LANTASTIC® TROUBLESHOOTING MANUAL

Solutions to common networking problems

CONTENTS

TROUBLESHOOTING YOUR NETWORK

Where to find your solution

To solve a problem, choose from the options in this list:

Learn troubleshooting techniques. To learn Artisoft Technical Support's three-step troubleshooting process, see "Troubleshooting techniques" on page 2.

Solve a LANtastic for Windows NT problem. For solutions to problems installing or using LANtastic on a Windows NT 4.0 computer, see Chapter 2, beginning on page 7.

Solve a LANtastic for Windows 95/98 problem. For solutions to problems installing or using LANtastic on a Windows 95/98 computer, see Chapter 3, beginning on page 15.

Solve a LANtastic for DOS or Windows 3.x problem. For solutions to problems installing or using LANtastic on a Windows 3.x or DOS computer, see Chapter 4, beginning on page 27. From the symptoms described in that chapter, you'll be referred to specific solutions by title and page number in Appendix A.

Look up an installation-related error message. This manual lists installation-related error messages for LANtastic in Chapter 5, beginning on page 43.

If the error message you received did not occur during installation, look for it under "error messages" in this manual's index, or see "Error message lists" on page 5 for instructions on finding more error explanations.

Find alternative solutions. If you've followed all the troubleshooting solutions in this guide and still have a problem, see "If you don't find a solution" on page 4 to learn about additional sources of information such as the Readme file and online Help.

Troubleshooting techniques_____

Most computer problems are easier to fix when you **isolate, identify** and **test**. This is the same process that Artisoft Technical Support analysts use when you call them for help.

It's a good idea to learn this three-step process of narrowing down and tracing the cause of your problem before you use any other part of this manual.

Isolating the problem

To isolate a problem, you need to reduce the number of elements that could cause it. For example, checking to see if the problem can be reproduced on all computers in the network reveals whether the problem occurs in just one computer. If the problem occurs on all of them, check to see what happens when you reduce the number of networked computers by half. You can then quarter the network, and so on, until you locate the source of the problem.

As you work with fewer and fewer variables, the source of the problem should become clear. Try these general isolating tips:

1. If possible, see if the problem still occurs without the network software loaded. (See "Basic configuration" on page 67 for LANtastic for Windows 3.x and DOS; for Windows 95, Windows 98 or Windows NT 4.0, see "Adding or removing selected network components" on page 24.)

   If the problem disappears, this is a sign that:

   ▪ You may need more memory free when the network is loaded.

   ▪ The program may not be configured correctly. For example, there might be a driver configuration conflict.

   ▪ If you're using the program over the network, the program may not be network-compatible. Contact the vendor.

   ▪ The network itself might have a communication problem.

   You can double-check the source of the problem by adding the network components back one at a time until the problem returns. See "Basic configuration" on page 67 for instructions.

2. Does the problem occur in all application programs or just one? You might think one software program has a printing problem, but if additional programs fail to print, you should probably check out the computer's hardware, the printer or control directory corruption.

3. Avoid troubleshooting an entire network if only two computers are needed to test the problem.

TIP…

See the Readme file for updated information on troubleshooting specific problems. Refer to "LANtastic Readme file" on page 5 for information.

    4. Did the application program ever work?

        ⁿ If so, what elements in the system had changed when the problem was first noticed?

        ⁿ If not, are the minimum system requirements met?

    5. Is the problem easily reproduced? Intermittent problems are the hardest to solve. If a problem is reproducible, it's easier to identify and correct. When you have intermittent problems, have everyone keep notepads near their computers and write down what they were doing at the time when each problem occurred.

Identifying the source

Next, identify key elements in the isolated system that could cause the problem. This is where most troubleshooters don't follow through. Keep an open mind about all possibilities. It's a common mistake to overlook something because "nothing has changed." In most cases, the changed element wasn't yet identified.

Focus on listing possible causes, rather than what you believe *isn't* causing it. A simple communications problem can involve cables, connectors, adapter cards, motherboards, power supplies and software drivers. All problems involve multiple elements. Each software driver is a separate element. You might think it couldn't be the cable since nothing has changed, but cables can easily become damaged.

Testing the problem

After you've identified the key elements, you must test each one of them. In any list of possible causes some are more likely than others. Test the most probable first, then the next, until you've discovered the cause. If you run out of possibilities you may not have identified all, or it might take an obscure combination of events to produce the error. Patience is often your best tool.

Testing can be faster in some cases if you first remove as many of the possible causes as you can, and get down to a basic working system. Then add each element back one at a time until the problem reproduces. This technique allows you to get back to work and look for the cause when you have more time.

Once you've tested and proven what the cause is, the solution will probably be obvious. If it isn't, consider contacting the vendor of the problematical element for help. Here are some questions to consider at this stage of the process:

    ⁿ Do you have the latest drivers for a hardware product? **Hint...**The Microsoft® Home Page on the Internet features a regularly updated list of Windows® 95-compatible adapters and drivers.

    ⁿ Have you tried reinstalling the program that has a problem?

- Can you try running the application without using a memory manager that loads programs into upper memory?

- Is the application network-compatible?

- Are there any known conflicts between two programs or device drivers? (Contact the vendors.)

- Can you live without this element and still be productive?

- Can you change anything about this element that might make it function or become compatible? For example, a network adapter card might work on a different IRQ or I/O Base setting. A device driver conflict might be avoided by loading the drivers in a different order in your configuration files.

During the identifying or testing phase, the more accurately you can describe the symptom, the more likely you or someone else will be able to solve it. Many tools can help you spot symptoms.

If you aren't sure what to do next, try to locate your specific problem in Chapter 2 (Windows NT), 3 (Windows 95/98) or 4 (DOS and Windows 3.x), depending on your computer's platform.

If you still don't find a solution:

- Consult Artisoft's Technical Notes (see below).

- Contact Artisoft Technical Support. Sometimes problems just can't be solved without outside assistance. See page 6 for information.

Using Technical Notes

Artisoft's Technical Notes are excellent sources of help. They contain detailed information about many common problems, and compatible third-party products. These Notes are constantly updated. See the Directory of Support Services that came in your product package for information on using the Arti-Facts[SM] BBS, FaxReturn[SM] and the Internet to obtain Technical Notes.

If you don't find a solution_____

If you don't find a solution to your LANtastic problem, try the alternate sources of troubleshooting information listed in this section.

Online Help systems

Every LANtastic product includes its own online Help system that describes all of the product's functions, from beginning to advanced. In Windows 3.x, you'll see Help icons for Net and Network Manager in the LANtastic program group. In DOS the Help files are located in the main directory for each product. In LANtastic for Windows 95/98 and NT, see the Online Information page in the Custom Control Panel. You can also use online Help from any window in each of the LANtastic products – just press **F1** or click Help.

LANtastic Online Library

Your printed *LANtastic Installation and Setup Manual* and online Help systems are supplemented by the Online Library on your LANtastic 8.0 CD-ROM. This library includes comprehensive information about using LANtastic, whether you're running Windows 3.x, Windows 95/98 or DOS. The Online Library presents information in Adobe™ Acrobat™ Portable Document Format (PDF) files. These files are convenient to view on your computer screen because they have Go to Page and Find functions. They also include hypertext links that allow you to jump quickly from place to place. And with book-page formatting, they're easy to print and keep in a binder. For a list of the PDF files in the Online Library, see the *LANtastic Installation and Setup Manual*.

To view a file in the Online Library, follow the steps for installing the Adobe Acrobat Reader in the *LANtastic Installation and Setup Manual*. Instructions for navigating and printing PDF files appear there, too.

Important… If you purchased the diskettes-only version of LANtastic 8.0, you can obtain all the files in the Online Library from Artisoft's electronic support sites. See your *LANtastic Installation and Setup Manual* for detailed information. You can also open the text-format versions of the LANtastic for DOS-related files, which reside in the LANTASTI directory that was created by the Setup program.

Error message lists

Chapter 5 (beginning on page 43) contains a list of installation-related error messages for LANtastic on every platform (DOS, Windows 3.x, 95, 98 and NT). For a list of the most commonly received non-installation error messages, see the Errs_dw.pdf (DOS and Windows 3.x) or Errs_95.pdf (Windows 95/98 and NT) PDF files in the Online Library. (See "LANtastic Online Library" on page 5.)

LANtastic Readme file

The LANtastic 8.0 Readme file contains information that became available after this manual and the online Help were completed.

In Windows 95/98 or NT, go to the Online Information page in the LANtastic Custom Control Panel and click the View Readme button. In the Windows 3.x Program Manager, you can open the Readme file by clicking the Readme icon in

the LANtastic program group. In DOS the same Readme file is located in the LANtastic program directory (C:\LANTASTI) and on LANtastic Disk 1. You can open the file using a text editor such as DOS EDIT or Windows Notepad™.

Technical support

If you're unable to find what you need in the printed manual, online Help, Readme files or Online Library, you may want to use Artisoft's technical support services. Artisoft is committed to offering quality support services to our valued customers. These services are detailed in the Directory of Support Services, which you received with this product.

TROUBLESHOOTING LANTASTIC FOR WINDOWS NT

CHAPTER CONTENTS

This chapter offers solutions to specific LANtastic for Windows NT 4.0 problems. Installation-related error messages are explained in Chapter 5, beginning on page 43. You might want to check the complete alphabetical list of the most commonly received LANtastic for Windows NT error messages, which appears in the Errs_95.pdf file in the Online Library. (For more information on the Online Library, see page 5.)

Hint…   Before you begin troubleshooting, it's a good idea to review "Troubleshooting techniques" on page 2.

Solving LANtastic for Windows NT problems _____

Common problems have been divided into the following categories. Go to the page number for the topic that best describes the problem you're having.

Problems immediately after installation

1. After you install LANtastic 8.0 and restart your computer, **the other LANtastic computers on your network aren't displayed in Entire Network** in the LANtastic Custom Control Panel, or in Network Neighborhood. If your computer is set up as a LANtastic server, you see only your own computer name or "This Server" displayed.

Check the network cabling connections to your computer. See the *LANtastic Installation and Setup Manual* for help on network hardware and cabling. If your network hardware seems fine, refer to "Checking your IRQ and I/O Base" on page 9.

2. **Since installing LANtastic 8.0, your system seems to run more slowly.** Other network protocols or components that are installed but aren't being used can slow down your network access. Follow the instructions under "Adding or removing LANtastic software components" on page 24.

Computers can't communicate

You have trouble connecting to or communicating with other computers. You may have cabling or other hardware problems. Make sure you followed all the installation instructions in the *LANtastic Installation and Setup Manual*. That manual also contains useful hardware information. The LCHECK32 program provided with LANtastic 8.0 may help you locate a cabling problem. Instructions for running LCHECK32 appear in the Lncheck.pdf file in the Online Library (see page 5 for Online Library details).

You can also try these possible solutions:

- Check the drive connection. From the LANtastic Custom Control Panel, click the Use Network page, click Assign Drives, then click the Help button in that window for information.

- You may have typed in the wrong password or misspelled your password. Try again to log in.

- The server you logged into may have Auto guest login enabled, and you logged in with the Guest account rather than your individual account. The Guest account may not have full access to the server you're trying to connect to.

  To find out what account you're logged in with, go to the Use Network page and click Change Password. Scroll through the Computer drop-down list box until you see the name of the server you're trying to log in to, and click it. Notice that the Password Status box at the top of the window contains a For Account listing. This shows which account you're using on that server.

Some network servers don't appear in your list of available servers or don't appear to be on the network. You might have too many network components trying to use the adapter driver software. Try removing any network components you don't use or need. For instructions, go to "Adding or removing LANtastic software components" on page 24, in the Windows 95/98 chapter of this manual. Instructions for Windows NT are included in that section.

Computer won't boot or locks up

Your computer won't boot with the network card installed. You may have a hardware conflict. Check your hardware configuration, as described under "Checking your IRQ and I/O Base" on page 9.

Your computer locks up when connecting to resources. Check your hardware configuration, as described under "Checking your IRQ and I/O Base" below.

When you're using an application, your computer locks up. Press **Ctrl+Alt+Del,** then select Task Manager in the window that appears. In Task Manager, select the program that's not responding and click End Task. If necessary, repeat this process. The application may not be network-compatible.

You're experiencing GPFs (General Protection Faults). If you have only 16MB RAM, you may need to change the Virtual Memory Page File Size. Click Start, Settings, Control Panel. Double-click the System Icon, then click the Performance tab. Click Change. The default setting for Initial Size (MB) is 27. This may vary in size. LANtastic for NT needs at least 64 MB. Try 64 MB first; you can go to a maximum of 100. Click the Set button to apply the new settings.

Checking your IRQ and I/O Base

You may have an incorrect adapter driver IRQ setting or another device in the computer that conflicts with the network adapter's settings. Each adapter needs to have a unique Interrupt Request Line (IRQ) and/or I/O Base address. Some Artisoft adapters default to IRQ 15 and I/O Base 300.

