3), do not set this adapter card to IRQ3. IRQ2 is a good alternative.

### **I/O Port Address**


 Select a number (expressed as a hexadecimal string) to specify the I/O port base address.




### **Memory Address**

 Select a number (expressed as a hexadecimal string) to specify the memory-mapped Windows base address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

### **Memory Size**

 Select a size to specify the memory-mapped Windows size (transfer buffer size) for this adapter card.

**Transceiver Type**

 Select External or OnBoard to specify the transceiver for this adapter card. (Select External for a DEC/Intel/Xerox (DIX) connection.)

**Zero Wait State**



Select this check box if the fast RAM on your computer is zero wait state.

## **Novell NE2000 Network Card Setup**

Use this dialog box to configure settings for the Novell NE2000 adapter card.

### **IRQ Level**

Select an interrupt level for this adapter card. Do not set this to IRQ3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Address**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

## **Novell NE1000 Network Card Setup**

Use this dialog box to configure settings for the Novell NE1000 adapter card.

### **IRQ Level**

Select an interrupt level for this adapter card. Do not set this to IRQ3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Address**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.


## **3Com Etherlink II Adapter Card Setup**

Use this dialog box to configure settings for the 3Com Etherlink II adapter card (sometimes referred to as Elnkii).

For more information on this dialog box, choose one of the following topics:


- [IRQ Level](#)
- [I/O Port Address](#)
- [Transceiver Type](#)
- [Memory Mapped](#)

### **IRQ Level**


 Select an interrupt level for this adapter card. IRQ3 is the default setting. If you have two COM ports (COM1=IRQ4 and COM2=IRQ3), do not set this adapter card to IRQ3. IRQ2 is a good alternative.



### **I/O Port Address**

 Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

**Transceiver Type**

 Select External or OnBoard to specify the transceiver for this adapter card. (Select External for a DEC/Intel/Xerox (DIX) connection.)

**Memory Mapped**

Select this check box if this adapter card is memory mapped.

## **3Com Etherlink III Adapter Card Setup**

Use this dialog box to configure settings for the 3Com Etherlink III adapter card (sometimes referred to as Elnk3).

### **I/O Port Address**



From the list provided, select the I/O port base address.


## **3Com Etherlink MicroChannel Adapter Card Setup**

Use this dialog box to configure settings for the 3Com Etherlink II MicroChannel adapter card.


For more information on this dialog box, choose one of the following topics:

- [IRQ Level](#)
- [I/O Port Base](#)
- [Memory Base Address](#)
- [Memory Size](#)


### **IRQ Level**

 Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Base**

 Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### **Memory Base Address**

 Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.




### **Memory Size**

Select 8 for low or 16 for high.

## **MS Loopback Adapter Card Setup**

Use this dialog box to configure the Microsoft Loopback adapter card.

### **Frame Type**


 From the list provided, select the frame type that corresponds to your network protocol. The default setting is 802.3. If you do not know what to enter, ask your network administrator.

**Advanced Micro Devices AM1500T/AM2100/PCNet  
Novell/Anthem NE1500T or NE2100  
Adapter Card Setup**


Use this dialog box to configure the Advanced Micro Devices (AMD) AM1500T, AM2100, or PCNet, or the Novell/Anthem NE1500T or NE2100 adapter card. For information on the dialog box, choose one of the following topics:

- [IRQ Level](#)
- [DMA Channel](#)
- [I/O Port Address](#)

### **IRQ Level**

 Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Address**

 Select a number (expressed as a hexadecimal string) to specify the I/O port address.

**DMA Channel**


Select 5, 6, or 7 to specify the DMA channel used by this adapter card.

## **DayStar Digital LocalTalk Adapter Card Setup**

Use this dialog box to configure the DayStar LocalTalk adapter card.

Because this card is always set in polling mode (IRQ level 0), you do not have to set an IRQ level.

### **I/O Base Addr**

 Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

## **Novell 3200 Adapter Card Setup**

Use this dialog box to configure settings for the Novell NE3200 adapter card.

### **IRQ Level**

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Address**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.




## **Proteon 1390 Adapter Card Setup**

Use this dialog box to configure settings for the Proteon 1390 adapter card.


For more information about this dialog box, choose one of the following topics:

- [IRQ Level](#)
- [I/O Port Base Address](#)
- [DMA Channel](#)
- [Cable Type](#)
- [Card Speed](#)
- [Network Address](#)

### **IRQ Level**

 Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Base Address**

 Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

**DMA Channel**

Select 5, 6, or 7 to specify the DMA channel used by this adapter card.

**Cable Type**




Select unshielded twisted pair (UTP) or shielded twisted pair (STP).

### **Card Speed**

Select 4 or 16 megabits per second.

### **Network Address**

 To use a network address other than the one burned into the adapter card, enter the network address in hexadecimal form, in the following format:

XX-XX-XX-XX-XX-XX

For instance, 01-02-03-4E-2D-1F

If you leave the network address blank, the network address burned into the adapter card is used. If you do not know the network address, ask your network administrator.

## **Proteon 1990 Adapter Card Setup**

Use this dialog box to configure settings for the Proteon 1990 adapter card.

For information on this dialog box, choose one of the following topics:

- [IRQ Level](#)
- [I/O Port Base Address](#)
- [DMA Channel](#)
- [Cable Type](#)
- [Card Speed](#)
- [Network Address](#)



## Sonic Adapter Card Setup

### IRQ Level

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### I/O Port Base

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### Memory Base Address

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings.

If you do not enter a memory base address, the address that is burned in on the adapter card is used. See the documentation for your adapter for more information.

## **IBM Token Ring Adapter Card Setup**

Use this dialog box to configure settings for the IBM Token Ring adapter card.

### **I/O Port Base Address**

Select Primary if this is the first (primary) adapter card. Select Secondary if another card is your primary network adapter.

### **Network Address**

To use a network address other than the one burned into the adapter card, enter the network address in hexadecimal form, in the following format:

XX-XX-XX-XX-XX-XX


For instance, 01-02-03-4E-2D-1F

If you leave the network address blank, the network address burned into the adapter card is used. If you do not know the network address, ask your network administrator.

## **IBM Token Ring MCA Adapter Card Setup**

Use this dialog box to configure settings for the IBM Token Ring adapter card for Micro Channel Architecture (MCA).

### **Network Address**

 To use a network address other than the one burned into the adapter card, enter the network address in hexadecimal form, in the following format:

XX-XX-XX-XX-XX-XX

For instance, 01-02-03-4E-2D-1F

If you leave the network address blank, the network address burned into the adapter card is used. If you do not know the network address, ask your network administrator.

## Ungermann-Bass Adapter Card Setup

Use this dialog box to configure settings for the Ungermann-Bass adapter.

### Interrupt Number

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### I/O Port Base Address

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### Memory Address

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

## Ungermann-Bass NDIS Adapter Card Setup

Use this dialog box to configure settings for the Ungermann-Bass NDIS adapter.

### Interrupt Number

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### I/O Port Base Address

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### Memory Address

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

### Net Number

Select 1 if there is only one network provider. Or select a number to specify which network provider this card is connected to.

### Size

Select Small or Big to specify how much memory is allocated for the adapter card.

## **Adapter Card Setup**

Use this dialog box to configure settings for the following adapter cards:

**SMC (WD) Ethercard 8003EP Adapter**

**IBM Ethernet PCMCIA and Compatible Adapter**

**Novell NE4000 PCMCIA Adapter**

**Microdyne NE4000 PCMCIA Adapter**

### **IRQ Level**

Select an interrupt level for this adapter card. IRQ2 is a common choice for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **Memory Base Address**

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

### **I/O Port Address**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

## **SMC (WD) Ethercard WD8013 Adapter Card Setup**

Use this dialog box to configure settings for the SMC (Western Digital for MicroChannel) Ethercard WD8013 adapter card.

### **IRQ Level**

Select an interrupt level for this adapter card. IRQ2 is a common choice for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **Memory Base Address**

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

### **I/O Port Address**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

## **NetBIOS Interface**

The NetBIOS interface is the link between Windows NT and the network protocol drivers that communicate with drivers for specific network adapter cards. Use this dialog box to configure the NetBIOS interface.

### **Network Route**


From the list provided, select a route from the NetBIOS interface to a network card driver.

### **Lana Number**


Type the number of the local area network adapter (LANA) that you want the NetBIOS to access.



## **Redirector Setup**

 Select Minimize Memory Used, Balance, or Maximize Throughput & Connections to specify how much memory is allocated for the service.

## Replicator Setup

 Select Minimize Memory Used, Balance, or Maximize Throughput & Connections to specify how much memory is allocated for the service.

## Server Services Setup

Use this dialog box to adjust the relationship between memory allocated to network connections and memory allocated to applications running on your computer, and to manage connectivity with Microsoft LAN Manager 2.x servers on the network.

### Optimization

Select one of the options provided. For information on the options, choose one of the following topics:

Minimize Memory Used

Balance

Maximize Throughput for File Sharing

Maximize Throughput for Network Applications

### Make Browser Broadcasts to LAN Manager 2.1

Select this check box if there is a LAN Manager 2.x server on your network and you want that server to browse shared resources on this computer.

### **Maximize Throughput for File Sharing**

Choose this option to allocate maximum memory for file sharing applications. This setting is best for computers running Windows NT Server on a large network.

### **Maximize Throughput for Network Applications**

Choose this option to optimize server memory for distributed applications that do their own memory caching, such as Microsoft SQL Server. This setting is best for computers running Windows NT Server on a large network.

## **Add Network Software**

Use this dialog box to select supporting network software to install for your computer.

Select the software component you want to install, and then choose the OK button.

If you have a disk with software from a vendor, select Other.

## **Workstation**

### **Optimization**

Select Minimize Memory Used, Balance, or Maximize Connections to specify how much memory is allocated for the adapter card.

## **DLC Protocol**

Use this dialog box to configure the Data Link Control protocol.

### **Optimization**

Select Minimize Memory Used, Balance, or Maximize Connections to specify how much memory is allocated for the adapter card.



## NetBEUI Protocol

Use this dialog box to adjust the relationship between memory allocated to network connections and memory allocated to applications running on your computer.

### Optimization

Select one of the options provided. For information on the options, choose one of the following topics:

Minimize Memory Used

Balance

Maximize Throughput and Connections

### **Minimize Memory Used**

- Choose this option to allocate memory for ten network connections or fewer.

**Balance**

Choose this option to support as many as 64 connections. Balance is the default setting for NetBEUI software.

### **Maximize Throughput and Connections**

Choose this option to support as many network connections as your computer's hardware will allow. This setting is best for computers running Windows NT Server on a large network.

## **Bindings**

The network consists of a series of software layers, where each layer has a specific function. Each network component can be bound to one or more components above or below it to make that component's services available to others.



Choose this button to add or remove bindings for network components.


### **Domain or Workgroup Change Button**

 To join a workgroup or a Windows NT Server domain, choose this button and complete the information in the Domain Settings dialog box.


You cannot join a workgroup or a different domain from a Windows NT Server computer. To join a different domain, you must reinstall Windows NT Server. If this computer is a primary domain controller, you can change the domain name to one that is not currently used by the network. If this computer is a backup domain controller, you can change the domain name only if it has been changed on the primary domain controller, and only to the new domain name.

Note: If you use this button in Windows NT Server to change the name of a domain, you must also change the domain name on all domain controllers and workstations in the domain, and you must reestablish any trust relationships with other domains.

## **Description**

 To create a custom description of any network component, select the item in the Installed Network Software or Installed Adapter Card list. Then type a description in this box. For example, you might add text to specify the slot in the computer where an adapter card is installed.


## **Remove**

 To remove a network software component or adapter card, select the item in the Installed Network Software or Installed Adapter Card list. Then choose the Remove button. The dialog box for removing the component is supplied by the manufacturer. Choose the Help button in the dialog box for more information.

When you remove a network component, the information is removed from your system configuration. The related software remains on your hard disk.




## **Update**

 To update a network software component or adapter card, select the item in the Installed Network Software or Installed Adapter Card list. Then choose the Update button and complete the information in the dialog boxes that appear.


You will be asked to insert disks from the manufacturer that contain the updated driver information for the selected component.

## **Configure**


 To configure any network adapter card or software component, select the item in the Installed Network Software or Installed Adapter Card list. Then choose the Configure button and complete the information in the dialog boxes that appear.

Double-clicking the name in the list is the same as choosing the Configure button.


## **Add Adapter**

 To install a network adapter card, choose this button. Then complete the information in the dialog boxes that appear.


## **Add Software**

 To install a network software component, choose this button. Then complete the information in the dialog boxes that appear.


## **Installed Adapter Cards**

 To configure, update, or remove drivers for any network adapter cards on the computer, select the driver name in this list, and then choose the appropriate button.

## **Installed Network Software**

 To configure, update, or remove any network component that is not a network adapter card, select the software in this list. Then choose the appropriate button. A network component such as a protocol stack and service, is software bound to a network adapter card or to another network component.

## **Restarting Your Computer**


 From the File menu in Program Manager, choose Shutdown. Do not use the power switch to restart your computer.

**Bindings**

A series of bound paths from the upper-layer network services and protocols to the lowest layer of adapter card device drivers. Each network component can be bound to one or more network components above it or below it to make the component's services available to any component that can benefit from them.




### **Show Bindings List**


 To select the component binding you want, choose the arrow at the right of the list, and then scroll through the list. Or press `TAB` to move the selection cursor, and then press `ALT+DOWN ARROW` to select a binding.

Select the All Components item to see a list of all bound components.


### **Upper/Lower Bindings List**

 To select a binding path to enable or disable, select a binding path in the list. The icon at the left of the list shows the current status of that binding. A lighted bulb indicates that the binding is enabled, a dimmed bulb that the binding is disabled.


### **Enable Button**

 To enable a binding path, select the binding in the Upper/Lower Bindings list. Then choose the Enable button.

### **Disable Button**

 To disable a binding path, select the binding in the Upper/Lower Bindings list. Then choose the Disable button.

### **Computer Name Change Button**


 To change the computer name, choose this button and type a new computer name in the dialog box.

To change the computer name, you must be logged on to a user account that is a member of either the Administrators local group or the Domain Admins global group.

There must already be an account for this computer name if it is to be a member of a Windows NT Server domain. Otherwise, you cannot access the shared resources of the domain from your computer.

A computer name must be unique in its domain and can contain up to 15 characters.

## Workgroup


 To join a workgroup, select the Workgroup option and then type a workgroup name. To change the workgroup membership of your computer, you must be logged on to a user account that is a member of either the Administrators local group or the Domain Admins global group.

The workgroup name must not be the same as the computer name. The name can be, for example, an existing workgroup created under Windows for Workgroups.

A workgroup name can have as many as 15 characters. It cannot contain any of the following characters:

; : " < > \* + = \ | ? ,


## Domain

 To join a domain, select the Domain option and then type the domain name where this computer has an account.

To change the domain membership of your computer, you must be logged on to a user account that is a member of either the Administrators local group or the Domain Admins global group. In addition, your computer must have an account on the domain you want to join.

To obtain the correct domain name, ask your network administrator. If you are unsure, select the Workgroup option and complete the dialog box. You can choose the Network option in Control Panel to join the domain when you know the correct domain name.


### **Domain Administrator's User Name and User Password**

 To add your computer to the specified domain and join the domain at the same time, type a username and password that identifies an account in the Domain Admins global group for the specified domain.

If you do not have an administrator account on the specified domain, you must request a computer account from your network administrator.




### **Primary Domain Controller in New Domain**

 To create a new domain where this computer is the primary domain controller, choose this option. Then type a domain name.

### **Backup Domain Controller in Domain**

To set up a backup domain controller in a domain, select this option. Then type the domain name where this computer has an account.

### **Networks Button**

 To set network search order if your computer is connected to more than one kind of network provider, choose this button and complete the Network Provider Search Order dialog box.  
This button is not available if you use only one kind of network.

**Domain**

A set of servers and workstations grouped together for efficiency and security. A domain is the basic administrative unit in Windows NT Server. A network can be divided, for example, into domains by department, workgroup, or building floor.

Domains keep large networks manageable. For example, users displaying a list of servers see only the servers for their domain. But they can still access resources on servers in any domain.

**Workgroup**

A set of servers and workstations grouped together for efficiency. A workgroup keeps the network manageable. For example, users displaying a list of printers see only the printers for their workgroup. But they can still access resources in any workgroup.

A network can be divided, for example, into workgroups by department or any other collection of computers that use the same shared files or other network resources.

**Computer Name**

A name of 15 characters or less that is used to identify a computer on the network. To change the computer name, choose the Network option in Control Panel and then choose the Change button beside the current computer name.

A computer cannot have the same name as either a Windows NT Server domain or another computer on the network.

If a computer is joining a Windows NT Server domain, it must use the name created for it by the network administrator. If the computer name does not have an account in the domain, you cannot log on to the domain or access any domain user accounts (including your own account).

**Computer Name**

There must already be an account for this computer name if it is joining a Windows NT Server domain. The computer name cannot be the same as that of another computer or of a Windows NT Server domain.

If you change the computer name or enter an incorrect name, and that computer name does not have an account in the domain, you will not be able to log on to the domain or access any domain user accounts, including your own.

**Domain Name**

If you change the current domain name, be sure your computer has an account on the new domain. If it does not, you cannot log on to the domain or access any domain user accounts, including your own.



## NetBEUI

Use this dialog box to adjust the relationship between memory allocated to network connections and memory allocated to applications running on your computer.

### Optimization

Select one of the options provided. For information on the options, choose one of the following topics:


Minimize Memory Used

Balance

Maximize Throughput and Connections

## Computer Name

Use this dialog box to specify a new computer name.

 To change the computer name, type a name of up to 15 characters. The name must not be the same as another computer name or the name of a Windows NT Server domain. If this computer is a member of a Windows NT Server domain, the new computer name must have an account on the domain. If it does not, you cannot log on to the domain or access any domain user accounts, including your own.


## **Browser**

Use this dialog box to configure the Microsoft Network Browser Service.

- To make additional domains available to the Browser, select the names in the left box, and then choose the Add button.
- To make domains unavailable to the Browser, select the names in the right box, and then choose the Remove button.

## **Network Component Already Exists**

The network software component you are trying to install has already been installed on your computer.

 To modify the configuration of the component, select its name in the Installed Network Software box, and then choose the Configure button.


To install a new version of the software, select its name in the Installed Network Software box, and then choose the Update button.

## Intel Ether Express 16 LAN Adapter


Use this dialog box to configure the Intel Ether Express 16 LAN Adapter card.

- IRQ Level
- I/O Port Address
- I/O Channel Ready
- Transceiver Type

### **IRQ Level**

 Select an interrupt level for this adapter card. IRQ2 is a common choice for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Address**

 Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

The I/O port base address is set by the setup software that comes with the adapter card. The value you enter here must correspond to the address set by the software. For further information, see the documentation provided with the adapter card.

**I/O Channel Ready**

I/O Channel Ready optimizes the timing of 16-bit data transfer according to the capabilities of your computer.

Most computers use late channel ready timing, the default. If that setting works incorrectly, select Never to turn off 16-bit data transfer. The network card will work correctly, but network performance will slow dramatically because the data transfer is in 8-bit mode.



### Transceiver Type



From the list provided, select the transceiver type for this adapter card:



**Thick Net:** Select Thick Net for an AUI or DEC/Intel/Xerox (DIX) connection.



**Thin Net:** Select Thin Net for a BNC or coaxial (COAX) connection.




**Twisted Pair:** Select Twisted Pair for a TPE connection.

## **RPC Configuration**

Use this dialog box to configure the Remote Procedure Call Locator.


### **Name Service Provider**

 Choose the arrow button to the right of the Name Service Provider box, and then select a name from the list that appears. The Windows NT Locator, which is installed with Windows NT, is the default name service provider.

### **Network Address**

 If you choose the DCE Cell Directory Service, enter the network address of the provider.

### **Security Service Provider**

 If you installed the DEC DCE Security Service, you have the option of choosing it in this box.

## **Installing Remote Access Service**

### **To install Remote Access Service**

1. In the Network Settings dialog box, choose the Add Software button.
2. In the Add Network Software dialog box, select Remote Access Service from the Network Software box, and then choose the Continue button.
3. Follow the instructions on the screen. If you need help at any point, choose the Help button in the dialog box displayed, or press F1.
4. In the Network Settings dialog box, choose the OK button.

To start Remote Access Service, you must restart Windows NT. When you choose the OK button in the Network Settings dialog box, another dialog box asks you if you want to restart Windows NT now. To start Remote Access Service, choose the Yes button.


## **NWLink Configuration**

Use this dialog box to configure the NetWare Link (NWLink) IPX/SPX compatible transport.


For information about dialog box options, choose one of the following topics:

- [Adapter Name](#)
- [Network Number](#)
- [Frame Type](#)


**Adapter Name**

 From the list provided, select the network adapter card that you want to bind to NWLink. Only network adapter cards actually installed on your computer are listed.

**Network Number**

 Enter the network number in hexadecimal form. The default setting is 0. If you do not know the network number, ask your network administrator.

### **Frame Type**

 From the list provided, select the frame type that corresponds to your network protocol. The default setting is Ethernet\_802.3. If you do not know what to enter, ask your network administrator.

## **FTP Server Security**

### **Important**

When you first install FTP Server, you must also configure FTP Server security so that users can access volumes on your computer.

### **To configure FTP Server security**

1. After the FTP Server has been installed and you have restarted Control Panel, start the FTP Server option in Control Panel. Windows NT Server users can also use the FTP menu in Server Manager. The FTP User Sessions dialog box appears.
2. Choose the Security button. The FTP Server Security dialog box appears.
3. In the Partition box, select the drive letter you want to set security on, then check the Allow Read or Allow Write check box, or both check boxes, depending on the security you want for the selected partition.

Repeat this step for each partition. Setting these permissions will affect all files across the entire partition on FAT and HPFS partitions. On NTFS partitions, this feature can be used to remove read or write access (or both) on the entire partition.

4. Choose the OK button when you are finished setting security access on partitions. The changes take effect immediately. The FTP Server service is now ready to operate.



## FTP Server Service

With the Microsoft File Transfer Protocol (FTP) Server service, a Windows NT computer can transfer files to and from remote computers that support the FTP and TCP/IP protocols. The FTP Server service supports all Windows NT FTP client commands.

Use this dialog box to configure the FTP Server service. For information on the dialog box, choose one of the following topics:

- [Maximum Connections](#)
- [Idle Timeout \(min\)](#)
- [Home Directory](#)
- [Allow Anonymous Connections](#)
- [Username](#)
- [Password](#)
- [Allow Only Anonymous Connections](#)

### Important

When you first install FTP Server, you must also configure FTP Server security so that users can access volumes on your computer.

**Maximum Connections**

Specifies the maximum number of FTP users who can be connected to the system simultaneously. The default value is 20; the maximum is 50.

**Idle Timeout (min)**

Specifies how many minutes an inactive user can remain connected to the FTP service. The default value is 10 minutes; the maximum is 60 minutes. If you enter 0, an inactive user can remain connected indefinitely.

**Home Directory**

Specifies the initial directory for users.

### **Allow Anonymous Connections**

Select this check box to enable users to connect to the FTP Server using the user name Anonymous. A password is not necessary, but the user is prompted to enter an e-mail address as the password.

By default, anonymous connections are not allowed.

If you want to allow only anonymous connections, you should also check the Allow Only Anonymous Connections checkbox. Otherwise, users can connect using their Windows NT user accounts.

**Username**

Specifies the local user account that is accessed when users log on as Anonymous. The default is the standard Guest system account. Access permissions for anonymous FTP users are the same as those for the specified local user account.