Check your adapter driver IRQ setting by right-clicking the Network Neighborhood icon on your desktop. Select Properties from the pop-up menu, then click the Adapters tab. Click the Properties button, and you'll see the IRQ and I/O Base settings. You can change the settings here if necessary.

Printing problems

Because LANtastic for Windows NT uses the Windows NT printing system, you'll need to refer to the Windows NT online Help system for help with most printing problems. But check this section first.

You can't print. You may need to set up the printer to use a generic print driver. First, go to the computer that has the printer attached. Open LANtastic and select the Use Network tab. Click Connect to Computers. If your computer appears in the Already Connected list, click it and click Disconnect. Then, in the Available for Connection list, double-click This Server. Type Supervisor in both the User Name and Password fields, and click OK. Then close the LANtastic Connections window.

Now you need to create a new print driver for generic text, in Windows 95. Click Start, Settings, then Printers. Double-click the Add Printer icon. Start the wizard by clicking Next. Select Local Printer, and click Next. Under Manufacturers, select Generic and click Next.

If you're prompted to Keep or Replace the existing driver, select Keep existing. Click Next. Specify the port the printer is actually attached to, and click Next.

Keep the printer name as is, and select No for the option to make it the default. Click Next. In the next wizard window, click No for a test page. Click Finish.

Back in LANtastic, select the Manage Server tab and click the Share Drives and Printers button. Make sure This Server is selected at top as the current server. Click the new generic printer in the list, and click Add. In the Add Resource window that appears, give the printer any name that begins with the @ symbol. Under Share, click Printer. Under Local printer, select Generic Text. Then click Create, and Close.

If you continue to have problems, contact your printer manufacturer.

You can't set a default printer from a Windows NT workstation. When you're setting up a new printer and you choose to set it as the default printer, you might see this error: "Add Printer Wizard: Default printer cannot be set." This occurs because the printer name was set up with a trailing space. Rename the printer without a trailing space. You cannot create printer names with trailing space on a Windows NT 4.0 computer.

You can't view or manage print jobs even though your account has the Q privilege. Two possible problems can generate the error message "You don't have permission to modify the settings for this printer… if you need to change the settings, contact your network administrator":

- You were attempting to pause or purge a print job from the Microsoft interface to a printer object. Before you attempted the operation, you clicked a column other than the document name column (the first column), so your operation was seen as a printer control operation, which isn't supported.

  When you want to pause or purge a print job from the Microsoft interface to a printer object, click the document name first. You'll be able to perform the operation, because it will be seen as a job control operation.

  Or
- You were trying to manage a print job on a LANtastic for Windows 95/98 server and your account didn't have the T, Y and Z access rights for the printer resource.

  Assign your account the T, Y and Z access rights according to the instructions in the online Help (search on the topic). These rights enable you to view and manage print jobs submitted by other users to that printer.

Your Epson Stylus Color 800 printer doesn't print with Service Pack 3. After you install printer drivers version 1.01a dated 4/22/97 from Epson's Web site for the Epson Stylus Color 800 printer on a computer with Windows NT 4.0 Service Pack 3 installed, and you try to print a test page, you might see the message: "Test page failed to print. Would you like to view the print troubleshooter for assistance? The system does not support the command specified." Or when you attempt to print, you see this error message: "Cannot access your printer. Be sure that your printer is connected properly and use Control Panel to verify that the printer is configured properly."

To solve this problem, install updated printer drivers. For information about updated printer drivers, contact Epson. Note that when you're using LANtastic for Windows NT, Service Pack 3 must remain installed.

Your printer is printing multiple copies of the same print job. After installing Microsoft Service Pack 3, your printer might start printing multiple copies of each job only on NT computers. Certain driver files on your system have been overwritten. To solve this problem, delete these files from your hard drive: HP5SIMUI.DLL, HP5SIM.DLL, HPRASDD.DLL, and HPRASDUI.DLL.

Error messages

If you receive an error message, consult this section, this manual's index, and also the Errs_95.pdf file (described next).

Printing out the error messages PDF file

The **Errs_95.pdf** file that's in the Online Library lists the most commonly received LANtastic for Windows 95/98 and NT error messages in alphabetical order, with their possible causes and solutions. It's a good idea to print out this PDF file before you start troubleshooting LANtastic on Windows NT computers. (For more information about the Online Library, see page 5.)

Cannot locate network computer name or resource. There could be several reasons why this error message appeared:

- **You might have tried to log into a server that isn't running the network software,** or you specified a server in a network path you're not logged into. Make sure the server is running the network software. If you're specifying a network path such as in an LNET USE command, make sure you're logged into the server.

- **More than one computer has the same name.** If two computers have the same name, you'll see two identical computer names in Network Neighborhood, and also in your list of available servers when trying to connect to drives and printers. This could happen if **one computer is a**

server on more than one network. For example, you could be running both File and Printer Sharing for LANtastic Networks (the LANtastic server program) and another server program, such as File and Printer Sharing for Microsoft Networks, on the same computer. This problem shouldn't occur with Windows NT, because when you install LANtastic on a Windows NT computer, it modifies the computer name by adding **LT-** before the name. But keep in mind that if you want to make one computer act as a server for two or more different networks, the two server components must have different computer names. Windows 95/98 and NT can distinguish only between computer names, not types of networks.

If you want to manually change computer names, use the Change Computer Name button on the LANtastic Custom Control Panel, Accessories page.

- **You're connecting to a LANtastic for NT computer from a LANtastic for OS/2 computer.** If you get the message "Cannot locate server/network name" even though you can see that the drive is available from the LANtastic for OS/2 computer, you'll need to edit the Protocol.ini file on the OS/2 computer. Delete the REM statement from the NO_MULTICAST switch in the [AILANBIO_NIF] section, save your changes, and try again.

- **If the error message says "LANtastic: Cannot locate network computer name or resource: NetWare or compatible network,** and there are no Novell NetWare servers on the network, click Start, Settings, Control Panel, and double-click the Network icon. Remove the Client Service for NetWare and the NWLink IPX/SPX Compatible transport.

Unknown error. If you get this message when you disconnect a drive in LANtastic for NT, you've tried to access a drive through Windows Explorer and disconnect from it while it's being used. LANtastic for NT won't let you disconnect a drive that's currently being used by an application.

Not enough server storage space available to process this command. If you see this message when you try to connect to another computer on the network, you may need to reinstall Microsoft Service Pack 3. Whenever you add new software or hardware to an NT system, you should reapply the Service Pack, even if you've recently installed it.

Incorrect function. If you receive this message when you try to connect to another drive, the network adapter isn't working. Click Start, Programs, Administrative Tools, and select Windows NT Diagnostics. Click the Resources tab, and look for the network adapter card's IRQ listing. If the adapter isn't listed, it isn't working. If the adapter is listed, verify its IRQ setting and/or try a different IRQ.

Insufficient Management Security Level. Log in with a higher Management Security Level. You need to log into the server with an account that has Supervisor access, if you want to add or remove shared resources, set security or manage the server in any way. The default account has the user name Supervisor, and the password Supervisor. With LANtastic 8.0, you can now log into "This Server" automatically as Supervisor unless someone changes the Supervisor password. See the *LANtastic for Windows NT User's Manual* for complete details about Management Security Levels.

The serial number for your software is not available at this time. Try again later. If the problem persists you may need additional licenses. Make sure that the license that you've installed has not been installed on another computer. If this is a multiple-user license, check to see how many other computers already have this license installed. To do this, open the LANtastic Custom Control Panel, click the Help menu, and select About LANtastic. The license number is shown, along with the number of nodes the license allows.

Other troubleshooting issues

LANtastic for NT can't route between two adapters. Routing for the Artisoft LANtastic NetBIOS isn't enabled in LANtastic running on Windows NT 4.0. However, if you're running strictly LANtastic 8.0 under Windows 95/98 with LANtastic for NT computers on the network, you can replace the Artisoft LANtastic NetBIOS with TCP/IP-encapsulated NetBIOS.

The control directory is corrupted. Follow these steps:

1. First you need to remove Server. Click Start, Settings, Control Panel, and double-click the Network Icon.

2. Click Services. Select LANtastic Server, click Remove, then exit the Control Panel and restart your computer.

3. Go to C:\LANtasti\WINNT\LDB_DATA and delete these files: LDBOBJ, LDBPROP and LDBVAL.

4. Now go to: C:\LANtasti\WINNT\INSTALL\SERVICES\CLIENT

5. Hold down the **Ctrl** key and select these files: LDBOBJ, LDBPROP and LDBVAL. Right-click and copy these files.

6. Paste the files you copied into this folder: C:\LANtasti\WINNT\LDB_DATA

7. Add back the LANtastic Server (see steps 1 and 2), and recreate your resources.

Note… This will work on both FAT and NTFS systems.

Check the Event Viewer. If you have a problem you can't solve, or you receive a message that says to check the Event Viewer, click Start, Programs, Administrative Tools, and select Event Viewer. When you double-click recent "events" to view details, you might gain some insight as to the cause of the problem.

The Windows NT Administrator logon cancels the LANtastic user name/password security logon. Follow these steps:

1. Disconnect all connections in these three places: Assign Drives, Connect to Computers, and Preferred Servers.

2. Create an NT User Account on the NT Server. Reboot, and log on as user (not administrator).

3. Under LANtastic Logon Settings, select the check box for Ask for User name and Password, and clear the check box for Password Cache.

4. Create Remembered Connections in Assign Drives.

5. Reboot, then log on as an NT user. You should now be prompted for LANtastic User Name and Password for each remembered connection.

TROUBLESHOOTING LANTASTIC FOR WINDOWS 95/98

CHAPTER CONTENTS

This chapter offers solutions to problems that can occur on Windows 95 or Windows 98 computers running LANtastic.

Installation-related error messages are explained in Chapter 5, beginning on page 43. For a complete alphabetical list of the most commonly received LANtastic for Windows 95/98 error messages, refer to the Errs_dw.pdf file in the Online Library. (For more information about the Online Library, see page 5.)

Hint… Before you begin troubleshooting, it's a good idea to review "Troubleshooting techniques" on page 2.

Solving LANtastic for Windows 95/98 problems_____

Common problems have been divided into the following categories. Go to the page number for the topic that best describes the problem you're having.

Problems immediately after installation

If you have problems immediately after you install LANtastic on a Windows 95/98 computer, make sure you've followed all directions in the *LANtastic Installation and Setup Manual*. Then try the numbered solutions in this section **in the order in which they appear**.

After restarting your computer, you receive the error message: "Your network adapter <name> is not working properly. You may need to set it up again." You may have the wrong adapter driver installed for your adapter, *or* your adapter I/O Base is different from the adapter settings in the Network Control Panel, **or** it's in conflict with another device in your computer. Check your adapter driver name and settings by clicking Start, Settings, Control Panel, then double-clicking Network. Make sure the adapter driver displayed matches your adapter's manufacturer name and model.

If the adapter name is incorrect, follow the instructions under "Adding or removing selected network components" on page 24, to remove all network components, including the adapter. Then follow the instructions for installing your adapter driver and LANtastic for Windows 95/98 in the *LANtastic Installation and Setup Manual*.

If the adapter shown is correct, click it and click Properties. Click the Resources tab. Compare the setting for I/O address range to the actual I/O Base address setting for your adapter (the two terms mean the same thing). If an asterisk appears by the number, Windows 95/98 has detected a conflict with another device.

You can use the selection arrows in the I/O address range field to make corrections to the settings for the adapter driver. However, if you don't have a Plug and Play adapter, you'll need to use an adapter configuration utility or move jumpers on your adapter card to change the actual settings of your card. If you don't know how to determine or modify your actual settings, see your adapter documentation.

After installing LANtastic for Windows 95/98 and restarting your computer, open the LANtastic Custom Control Panel, you click a button such as Connecting to Computers and receive the error message: "This task won't run without the Client for LANtastic Networks" or "The network is not present or not started." If this occurs, something has prevented the LANtastic client from loading during startup. For example, you may not have installed your adapter prior to running LANtastic for Windows 95/98 Setup, but selected it during the setup process. Or an error may have occurred during setup, or you may have clicked Cancel during setup. If any of these situations is the case, try removing all network components except the adapter driver itself, then reinstall LANtastic for Windows 95. Follow the instructions under "Adding or removing selected network components" on page 24 to remove all components except the adapter driver. Then follow the instructions for installing LANtastic for Windows 95/98 in the *LANtastic Installation and Setup Manual*.

After installing LANtastic 8.0 and restarting your computer, you open the LANtastic Custom Control Panel, click a button such as Configure Server and receive the error message: "The LANtastic Server is not installed." You may have cleared the "Share files and printers" check box during LANtastic Setup, so the LANtastic Server component wasn't installed. If you want to make this computer into a LANtastic server, follow the instructions under "To add a component" on page 25.