**Password**

Specifies a password required to log on as Anonymous.



Enter the password for the user account specified in the Username box.

### **Allow Only Anonymous Connections**

Select this check box to accept logons only from the Anonymous user name. By default, this option is not enabled.

If this option is checked, users cannot log on using Windows NT user accounts.

This option is useful if you do not want users to connect using their own user names because FTP passwords are unencrypted. Requiring users to connect to the FTP Server as Anonymous protects network security. However, all users will have only the access privilege provided by the account you specify in the Username box.



## **Network Settings**

Your Windows NT installation does not now have a network.

- Choose the Yes button if you want Windows NT to automatically detect a network adapter card in your computer and install the network software you need.
- Choose the No button to return to the Network Settings dialog box, where you can manually install network software and network adapter card drivers.

## Change Domain Name

Use this dialog box to change the domain name for your Windows NT Server computer.

You cannot use this dialog box to join a different domain. To join a different domain, you must reinstall Windows NT Server. If this computer is a primary domain controller, you do not have to reinstall to change the domain name to one that is not currently used by the network. If this computer is a backup domain controller, you can change the domain name only if it has been changed on the primary domain controller, and only to the new domain name.

Note: If you change the name of a domain, you must also change the domain name on all backup domain controllers and workstations in the domain, and you must reestablish any trust relationships with other domains.

### Domain Name



Enter the new domain name, and then choose the OK button.


## **Import LMHOSTS File**

Use this dialog box to specify the directory path for the LMHOSTS file you want to import.



Type a directory path in the Import LMHOSTS File box, and then choose the Import button.

### **Import LMHOSTS Button**

 Choose this button to display a dialog box where you can type a directory path for the LMHOSTS file you want to import.

## **NWLink IPX/SPX Protocol Configuration**

Use this dialog box to configure the IPX protocol.

### **Adapter**

From the Adapter list, select the adapter for which you want to configure the IPX protocol. You must configure the frame type for each adapter card on your computer.

### **Frame Type**

From the Frame Type list, select the frame type for your network. If you are unsure, select Auto Detected.

If you are a member of a NetWare 3.3 or higher network with an Ethernet adapter card, select 802.2. For other Ethernet adapter configurations, 802.3. For a Token Ring adapter (whether or not you are on a NetWare network), select 802.5. For other network configurations, ask your network administrator.


### **Advanced Button**

Choose the Advanced button to assign an internal network number.

## **NWLink IPX/SPX Protocol Advanced Configuration**

In the case of a multinet Windows NT environment, use this dialog box to set an internal network number in order to run services such as SQL Server or SNA Server. An internal network number assigns a "logical" network for the NetWare file server. This makes it easy for a NetWare file server running on a multinet host to be uniquely identified.

### **Internal Network Number**

 Type an 8 digit hexadecimal number in the box, for example, 1234abcd and then choose the OK button.

## **NWLink IPX/SPX Protocol Configuration**

Use this dialog box to configure the IPX protocol and select more than one frame type per adapter on a Windows NT Server computer.

### **Internal Network Number**

Type an 8 digit hexadecimal number in the box, for example, 1234abcd and then choose the OK button.

### **Enable RIP Routing**

To enable LAN to LAN routing, select the Enable RIP Routing check box.

Note: This release does not provide LAN to WAN to LAN routing.

### **Adapter**

From the Adapter list, select the adapter for which you want to configure the IPX protocol. You must configure the frame type for each adapter card on your computer.

### **Auto Frame Type Detection**

Choose the Auto Frame Type Detection option to automatically detect the frame type for your network.

### **Manual Frame Type Detection**

Choose the Manual Frame Type Detection option and then use the Add and Remove buttons to manually choose a frame type. You can select more than one frame type per adapter.

If you are a member of a NetWare 3.3 or higher network with an Ethernet adapter card, select 802.2. For other Ethernet adapter configurations, 802.3. For a Token Ring adapter (whether or not you are on a NetWare network), select 802.5. For other network configurations, ask your network administrator.

## Remoteboot Service

In the Remoteboot Directory box, type the path for the directory where you want to install Remoteboot. The default is **c:\systemroot\rpl**.

Select the Migrate Remoteboot Directory From LAN Manager check box to manually copy your LAN Manager 2.x Remoteboot tree to the Windows NT Remoteboot directory. If you check this option, Setup will not copy any files into the Remoteboot directory. The source directory must have been created under LAN Manager 2.1 or later.



## **IBM Token-Ring Network 16/4 ISA Adapter II**

Use this dialog box to configure settings for the IBM Token-Ring Network 16/4 ISA Adapter II card.

### **I/O Port Address**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### **Network Address**

To use a network address other than the one burned into the adapter card, enter the network address in hexadecimal form, in the following format:

XX-XX-XX-XX-XX-XX

For instance, 01-02-03-4E-2D-1F

If you leave the network address blank, the network address burned into the adapter card is used. If you do not know the network address, ask your network administrator.

## **ARCNET/TCNS Adapter Setup**

### **Interrupt Number**

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Base Addr**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### **Memory Address**

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

## **Thomas-Conrad TCNS Adapter Setup**

### **Interrupt Number**

Select an interrupt level for this adapter card. Do not set this to Interrupt 3 if you have two COM ports (COM1=IRQ4 and COM2=IRQ3).

### **I/O Port Base Addr**

Select a number (expressed as a hexadecimal string) to specify the I/O port base address.

### **Memory Address**

Select a number (expressed as a hexadecimal string) to specify the base memory (I/O) address used by this network adapter card. This number must match the card's memory address settings. See the documentation for your adapter for more information.

## **Thomas-Conrad TCNS (TC3147) Adapter Setup**


### **Slot Number**



Select a number to specify the slot in the computer where the adapter card resides.

## Compaq NetFlex Adapter Card Setup

### Network Address

 To use a network address other than the one burned into the adapter card, enter the network address in hexadecimal form, in the following format:

XX-XX-XX-XX-XX-XX

For instance, 01-02-03-4E-2D-1F

If you leave the network address blank, the network address burned into the adapter card is used. If you do not know the network address, ask your network administrator.

## FTP User Sessions

Use this dialog box to view and manage connections to the Microsoft File Transfer Protocol (FTP) Server service. For more information, choose one of the following topics:

- [Connected Users](#)
- [From](#)
- [Time](#)
- [Disconnect button](#)
- [Disconnect All button](#)
- [Security button](#)
- [Refresh button](#)

**Connected Users**

Lists the user names of all connected users. If a user connects to FTP as Anonymous, the password used is shown. The icon beside anonymous users includes a question mark.

**From**


For each connected user, shows the corresponding Internet Protocol address.



**Time**


Shows the time each user has been connected.

## Security


 Choose the Security button to set read and write permissions for each partition on the FTP Server.

**Refresh**

The FTP Manager displays users as they connect, but does not update the display when users disconnect or their connect time elapses.


 Choose the Refresh button to update the information shown in the FTP User Sessions dialog box.

## **Disconnect**

 Choose the Disconnect button to disconnect the selected user or users from the FTP server.

Users are not warned when you disconnect them.

## **Disconnect All**

-  Choose the Disconnect All button to disconnect all users from the FTP server. Users are not warned when you disconnect them.

## FTP Server Security

Use this dialog box to configure security for the Microsoft File Transfer Protocol (FTP) Server service. For information on the dialog box, choose one of the following topics:

- [Partition](#)
- [File System Type](#)
- [Allow Read](#)
- [Allow Write](#)

## Partition



Select the letter of the drive or partition you want to set security on.

**File System Type**

Shows the file system used to format the partition specified.



**Allow Read**

Select this check box to allow users to read files from the partition specified.


**Allow Write**

Select this check box to allow users to write files to the partition specified.

## **IBM Token Ring EISA Adapter Card Setup**

Use this dialog box to configure settings for the IBM Token Ring EISA adapter card.

### **Network Address**

 To use a network address other than the one burned into the adapter card, enter the network address in hexadecimal form, in the following format:

XX-XX-XX-XX-XX-XX

For instance, 01-02-03-4E-2D-1F

If you leave the network address blank, the network address burned into the adapter card is used. If you do not know the network address, ask your network administrator.

**Primary Domain Controller**

In a Windows NT Server domain, the server that authenticates domain logons and maintains the security policy and the master database for a domain.

**Backup Domain Controller**

In a Windows NT Server domain, a computer that receives a copy of the domains security policy and domain database, and authenticates network logons.

**Server**

In some specific cases, refers to a computer that runs Windows NT Server but is not a primary domain controller or backup domain controller of a Windows NT domain. Although it doesn't serve as a domain controller, it can provide shared resources to network users, including shared files or shared printers.

## Configuring the Display

In this version of Windows NT, you can configure the display resolution and color choices for your screen or adapter or install another display driver by using the Display option in Control Panel. You can also test the resolution or new display driver before accepting the changes as part of your system configuration.

Note: Testing the settings for your display configuration will help prevent you from selecting display options that are not compatible with your monitor and display adapter.

Choosing the Cancel button will cancel all changes made in the Display dialog boxes.

### Caution

Some monitors can be physically damaged by wrong video settings. Carefully check the manual for your monitor before choosing a new setting.

### To configure your display

1. In Control Panel, choose the Display option.
2. In the Display Settings dialog box, use the options in the following list to change your display settings.

<b><u>Option</u></b>	<b><u>Description</u></b>
Color Palette	Select from this list the number of colors you want for your display adapter. The larger the number, the greater the number of colors.
Desktop Area	Drag the scroll bar to change the visible screen area used by the display. The larger the desktop area, the smaller everything looks on your screen.
Font Size	Select from this list one of the font sizes for your display type. Typically, the selections will be Small Fonts and Large Fonts.
Refresh Frequency	Select from this list the adapter refresh rate. The higher the refresh rate, the less flicker you will see on your screen. You should not select a refresh rate that is not supported by your monitor at the selected resolution. If you are unsure, select the lowest refresh option.

Note: Sometimes a larger number of colors requires you to have a smaller desktop area, and vice versa. This is due to a limitation of the display adapter.

3. To quickly change the mode for your display, choose the List All Modes button. In the Valid Modes dialog box, double-click the mode that you want.
4. To see how these settings work with your monitor, choose the Test button.  
The test will display color boxes with text in them showing the new color palette, new desktop area and new refresh frequency.
5. If the test shows that the settings work with your display adapter and monitor, choose the OK button.  
If the settings are not satisfactory, make the changes you want until Test shows that the settings work with your monitor.

After you make changes in the Display Settings dialog box, you must restart your computer for the changes to take effect. After Windows NT starts again, if you want to return to your previous display settings, you can restart the computer once more, and then press the spacebar to choose the Last Known Good configuration, as described in Chapter 2, Troubleshooting in the *Installation Guide*.

For help with the Display Settings dialog box, choose the Help button or press F1 while using the dialog box.

See Also  
[Installing a Display Device Driver](#)



## Installing a Display Device Driver

### To install a different display device driver

1. In Control Panel, choose the Display option.
2. In the Display Settings dialog box, choose the Change Display Type button.  
The Display Type dialog box lists information about the current driver.
3. In the Display Type dialog box, choose the Change button.  
Windows NT ships drivers for all the devices that you can see in the Models box when the default Show All Devices option is selected in the Select Device dialog box.
4. To install display drivers from a manufacturers disk, choose the Other button, otherwise go to the next step. In the Install From Disk dialog box, type the location for the manufacturers disk, and then choose OK.  
For example, if the disk is in drive A, type **a:** in the box. If the files from the installation disk are on a network drive, you can type that location as a drive letter or as an absolute path, for example, **\\filesvr\drivers**.  
The name of the device will appear in the Models list box.
5. If you want the system to automatically detect the display adapter on your system, choose the Detect button.
6. In the Models box, select the name of the device you want to use for your computer, and then choose Install. If you want to remove a driver, you can select it in this list and choose Deinstall.
7. By default, the current driver will be disabled. If you want to keep multiple drivers installed, uncheck the Disable Current Driver box.