After installing LANtastic 8.0 and restarting your computer, the other LANtastic computers on your network aren't displayed when you click Entire Network in the LANtastic Custom Control Panel or Network Neighborhood. If your computer is set up as a LANtastic for Windows 95/98 server, you see only your own computer name or "This Server" displayed. (If you see some computers but not others, see item **5.**)

Check the network cabling connections to your computer. See the file called Hardware.pdf in the Online Library, for instructions on network hardware and cabling. If your network hardware seems fine, refer to "Checking your IRQ and I/O Base" on page 20.

After installing LANtastic 8.0 and restarting your computer, only LANtastic for Windows 95/98 and LANtastic Dedicated Server computers on your network are displayed when you click Entire Network in the LANtastic Custom Control Panel or Network Neighborhood. If you have other networking components besides those needed for LANtastic for Windows 95/98 installed on your computer, you may have exceeded the multicast address table limit of your adapter driver. You can avoid this limitation by turning off multicast addressing on each LANtastic computer on your network. For instructions, see "Some network servers don't appear in your list of available servers or don't appear to be on the network" on page 18.

Since installing LANtastic 8.0, your system seems to run more slowly. Other network protocols or components that are installed but aren't being used can slow down your network access. Follow the instructions under "Adding or removing LANtastic software components" on page 24.

Note… **If you didn't find your post-installation problem in this section,** also check: "Computers can't communicate" on page 18, "Computer won't boot or locks up" on page 19, and "Error messages" on page 21.

Computers can't communicate

You have trouble connecting to or communicating with other computers.
You may have cabling or other hardware problems. Make sure you followed all the installation instructions in the *LANtastic Installation and Setup Manual*. Also see the file called Hardware.pdf in the Online Library for useful hardware information. The LCHECK32 program provided with LANtastic 8.0 may help you locate a cabling problem. Instructions for running LCHECK32 appear in the Lncheck.pdf file in the Online Library (see page 5 for Online Library details).

You can also try these possible solutions:

- Check the drive connection. From the LANtastic Custom Control Panel, click the Use Network page, click Assign Drives, then click the Help button in that window for information.

- You may have typed in the wrong password or misspelled your password. Try again to log in.

- The server you logged into may have Auto guest login enabled, and you logged in with the Guest account rather than your individual account. The Guest account may not have full access to the server you're trying to connect to.

  To find out what account you're logged in with, go to the Use Network page and click Change Password. Scroll through the Computer drop-down list box until you see the name of the server you're trying to log in to, and click it. Notice that the Password Status box at the top of the window contains a For Account listing. This shows which account you're using on that server.

Some network servers don't appear in your list of available servers or don't appear to be on the network You might have too many network components trying to use the adapter driver software. Try removing any network components you don't use or need, as described under "Adding or removing LANtastic software components" on page 24.

If you still don't see the servers, you might need to turn off multicast addressing in the Artisoft NetBIOS and on all other LANtastic computers on your network.

To turn off multicast addressing, follow these steps on each LANtastic for Windows 95/98 computer on your network:

- Click Start, Settings, Control Panel, then double-click the Network icon.
- Click the Artisoft NetBIOS and then click Properties.
- Click the Advanced tab. A screen listing properties and values appears.
- Click Multicast, scroll through the list in the Value window and click Off.
- Click OK and restart your computer.

To turn off multicast addressing, follow these steps on each LANtastic 5.x or 6.x computer on your network:

- ⁿ Use a text editor to open the STARTNET.BAT file.

- ⁿ Find the AILANBIO command line and add the /NO_MULTICAST switch to the end of it.

- ⁿ Save your changes and restart your computer.

The Artisoft NetBIOS isn't in the Network control panel components list on the Configuration page You might have used the Have disk button during Setup to install the adapter driver. With certain adapters, the Artisoft NetBIOS might not be installed. You'll need to go to the Windows 95/98 Network control panel and remove all LANtastic and Artisoft components except the adapter driver, and then restart your computer. Instructions appear under "Completely removing LANtastic from a computer" on page 25.

When you reinstall LANtastic for Windows 95, Setup should find the adapter driver.

If you have a NodeRunner network adapter, you may have to place the adapter in another computer first to configure it to alternate settings to avoid a conflict.

Make sure you've followed all the instructions in the *LANtastic Installation and Setup Manual*, Windows 95/98 installation chapter. Also see the file called Hardware.pdf in the Online Library for useful information about hardware setup.

Computer won't boot or locks up

Your computer won't boot with the network card installed. You may have a hardware conflict. Check your hardware configuration, as described under "Checking your IRQ and I/O Base" on page 20.

Your computer locks up when connecting to resources. Check your hardware configuration, as described under "Checking your IRQ and I/O Base" on page 20.

When you first start up your computer, it locks up. Reboot your computer. If you see a message about restarting in Safe Mode, accept it or click Yes.

If you upgraded to Windows 95/98 and installed LANtastic, and Windows 95/98 now locks up, you should first edit your computer's AUTOEXEC.BAT file and remove the DOS SHARE.EXE command. This is because Windows 95/98 has a built-in Share command. Then reboot in Normal Mode.

It's also a good idea to check your hardware configuration, as described under "Checking your IRQ and I/O Base" on page 20. If those settings are good, reboot in Normal Mode.

When you're using an application, your computer locks up. Press **Ctrl+Alt+Del**. The Close Program window appears, asking you which programs you'd like to close. Select the one that's not responding and click End Task. If necessary, repeat this process. The application may not be network-compatible.

Checking your IRQ and I/O Base

You may have an incorrect adapter driver IRQ setting or another device in the computer that conflicts with the network adapter's settings. Each adapter needs to have a unique Interrupt Request Line (IRQ) and/or I/O Base address. Most Artisoft adapters default to IRQ 15 and I/O Base 300.

Check your adapter driver IRQ setting by clicking Start, Settings, Control Panel, then double-clicking the System icon. Click the Device Manager tab, then click the plus sign in front of network adapter. Highlight your network adapter, and click the Properties button. In the Properties window, click the Resources tab. Compare the settings for the IRQ and I/O address to the actual IRQ and I/O Base settings for your adapter. You can click the Change Setting button if you need to change the settings. If you don't know how to determine your actual settings, see your adapter documentation. Many adapters use jumper settings on the card to configure settings.

Printing problems

Because LANtastic for Windows 95/98 uses the Windows 95/98 printing system, you'll need to refer to the Windows 95/98 online Help system for help with most printing problems. But check this section first.

You can't print. You may need to set up the printer to use a generic print driver. First, go to the computer that has the printer attached. Open LANtastic and select the Use Network tab. Click Connect to Computers. If your computer appears in the Already Connected list, click it and click Disconnect. Then, in the Available for Connection list, double-click This Server. Type Supervisor in both the User Name and Password fields, and click OK. Then close the LANtastic Connections window.

Now you need to create a new print driver for generic text, in Windows 95. Click Start, Settings, then Printers. Double-click the Add Printer icon. Start the wizard by clicking Next. Select Local Printer, and click Next. Under Manufacturers, select Generic and click Next.

If you're prompted to Keep or Replace the existing driver, select Keep existing. Click Next. Specify the port the printer is actually attached to, and click Next.

Keep the printer name as is, and select No for the option to make it the default printer. Click Next. In the next wizard window, click No for a test page. Click Finish.

Back in LANtastic, select the Manage Server tab and click the Share Drives and Printers button. Make sure This Server is selected at top as the current server. Click the new generic printer in the list, and click Add. In the Add Resource window that appears, give the printer any name that begins with the @ symbol. Under Share, click Printer. Under Local printer, select Generic Text. Then click Create, and Close.

If you continue to have problems, contact your printer manufacturer.

You can't view or manage print jobs even though your account has the Q privilege. Two possible problems can generate the error message "You don't have permission to modify the settings for this printer… if you need to change the settings, contact your network administrator":

- You were attempting to pause or purge a print job from the Microsoft interface to a printer object. Before you attempted the operation, you clicked a column other than the document name column (the first column). So your operation was seen as a printer control operation, which isn't supported.

  When you want to pause or purge a print job from the Microsoft interface to a printer object, click the document name first. You'll be able to perform the operation, because it will be seen as a job control operation.

- You were trying to manage a print job on a LANtastic for Windows 95/98 server and your account didn't have the T, Y and Z access rights for the printer resource you were trying to manage.

  Assign your account the T, Y and Z access rights according to the instructions in the online Help (search on the topic). These rights enable you to view and manage print jobs submitted by other users to that printer.

Computers running LANtastic for Windows 95/98 can't share a Hewlett-Packard® JetDirect™ printer. The HP JetDirect printer won't appear as a resource on the Available Printers list in the Share Drives and Printers window. However, each Windows 95/98 client can still use the printer by installing HP Services in the Windows 95/98 Network Control Panel. Refer to your HP documentation for detailed instructions.

Error messages

If you receive an error message, consult this section, this manual's index, and also the Errs_95.pdf file (described on page 22).

Printing out the error messages PDF file

Before you get started troubleshooting LANtastic on a Windows 95/98 computer, it's a good idea to print out the error messages file (Errs_95.pdf) that's included in the Online Library (see page 5). This file lists the most commonly received LANtastic for Windows 95/98 and Windows NT error messages in alphabetical order, with their possible causes and solutions.

Installation-related error messages are covered in Chapter 5, beginning on page 43. (Installation-related error messages are also included in the Errs_95.pdf file.)

Cannot locate network computer name or resource. There are a few possible reasons this error message occurred:

- **You might have tried to log into a server that isn't running the network software,** or you specified a server in a network path you're not logged into. Make sure the server is running the network software. If you're specifying a network path such as in an LNET USE command, make sure you're logged into the server.

- If you still receive this error message, **you might need to turn off multicast addressing** in the Artisoft NetBIOS and on all other LANtastic computers on your network. Instructions appear on page 18 under "Some network servers don't appear in your list of available servers or don't appear to be on the network."

- **More than one computer has the same name.** If two computers have the same name, you'll see two identical computer names in Network Neighborhood, and also in your list of available servers when trying to connect to drives and printers. This could happen if **one computer is a server on more than one network.** For example, you could be running both File and Printer Sharing for LANtastic Networks (the LANtastic server program) and another server program, such as File and Printer Sharing for Microsoft Networks, on the same computer. If you already had Microsoft Networking installed, LANtastic for Windows 95/98 will adopt the same computer name when it's installed. If you want to make one computer act as a server for two or more different networks, the two server components must have different computer names. Windows 95/98 can distinguish only between computer names, not types of networks.

  You'll need to manually change computer names, unless you're setting up your computer as a client only or as a server for only one network. Use the Change computer name button on the LANtastic Custom Control Panel, Accessories page.

No more connections can be made to this remote computer at this time because there are already as many connections as this computer can accept. You'll receive this message if you have the Microsoft Client for NetWare Networks loaded and you use the Manage Print Jobs option. Instead of using Manage Print Jobs, follow the steps on the next page:

- Double-click Network Neighborhood.
- Double-click the computer for which you want to check print jobs.
- Double-click the printer icon. The Print Job Status window appears.

Or, if you prefer, create a shortcut to the printer you want to use, by following these steps:

- Double-click Network Neighborhood.
- Double-click the computer for which you want to check print jobs.
- Click the printer icon and drag it to your Windows 95/98 desktop.
- Double-click the printer icon on your desktop to open the Print Job Status window.

You can now view and manage print jobs.

Insufficient Management Security Level. Log in with a higher Management Security Level. You need to log into the server with an account that has Supervisor access, if you want to add or remove shared resources, set security or manage the server in any way. The default account has the user name Supervisor, and the password Supervisor. With LANtastic 8.0, you can now log into "This Server" automatically as Supervisor unless someone changes the Supervisor password. See the *LANtastic for Windows 95/98 User's Manual* for complete details about Management Security Levels.

Incorrect REDIR version – this program requires v8.0. If you receive this message, open the Registry Editor. Delete the Artisoft folder and reboot. Then reinstall LANtastic 8.0.

The serial number for your software is not available at this time. Try again later. If the problem persists you may need additional licenses. Make sure that the license that you've installed has not been installed on another computer. If this is a multiple-user license, check to see how many other computers already have this license installed. To do this, open the LANtastic Custom Control Panel, click the Help menu, and select About LANtastic. The license number is shown, along with the number of nodes the license allows.

Adding or removing LANtastic software components _____

There may be times when you want to uninstall LANtastic, remove some network components, or add components.

Note… The instructions in this section apply to Windows 95, Windows 98 and Windows NT 4.0.

Examples of reasons why you might want to uninstall LANtastic or add or remove some network components:

- If your computer was installed as a client but now you want it to be a server, you'll need to add the server program.