Note: Keeping multiple drivers installed may generate an error message in the system eventlog.

Restart the computer and choose the Display option again to select a resolution.

The appropriate drivers will be loaded.

8. In the Display Type dialog box, choose the Close button.
9. Complete the steps described in the Configuring the Display procedure to configure and test the settings for this display type.

If you want to see a list of the installed drivers that are compatible with your system, select Show Compatible Devices. To see a complete list of compatible drivers with the Show Compatible Devices option, first choose the Detect button and restart the computer.

You must install the driver before it can appear in the Models list box.

For help with the dialog boxes, choose the Help button or press F1 while using the dialog box.

See Also

[Configuring the Display](#)

## Display Settings

Use the Display option to configure the display resolution and color choices for your screen or adapter or install another display driver. You can also test the resolution or new display driver before accepting the changes as part of your system configuration.








Choosing the Cancel button will cancel all changes made in the Display dialog boxes.

### Caution

Some monitors can be physically damaged by wrong video settings. Carefully check the manual for your monitor before choosing a new setting.

After you make changes in the Display Settings dialog box, you must restart your computer for the changes to take effect. After Windows NT starts again, if you want to return to your previous display settings, you can restart the computer once more, and then press the spacebar to choose the Last Known Good configuration, as described in Chapter 2, Troubleshooting in the *Installation Guide*.


Choose one of the following buttons for information about the dialog box:

-  [Color Palette](#)
-  [Desktop Area](#)
-  [Font Size](#)
-  [Refresh Frequency](#)
-  [List All Modes Button](#)
-  [Change Display Type Button](#)
-  [Test Button](#)


See Also

[Configuring the Display](#)


### **Color Palette**

 Open the list box and choose the number of colors you want for your display adapter. The larger the number, the greater the number of colors. Sometimes a larger number of colors requires you to have a smaller desktop resolution, and vice versa. This is due to a limitation of the display adapter.


## **Desktop Area**

 Use the arrow keys to change the visible screen area used by the display. A larger desktop area makes everything on your screen look smaller.

**Font Size**


 Open the list box and choose a size for your display type. Typically, the selections will be Small Fonts and Large Fonts. Small Fonts is the default selection.

## **Refresh Frequency**


 Open the list box and choose the adapter refresh rate. The higher the refresh rate, the less flicker you will see on your screen. You should not select a refresh rate that is not supported by your monitor at the selected resolution. If you are unsure, select the lowest refresh option.

### **List All Modes Button**

You can set the color, desktop area, and refresh frequency at the same time by selecting from a list of valid modes.


 To select a mode, choose the List All Modes button. In the Valid Modes dialog box, select a mode and then choose the OK button. The Display Settings dialog box changes to reflect your selection. To see how these settings work with your monitor, choose the Test button.

### **Change Display Type Button**

 To view driver information and install a different display device driver, choose the Change Display Type button.



### **Test Button**

 To test your screen choices, choose the Test button. The test will display color boxes with text in them showing the new color palette, new desktop area, and new refresh frequency.


It is recommended that you test before choosing the OK button in case the monitor doesn't synchronize with the selected driver. If the settings are not satisfactory, make the changes you want until Test shows that the settings work with your display adapter and monitor.

## Display Type

Use this dialog box to see information about the current driver. You can install a different display device driver by choosing the Change button.

Choose one of the following buttons for information about the dialog box:

 [Adapter Type](#)

 [Driver Information](#)

See Also

[Installing a Display Device Driver](#)

[Configuring the Display](#)

### **Adapter Type**

The Adapter Type box lists the driver you are currently using.



Choose the Change button to install a new driver.

**Driver Information**

The Driver Information box lists information about the driver you are currently using. This information is useful should you need to call product support.

## Select Device

Use this dialog box to select a driver to install.

Choose one of the following buttons for information about the dialog box:

- [Models](#)
- [Show Compatible Devices](#)
- [Show All Devices](#)
- [Install Button](#)
- [Deinstall Button](#)
- [Detect Button](#)
- [Other Button](#)

See Also

[Installing a Display Device Driver](#)

[Configuring the Display](#)

**Models**

Windows NT ships drivers for all the devices that you can see in the Models box when the default Show All Devices option is selected in the Select Device dialog box.

If you want to use a third party driver, you must install the device using the Other button before it can appear in the Show All Devices Models box. Then choose the driver you would like to install.

If you want to see which installed drivers are compatible with your system, choose the Show Compatible Devices option. You must install the driver before it shows up in the Show Compatible Devices Models box.

### **Show Compatible Devices**


Select the Show Compatible Devices option to see a list of the installed drivers that are compatible with your hardware.

### **Show All Devices**

Select the Show All Devices option to see all devices on your system. This is the default selection.




### **Install Button**


 To install a driver, select it in the Models box and then choose the Install button. By default, the current driver will be disabled. If you want to keep multiple drivers installed, uncheck the Disable Current Driver box.

Note: Keeping multiple drivers installed may generate an error message in the system eventlog.


## **Deinstall Button**

 To remove a driver, select it in the Models box and then choose the Deinstall button.

### **Detect Button**

 To have the system automatically detect the display adapter on your system, choose the Detect button.

### Other Button

 To install display drivers from a manufacturer's disk, choose the Other button. In the Install From Disk dialog box, type the location for the manufacturer's disk, and then choose the OK button.

For example, if the disk is in drive A, type **a:** in the box. If the files from the installation disk are on a network drive, you can type that location as a drive letter or as an absolute path, for example, **\\filesvr\drivers**.

The name of the device will appear at the end of the Models box when Show All Devices is selected. Then you can select the driver and install it. You must complete this step every time you wish to install a driver not shipped with Windows NT.

## Managing Server Properties

### To manage server properties

1. In the Control Panel window, choose the Server icon.

The Server dialog box appears, displaying a summary of connections and resource usage.

2. To change the computer description, type new text in the Description box.
3. To administer a property associated with one of the buttons at the bottom of the Server dialog box, choose a button and complete the dialog box for that property.

There are five buttons: [Users](#), [Shares](#), [In Use](#), [Replication](#), and [Alerts](#).

4. When you finish managing properties, choose the OK button in the Server dialog box.

See Also

[Viewing User Sessions](#)

[Viewing Shared Resources](#)

[Viewing Resources In Use](#)

[Managing Export Replication](#)

[Managing Import Replication](#)

[Setting the Logon Script Path](#)

[Managing Administrative Alerts](#)

## Viewing User Sessions

### To view a list of users connected to the computer

1. In the Control Panel window, choose the Server icon.
2. In the Server dialog box, choose the Users button.

The User Sessions dialog box appears. The Connected Users box lists the network users who are connected to the computer.

3. To view the resources opened by one user, select a user name from the Connected Users box.

The Resource box lists the shared resources that user is connected to.

4. Optionally, to disconnect one user, select the user name from the Connected Users box and then choose the Disconnect button. To disconnect all users, choose the Disconnect All button.

Warn users before disconnecting them.

5. To exit choose the Close button, and then in the Server dialog box choose the OK button.

See Also

[Viewing Shared Resources](#)

[Viewing Resources In Use](#)

[Special Shares](#)

## Viewing Shared Resources

Use the Shared Resources dialog box to view the shared resources available on the computer, and the users connected over the network to a selected shared resource.

Note: To share directories or manage shared directories, use File Manager. To share printers or manage shared printers, use Print Manager.

### To view a list of the computer's shared resources

1. In the Control Panel window, choose the Server icon.
2. In the Server dialog box, choose the Shares button.

The Shared Resources dialog box appears. The Sharename box lists the shared resources available on the computer.

3. To view the users connected to a shared resource, select a share name from the Sharename box.

The Connected Users box lists the users connected to that resource.

4. Optionally, to disconnect one user from all shared resources, select the user name from the Connected Users box and then choose the Disconnect button. To disconnect all users from all shared resources, choose the Disconnect All button.

Warn users before disconnecting them.

5. To exit choose the Close button, and then in the Server dialog box choose the OK button.

See Also

[Viewing User Sessions](#)

[Viewing Resources In Use](#)

[Special Shares](#)

## Viewing Resources In Use

### To view a list of the computer's open shared resources

1. In the Control Panel window, choose the Server icon.
2. In the Server dialog box, choose the In Use button.

The Open Resources dialog box appears. The Opened By box lists the computer's open resources.

3. Optionally, to close an open resource, select that resource from the list and then choose the Close Resource button. To close all open resources, choose the Close All Resources button.

Warn connected users before closing resources.

4. Optionally, choose the Refresh button to update the displayed information.
5. To exit choose the Close button, and then in the Server dialog box choose the OK button.

See Also

[Viewing User Sessions](#)

[Viewing Shared Resources](#)



## Managing Export Replication

Only Windows NT Server computers can be set up as replication export servers; Windows NT Workstation computers cannot.

Make sure an appropriate logon account has been assigned to the [Directory Replicator](#) service before performing the following procedure.

### To set up an export server

1. Use File Manager to create the subdirectories that will be exported. These must be subdirectories of the replication [From Path](#).

Optionally, to these subdirectories add the files that will be exported. However, it is not necessary to add files at this time. Once you set up replication, any files later added to these subdirectories will be exported automatically. You can also later add additional subdirectories to the From Path.

2. From Control Panel, choose the Server option.
3. In the Server dialog box, choose the Replication button.
4. In the Directory Replication dialog box, select the Export Directories option.
5. Optionally, to change the path from which subdirectories will be exported, type a local path in the [From Path](#) box.
6. To export subdirectories to a domain or computer, under Export Directories choose the Add button, and then complete the Select Domain dialog box that appears. The domain name or computer name is added to the To List.

Note: By default, the To List contains a blank entry and this computer automatically exports to the local domain. If any entries are added to the To List, the local domain is no longer exported to. If necessary, the domain name must be explicitly added to the To List.

7. To stop exporting subdirectories to a domain or computer, under Export Directories, select the domain or computer from the To List, and then choose the Remove button.
8. To manage locks, stabilization, and subtree replication for the subdirectories exported from this computer, under Export Directories choose the Manage button, and then complete the dialog box that appears.
9. To exit, choose the OK button in the Directory Replication dialog box.

If it does not already exist, the system creates the special REPL\$ share, required for export replication. If it is not already running, the system starts the Directory Replicator service.

10. In the Server dialog box, choose the OK button.

See Also

[Configuring Service Startup](#)

[Managing Import Replication](#)

[Setting the Logon Script Path](#)

## **Directory Replication**

Directory replication is the duplication of a master set of directories from a server (called an export server) to specified servers or workstations (called import computers) in the same or other domains. A Windows NT Server computer can be an export server, an import computer, or both. A Windows NT Workstation computer can only be an import computer.

Replication simplifies the task of maintaining identical sets of directories and files on multiple computers, because only a single master copy of the data must be maintained. Once replication is set up, replication occurs each time a change is made to one of the files in a directory set for export.

## **Directory Replicator service**

Before replication can occur, an appropriate logon account must be assigned to the Directory Replicator service of each computer that will participate in replication.

From a Windows NT Server computer, use User Manager for Domains to create a domain user account that the Directory Replicator service will use to log on. This account must have the Password Never Expires option selected, all logon hours allowed, and membership in the domain's Backup Operators group.

For each computer that will participate in replication, use the Server option in Control Panel to configure the Directory Replicator service to start up automatically, and to log on using the user account described above.

## Managing Import Replication

Both Windows NT Server computers and Windows NT Workstation computers can be set up as import computers.

Make sure an appropriate logon account has been assigned to the [Directory Replicator](#) service before performing the following procedure.

### To set up an import computer

1. From Control Panel, choose the Server icon.
2. In the Server dialog box, choose the Replication button.
3. In the Directory Replication dialog box, select Import Directories.
4. Optionally, to change the path in which imported subdirectories will be stored, type a local path in the [To Path](#) box.
5. To import subdirectories from a domain or export server, under Import Directories choose the Add button, and then complete the Select Domain dialog box that appears. The domain name or computer name is added to the From List.

Note: By default, the From List contains a blank entry and this computer automatically imports from the local domain. If any entries are added to the From List, the local domain is no longer imported from. If necessary, the domain name must be explicitly added to the From List.

6. To stop importing subdirectories from an export server or domain, select the domain name or computer name in the From List, and then choose the Remove button.
7. To view a list of the subdirectories that have been imported to this computer, or to manage locks on those imported subdirectories, under Import Directories choose the Manage button, and then complete the dialog box that appears.
8. To exit, choose the OK button in the Directory Replication dialog box.

If it is not already running, the system starts the Directory Replicator service.

9. In the Server dialog box, choose the OK button.

See Also

[Configuring Service Startup](#)

[Managing Export Replication](#)

[Setting the Logon Script Path](#)

## Setting the Logon Script Path

A *logon script* is an optional file that runs each time a user logs on. It can be a batch file (.BAT or .CMD filename extension) or an executable program (.EXE filename extension). A *logon script path* is a local path to the directory where logon scripts are stored.

When a server authenticates a logon request and that user account has a logon script assigned, the system locates the logon script by combining a local logon script path specified in the Server option of Control Panel with a filename (and optionally a relative path) specified in User Manager.

For a domain, master copies of every logon script should be stored under one replication export directory of one Windows NT Server computer. Copies of these master logon scripts should be replicated to the other servers of the domain. Then, for each Windows NT Server computer, the path to imported logon scripts must be entered in the Logon Script Path box of the Directory Replication dialog box.

For Windows NT Workstation computers, the logon script path cannot be changed from the default (usually, C:\systemroot\SYSTEM32\REPL\IMPORT\SCRIPTS).

### To configure the logon script path for a server

1. From Control Panel, choose the Server icon.
2. In the Server dialog box, choose the Replication button.
3. In the Logon Script Path box, type a local path.

Usually, you will enter a path to a \SCRIPTS subdirectory of the replication To Path. For example, C:\systemroot\SYSTEM32\REPL\IMPORT\SCRIPTS.

An entry is required. Do not enter a blank in the Logon Script Path box.

4. To exit choose the OK button, and then in the Server dialog box choose the OK button.

See Also

[Managing Export Replication](#)

[Managing Import Replication](#)

## **Managing Administrative Alerts**

You can determine which users and computers are notified when administrative alerts occur at this computer. Administrative alerts are generated by the system, and relate to server and resource use. They warn about security and access problems, user session problems, server shutdown because of power loss when the UPS service is available, and printer problems.

### **To manage the list of administrative alert recipients**

1. In the Control Panel window, choose the Server icon.
2. In the Server dialog box, choose the Alerts button.
3. To add a user or computer to the list of alert recipients, type the user name or computer name in the New Computer Or Username box, and then choose the Add button.
4. To remove a user or computer from the list of alert recipients, select the user name or computer name from the Send Administrative Alerts To box, and then choose the Remove button.
5. To exit, in the Alerts dialog box choose the OK button, and then in the Server dialog box choose the OK button.

## Starting and Stopping Services

Use the Services dialog box to start, stop, pause, or continue a service, and optionally to pass startup parameters to the service.

Note: Stopping the Server service disconnects all users who are connected over the network to the computer. Warn connected users before stopping the Server service.

### To start, stop, pause, or continue a service

1. In the Control Panel window, choose the Services icon.
2. In the Services dialog box, select the service.
3. Choose the Start, Stop, Pause, or Continue button.

Optionally, to pass startup parameters to a service, type the parameters in the Startup Parameters box before choosing the Start button. Backslashes are treated as an escape character. You must type two backslashes for each backslash in a parameter.

4. In the Services dialog box, choose the Close button.

See Also

[Configuring Service Startup](#)

[The Default Services](#)

## Services

Use the Services dialog box to start, stop, pause, or continue each of the services available on the computer, and to pass startup parameters to the service. For more information, choose one of the following buttons.

- [Service](#)
- [Status](#)
- [Startup](#)
- [Start button](#)
- [Stop button](#)
- [Pause button](#)
- [Continue button](#)
- [Startup button](#)
- [Startup Parameters](#)

See Also

[Starting and Stopping Services](#)

[Configuring Service Startup](#)

[The Default Services](#)



**Service**

One service at a time can be selected. Once selected, a service can be stopped, started, paused, continued, or configured for startup.

## Status

The status of a service can be:


- Started
- Paused
- Stopped (represented by a blank entry)

## Startup

The startup type of a service can be


- Automatic (service starts every time the system starts)
- Manual (service can be started by a user or a dependent service)
- Disabled (service cannot be started)

### **Start button**

 To start a service that is stopped, select the service, and then choose the Start button.


Optionally, to pass startup parameters to the service, type text in the Startup Parameters box before choosing the Start button.

### **Stop button**

 To stop a service that is running, select the service, and then choose the Stop button. If another service is dependent on the service you stop, you will be warned before the action completes.


Note: Stopping the Server service disconnects all users who are connected over the network to the computer. Warn connected users before stopping the Server service.

### **Pause button**

 To pause a service that is running, select the service, and then choose the Pause button.


Note: When the Server service is paused, members of the computer's Administrators and Server Operators groups can still make connections to the server, but all other users are prevented from making new connections.

### **Continue button**

 To return a service that has been paused to normal operation, select the service, and then choose the Continue button.


## **Startup button**

To configure service startup you must be logged on to a user account that has membership in the Administrators local group.

 To specify the startup type of a service or to assign a logon account to a service, select the service, choose the Startup button, and complete the dialog box that appears.




## **Startup Parameters**

 To pass startup parameters to a service, select the service, type the parameters in the Startup Parameters box, and then choose the Start button. Backslashes are treated as an escape character. You must type two backslashes for each backslash in a parameter.

## Configuring Service Startup

To configure service startup, you must be logged on to a user account that has membership in the Administrators local group.

### To configure startup for a service

1. In the Control Panel window, choose the Services icon.
2. In the Services dialog box, select the service.
3. Choose the Startup button.
4. In the Service Startup dialog box, select a startup type of Automatic, Manual, or Disabled.
5. To specify the user account the service will use to log on, select System Account or This Account.
6. If you select This Account, also choose the Browse button  and specify a user account by completing the Add User dialog box that appears.

After closing the Add User dialog box, type the password for the user account in both the Password and Confirm Password boxes.

7. If you want the service to provide a user interface on the desktop that can be used by whoever is logged in when the service is started, mark the Allow Service to Interact with Desktop checkbox. This option can be used only if the service is running as a LocalSystem account (as defined in the This Account text box).
8. Choose the OK button, and then in the Services dialog box choose the Close button.

See Also

[The Default Services](#)

## The Default Services

The services listed below are provided with Windows NT. In addition to these default services, other services may be listed in the Services dialog box for a computer (for example, network transports or other services that have been installed on that computer).

For more information on the default services, choose one of the following buttons.

- [Alerter](#)
- [Clipboard Server](#)
- [Computer Browser](#)
- [Directory Replicator](#)
- [Event Log](#)
- [Messenger](#)
- [Net Logon](#)
- [Network DDE](#)
- [Network DDE DSDM](#)
- [NT LM Security Support Provider](#)
- [Remote Procedure Call \(RPC\) Locator](#)
- [Remote Procedure Call \(RPC\) Service](#)
- [Schedule](#)
- [Server](#)
- [Spooler](#)
- [UPS](#)
- [Workstation](#)

See Also

[Starting and Stopping Services](#)

[Configuring Service Startup](#)

**Alerter service**

Notifies selected users and computers of administrative alerts that occur on this computer. Used by the Server and other services. Requires the Messenger service.

**Clipbook Server service**

The Clipbook Server service supports the Clipbook Viewer application, allowing pages to be seen by remote Clipbooks.

**Computer Browser service**

Maintains an up-to-date list of computers, and provides the list to applications when requested. Provides the computer lists displayed in the Select Computer and Select Domain dialog boxes.

**Directory Replicator service**

Replicates directories, and the files in those directories, between computers.

**Event Log service**

Records system, security, and application events in the event logs.



**Messenger service**

Sends and receives messages sent by administrators or by the Alerter service.

**Net Logon service**

For Windows NT Workstation, supports pass through authentication of account logons. Used when the workstation participates in a domain.

For Windows NT Server, performs authentication of account logons, and also keeps the domain's security database synchronized between the domain controller and the other Windows NT Servers of the domain.

**Network DDE service**

The Network DDE (Dynamic Data Exchange) service provides a network transport as well as security for DDE conversations.

**Network DDE DSDM service**

The Network DDE DSDM service manages the shared DDE conversations and is used by the Network DDE service. DSDM stands for DDE Share Database Manager.

**NT LM Security Support Provider service**

Provides Windows NT security to RPC applications that use transports other than named pipes.

## **Remote Procedure Call (RPC) Locator service**

The Remote Procedure Call (RPC) Locator service allows distributed applications to use the Microsoft RPC name service. The RPC Locator service manages the RPC name service database.

The server side of a distributed application registers its availability with the RPC Locator service. The client side of a distributed application queries the RPC Locator service to find available compatible server applications.

## **Remote Procedure Call (RPC) service**

The Remote Procedure Call (RPC) Service is the RPC subsystem for Microsoft Windows NT. The RPC subsystem includes the endpoint mapper and other miscellaneous RPC services.

**Schedule service**

The Schedule service must be running if the AT command is to be used. The AT command can be used to schedule commands and programs to run on a computer at a specified time and date.



**Server service**

Provides remote procedure call (RPC) support, and file, print, and named pipe sharing.

**Spooler service**

Provides print spooler services.

**UPS service**

Manages an uninterruptible power supply connected to this computer.

**Workstation service**

Provides network connections and communications.

## Service Startup

Use the Service Startup dialog box to configure when and how the service is started, and to specify the user account the service used to log on. For more information, choose one of the following buttons.


- [Startup Type](#)
- [Automatic](#)
- [Manual](#)
- [Disabled](#)
- [Log On As](#)
- [System Account](#)
- [Allow Service to Interact with Desktop](#)
- [This Account](#)
- [Browse button](#)
- [Password and Confirm Password](#)

See Also

[Configuring Service Startup](#)

[The Default Services](#)

### **Startup Type**

 To specify the startup type of the service, choose Automatic, Manual, or Disabled.

**Automatic**

Automatic services start every time the system starts.

Note: The Server service will not start automatically unless the computer has at least 12MB of random-access memory.

**Manual**

Manual services can be started by a user or by a dependent service.



**Disabled**

Disabled services cannot be started by users, nor by dependent services.

## **Log On As**

When services start, they log on.

Most services must log on to the system account. Usually, of the default services provided with Windows NT only the Directory Replicator and Schedule services log on using other user accounts.

## **System Account**

When services start, they log on. Most services must log on using the system account.

**Allow Service to Interact with Desktop**

Mark this checkbox if you want the service to provide a user interface on the desktop that can be used by whoever is logged in when the service is started. This option can be used only if the service is running as a LocalSystem account (as defined in the This Account text box).


## **This Account**

Select this option to assign a logon user account to a service.


When services start, they log on. Although most services must log on to the system account, some services can be configured to log on to special user accounts. (Usually, of the default services provided with Windows NT, only the Directory Replicator and Schedule services will be configured in this manner.)

A user account used to log on a service should be created in User Manager specifically for that purpose. Make certain that the user account has the Password Never Expires option selected, and has membership in the appropriate groups. The particular group memberships assigned will depend on the operations that must be accomplished by the service.

## **Browse button**

 To specify the user account the service will log on to, select This Account, choose the Browse button, and then complete the Add User dialog box that appears.

### **Password and Confirm Password**

 In the Password box, type the password for the user account entered in This Account box. Type the same password in the Confirm Password box.