- If your computer was installed as a server but now you want it to be a client, you'll need to remove the server program.

- If your network runs more slowly since installing LANtastic 8.0, you should check to see if you have extra, unneeded network protocols or components installed. Other network protocols that aren't being used can slow down your network access.

- If you're troubleshooting the source of a problem, you might want to remove components to help reduce the possible sources. Then you may want to add them back when you're finished diagnosing a problem. Which of the two methods listed below you should use depends on your situation.

There are two ways to uninstall or add/remove components:

- Adding or removing selected LANtastic components – see below.

- Completely removing LANtastic (uninstalling) – see page 25.

Adding or removing selected network components

To add or remove selected components, you must use the Windows Control Panel, as described in this section.

To remove a component

Important… Always remove components from the Network control panel in the following order: Services (such as file sharing), clients (such as the Microsoft Client for NetWare Networks), protocols (such as NetBIOS or NetBEUI), and adapters (such as NE2000).

1. Click Start, Settings, Control Panel, then double-click the Network icon.

2. Under Windows 95/98, click a component and click Remove. Under Windows NT, click the Services tab/Protocols tab/Adapters tab, clicking Remove for each one.

3. Repeat this for every component you want to remove.

Hint… Under Windows 95/98, the server program is called File and printer sharing for LANtastic networks. Under Windows NT 4.0, it's called LANtastic Server.

4. Click OK, then click Yes to restart your computer.

To add a component

Important… When adding components, **reverse** the order shown above: Add adapters and adapter drivers first, protocols next, then clients, and finally services.

1. Click Start, Settings, Control Panel, then double-click Network.

2. Under Windows 95/98, click Add. The Select Network Component Type dialog box appears. Under Windows NT, click the Services tab/Protocols tab/Adapters tab, clicking Add for each one

3. Click the type of component you want to add. For example, to add the server software, click Service.

4. Click Add again.

5. Click the Have disk button. The Install from Disk dialog box appears.

6. Enter the path to C:\LANTASTI\WIN95\INSTALL and click OK. A new dialog box appears displaying the Artisoft component. Click OK, then reboot your computer.

7. Repeat these steps for each component you want to add.

8. Click OK to exit the Network window. Files will be copied to add the component. You may be asked to insert the Windows 95/98 CD-ROM or diskettes to obtain files for some components.

9. When you're prompted, click Yes to restart your computer.

Hint… It's a good idea to remove all networking components you don't need. For instance, if you have the Microsoft Client for NetWare Networks installed but never use it, consider removing it.

Completely removing LANtastic from a computer

Follow these steps if you want to uninstall all of the LANtastic for Windows 95/98 or NT software from a computer. This process deletes the Install folder, which is used for adding components, and the LANtastic Database (LDB), which stores server settings as well as account and resource information.

Important… Following these steps completely deletes everything you've configured in LANtastic, including accounts, resources and remembered connections.

When you're finished, the LANtastic software will be gone from your hard drive, but the LANTASTI folder will remain.

1. Click Start, Programs, LANtastic, Uninstall LANtastic.

2. Click OK to begin removing LANtastic, then click Yes to confirm.

3. Click OK to finish the uninstall process. You can ignore any messages regarding the manual removal of specific files.

Important… Uninstall can't remove all the files until you restart the computer. **DO NOT** reinstall LANtastic on this computer until after you've restarted it.

TROUBLESHOOTING LANTASTIC FOR WINDOWS 3.X OR DOS

CHAPTER CONTENTS

Symptoms of common LANtastic problems _____

Common problems are divided into the following categories. Descriptions of symptoms in each section direct you to solutions in Appendix A.

Go to the page number for the topic that best describes the type of problem you're having:

If the problem persists, try the alternate sources of troubleshooting information listed under "If you don't find a solution" on page 4.

Installation difficulties

Pre-installation checks

Many installation error messages are caused by the same problems. To avoid these errors, complete the following checks before you install LANtastic:

- Make sure you aren't running any other applications, including any TSR (terminate-and-stay-resident) programs, virus-checking software or screen savers. (See "Avoiding problems caused by TSRs and devices" on page 28).

- Make sure you've met all the system requirements outlined in the Preinstallation checklist (Planning chapter) in your *LANtastic Installation and Setup Manual*.

- If you're installing across the network, make sure you have sufficient access to any network drives, directories and files you plan to use.

- Make sure that none of your computer's configuration files (CONFIG.SYS, AUTOEXEC.BAT, PROTOCOL.INI, WIN.INI, SYSTEM.INI, WINFILE.INI, STARTNET.BAT, CONNECT.BAT and NET.CFG) have file attributes set to read-only.

Avoiding problems caused by TSRs and devices

Most problems that occur during LANtastic installation are caused by other TSRs (terminate-and-stay-resident programs) or devices loaded into memory.

It's best to start off with a clean configuration before installing LANtastic. To do this, you can temporarily disable devices and TSRs that are not required to boot or run Windows by editing your CONFIG.SYS and AUTOEXEC.BAT files. All you need to do is "remark out" the pertinent command lines in these files by typing REM and a space at the beginning of each line that loads such things as:

- CD-ROM drivers (only if you aren't using the LANtastic CD-ROM for installation)

- Sound card drivers

- ANSI.SYS, DOSKEY, COUNTRY, SETVER

- Mouse drivers (Windows has its own mouse driver)

Also, if you load SMARTDRV, make sure it has WRITE BEHIND CACHING disabled. To find out how to do this with your version of DOS, type **HELP SMARTDRV <Enter>** at the DOS prompt.

Error messages during installation

If you receive error messages when you're installing LANtastic, write them down then look them up in the index of this manual or in Chapter 5 (beginning on page 43). Chapter 5 contains a table listing installation-related error messages in alphabetical order, with their causes and possible solutions.

Other installation problems

If you have other problems installing LANtastic and you want to reinstall, all you generally need to do is choose the Replace option (to replace existing LANtastic settings) when you run the installation program again.

Note… If you're using the DOS-based Setup program and the computer locks up when you're specifying options on the Install screens, reboot and make sure the line DEVICE=EMM386.EXE appears in the CONFIG.SYS file after the line DEVICE=HIMEM.SYS.

Computer lockups

Go to the page number for the topic that best describes the problem.

Computer won't boot at all with the network card installed

The solution you try depends on the type of network you have:

Artisoft AE or NodeRunner series 16-bit adapters – try these solutions:

> ▲ "IRQ and I/O Base" on page 58
>
> ▲ "Swap cards" on page 65

PCI adapter – try these solutions:

> ▲ "Swap cards" on page 65
>
> ▲ Install the adapter in a different PCI slot.

Other adapter – try these solutions

> ▲ "IRQ and I/O Base" on page 58
>
> ▲ "Swap cards" on page 65

Computer locks up loading the network software

You'll need to hand-load the network drivers one at a time to find out which one causes the problem. Instructions on loading the drivers one at a time appear under "Basic configuration" on page 67. Once you know which of the following drivers causes the lock-up, try the possible solutions listed in the second column.

Driver with problem	Possible solutions
Card driver, such as NODERUN, NRPRO, AINDIS	Try these solutions in this order: ▲ "Bus timing" on page 53 ▲ "IRQ and I/O Base" on page 58 ▲ "RAMBASE" on page 62. ▲ "Basic configuration" on page 67

(Continued)

REDIR	Try these solutions in this order:
	▲ "Bus timing" on page 53
	▲ "Basic configuration" on page 67
	▲ "LANCHECK" on page 59
MSCDEX	Try the solution ┌"/S switch" on page 75
SERVER	Try these solutions in this order:
	▲ "Control directory" on page 54
	▲ "Basic configuration" on page 67
	▲ "Swap cards" on page 65

Computer locks up or bleeps when logging in to or connecting to resources

Try these solutions in this order:

- ▲ "Basic configuration" on page 67
- ▲ "Swap cards" on page 65
- ▲ "Bus timing" on page 53
- ▲ "Cable" on page 53
- ▲ "Control directory" on page 54

Computer locks up when copying data between machines

Try these solutions in this order:

- ▲ "Bus timing" on page 53
- ▲ "Basic configuration" on page 67
- ▲ "FORCE_ACK_MODE switch" on page 57
- ▲ Move the adapter to a different slot.
- ▲ Run the adapter's diagnostic program (if it has one).
- ▲ "Swap cards" on page 65
- ▲ "Cable" on page 53

Computer locks up only when running a certain program

Try these solutions in this order:

- ▲ "Increase DOS resources" on page 58
- ▲ "IRQ and I/O Base" on page 58
- ▲ "Bus timing" on page 53
- ▲ Move the adapter to a different slot.
- ▲ Run the adapter's diagnostic program (if it has one).
- ▲ "Swap cards" on page 65

Computer locks up only when running Windows

Try these solutions in this order:

▲ "Windows 3.x" on page 68
▲ "No loopback redirections" on page 61
▲ "Bus timing" on page 53
▲ "IRQ and I/O Base" on page 58

Computer locks up only when printing

Which machine locks up?

Client/workstation – Try these solutions in this order:

▲ "Increase DOS resources" on page 58
▲ "Basic configuration" on page 67

Server – Try these solutions in this order:

▲ "Control directory" on page 54
▲ "IRQ and I/O Base" on page 58

Everything works fine except the server's keyboard doesn't respond

Try these solutions in this order:

▲ "Basic configuration" on page 67
▲ "Keyboard problems" on page 58

Computers can't communicate, or they disconnect intermittently

An example of an intermittent computer communication problem would be when your computer sometimes can't connect to a server. Intermittent disconnects are when you unpredictably lose your connection to a server. This section is divided into the three major categories shown on page 31.

Communication problems occur only in Windows

Try the solution:

▲ "Windows 3.x" on page 68.

No communication and no error messages

Try the solution:

▲ "NET SHOW" on page 60.

Error message received

A brief list of communication- and disconnect-related error messages follows (see also "Error message lists" on page 5).

Cannot Locate Network Name

Try these solutions in this order:

- ▲ "LANCHECK" on page 59
- ▲ "IRQ and I/O Base" on page 58
- ▲ "RAMBASE" on page 62
- ▲ "Basic configuration" on page 67
- ▲ "Cable" on page 53
- ▲ "Bus timing" on page 53
- ▲ Move the adapter to a different slot.
- ▲ Run the adapter's diagnostic program (if it has one).
- ▲ "Swap cards" on page 65

Duplicate redirection or login to network node

Try these solutions in this order:

- ▲ "Duplicate redirection" on page 56
- ▲ "Cable" on page 53
- ▲ "Control directory" on page 54

Invalid drive specification

- ▲ Try the solution:
- ▲ "LASTDRIVE command" on page 60.

Invalid username or password

Try these solutions in this order:

- ▲ "Invalid username" on page 58
- ▲ "Account" on page 52
- ▲ "Compression utilities" on page 65
- ▲ "Control directory" on page 54

LPICALLW.DLL... or Invalid switch

In your AUTOEXEC.BAT file, make sure the CALL C:\LANTASTI\STARTNET.BAT line appears:

- ▪ *after* any PATH statement
- ▪ *after* any loading of SHARE.EXE
- ▪ *before* any loading of MSCDEX
- ▪ *before* the WINDOWS (WIN.COM) line

Also, if the LOADHIGH command appears in the CALL C:\LANTASTI\STARTNET.BAT line, delete LOADHIGH and all associated MEMMAKER commands. LANtastic will not load high this way.

TIP…

See the Readme file for updated information on troubleshooting specific problems. Refer to "LANtastic Readme file" on page 5.

Network node not listening

Try these solutions in this order:

  ▲ "NET SHOW" on page 60

  ▲ "LANCHECK" on page 59

  ▲ "IRQ and I/O Base" on page 58

  ▲ "RAMBASE" on page 62

  ▲ "Cable" on page 53

  ▲ "Bus timing" on page 53

Server connection to network node broken

Try these solutions in this order:

  ▲ "Abort, Retry or Fail" on page 52

  ▲ "NET SHOW" on page 60

  ▲ "Cable" on page 53

  ▲ "Bus timing" on page 53

  ▲ Move the adapter to a different slot.

  ▲ Run the adapter's diagnostic program (if it has one).

  ▲ "Swap cards" on page 65

Too many redirections or logins

Try these solutions in this order:

  ▲ "Too many redirections or logins" on page 66

  ▲ "Account" on page 52

  ▲ "Resource" on page 63

  ▲ "Cable" on page 53

  ▲ "Control directory" on page 54

You have been denied access on network node [...]

Try these solutions in this order:

  ▲ "Access denied" on page 55

  ▲ "Account" on page 52

  ▲ "Compression utilities" on page 65

  ▲ "Control directory" on page 54

Problems running applications over the network

If trouble occurs when you use applications that are available to multiple users over the network, find the description of your symptom here and try the solutions offered.

The application seems incompatible with LANtastic

Try the solution:

▲ "Compatibility with LANtastic" on page 70.

The application locks up when multiple users run the application

Try these solutions in this order:

▲ "Increase SHARE parameters" on page 72

▲ "Increase file handles" on page 72

Sharing violations occur when running an application over the network

Try these solutions in this order:

▲ "DOS SHARE-compatible" on page 71

▲ "Sharing violations and exclusive access" on page 71

▲ "Increase SHARE parameters" on page 72

If sharing violations occur immediately when a second user runs a shared application, try these solutions in this order:

▲ "DOS SHARE-compatible" on page 71

▲ "Sharing violations and exclusive access" on page 71

Sharing violations occur after multiple additional users run a shared application

Try the solution:

▲ "Increase SHARE parameters" on page 72.

"No more file handles" message appears

Try the solution:

▲ "Increase file handles" on page 72.

Server reboots when multiple users run the application

Try these solutions in this order:

▲ "Increase SHARE parameters" on page 72

▲ "Increase file handles" on page 72

Printing problems

Find the category your symptom falls into in this list, go to the required page, and review the descriptions within it to find your symptom and possible solutions.

Network printing problems under Windows

Verify the Windows configuration

Try these solutions in this order:

▲ "Windows 3.x" on page 68

▲ "Print manager" on page 62

Verify the print server configuration

Try these solutions in this order:

▲ "Characters per second (CPS)" on page 55

▲ "Printer tasks" on page 62

If problems continue after the configuration has been verified –
Follow instructions in the section that best describes your situation:

Cannot print

Try these solutions in this order:

▲ "NET USE" on page 61

▲ "Without Windows 3.x" on page 70

▲ "Without network" on page 69

▲ "Check application" on page 54

▲ "Check resource" on page 54

▲ "Running MSD" on page 61

▲ "Printer tasks" on page 62

▲ "Clear queue" on page 54

▲ "Basic configuration" on page 67

▲ "Printer connection" on page 64

▲ "Recreate resource" on page 63

▲ "Serial Windows 3.x" on page 64

Slow printing

Try these solutions in this order:

- ▲ "Printer tasks" on page 62
- ▲ "Characters per second (CPS)" on page 55
- ▲ "Printer buffer" on page 65
- ▲ "Basic configuration" on page 67
- ▲ "Compression utilities" on page 65
- ▲ "Clear queue" on page 54
- ▲ "Recreate resource" on page 63

Mixed print jobs

Try these solutions in this order:

- ▲ "LPT timeout" on page 60
- ▲ "Printer tasks" on page 62
- ▲ "Basic configuration" on page 67
- ▲ "Timeout" on page 66
- ▲ "Clear queue" on page 54

Printer error

Try these solutions in this order:

- ▲ "LPT timeout" on page 60
- ▲ "Without Windows 3.x" on page 70
- ▲ "Without network" on page 69
- ▲ "Clear queue" on page 54
- ▲ "Basic configuration" on page 67

TIMEOUT or ERROR appearing on printout

Try these solutions in this order:

- ▲ "Timeout" on page 66
- ▲ "Without Windows 3.x" on page 70
- ▲ "Without network" on page 69
- ▲ "Clear queue" on page 54
- ▲ "Basic configuration" on page 67

Unreadable print jobs

Try these solutions in this order:

Other printing errors in Windows

Network error

Try these solutions in this order:

Device not ready

Try these solutions in this order:

Sharing violations

Try these solutions in this order:

Application error

Try these solutions in this order:

Network printing problems under DOS

Cannot print

Make sure the printer is turned on and the printer cable is firmly plugged into the port specified for printing. Then try these solutions in this order:

▲ "NET USE" on page 61

▲ "Check resource" on page 54

▲ "Without network" on page 69

▲ "Check application" on page 54

▲ "Clear queue" on page 54

Must exit application before job will print

▲ Try the solution

▲ "LPT timeout" on page 56

Slow printing

Try these solutions in this order:

▲ "Printer tasks" on page 62

▲ "Characters per second (CPS)" on page 55

▲ "Printer buffer" on page 65

▲ "Basic configuration" on page 67

▲ "Compression utilities" on page 65

▲ "Clear queue" on page 54

▲ "Recreate resource" on page 63

Print jobs are mixed on the printer

Try these solutions in this order:

▲ "LPT timeout" on page 60

▲ "Printer tasks" on page 62

▲ "Basic configuration" on page 67

▲ "Clear queue" on page 54

Illegible printout

Try these solutions in this order:

▲ "LPT timeout" on page 60

▲ "Printer tasks" on page 62

▲ "Clear queue" on page 54

▲ "Basic configuration" on page 67

▲ "Recreate resource" on page 63

Printer error

Try these solutions in this order:

     ▲ "LPT timeout" on page 60

     ▲ "Without network" on page 69

     ▲ "Clear queue" on page 54

     ▲ "Basic configuration" on page 67

TIMEOUT or ERROR appears on printout

Try these solutions in this order:

     ▲ "Timeout" on page 66

     ▲ "Disk corruption" on page 56

Other printing errors in DOS

Network error

Try these solutions in this order:

     ▲ "NET USE" on page 61

     ▲ "Basic configuration" on page 67

     ▲ "Disk space" on page 55

     ▲ "Stress test" on page 65

     ▲ "Check application" on page 54

Device not ready

Try these solutions in this order:

     ▲ "NET USE" on page 61

     ▲ "Check application" on page 54

     ▲ "Without network" on page 69

     ▲ "Basic configuration" on page 67

Sharing violations

Try these solutions in this order:

     ▲ "NET USE" on page 61

     ▲ "Check application" on page 54

     ▲ "Share" on page 64

Application error

Try these solutions in this order:

     ▲ "Check application" on page 54

     ▲ "NET USE" on page 61

     ▲ "Basic configuration" on page 67

Problems when using serial printers or plotters

Try these solutions in this order:

- ▲ "Serial" on page 64
- ▲ "Plotting programs" on page 61

General network printing problems

Try these solutions in this order:

- ▲ "NET USE" on page 61
- ▲ "LPT timeout" on page 60
- ▲ "Without network" on page 69
- ▲ "Basic configuration" on page 67

CD-ROM drive problems

If you can't see the CD-ROM drive over the network, make sure the CD-ROM drive is powered on *and* has a CD in it.

Follow instructions in the section that best describes your situation, or consult your CD-ROM drive documentation for further assistance.

Can access the drive across the network but there are no files listed

Try the solution:

- ▲ "Disk drive type" on page 75.

Can't see CD-ROM drive on local machine with network adapter installed

Try the solution:

- ▲ "IRQ and I/O Base" on page 58.

Invalid drive specification

- ▲ Try these solutions in this order:
- ▲ "MSCDEX not loading" on page 75
- ▲ "/L switch" on page 75
- ▲ "IRQ and I/O Base" on page 58

The CD-ROM drive lists only a few files before locking

Try these solutions:

- ▲ "Increasing buffers" on page 75
- ▲ "Non-DOS disk support" on page 75

LANtastic REDIRector must be started first. CD-ROM or other network redirector present

Try the solution:

▲ "MSCDEX line" on page 75

Machine locks up with CD-ROM drivers installed

Try the solution:

▲ "/S switch" on page 75

REDIR must be run before SERVER

Try these solutions in this order:

▲ "MSCDEX line" on page 75
▲ "Redirector loading" on page 75

DOS troubleshooting commands _____

The tools in the table on the next page are common to almost all DOS computers that have LANtastic installed. It can be beneficial to use them from time to time even if you're not having problems.

Command	Purpose
ALONE	On a LANtastic server, displays information about who is connected from where, and what files they're accessing.
CHKDSK or SCANDISK	Tests the integrity of the file structure of a disk. It can also correct problems (see your DOS manual or online Help). Very helpful if you're getting disk errors or program lock-ups. Before you run it, make sure the Server program is unloaded by typing **SERVER/REM <Enter>** at the DOS prompt.
LANCHECK	Tests network communication and reports errors and network traffic statistics (see "LANCHECK" on page 59).
MEM/C |MORE	Verifies what programs are running in memory, their size, and how much memory is free. Typing **|MORE** allows you to slow the display to screen-by-screen. (On many keyboards the "|" (pipe) symbol appears over the backslash symbol.)
MSD	Runs Microsoft Diagnostics, a diagnostic and reporting tool that reveals a lot of helpful information about the system.
NET SHOW	Typing **NET SHOW <Enter>** at the DOS prompt brings up a list of network connection information as "seen" by your computer. It also confirms whether file and record locking is enabled, which is valuable in testing multi-user applications. Before you type **NET SHOW**, make sure LANtastic is running.

INSTALLATION-RELATED ERROR MESSAGES

CHAPTER CONTENTS

This chapter lists the most common error messages that can occur when you're installing LANtastic 8.0. The messages appear in alphabetical order in the left column with an explanation in the middle column and a suggested solution on the right.

For error messages that aren't installation-related _____

If the error message you received didn't occur during installation:

- See the error messages and solutions topics in the online Help.

- Refer to the Errs_dw.pdf (common error messages for LANtastic under DOS or Windows 3.x) and Errs_95.pdf (common LANtastic for Windows 95/98 and NT error messages) PDF files in the Online Library that's included on the LANtastic 8.0 CD-ROM. For more about the Online Library and instructions for using the PDF files, see the *LANtastic Installation and Setup Manual.*

- If you cannot resolve the problem, see "Troubleshooting techniques" on page 2 and "If you don't find a solution" on page 4.

What to do if you get an error message _____

Always note error messages exactly. Concentrate on the first message and troubleshoot it before you deal with any others. If you need to contact Artisoft Technical Support, first try to reproduce the error and note exactly when it occurs.

You should also make a list of each error message you received and be ready to provide a brief description of what you were doing before it appeared.

Common installation problems _____

Many installation error messages are caused by the same problems. To avoid these error messages, complete all these checks before reinstalling:

- Make sure you've met all the system requirements outlined in the Preinstallation checklist (Planning chapter) in your *LANtastic Installation and Setup Manual*.

- Make sure you aren't running any other applications, including virus-checking software, screen savers, or any TSR (terminate-and-stay-resident) programs. For DOS and Windows 3.x, see "Avoiding problems caused by TSRs and devices" on page 28.

- If you're installing across the network, make sure you have sufficient access to any network drives, directories and files you plan to use.

- Make sure that none of your computer's configuration files (CONFIG.SYS, AUTOEXEC.BAT, PROTOCOL.INI, WIN.INI, SYSTEM.INI, WINFILE.INI, STARTNET.BAT, CONNECT.BAT and NET.CFG) have file attributes set to read-only.

Important… For Windows 3.x and DOS, see also the section "Installation difficulties" on page 27.

LANtastic installation-related error messages _____

This section contains an alphabetical list of the error messages most commonly received when installing LANtastic, along with their possible causes and solutions.

Error Message	Possible Cause(s)	Recommended Solution(s)
An error has occurred while copying the file [filename]. The file was not copied.	There was an error copying the file to its destination.	See "Common installation problems" on page 44.
An error occurred while copying and decompressing files.	There was an error copying a file to its destination. You may have a damaged floppy diskette or a file missing from the diskette or the Install Services directory.	See "Common installation problems" on page 44. If you made installation diskettes, try creating another set using new diskettes. If you're using the CD-ROM, contact Artisoft Technical Support.
An internal read error has occurred on XXXX.INS. Unable to load installation instructions.	Indicates a file-read error on the file that contains the installation script.	See "Common installation problems" on page 44. Also, there may be a problem with the hard drive. Check the hard drive with a disk utility program and repeat the operation.

Error Message	Possible Cause(s)	Recommended Solution(s)
Can't copy adapter file (filename) to (path).	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
Can't copy driver file to (path).	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
Can't copy files due to an internal error.	There wasn't enough memory to continue the installation.	Make sure you aren't running any other programs, and unload any TSRs that may be running. Close other programs and run Setup again. See "Common installation problems" on page 44.
Can't copy NDIS file (filename) to (path).	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
Can't find the file (filename) in the distribution library.	There was an error copying the file to its destination during installation.	Change the extract parameters you chose, or contact Artisoft Technical Support.
Can't load Install Services. Proceeding with normal install.	The installation program may have run out of memory. Also, be sure that the diskette has not become damaged or corrupted.	See "Common installation problems" on page 44.
Can't put driver in CONFIG.SYS.	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
Can't set registration value.	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
Can't set SHELL to (setting) in CONFIG.SYS.	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
Can't write the file to the directory.	There was an error copying the file to its destination during installation.	See "Common installation problems" on page 44.
The computer name may not be more than 15 characters.	The computer name entered is too long.	Type in another name using 15 characters or less.
The computer name may not contain spaces.	The computer name entered has one or more spaces in it.	Type in another name without using spaces.
The computer name may not contain the character XXX.	The computer name entered contains one or more of the following invalid characters: * ? / % ; #: + =. , [ ] | < > \	Type in another name without using invalid characters.