This is the password that was assigned to that user account in User Manager.  
Remember, passwords are case sensitive.

## **Stopping Dependent Services**

The listed services are dependent on the service that you are stopping. If you choose the OK button, both the selected service and its dependent services will be stopped.



## Add User

Use the Add User dialog box to select the user account the service will use to log on.

This should be a user account created in User Manager specifically for logging on the service. Make certain that the user account has the Password Never Expires option selected, and has membership in the appropriate groups. The particular group memberships assigned will depend on the operations that must be accomplished by the service. Usually, of the default services provided with Windows NT only the Directory Replicator and Schedule services have a user account assigned in this manner.

For more information, choose one of the following buttons.

List Names From

Names

Add button


Search button

Add Name

## List Names From

The List Names From box shows the domain or computer from which the user account can be selected. The groups of that domain or computer are listed in the Names box.

When an asterisk (\*) appears next to a domain or computer name in the List Names From box, it indicates that the local groups of that domain or computer can be listed in the Names box. When the asterisk is absent, it indicates that local groups cannot be listed.

 To change the selected domain or computer, select a domain name or computer name from the list in the List Names From box.


**Names**

Lists the user accounts of the domain or computer selected in the List Names From box.

**Add button**


After a name is selected from the Names list, choosing Add places that name in the Add Name list.

### **Search button**

 To search for a particular user account, choose the Search button and complete the dialog box that appears.

## **Add Name**


A user account can be added to this box by typing its name in the box; by selecting it from the Names box and choosing the Add button; or by choosing the Search button and completing the dialog box that appears.

 To have the service log on using the account displayed in the Add Name list, choose the OK button.


## **Local Group Membership**

The Local Group Membership dialog box lists the user accounts and global groups that are members of the selected local group.

### **Members Of**

 To add user accounts or global groups to the Add Name list of the Add User dialog box, here in the Local Group Membership dialog box select one or more names from the Members Of list, and then choose the OK button.


### **Members Button**

 To list the members of a global group (that is itself a member of this local group), select the global group from the Members Of list, and then choose the Members button.

## **Global Group Membership**

The Global Group Membership dialog box lists the user accounts that are members of the selected global group.

### **Members Of**

 To add user accounts to the Add Name list of the Add User dialog box, here in the Global Group Membership dialog box select one or more names from the Members Of list, and then choose the OK button.



## Server

Use the Server dialog box to view and manage the server properties of this computer. For more information, choose one of the following buttons.

- [Usage Summary](#)
- [Sessions](#)
- [Open Files](#)
- [File Locks](#)
- [Open Named Pipes](#)
- [Description](#)
- [Users button](#)
- [Shares button](#)
- [In Use button](#)
- [Replication button](#)
- [Alerts button](#)

See Also

[Managing Server Properties](#)

## **Usage Summary**

This box contains summaries of connections and resource usage for the computer.

**Sessions**

The number of users remotely connected to the computer.

**Open Files**

The number of files opened by connected users.

**File Locks**

The number of file locks by connected users.

## **Open Named Pipes**

The number of open named pipes.


A named pipe is an interprocess communication mechanism that allows one process to communicate with another local or remote process.

**Description**

The description can be any text. Typically, it might contain information such as the brand or model of the computer, the name of the computer's user, the user's telephone extension, the location of the computer, or a description of the computer's function.

The description is an optional entry.


### **Users button**

 Choose the Users button to view a list of all the users connected over the network to the computer, and for one selected user, a list of all open resources.

Optionally, you can disconnect one or all of the users who are connected to the computer.



### **Shares button**

 Choose the Shares button to view a list of the computer's shared resources, and for one selected resource, a list of all the connected users. Optionally, you can disconnect one or all of the users who are connected to the computer.

Note: To share directories or manage shared directories, use File Manager. To share printers or manage shared printers, use Print Manager.


### **In Use button**



Choose the In Use button to view a list of the computer's open shared resources. Optionally, you can close one open resource or all open resources.

## **Replication button**

Directory replication exports copies of selected directories and files from this computer for storage on other computers, and imports selected directories and files from other computers for storage on this computer. Windows NT Server computers can export and import. Windows NT Workstation computers can only import.

 Choose the Replication button to manage directory replication for the computer. For a server, also choose the Replication button to specify the path to user logon scripts.

## **Alerts button**

Administrative alerts are generated by the system and relate to server and resource use. They warn about security and access problems, user session problems, server shutdown because of power loss when the UPS service is available, and printer problems. For example, an alert is generated when disk space becomes low. You can determine which users and computers are notified when administrative alerts occur at this computer.



Choose the Alerts button to view and manage the list of users and computers that are notified when administrative alerts occur at this computer.

## User Sessions

Use the User Sessions dialog box to view a list of all the network users connected to the computer, and a list of all the resources opened by a selected user. Optionally, you can disconnect one or all of the users connected to the computer. For more information, choose one of the following buttons.

- [Connected Users](#)
- [Computer](#)
- [Opens \(for Connected User\)](#)
- [Time \(for Connected User\)](#)
- [Idle](#)
- [Guest](#)
- [Number of Connected Users](#)
- [Resource](#)
- [Opens \(for Resource\)](#)
- [Time \(for Resource\)](#)
- [Disconnect button](#)
- [Disconnect All button](#)

See Also

[Viewing User Sessions](#)

[Special Shares](#)

## **Connected Users**

This column lists the network users who are connected to the computer.

Each entry consists of a user account icon, followed by a user name. In some cases the user's computer name may be displayed instead of the user name.

**Computer**

The computer name of the user's computer.

**Opens**

The number of resources opened on this computer by this user.



**Time**

The hours and minutes that have elapsed since this session was established.

**Idle**

The hours and minutes that have elapsed since this user last initiated an action.

**Guest**





Whether this user is connected to this computer as a guest. Shown as Yes or No.

**Connected Users**

The total number of users remotely connected to the computer.

## Resource

This column lists the shared resources to which the selected user is connected. Each entry consists of an icon indicating the type of resource, followed by the share name. A shared resource could be:

-  A shared directory
-  A named pipe
-  A shared printer
-  A resource of an unrecognized type

In some cases, a connection to a printer is monitored here as a connection to a named pipe.


**Opens**

For the selected user, the number of opens from the listed resource.

**Time**

The hours and minutes that have elapsed since this user first connected to the shared resource.

### **Disconnect button**

 To disconnect one user from the computer, select a user name from the Connected Users list, and then choose Disconnect.

Warn users before disconnecting them. If you do not, they may lose data.



### **Disconnect All button**



To disconnect all users from the computer, choose Disconnect All.  
Warn users before disconnecting them. If you do not, they may lose data.

## Shared Resources

Use the Shared Resources dialog box to view a list of the shared resources available on the computer, and for a selected resource, a list of connected users. Optionally, you can disconnect one or all of the users connected to the computer.

Note: To share directories or manage shared directories, use File Manager. To share printers or manage shared printers, use Print Manager.

For more information, choose one of the following buttons.

- [Sharename](#)
- [Uses](#)
- [Path](#)
- [Connected Users](#)
- [Time](#)
- [In Use](#)
- [Number of Connected Users](#)
- [Disconnect button](#)
- [Disconnect All button](#)





See Also

[Viewing Shared Resources](#)

[Special Shares](#)

## Sharename

This column lists the shared resources available on the computer. Each entry consists of an icon representing the type of shared resource, followed by the share name. A shared resource could be:

-  A shared directory
-  A named pipe
-  A shared printer
-  A resource of an unrecognized type

In some cases, a connection to a printer is monitored here as a connection to a named pipe.

**Uses**

The number of connections to the shared resource.

**Path**

The path of the shared resource.

## **Connected Users**

This column lists the users who are connected to the selected shared resource. Each entry consists of a user account icon, followed by a user name. In some cases the user's computer name may appear instead of the user name.

**Time**

The hours and minutes that have elapsed since the user first connected to the selected shared resource.

**In Use**


Whether the user currently has a file open from the selected shared resource (shown as Yes or No).



**Connected Users**


The total number of users connected to the selected shared resource.

### **Disconnect button**

 To disconnect one user from all shared resources, select the user name from the list of Connected Users, and then choose Disconnect.

Warn users before disconnecting them. If you do not, they may lose data.

### **Disconnect All button**

-  To disconnect all users from all shared resources, choose Disconnect All. Warn users before disconnecting them. If you do not, they may lose data.

## Special Shares

A computer's shared resources include those resources (such as directories) that have been shared by a user or an administrator, plus any special shares that may have been created by the system.

Depending on the configuration of the computer being administered, some or all of the following special shares may appear when Windows NT presents a list of the computer's shared resources. These shares are created by the system. In most cases, these special shares should not be deleted or modified. For more information choose one of the following buttons.

 [driveletter\\$](#)

 [ADMIN\\$](#)

 [IPC\\$](#)

 [PRINT\\$](#)

 [REPL\\$](#)

 [NETLOGON](#)

See Also

[Viewing Shared Resources](#)

[Managing Export Replication](#)

***driveletter\$***

A share which allows administrative personnel to connect to the root directory of a storage device. Shown as A\$, B\$, C\$, D\$, and so on. For example, D\$ is a share name by which drive D might be accessed by an administrator over the network.

For a Windows NT Workstation computer, only members of the Administrators and Backup Operators can connect to these shares. For a Windows NT Server computer, members of the Server Operators group can also connect to these shares.

## **ADMIN\$**

A resource used by the system during remote administration of a computer. The path of this resource is always the path to the Windows NT system root (the directory in which Windows NT is installed: for example, C:\WINNT).

For a Windows NT Workstation computer, only members of the Administrators and Backup Operators can connect to this share. For a Windows NT Server computer, members of the Server Operators group can also connect to this share.

**IPC\$**

A resource sharing the named pipes that are essential for communication between programs. Used during remote administration of a computer, and when viewing a computer's shared resources.

**PRINT\$**

A resource used during remote administration of printers.



**REPL\$**

A resource created by the system when a Windows NT Server computer is configured as an replication export server. It is required for export replication.

Note: This resource is only provided for Windows NT Server computers which are configured as replication export servers. It is not provided for Windows NT Workstation computers.

## **NETLOGON**

A resource used by the Net Logon service of a Windows NT Server computer while processing domain logon requests.

Note: This resource is only provided for Windows NT Server computers. It is not provided for Windows NT Workstation computers.

## Open Resources

Use the Open Resources dialog box to view a list of the computer's open shared resources. Optionally, you can close one open resource or all open resources. For more information, choose one of the following buttons.

- [Open Resources](#)
- [File Locks](#)
- [Opened By](#)
- [For](#)
- [Locks](#)
- [Path](#)
- [Refresh button](#)
- [Close Resource button](#)
- [Close All Resources button](#)

See Also

[Viewing Resources In Use](#)

**Open Resources**





The total number of resources that are open on the computer.

**File Locks**

The total number of file locks on open resources.

## Opened By

This column lists the computer's open resources. Each entry consists of an icon representing the type of resource, followed by the user name (or sometimes the computer name) of the user who has opened the resource. An open resource could be:

-  A file
-  A named pipe
-  A print job in a print spooler
-  A resource of an unrecognized type

In some cases, a print job is shown here as an open named pipe.

**For**

The permission granted when the resource was opened.

**Locks**

The number of locks on the resource.



**Path**


The path of the open resource.

### **Refresh button**




Choose the Refresh button to update the display with current information.

### **Close Resource button**

 To close one resource, select a resource from the list of open resources, and then choose the Close Resource button.

Warn connected users before closing resources. If you do not, they may lose data.

### **Close All Resources button**

 To close all resources that are open on the computer, choose the Close All Resources button.

Warn connected users before closing resources. If you do not, they may lose data.

## Directory Replication

Use the [Directory Replication](#) dialog box to manage replication properties for the computer, and to specify a local path to user logon scripts. For more information, choose one of the following buttons.