Copy Error.
 	
   Could not open UNINST.INI.
 	
   Can't delete LANtastic files.
	The file UNINST.INI isn't in the program folder. It contains a list of common files that need to be deleted when all LANtastic components have been removed.	Use property sheets to delete files manually. You may need to reinstall LANtastic for Windows 95/98 (so UNINST.INI is in the program folder) and then remove LANtastic for Windows 95.

(Continued)

Error Message	Possible Cause(s)	Recommended Solution(s)
Copying Error.	Couldn't update file.	See "Common installation problems" on page 44.
Could not determine the current directory.	The Microsoft Windows 95/98 installation might be incorrect.	You may need to reinstall Windows 95/98.
Could not find the Windows directory.	The Microsoft Windows 95/98 installation might be incorrect.	You may need to reinstall Windows 95/98.
Could not find the Windows system directory.	The Microsoft Windows 95/98 installation might be incorrect.	You may need to reinstall Windows 95/98.
Couldn't copy files from XXX to XXX.	There was an error copying the file to its destination.	See "Common installation problems" on page 44.
The dynamic link library wasn't loaded.	There was an error copying the file to its destination. Either the necessary file is not on the specified disk or the disk is bad.	See "Common installation problems" on page 44. Run the installation again.
General file transfer error. Please check your target location and try again.	The disk may have been ejected before Setup was complete, or the disk is bad.	Insert the disk again and restart Setup, or get a good copy of the disk.
Incorrect disk. License file not found. Please insert Disk 1 into the floppy drive.	The wrong disk was inserted into the drive.	Insert Disk 1, which is the License diskette.
Insufficient available memory.	Setup can't find a hard disk location to store temporary files.	Make at least an additional 1MB of free disk space available and then try the installation again. Make sure you have a TEMP= variable in your configuration files, and that it points to a valid path on a drive with at least 1MB free.
Insufficient memory	There's not enough memory to perform the task you're attempting.	Make sure no other programs are running, unload any TSR programs, add memory, use a memory manager to make use of upper memory blocks, or reduce requirements, such as buffer size or printer resources.
Insufficient memory available to run Setup.	There may not be enough memory available.	Make sure there is sufficient memory, in accordance with the system requirements explained in the *Installation and Setup Manual*.
Insufficient memory, cannot continue.	Setup has run out of available free memory.	See "Common installation problems" on page 44.

Error Message	Possible Cause(s)	Recommended Solution(s)
Invalid computer name.	The computer name entered is too long or contains invalid characters.	Try these possible solutions: 1. Typing in another name using 15 characters or less; 2. Typing in another name without using spaces; 3. Typing in another name without using any of these invalid characters: * ? / % ; #: + =. , [ ] | < > \.
The LANtastic control directory was not successfully initialized.	There was an error copying the file to its destination. Either the necessary file is not on the specified disk or the disk is bad.	See "Common installation problems" on page 44. Run the installation again. Insert the correct disk or path, or get a good copy of the disk or file.
LANtastic Setup execution error. Returning to beginning of Setup.	Internal error.	Run the installation again. If the problem continues, contact Artisoft Technical Support.
The path does not exist.	You entered an invalid path.	Type in the correct path.
Setup can't add the line: xxxxx to the AUTOEXEC.BAT file.	There was an error writing to the file.	See "Common installation problems" on page 44.
Setup can't build the LANtastic startup batch file.	There was an error copying the file to its destination.	See "Common installation problems" on page 44.
Setup can't build the LANtastic startup configuration file.	There was an error copying the file to its destination.	See "Common installation problems" on page 44.
Setup can't build the 'set connections' batch file.	There was an error copying the file to its destination.	See "Common installation problems" on page 44.
Setup couldn't create CONNECT.BAT.	There was an error copying the file to its destination.	See "Common installation problems" on page 44. Reinstall LANtastic.
Setup is unable to copy the installation support file [filename] to a temporary location.	There was an error copying the file to its destination.	See "Common installation problems" on page 44. Then attempt to reinstall LANtastic.
Setup is unable to expand the installation support file INS0763.LIB.	INSTALL couldn't expand its library file on the hard disk.	See "Common installation problems" on page 44. Make sure that there is sufficient free space on the drive specified in that statement for the DOSSETUP.EXE, DOSSETUP.INS and INS0763.LIB files to be copied (plus a few hundred KB extra for miscellaneous temporary files).

Error Message	Possible Cause(s)	Recommended Solution(s)
Setup is unable to initialize the installation program (SETUP.EXE/INSTALL.EXE).	There wasn't enough memory or free disk space to initialize the DOS-based INSTALL or Windows-based SETUP program. There may also have been an error reading the file from the diskette.	Make sure there is sufficient memory, in accordance with the system requirements explained in the *Installation and Setup Manual*. **Windows 95/98 and NT 4.0:** Click Start, Settings, Control Panel, then click the Help menu at the top of the Control Panel window. Select About Windows 95/98/NT. At the bottom of the About window that appears, you'll see the amount of memory available. **DOS and Windows 3.x:** Make sure there is free space on the drive specified in that statement for the DOSSETUP.EXE, DOSSETUP.INS and INS0763.LIB files to be copied (plus a few hundred KB extra for miscellaneous temporary files). You can check the amount of free memory from the Program Manager window. Click the Help menu at the top of the window and select About Program Manager. Make sure the Memory field shows there is at least 4000KB free. To increase the amount of memory available, open Control Panel and double-click 386 Enhanced. Then select the Virtual Memory button. If the size field doesn't show 2000KB or more, select the Change button and increase the New Size amount to at least 2000KB.
Setup is unable to initialize the installation program (SETUP.EXE).	There wasn't enough memory or free disk space to initialize the Windows-based Setup program. There may also have been an error reading the file from the diskette.	See the solution for the error message above ("Setup is unable to initialize the installation program (SETUP.EXE/INSTALL.EXE)").
Setup is unable to initialize the installation program. The script file may be bad.	An install script file read error occurred. This can be caused by a hard-disk read error or a corrupt file on the installation media.	There may be a problem with the hard drive. Check the drive with a disk utility program and repeat the operation. If the problem continues, contact Artisoft Technical Support.

(Continued)

Error Message	Possible Cause(s)	Recommended Solution(s)
Setup is unable to locate the script file which is needed to complete the installation.	Either the necessary file is not on the specified disk or the disk is bad or corrupted.	Insert the correct disk or path, or get a good copy of the disk or file.
Setup is unable to run an intermediate file needed to proceed with the installation.	Either the necessary file is not on the specified disk or the disk is bad.	Insert the correct disk or path, or get a good copy of the disk or file.
Setup was started with a command line argument that contained an incomplete parameter quote.	An invalid command line argument to INSTALL.EXE was entered.	Be sure to follow the instructions in the *LANtastic Installation and Setup Manual.*
There is not enough space available on the disk C:\LANTASTI\WIN95. If you are reinstalling, there may be enough room as the existing files will be overwritten.	There isn't enough free space on the target disk.	Make sure there's at least 6MB free space on the target disk.
This program requires VGA or better resolution.	Your monitor's video mode doesn't have a high enough resolution.	Get a VGA monitor and video card.
Unable to create a directory under C:\LANTASTI\WIN95. Please check write access to this directory.	The folder might be write-protected or the file system might be corrupted.	Manually delete the \WIN95 directory under C:\LANTASTI. Refer to the Windows 95/98 troubleshooting Help.
You must enter a computer name.	The Computer Name field in the LANtastic Options dialog box is empty.	Type in a computer name or quit the installation by clicking Cancel to exit Setup.

LANTASTIC FOR WINDOWS 3.X AND DOS SOLUTIONS

This appendix contains the detailed solutions you were referred to from Chapter 4. **The solutions in this appendix apply only to computers running LANtastic on Windows 3.x or DOS.**

Important… It's best to try the solutions in the order in which they're listed in Chapter 4. If you still have a problem after trying all of them, see "If you don't find a solution" on page 4. It's also a good idea to review "Troubleshooting techniques" on page 2.

NDIS disk error

Make sure the disk you place in the drive is the correct NDIS driver disk from the network adapter card manufacturer. If the correct driver disk isn't available, you can choose the NodeRunner NDIS option and then download the file NDIS.EXE from the Artisoft's web site at **www.artisoft.com**. Note that you'll still need to have the NDIS driver from the manufacturer and a sample PROTOCOL.INI file for your network adapter card. (AINDIS.EXE, for software and hardware drivers, is also available on Artisoft's online sites.)

Information about the Arti-Facts BBS, the Web and FaxReturn appears in the Directory of Support Services that came in your product package. For more information about using NDIS drivers with LANtastic, see the file Ndis_dw.pdf in the LANtastic Online Library. Instructions for using the PDF files in the Online Library appear in the *LANtastic Installation and Setup Manual*.

NDIS driver doesn't load

The most likely cause for the NDIS driver not loading in CONFIG.SYS is a device conflict; another device in your computer is using the same setting for its I/O Base, IRQ, RAMBASE or timing. Try to resolve the conflict by changing a setting, and make sure you're using the most current driver for your network adapter card. Check your PROTOCOL.INI file to ensure that the settings specified for your driver match the settings on the card itself.

TIP…

For LANtastic for Windows 95 troubleshooting information, see Chapter 2.

For more information about using NDIS drivers with LANtastic, see the file Ndis_dw.pdf in the Online Library.

Installation lockup

Other software in your system may be preventing the installation from completing properly. In the AUTOEXEC.BAT file, type **REM <space>** in front of every line except for the PATH and anything that's necessary for the hard drive itself. This "remarks out" the line and makes it inactive. Then edit your CONFIG.SYS file. Type **REM <space>** in front of all lines except HIMEM, FILES and BUFFERS.

At this time, you should also make sure FILES is equal to at least 60 and BUFFERS is at least 32. If you need to include device drivers to access your hard drive, include these as well. After installation is complete, delete all the REM statements you inserted in the CONFIG.SYS file.

Account

You may need to delete and recreate the account you're attempting to log in to. At the server's DOS prompt, type **NET_MGR <Enter>**. Select Individual Account, Wildcard Account, or ACL Group Management. Highlight the account you're trying to use and notice the name. Press **Enter** and write down all the pertinent information regarding the account setup. After you've got all the information, press **Esc**.

With the account name highlighted, press the **Delete** key, then press **Enter** to confirm. Next, press the **Ins** key and type the name of your account. Highlight your new account and press **Enter**. Set up the account according to the notes you just made. Escape to DOS and try accessing the account again from the NET program. If you're still unable to connect to this account, you may have a corrupt control directory.

You may need to restart the server, though this usually won't be necessary.

Abort, Retry or Fail

You've been disconnected from the server, which could have several causes.

1. Consider whether the server could have been shut down or turned off. To verify that it's still running as a server, go to the server computer and type **NET SHOW <Enter>** at the DOS prompt. If the server is or was restarted, press the **R** key for Retry to reconnect the workstations (client computers) when prompted with **<Abort?> <Retry?> <Fail?>**.

2. Check to see if the cabling has been disconnected. Verify good communication by running LANCHECK on all nodes at the same time. See page 59 for more information on LANCHECK.

TIP…

Instructions for using the PDF files in the Online Library appear in the LANtastic Installation and Setup Manual.

Bus timing

You may be having a bus timing problem. If you're using an Artisoft AE2 or AE3 network adapter card, try setting the W8 jumper on the adapter to the **B** nonstandard setting. If you're using an Artisoft NodeRunner network adapter card, try running the configuration program (NRCONFIG or NRSETUP), and setting the IOCS16 timing to early. Many third-party adapters also have a bus speed selection or jumper. Check the adapter's hardware manual for this option.

Many computers have a bus speed option in the CMOS setup program. Try setting this value to the standard 8MHz. Usually, this setting is a division of the CPU. For example, a 33MHz computer should have a bus speed of CLK/4, to get 8MHz. Consult your computer manual or dealer on setting this value.

If these attempts fail, try the network adapter card in 8-bit mode. For AE series cards, this is either jumper W5 or W9. For NodeRunner adapters, use either the NRSETUP or NRCONFIG program to set Artisoft 8 mode. Consult your hardware manual on the location of these jumpers for other adapters.

Note… Eight-bit network adapter cards don't normally have bus timing problems.

Cable

You may be having a cable problem in the network. Consult the hardware manual for your network adapter card on the proper cable to use and the limits on nodes and distances. Here are some general tips on cabling:

- Don't mix cable types in the network. Even if both types are compliant with the standard, slight differences in the electrical characteristics can cause transmission errors. Use the same brand and type of cable throughout the network.

- For 10BaseT Ethernet, make sure you're using level 3 or higher cable, and that the transmit and receive wires are twisted around each other on a pair. Most 10BaseT hubs and adapters have green link integrity lights. All link lights should be on, but this doesn't rule out an improper crimp or poor connection.

- Make sure the cable connectors and terminators are installed properly. For Ethernet coaxial cables, it must be RG58A/U or RG58C/U cable, with properly sized and attached BNC connectors. T-connectors must be attached to the network adapter card. Always use the terminators on the first and last computer in the network.

Important… Complete information on cabling and hardware appears in the file called Hardware.pdf in the Online Library.

Check application

Make sure your application is set up to print to the same port that your computer is set up to use. For example, if you connect your LPT2 port to another computer's printer, you must also set up WordPerfect to print to LPT2. See your application's manual for instructions.

You can find out your printer redirection by typing **NET SHOW <Enter>** at the DOS prompt. Look for the lines that mention which port the printer is redirected to. Make sure that the port to which you're redirecting is the same port for which your application and Windows 3.x are configured.

On occasion, there are Windows 3.x print drivers that try to access the physical port. In these instances, try configuring Windows 3.x to print to LPT1.DOS instead of LPT1. If you're using an application that has the ability to use its own drivers or Windows 3.x, use the Windows drivers.

Check resource

Run NET_MGR on the print server computer and check Shared Resources Management. Make sure your printer resource is set to the physical port that the printer is attached to. If the port is wrong, jobs will line up in the queue but will never print.

Clear queue

Before you attempt to totally clear a spool area, make sure the Server program isn't running on the print server. Restart the print server and *do not* load the network.

WARNING! Clearing the spool area on version 5.0 and earlier of LANtastic will also delete all mail messages. Make sure that you've read or saved all mail messages on the print server and ensure that all print jobs have either been printed or can be recreated.

Run NET_MGR on the print server without the network loaded and select Queue Maintenance. Select the option to clear print jobs, type **Yes** to confirm, then escape to DOS and restart the network.

Control directory

You may have a corrupted server control directory. If your network setup is simple, you may want to use NET_ MGR to delete the existing control directory, then reinstall LANtastic to build a new one. Also run CHKDSK or SCANDISK to verify that there are no FAT table errors on the drive. You must do this without the Server program running. Fix any FAT table errors first, then reinstall LANtastic to make a new control directory. Consult your DOS manual on using CHKDSK.

If you've got a complex network setup, you should make a test control directory to verify the problem. If the problem still exists with the new control directory, you don't have to change the existing one, since that wasn't the problem. If the problem goes away with the new control directory, delete the old one and reinstall LANtastic.

Characters per second (CPS)

Run NET_MGR on the print server and select Shared Resources Management. Select your printer resource, usually @PRINTER, and press **Enter**. Set the Characters per Second field to 10000 (that's ten thousand) and press **Enter**. Escape back to the resources screen. Make the same change to any other printer resources on this print server.

Note…   The server will need to be restarted for these changes to take effect.

Access denied

You've been denied access because your username lacks sufficient account privileges and/or resource access on the server you made the request to. Go to that server, run NET_MGR and make sure that your account privileges and the shared resource access control list rights are set up to give you the appropriate access.

Disk space

Check the available disk space on the print server (if this is a printing-related error). There needs to be plenty of disk space free, at least 2–4MB, but this will depend on the number and size of your print jobs. If you're low on space, try to free up as much available space as possible on the print server.

General symptoms of full hard disks are:

- "Out of disk space" errors
- Program locks up when writing to disk
- Printing failures
- "Cannot write to..." or "Cannot create file..." errors

Normally the error message will be self-explanatory and indicate which drive is full. However, in a network environment disk access is buffered, so the drive indicating the error may not be the one that's actually full. Check all drives that the computer getting the error message has access to.

LANtastic print servers need free disk space to spool print jobs. These temporary files can be very large when printing graphics and special fonts. Try to keep a minimum of 5MB free. Many install programs use temporary files. A 10MB application may need 20MB to properly install. The installation instructions for the application usually list the disk space required.

To solve the problem, you need to make more space available. To do so, you can:

- Remove files that are no longer used or are outdated
- Move files that are seldom used to a backup device or diskette
- Use a disk or file compression program like DOS's DoubleSpace
- Purchase an additional or larger hard drive

LPT timeout

If your print job won't print until you exit the application in which it was created, you may not have a NET LPT TIMEOUT setting on the computer, or it may not be set high enough. Some applications that aren't network-aware or network-integrated don't close the spool file when they're finished printing.

To find out if you have a timeout set, type **NET SHOW <Enter>** at the DOS prompt. You should see a line that says NET LPT TIMEOUT [in seconds:] #. If the number shown is zero (0), edit your STARTNET.BAT file and add the line NET LPT TIMEOUT 10. The Net LPT timeout can also be set in the CONNECT.BAT file, if you have one.

Duplicate redirection

You're attempting to redirect a disk or printer that is already redirected, or log in to a server you're already logged into. You may have duplicate NET USE and/or NET LOGIN commands in your STARTNET.BAT file you could edit out.

If you want to change the connection of a drive or printer that's already redirected somewhere else, simply run NET and cancel the current connection before reassigning it.

Disk corruption

Errors involving disk corruption can range from simple, easy-to-fix temporarily lost data, all the way to serious computer problems and important data loss. You should make backup copies of your diskettes and other data regularly.

Symptoms

Some symptoms of corruption are:

- program lockups
- disk read/write error messages such as "File not found" and "Error reading file..."
- partition table or FAT (File Allocation Table) error messages
- submenus of an application failing to respond
- printing failures
- the computer spontaneously restarting while you work
- the computer fails to boot from the corrupt disk

Causes

Some common causes of disk corruption are:

- hardware failures/defects
- disk media failures/defects

- lockups while writing to disk
- failing to properly shut down a network server while users access it
- sudden power surges or outages
- some incompatible combinations of TSR programs
- using write-behind disk caching with some application programs

Solutions

When solving corruption problems, be cautious because actions you take may make the corruption worse. If possible, avoid writing new data to the corrupt disk. Verify the problem with a utility such as DOS's SCANDISK or CHKDSK. There are many other utilities on the market to help you deal with this type of problem. For critical data protection and recovery, you should consider investing in one of them. (Note that these utilities can't be used while the LANtastic Server program is running.)

Some utilities can recover the data, but in most cases you'll need to reinstall lost executables or restore data files from backup. It's not uncommon for the system to work normally after the corruption is removed, since the corrupt files were only temporary ones used by a single application. In a worst-case scenario, the entire disk may have to be reformatted and reinstalled, or you may have to even use the FDISK command to partition the drive. No one can tell you when this would be the best approach since you're the only one to know the value of the data at risk. For critical data, you may want to consult a data recovery professional.

After you've used the utility to remove the corruption, it's equally important to resolve what caused the corruption in the first place. A defective diskette can normally be replaced easily, but defective hardware or TSR conflicts can be difficult to isolate. See the troubleshooting techniques on page 2 for more on how to approach general troubleshooting.

FORCE_ACK_MODE switch

If you have an Ethernet network and there's a large speed difference between your computers, you should try using the FORCE_ACK_MODE switch on the AILANBIO driver of the slowest computer. For example, edit the network startup batch file, and add the switch so this line reads:

AILANBIO FORCE_ACK_MODE

Note… Using this switch increases network traffic.

Increase DOS resources

Many application-specific problems can be solved by increasing DOS resources on the server and sometimes the workstation. DOS resources include FILES, FCBs, Share Locks and File Space, and Memory. If the workstation crashes only in one application, you probably need more memory.

Server computers need enough Files and Share Locks to accommodate all users, while workstations need only enough for a single user. For example, if WordPerfect wants 25 files in the CONFIG.SYS and you have 10 users, set the files in the server CONFIG.SYS to 250. LANtastic should always have a minimum of 50 files for itself. If you need more than the 255 files DOS will support, use the MAX FILES setting in NET_MGR, Server Startup Parameters.

Since SHARE defaults to only 20 locks, make sure you have L and F switches. As a general rule, try two locks for every file, but you may need more in a heavily used database. The F switch controls the area of memory that stores the filenames that are locked. An example of SHARE for the previous scenario would be: **SHARE /L:500 /F:4096**

FCBs in the CONFIG.SYS should be **FCBS=16,8** as a minimum. As you increase your other DOS resources, you may run low on available memory. You might have to use a memory manager to free up more conventional memory. Also, removing any programs that aren't necessary to test the problem may free up enough memory for the program to work.

Keyboard problems

Many keyboard problems can be solved by using an alternate keyboard driver. On the Arti-Facts BBS, you can download INT9FIX.EXE, a self-extracting file. It contains several keyboard patches with DOC files. These TSRs may solve the problem.

Invalid username

You've attempted to log in to a server using an invalid username or password. Make sure that a valid account does exist on the server and that the username and password are spelled correctly. If everything checks out correctly but the error persists, you may have a corrupt control directory. For instructions, see "Control directory" on page 54.

IRQ and I/O Base

You may have another device in the computer that conflicts with the network adapter card's settings. Each adapter needs to have a unique Interrupt Request Line (IRQ) and/or I/O Base address. Most Artisoft adapters default to IRQ 15 and IOBASE 300. Consult your hardware manual or brochure on how to change these. Many network adapter cards use jumper settings on the card to configure its

settings. Usually, an adapter with jumpers will require that its driver command line have switch settings that match the jumper settings. Verify that your driver switch settings match your network adapter card settings.

If you're using a NodeRunner network adapter card, you may have to place the adapter in another computer first to configure it to alternate settings to avoid a conflict.

If you're using remote boot ROMs, make sure the ROM address doesn't conflict with other adapters or with the video and BIOS areas of upper memory.

LANCHECK

Important… If any of the computers on your network are set up for CD-ROM drives and Windows for Workgroups, edit your AUTOEXEC.BAT file. If you find the /S command on the MSCDEX command line, delete it before running LANCHECK. If you don't, the computer will lock up while running LANCHECK.

At every computer on the network, go to the DOS prompt, change to the LANTASTI directory then type **LANCHECK <Enter>**. In the LANCHECK screen, the top line shows the computer's name, followed by the names of all the other computers currently running LANCHECK. Every node running LANCHECK should list all the other nodes running LANCHECK.

The column furthest to the left indicates which adapter number each network adapter card is set to. Only nodes of like adapter numbers can communicate directly. If you have more than one adapter in a single computer, then each adapter must have a different adapter number.

Of particular interest in LANCHECK are the error and index percentages. Any percentage above zero is unacceptable for 10Mb Ethernet. An error and/or index reading above zero can indicate a hardware problem. Refer to Hardware.pdf in the Online Library.

To isolate the possible cause of missing nodes or high error rates with coaxial cable, simply terminate two nodes together and run LANCHECK. If LANCHECK shows all is well, move the terminators apart one node at a time until the problem pops up. You can then swap out the cable, T connector, and terminator one at a time and look for improvements that would indicate the culprit.

Notes… If computers can't see each other in LANCHECK, look on the second "page" of LANCHECK for the software version. Each computer needs to have version 5.x or above for all of them to see each other. When using NDIS support for third-party network adapters, LANCHECK won't show any errors even though there may be a problem.

A detailed description of the LANCHECK program appears in the PDF file Lncheck.pdf, in the Online Library. Information about the Online Library and using the PDF files appears in the *LANtastic Installation and Setup Manual*.

LASTDRIVE command

If your computer gives you the error "Invalid drive specification," it means you haven't included the DOS command LASTDRIVE=Z in your CONFIG.SYS. Edit your CONFIG.SYS to include the line LASTDRIVE=Z at the bottom.

LPT timeout

The network LPT TIMEOUT must be set on every computer, in the STARTNET.BAT file or CONNECT.BAT file. Its purpose is to automatically close the spool file for applications that may not be network-aware. The network will wait the specified number of seconds and, if the application hasn't sent any more data to the printer, the print job will be closed.

Some applications may take longer to search data and the default timeout may cause mixed or broken print jobs. If you think this might be the problem, type the command **NET LPT TIMEOUT 0 <Enter>** to disable this feature, then run your print test again. Make sure to issue this command on the same computer you're sending the print job from.

If your problem disappears, set the timeout to 60 and run the test again. You may need to adjust this number until all your applications function correctly. Once you've found the optimum time, change the NET LPT TIMEOUT line of the STARTNET.BAT file or CONNECT.BAT file on each computer to this number.

NET SHOW

Type **NET SHOW <Enter>** at the DOS prompt. You should see a list of information items about this computer's network status. The first line indicates the version of LANtastic being run on this computer. The second line indicates the name of this computer and whether it's being run only as a redirector (a workstation), or as a redirector *and* a server. If it doesn't state that this computer is being run as a server and you want it always to start up as a server, you'll need to reinstall LANtastic and select "Share my files and printers." You can also type **SERVER <Enter>** at the DOS prompt to temporarily make your computer a server. (The next time you restart, SERVER won't load unless you type it again.)