- [Do Not Export](#)
- [Export Directories](#)
- [Manage button \(under Export Directories\)](#)
- [From Path](#)
- [To List](#)
- [Do Not Import](#)
- [Import Directories](#)
- [Manage button \(under Import Directories\)](#)
- [To Path](#)
- [From List](#)
- [Add button](#)
- [Remove button](#)
- [Logon Script Path](#)

See Also

[Managing Export Replication](#)

[Managing Import Replication](#)

[Setting the Logon Script Path](#)

**Do Not Export**

Prevents replication from this computer. Subdirectories are not exported.

**Export Directories**

Enables replication from this computer. Subdirectories of the From Path are exported.

**Manage button (under Export Directories)**

Displays the Manage Exported Directories dialog box, where export locks can be added or removed, and export stabilization and subtree export can be enabled or disabled.



**From Path**

A local path to a directory from which subdirectories and files are exported.

The default From Path is `C:\systemroot\SYSTEM32\REPL\EXPORT`. If Windows NT is installed in a location other than `C:\systemroot`, the system adjusts the default accordingly. Usually, you will not need to change the default From Path.

**To List**

Subdirectories are exported from this export server to the domains and computers of the To List.

By default, the To List contains a blank entry and this computer automatically exports to the local domain. If any entries are added to the To List, the local domain is no longer exported to. If necessary, the domain name must be explicitly added to the To List.

Replication to a domain name does not always succeed when some or all import computers of that domain are located across a wide area network (WAN) bridge from this export server. In this situation, you must explicitly add the computer names of those import computers to the To List.

**Do Not Import**

Prevents replication to this computer. Subdirectories are not imported.

**Import Directories**

Allows replication to this computer. Subdirectories are imported.

**Manage button (under Import Directories)**

Displays the Manage Imported Directories dialog box, where import locks can be added or removed.

**To Path**

A local path to a directory in which imported subdirectories and files are stored.

The default To Path is C:\*systemroot*\SYSTEM32\REPL\IMPORT. If Windows NT is installed in a location other than C:\*systemroot*, the system adjusts the default accordingly. Usually, you will not need to change the default To Path.

## **From List**

Subdirectories are replicated to this import computer from the domains and computers of the From List.

By default, the From List contains a blank entry and this computer automatically imports from the local domain. If any entries are added to the From List, the local domain is no longer imported from. If necessary, the domain name must be explicitly added to the From List.

Replication from a domain name does not always succeed when export servers of that domain are located across a wide area network (WAN) bridge from this import computer. In this situation, you must explicitly add the computer names of those export servers to the From List.

**Add button**

Displays the Select Domain dialog box.

The Add button under Export Directories is used to add a computer name or domain name to the To List.

The Add button under Import Directories is used to add a computer name or domain name to the From List.



**Remove button**

Removes a selected computer name or domain name from the list.

The Remove button under Export Directories is used to remove a computer name or domain name from the To List.

The Remove button under Import Directories is used to remove a computer name or domain name from the From List.

## **Logon Script Path**

A local path to a directory where logon scripts are stored. When a server authenticates a logon request and that user account has a logon script assigned, the system locates the logon script by combining the local path specified here, with a filename (and optionally a relative path) specified in User Manager.

For a domain, master copies of every logon script should be stored under one replication export directory of a Windows NT Server computer. Copies of these master logon scripts should be replicated to the other servers of the domain. Then, for each Windows NT Server computer, the local path to imported logon scripts should be entered here, in the Logon Script Path box.

Usually, you will enter a path to a \SCRIPTS subdirectory of the replication To Path. For example, C:\systemroot\SYSTEM32\REPL\IMPORT\SCRIPTS.

An entry is required. Do not enter a blank in the Logon Script Path box.

## Directory Replication

Use the [Directory Replication](#) dialog box to manage replication properties for the computer. For more information, choose one of the following buttons.

- [Do Not Import](#)
- [Import Directories](#)
- [Manage button](#)
- [To Path](#)
- [From List](#)
- [Add button](#)
- [Remove button](#)

See Also

[Managing Import Replication](#)

**Add button**

Displays the Select Domain dialog box. Used to add a computer or domain to the From List.

**Remove button**

Removes a selected computer or domain from the From List.

## Manage Exported Directories

Use the Manage Exported Directories dialog box to add or remove export locks, and to enable or disable export stabilization and subtree export.

For more information, choose one of the following buttons.

- [Export Path](#)
- [Subdirectory](#)
- [Locks](#)
- [Stabilize](#)
- [Subtree](#)
- [Locked Since](#)
- [Export Settings For](#)
- [Add Lock button](#)
- [Remove Lock button](#)
- [Wait Until Stabilized](#)
- [Entire Subtree](#)
- [Add button](#)
- [Remove button](#)

**Export Path**

The path to the directory from which subdirectories and files are exported.

**Subdirectory**

A list of the subdirectories that are exported from this computer.

When a subdirectory is created in the export path (using File Manager or the command prompt), it is automatically added to this list.



**Locks**

The number of locks applied to the subdirectory.

A lock prevents subdirectory export, and more than one lock might be applied to a subdirectory. Export occurs only if this column has a value of zero.

**Stabilize**

Yes indicates that all files and subdirectories in that subdirectory tree must be stable (cannot be changed) for two minutes (or more) before replication can occur. No indicates that each file can be replicated as soon as it is changed.

The default is No. To change this setting, use the Wait Until Stabilize check box.

**Subtree**

Yes indicates that the entire subdirectory tree will be exported. No indicates that only the first-level subdirectory will be exported.

The default is Yes. To change this setting, use the Entire Subtree check box.

**Locked Since**

The date and time that the oldest lock was placed on this subdirectory.

**Export Settings For**

Shows the name of the selected subdirectory.

**Add Lock button**

Adds a lock to the selected subdirectory, preventing export.

**Remove Lock button**

Removes a lock from the selected subdirectory. Export only occurs when a subdirectory has zero locks.

**Wait Until Stabilized**

If selected, no changes can occur for two minutes (or more) to any subdirectory or file in the selected subdirectory tree before replication can occur. Helps to eliminate partial replication. If cleared, each file can be replicated as soon as it is changed.

This setting is reflected in the Stabilize column.



**Entire Subtree**

If selected, the first-level export subdirectory and its files will be exported, along with all its subdirectories and their files. If cleared, only the first-level export subdirectory and its files will be exported.

This setting is reflected in the Subtree column.

**Add button**

Displays the Add Subdirectory dialog box, used to add new subdirectories to the list of exported subdirectories.

However, this is usually unnecessary because it only adds an entry to the list, and does not actually create the subdirectory. When a subdirectory is created in the export path (using File Manager or the command prompt), it is automatically added to the list.

**Remove button**

Removes the selected subdirectory from the list of exported subdirectories.

However, this is usually unnecessary because it only removes the entry in the list, not the actual subdirectory. If that subdirectory still exists in the export path, it will still be exported and will later reappear in this list.

## Manage Imported Directories

Use the Manage Imported Directories dialog box to add or remove import locks. For more information, choose one of the following buttons.

- [Import Path](#)
- [Subdirectory](#)
- [Locks](#)
- [Status](#)
- [Last Update](#)
- [Locked Since](#)
- [Import Settings For](#)
- [Add Lock button](#)
- [Remove Lock button](#)
- [Add button](#)
- [Remove button](#)

**Import Path**

The path to the directory in which replicated subdirectories and files are stored.

**Subdirectory**





A list of the replicated subdirectories that are imported to this computer.

A subdirectory is automatically imported if it is exported by one of the export servers or domains in the From List of the Directory Replication dialog box. If it is imported, it is automatically added to this list.

**Locks**

A lock prevents import to the subdirectory. More than one lock might be applied to a subdirectory. Import to a subdirectory only occurs if this column has a value of zero.

## Status

-  "OK" indicates that the subdirectory is receiving regular updates from an export server and the imported data is identical to that exported.
-  "No Master" indicates that the subdirectory is not receiving updates. The export server might not be running, or the export server might have stopped exporting updates.
-  "No Sync" indicates that the subdirectory has received updates, but the data is not up to date. This could be due to a communications failure, open files on the import computer or export server, the import computer not having access permissions at the export server, or an export server malfunction.
-  A blank entry indicates that replication has never occurred for that subdirectory. Replication may not be properly configured for this import computer, for the export server, or both.



**Last Update**

The date and time that the last update was made to a file in this import subdirectory, or in its subtree.

**Locked Since**

The date and time that the oldest lock was placed on this subdirectory.

**Import Settings For**

Shows the name of the selected subdirectory.

**Add Lock button**

Adds a lock to the selected subdirectory, preventing import.

**Remove Lock button**

Removes a lock from the selected subdirectory. Import only occurs when a subdirectory has zero locks.

**Add button**

Displays the Add Subdirectory dialog box, used to add new subdirectories to the list of imported subdirectories.

However, this is usually unnecessary because this only adds an entry to the list, and does not create the actual subdirectory. When a subdirectory is exported by one of the export servers or domains in the From List of the Directory Replication dialog box, it is automatically imported and added to this list.

**Remove button**

Removes the selected subdirectory from the list.

However, this is usually unnecessary, because this only removes the entry from the list, and does not remove the actual subdirectory. If that subdirectory is exported by one of the export servers or domains in the From List of the Directory Replication dialog box, it will still be imported and will later reappear in this list.

## **Add Subdirectory**


Use the Add Subdirectory dialog box to add a subdirectory to the Subdirectory list.

However, this is usually unnecessary, since this action only adds an entry to the list and does not create the actual subdirectory. Instead, use File Manager or the command prompt to create export subdirectories on export servers. On import computers, imported subdirectories are automatically created the first time they are received from an exporting server.

### **Path**

This is either the import path or the export path.

### **Subdirectory Name**





 To add a subdirectory to the list, type its name in the Subdirectory Name box, and then choose the OK button.



## Alerts

Use the Alerts dialog box to view and manage the list of users and computers that are notified when administrative alerts occur at this computer. Administrative alerts are generated by the system, and relate to server and resource use. They warn about security and access problems, user session problems, server shutdown because of power loss when the UPS service is available, and printer problems.


For alerts to be sent, the Alerter and Messenger services must be running on the computer originating the alert. For alerts to be received, the Messenger service must be running on the destination computer. For more information, choose one of the following buttons.

-  [New Computer or Username](#)
-  [Send Administrative Alerts To](#)
-  [Add button](#)
-  [Remove button](#)

See Also

[Managing Administrative Alerts](#)


### **New Computer Or Username**

 To add a user or computer to the list of alert recipients, type the user name or computer name in the New Computer Or Username box, and then choose the Add button.


### **Send Administrative Alerts To**

This box lists the computers and users who are notified when administrative alerts occur at this computer.

### **Add button**

 To add a user or computer to the list of alert recipients, type the user name or computer name in the New Computer Or Username box, and then choose the Add button.

### **Remove button**

 To remove a user or computer from the list of alert recipients, select the user name or computer name in the Send Administrative Alerts To box, and then choose the Remove button.

## **Select Domain**

Use the Select Domain dialog box to select a domain or a computer to be added to the replication From List or the replication To List.

Replicating to or from a domain name is a convenient way to set up directory replication between many computers, because each export server and import computer can specify only a few domain names for export or import, rather than a long list of many computer names.

### **Domain**

This box displays the current domain. You can type a *domainname* or a `\\computername` here.

### **Select Domain**

This box lists the available domains. If you double-click on a domain name, the computers in that domain are listed. You can select one of the listed domains or computers.

## **Close Resources**

Closing resources can result in loss of data. It is a good idea to send a warning to connected users before closing resources.

## **Close**

Closing resources can result in loss of data. It is a good idea to send a warning to connected users before closing resources.



## **Disconnect**

Disconnecting users can result in loss of data. It is a good idea to send a warning to connected users before disconnecting them.

## Find Account

Use the Find Account dialog box to locate a particular user account or group. For more information, choose one of the following buttons.

- Find User or Group
- Search All
- Search Only In
- Search button
- Search Results
- Add button

**Find User or Group**

In this box specify the name you want to search for. The system will search for user accounts or groups having that exact name.

**Search All**

When selected, this option causes the search to look for a matching user name or group in the local domain or computer, and in all domains trusted by the local domain.

**Search Only In**

When selected, this option causes the search to look for a matching user name or group in the domains and computers selected from the list. The list includes the local domain or computer, and all domains trusted by the local domain.

One or more domains and computers can be selected from the list.

**Search button**

Begins a search based on the parameters specified in the Find User Or Group box, and by the Search All and Search Only In options.

## **Search Results**

Contains a list of user accounts and groups found during a search. This list is filled as a search progresses.

One or more names can be selected from the Search Results list, and then added to the Add Name list of the Add User dialog box by choosing the Add button in the Find Account dialog box.

The list presents the matching users in the form *domainname\username (full name) description* or *computername\username (full name) description*.

The list presents the matching groups in the form *domainname\groupname description* or *computername\groupname description*.

**Add button**

Closes the Find Account dialog box, and adds the accounts selected in the Search Results list to the Add Name list of the Add User dialog box.

If the Search Results list is empty, or if no user accounts or groups are selected in the Search Results list, the Add button is unavailable.







## Customizing Settings for Console

Console is a Control Panel program that enables you to configure the default appearance of all character-based windows (consoles) and command prompt windows.

The settings you can configure using Console are identical to the settings that you can configure using the command prompt Properties window. However, the settings you configure using Console apply to all console windows; whereas, the settings you configure using the command prompt Properties window apply only to that open window or windows with the same title.

With the Console program, you can:

-  Customize the general property settings for a window.
-  Change the font and font size displayed in a window.
-  Change the screen size and position of a window.
-  Change the colors of the text and background for character-based windows and pop-ups.

See Also

[Changing General Property Settings](#)

[Changing Fonts for Window Mode](#)

[Changing Screen Size and Position](#)

[Changing Screen Colors](#)





## General Property Settings

For character-based windows (consoles) and command prompt windows, you can change the following general property settings:

- Select the cursor size (small, medium, or large).
- Select the buffer size and number of buffers to use for command history.
- Indicate whether you want to eliminate the listing of duplicate commands for command history.
- Enable window modes (QuickEdit mode and insert mode).
- Toggle between display options (window versus full-screen).

## Changing General Property Settings

The General Settings tab in the Console Windows Properties dialog box can be used for configuring the following types of property settings. Click on the task in which you want more information.

-  [Changing cursor size](#)
-  [Changing command history settings](#)
-  [Changing window mode settings \(QuickEdit and insert mode\)](#)
-  [Changing display option settings](#)

**Note:** RISC computers do not support full-screen mode. For this reason, the Display Options box does not appear in the General Settings tab if you are using a RISC computer.

See Also

[Changing Fonts for Window Mode](#)

[Changing Screen Size and Position](#)

[Changing Screen Colors](#)

## **Changing Cursor Size**

The size of the cursor can be set to either small, medium, or large.

### **To specify a cursor size**

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. In the Cursor box of the General Settings tab, specify a cursor size.
3. Choose OK.

See Also

[Changing Command History Settings](#)

[Changing Window Mode Settings \(QuickEdit and insert mode\)](#)

[Changing Display Option Settings](#)

## **Changing Command History Settings**

Command history can save you time if you frequently use the same commands. You can customize the following types of settings for command history: buffer size to be used, number of buffers to be used, and whether duplicate commands should be listed.

### **To configure the buffer size and number of buffers to use for command history**

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. In the Command History box of the General Settings tab, specify a buffer size, and then specify the number of buffers to use.
3. Choose OK.

### **To eliminate the listing of duplicate commands in command history**

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. In the Command History box of the General Settings tab, select the Discard Old Duplicates check box.
3. Choose OK.

See Also

[Changing Cursor Size](#)

[Changing Window Mode Settings \(QuickEdit and insert mode\)](#)

[Changing Display Option Settings](#)

## Changing Window Mode Settings

QuickEdit mode enables you to use the mouse to cut and paste, bypassing the Edit menu.

Insert mode enables text to be inserted at the cursor. If insert mode is not enabled, text that is typed at the cursor replaces existing text (overtypes).

### To enable or disable QuickEdit mode or insert mode

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. From the General Settings tab, select the QuickEdit Mode or Insert Mode check boxes.
3. Choose OK.

See Also

[Changing Cursor Size](#)

[Changing Command History Settings](#)

[Changing Display Option Settings](#)

## Changing Display Option Settings

If you are using an x86 computer, the command prompt can be displayed in either window mode or full-screen mode. By default, the command prompt is displayed as a window on your screen.

**Note:** RISC computers do not support full-screen mode. For this reason, the Display Options box does not appear in the General Settings tab if you are using a RISC computer.

### To toggle between window mode and full-screen mode

 Press ALT+Enter.

### To change the window display option

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. In the Display Options box of the General Settings tab, select window mode or full-screen mode.
3. Choose OK.

See Also

[Changing Cursor Size](#)

[Changing Command History Settings](#)

[Changing Window Mode Settings \(QuickEdit and insert mode\)](#)

## Changing Fonts for Window Mode

You can select different fonts and font sizes for character-based windows (consoles) and command prompt windows to display. Default fonts are saved based on the title of the window. When you change fonts, the window size changes to accommodate the new font size.

### To change fonts for Window Mode

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. Select the Font Selection tab.
3. In the Font box, select a font.
4. In the Size box, select a font size.

5. Select the Bold Fonts check box if you want to use bold fonts.

If bold fonts are not available, the check box is disabled.

6. In the Window Preview box, view how the current windows size will change based on the font and font size you have selected.

Later you can, however, resize the window up to the maximum screen buffer size.

7. Choose OK.

See Also

[Changing General Property Settings](#)

[Changing Screen Size and Position](#)

[Changing Screen Colors](#)



## Changing Screen Size and Position

The screen buffer size is the size reserved in memory for the command prompt display. The buffer size is determined by the number of characters wide by the number of lines high. The position is the current window position on the screen.

Scroll bars are displayed if the current size of the window is smaller than the screen buffer size settings. You cannot resize a window to be larger than the area set by the screen buffer settings. On x86 computers, if you switch to full screen display, Windows NT will display the number of lines (25, 43, or 50) supported by your hardware that is closest to your window mode configuration.

### To change the screen size and position

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. Select the Screen Size and Position tab.
3. In the Screen Buffer Size box, specify settings for the width and height of the screen.  
The width setting determines the number of characters in width. The height setting determines how many lines are stored in memory.
4. In the Window size box, specify settings for the width and height of the window.
5. In the Window Position box, specify settings for the left and top position of the window.  
If you would like the system to position the window, select the Let System Position Window check box.
6. Choose OK.

See Also

[Changing General Property Settings](#)

[Changing Fonts for Window Mode](#)

[Changing Screen Colors](#)

## Changing Screen Colors

You can specify the color of the text and background of all character-based windows (consoles) and command prompt windows. You can also specify the color of the text and background of pop-up windows that originate from the command prompt. Pop-up windows (for example, command history windows) are smaller character-based windows that present information to choose from.

### To change screen colors

1. From Control Panel, double-click the Console icon to display the Console Windows Properties dialog box.
2. Select the Screen Colors tab.
3. Choose colors for screen text, screen background, pop-up text, or pop-up background by selecting the element you want to change, and then selecting the color you want.  
The selections you make appear in the Selected Screen Colors or Selected Popup Colors box.
4. Choose OK.

See Also

[Changing General Property Settings](#)

[Changing Fonts for Window Mode](#)

[Changing Screen Size and Position](#)

## Console Windows Properties - General Settings

Console is a Control Panel program that enables you to configure the default appearance of all character-based windows (consoles) and command prompt windows.

The settings you can configure using Console are identical to the settings that you can configure using the command prompt Properties window. However, the settings you configure using Console apply to all console windows; whereas, the settings you configure using the command prompt Properties window apply only to that open window or windows with the same title.

- [Cursor Size](#)
- [Command History](#)
- [QuickEdit Mode](#)
- [Insert Mode](#)
- [Display Options](#)

See Also

[Font Selection](#)

[Screen Size and Position](#)

[Screen Colors](#)

**Cursor Size**

Select this option if you want to resize the cursor to either small, medium, or large.

**Command History**

Select this option if you want to configure the buffer size and number of buffers to use for command history or eliminate the listing of duplicate commands.

**QuickEdit Mode**

Select this check box if you want to use a pointing device (mouse) to cut and paste, bypassing the Edit menu.

**Insert Mode**

Select this check box if you want text to be inserted at the cursor. If insert mode is not enabled, text that is typed at the cursor replaces existing text (overtypes).

## **Display Options**

Select this option if you want to set display options. If you are using an x86 computer, the command prompt can be displayed in either window mode or full-screen mode. By default, the command prompt is displayed as a window on your screen.


RISC computers do not support full-screen mode. For this reason, the Display Options box does not appear in the General Settings tab if you are using a RISC computer.

**Tip:** To toggle between window mode and full-screen mode, press ALT+Enter.




## Console Windows Properties - Font Selection

You can choose to display different fonts and font sizes for character-based windows (consoles) and command prompt windows. Default fonts are saved based on the title of the window. When you change fonts, the window size changes to accommodate the new font size.

 [Window Preview](#)

 [Font](#)

 [Bold Fonts](#)

 [Size](#)

See Also

[General Settings](#)

[Screen Size and Position](#)

[Screen Colors](#)

**Font**

Use this option to select the type of font you want to display.

**Size**

Use this option to select the font size you want to display.

**Bold Fonts**

Select this check box if you want to use bold fonts. If bold fonts are not available, the check box is disabled.


**Window Preview**


Use Window Preview to view how the current windows size will change based on the font and font size you have selected. Later you can, however, resize the window up to the maximum screen buffer size.

## **Console Windows Properties - Screen Size and Position**

The screen buffer size is the size reserved in memory for the command prompt display. The buffer size is determined by the number of characters wide and by the number of lines high. The position is the current window position on the screen.

Scroll bars are displayed if the current size of the window is smaller than the screen buffer size settings. You cannot resize a window to be larger than the area set by the screen buffer settings. On x86 computers, if you switch to full screen display, Windows NT will display the number of lines (25, 43, or 50) supported by your hardware that is closest to your window mode configuration.

 [Screen Buffer Size](#)

 [Window Size](#)

 [Window Position](#)

See Also

[General Settings](#)

[Font Selection](#)

[Screen Colors](#)

**Screen Buffer Size**

Use this option to specify settings for the width and height of the screen. The width setting determines the number of characters in width. The height setting determines how many lines are stored in memory.

**Window Size**

Use this option to specify settings for the width and height of the window.



**Window Position**

Use this option to specify settings for the left and top position of the window. If you would like the system to position the window, select the Let System Position Window check box.

## Console Windows Properties - Screen Colors

You can specify the color of the text and background of all character-based windows (consoles) and command prompt windows. You can also specify the color of the text and background of pop-up windows that originate from the command prompt. Pop-up windows (for example, command history windows) are smaller character-based windows that present information to choose from.

If you want to choose colors for screen text, screen background, pop-up text, or pop-up background, select the element you want to change, and then choose the color you want. (The selections you make appear in the Selected Screen Colors or Selected Popup Colors box.)

- [Screen Text](#)
- [Screen Background](#)
- [Popup Text](#)
- [Popup Background](#)

If you want to increase or decrease the amount of primary color used in a color, choose the Selected Color Values option, and then specify new numbers from 0 to 255 in the Red, Green, and/or Blue boxes.

See Also

[General Settings](#)

[Font Selection](#)

[Screen Size and Position](#)

Select this option if you want to change the color of the screen text in a window.

Select this option if you want to change the color of the screen background in a window.

Select this option if you want to change the color of the text in a popup.

Select this option if you want to change the color of the background in a popup.