The status information should also indicate which servers are available, which servers this computer is logged in to, and any drive and printer redirections.

If you type **NET SHOW** and get an error message saying "Redirector must first be installed," then you're not loading the network software. Verify that a STARTNET.BAT file does exist and that it has been run. You may need to add a line in your AUTOEXEC.BAT file to "call" the STARTNET.BAT so the network will be loaded automatically every time you start your computer.

Important… If you add this call line (**CALL C:\LANTASTI\STARTNET.BAT**), avoid errors by making sure you place it **before** any loading of MSCDEX; **before** any loading of WINDOWS (WIN.COM); **after** any PATH statement; and **after** any loading of SHARE.EXE.

NET USE

If a printer is to be shared on the network, all computers you want to use this printer, including the one physically attached to the printer, must NET USE the device. If the print server station doesn't NET USE its own printer, the network will compete with DOS for the printer port and you'll experience errors or no printing.

To see whether your printer is properly assigned, type **NET SHOW <Enter>** at the computer's DOS prompt to information about the computer's configuration. You should see a line that states **PRINTER LPT1 IS REDIRECTED TO \\servername\@device**. Note that LPT1 may be LPT2, 3 or a COM port, depending on your NET USE statement. If this line doesn't appear when you type NET SHOW, this computer isn't assigned to a network printer.

Note… In LANtastic for Windows 95, you can't NET USE your own printer.

No loopback redirections

Normally, if your computer has a physical drive, you shouldn't redirect it elsewhere on the network. Leave your physical drives physical. You should never redirect a physical drive back to itself. An example of this is **NET USE C: \\server\C-DRIVE**. However, you can normally redirect logical drives back to themselves. Logical drives, also known as virtual drives, don't physically exist on your computer. They're just letters assigned to other drives.

When you redirect a logical drive to itself on the network, some applications may not work. Windows 3.x, for example, won't work in enhanced mode if you loopback a redirection on your hard drive. Instead of the loopback NET USE statement, replace it with an equivalent SUBST (substitute) command. For example, in your network startup batch file, replace **NET USE G: \\SERVER\C-DRIVE** with **SUBST G: C:**.

Running MSD

Run Microsoft Diagnostics (MSD) to make sure the printer is available, by exiting Windows 3.x then typing **MSD <Enter>** at the DOS prompt. MSD also has a printer test. Run it to confirm that the printer will work. If it doesn't print, check your printer cable, port, and/or printer.

Plotting programs

Some plotting programs, such as AutoCAD®, require an adjustment to run on a network. If you're having problems getting your plot to print out, try changing your program to plot to a file and name the file the same as your redirected port.

For example, you've set up the command **NET USE COM1** to a plotter on the server. If you set up your application to plot to a file, but name the file COM1, this should allow you to plot successfully over the network. There are technical bulletins available for AutoCAD that cover printing and plotting as well as the autospool feature of the new AutoCAD versions.

Printer tasks

Run NET_MGR on the print server and select server startup parameters. Make sure the DESPOOLING field is ENABLED and that printer tasks is set to 1. Escape back to the NET_MGR main menu. The print server will need to be restarted for the changes to take effect.

Note… If the server is using a switch file, you'll need to edit your switch file and set: **printer_tasks=1** as this file will override the NET_MGR settings.

Print manager

In order for Windows 3.x to print to a network printer, both the Windows print manager and Fast Printing Direct to Port will need to be disabled. To disable them, open the Windows Control Panel, then select Printers. Make sure the Use Print Manager box is cleared, then click Connect. Make sure the Fast Printing Direct to Port box is cleared. There are two timeout selections just above the fast printing box; set the Device Not Selected Timeout to 900 and the Transmission Retry to 950. Click OK, then close the print manager. These changes should take effect without restarting.

Print to file

Some applications attempt to control the printer hardware directly rather than going through DOS. To be compatible with the network, see if your application can print to a DOS port instead of hardware. Another approach is to print to a file. When the application asks what file name to print to, tell it LPT1, or whichever port you've redirected in the network.

RAMBASE

If your network adapter card uses a RAMBASE address, you should verify that the RAMBASE address doesn't conflict with video or BIOS memory areas. Also, if you're using a memory manager, such as EMM386 or QEMM, you must exclude the RAMBASE area from the memory manager. Your RAMBASE may also be conflicting with shadow ram settings controlled by the computer's CMOS settings. Try disabling all shadowing in the CMOS.

Recreate resource

Note… If you're using the global resource option of LANtastic 5.0 and higher, make sure you're working at the server where the device is physically attached.

You may need to delete and recreate your printer resource. To do this, you'll need to run NET_MGR on the print server without the network loaded. Select Shared Resources Management. Highlight your printer resource and note the name. If this is a serial device or plotter, or if you're using a setup string, file or cleanup file, you'll need to press **Enter** and write down all relevant information. For a serial device, make sure you note the baud rate, word length, stop bits, parity and flow control.

After you have all the information needed, press **Esc**. With your resource name highlighted, press the **Delete** key, then **Enter** to confirm. Next, press the **Ins** key and type in the name of your resource.

Note… All printer resources must start with the @ symbol.

You'll be prompted to specify the port. Make sure you specify the physical port where the printer or plotter is attached. Highlight your new resource and press **Enter**. Set the Characters Per Second to 10000 (ten thousand). You'll also need to set your serial information and/or setup or cleanup files. **Don't change the lines per page, tab width, and other settings.** Escape to DOS, restart the network and try your print job again.

Resource

Note… If you're using the global resource option of LANtastic 5.0 and higher, make sure you're working from the server where the device is physically attached.

You may need to delete and recreate the resource you're attempting to connect to. To do this, you'll need to run NET_MGR on the server. Select Shared Resources Management. Highlight the resource and note the name. You'll need to press **Enter** and write down all the information about the resource setup. After you have all the information needed, press **Esc**. With your resource name highlighted, press the **Delete** key, then press **Enter** to confirm. Next, press the **Ins** key and type in the name of your resource.

Note… All printer resources must start with the @ symbol.

Highlight your new resource and press **Enter**. Set up the resource according to the notes you just made. Escape to DOS and try accessing the resource again. If you're still unable to connect successfully to this resource, you may have a corrupt control directory.

Printer connection

From the LANtastic program group in Windows 3.x, choose LANtastic Net, then choose Printers. If the computer's printer isn't listed as a current connection, refer to the instructions for making a new printer connection in your *LANtastic for Windows 3.x User's Manual*.

Serial

When you're sharing a serial printer or plotter, it's important to set up the resource correctly. You'll need to know the baud rate, word length, stop bits, parity and the flow control. Check your printer manual for the correct settings. The port in NET_MGR on the server should be set to the port that the printer is physically attached to, not a port redirected by the mode command. Avoid running the mode command as this will create a conflict over the port.

Serial Windows 3.x

If you've got a serial printer or plotter and can't get it to print in Windows 3.x with the network loaded, try the following. Boot the computer without loading Windows, but load the network and try to print. If this works, place a command to send a return or <showpage> for a PostScript® printer, before Windows loads.

Some serial printers need to be accessed by the network before Windows loads or Windows will take control of the serial port and not allow the network access to it. Whether or not this works, contact Artisoft Technical Support for further assistance.

SETVER

Older versions of LANtastic required that certain drivers be put in the SETVER table. With LANtastic 5.x and higher, you should confirm that they're NOT in the SETVER table. To confirm this, type:

> **SETVER NET.EXE /D <Enter>**
> **SETVER REDIR.EXE /D <Enter>**
> **SETVER SERVER.EXE /D <Enter>**

Share

If you receive sharing violations while printing, make sure that your application isn't trying to physically access the port. Make sure that you're NET USE-ing the printer from this computer. If you still experience this error, try loading Share after the network programs instead of before.

Note…   You can't NET USE your own printer on a Windows 95 computer.

Printer buffer

Run NET_MGR on the print server and change the Printer Buffer size to 4096 for a laser printer or 2048 for a dot matrix printer. Make sure that your run buffer is 2 for a non-dedicated server or no higher than 128 for a dedicated file and print server. You might try adding the parameter BUFFERS=2 (or 3) to the REDIR line of each station. This may help improve print throughput.

Compression utilities

If you're using a disk compression utility, the network control directory, normally LANTASTI.NET, must be on the non-stacked drive on server computers. If it isn't, you'll need to print out your settings in NET_MGR on the server, then rename the LANTASTI.NET directory or delete it.

You should rename your STARTNET.BAT file rather than delete it, so that it can be used for reference if needed. Then reinstall your network, specifying the non-compressed drive for the control directory. Make sure your non-compressed drive has enough room for the print files. Leave at least 2MB, but you may need more depending on the size and quantity of print jobs.

Stress test

If printing jobs across the network causes network errors and disconnects, the source may be a cable or timing problem. Try copying large files (5-10MB) across the network – **without Windows 3.x loaded**. For example:

XCOPY C:\DOS*.*T:\TEMP*.* <Enter>

where **T** is the redirected drive.

Swap cards

Try swapping network adapter cards to isolate the problem. Swap the problem adapter with one known to work properly. When swapping, keep the adapter settings or jumpers the same and swap only the cards, not the connectors or cables.

If the problem follows an Artisoft network adapter card to another computer, contact Artisoft Technical Support. If the problem follows the adapter and it's not an Artisoft adapter, contact the vendor of the third-party adapter.

If the problem stays with one specific computer, try another slot in the bus and/or pull other adapters from the computer, leaving only the video and controller cards, if possible. If the problem can be isolated to a conflict between another adapter or specific motherboard, contact the vendor of that product, or contact Artisoft Technical Support.

Timeout

If you see TIMEOUT on your printout, you'll need to increase the IMMEDIATE DESPOOLING timeout found in NET_MGR on the print server. To do this:

1. Run NET_MGR on the print server and select Shared Resources Management.

2. Select your printer resource, usually @PRINTER, and press **Enter**.

3. If Immediate Despooling is enabled, set the Immediate Despooling Timeout to at least twice the NET LPT TIMEOUT set on each computer.

   If the NET LPT TIMEOUT is set to zero, disable Immediate Despooling.

Hint… To determine what the NET LPT TIMEOUT is set to, at a DOS prompt, type **NET SHOW <Enter>**. The NET LPT TIMEOUT should be displayed near the top of the message.

4. Restart the print server so the change takes effect.

Too many redirections or logins

There are five typical causes of this error message.

1. On the server you're trying to log in to, run NET_MGR. Highlight Server Startup Parameters, press **Enter**, and verify that Max Users is set to a value at least as large as the maximum number of simultaneous logins this server computer can expect at any one time.

2. Make sure the REDIR line in your STARTNET.BAT has logins= set to a value equal to or greater than the total number of servers on your network.

3. Make sure in NET_MGR that whichever account you're trying to log in with has an adequate number of concurrent logins.

4. Someone may have changed the default control directory to a different name. Make sure the **same** control directory name shows in both the STARTNET.BAT file and NET_MGR.

   The STARTNET.BAT should contain a line that says:

   SERVER C:\LANTASTI.NET @STARTNET.CFG

   ...if you're using the default control directory C:\LANTASTI.NET. And NET_MGR should also say Managing C:\LANTASTI.NET (if that's the control directory you're using).

5. You may have cable problems. For complete cable information see the file called Hardware.pdf in the Online Library.

Basic configuration

When you're isolating the source of a problem, it's a good idea to try taking your network down to the most basic configuration possible for testing purposes. This involves a bare minimum CONFIG.SYS and AUTOEXEC.BAT file. First, make backup copies of your CONFIG.SYS and AUTOEXEC.BAT files. Then edit them to use only the basic commands.

To create a basic boot configuration for both DOS and Windows 3.x, edit the CONFIG.SYS file so it contains only these lines:

> **DEVICE=C:\DOS\HIMEM.SYS**
> **FILES=100**
> **BUFFERS=32**
> **LASTDRIVE=Z**

If you run NDIS drivers for your network adapter card, add the following two lines:

> **DEVICE=C:\LANTASTI\PROTMAN.DOS /I:C:\LANTASTI**
> **DEVICE=C:\LANTASTI\DRIVER.DOS**

where DRIVER.DOS is the specific filename for your NDIS driver.

Now edit the AUTOEXEC.BAT file so it contains only these lines:

> **PATH C:\DOS;C:\WINDOWS**
> **PROMPT PG**
> **SET TEMP=C:\TEMP**

If you're using a disk compression program or SCSI hard drive controller that requires special disk compression drivers in CONFIG.SYS, leave those drivers in as well.

Note… If you're running DOS 6.0 or higher, you have the option of minimizing your system configuration by pressing the **F8** key when you start the computer, selecting the lines you want to load from CONFIG.SYS, and then skipping AUTOEXEC.BAT.

Now restart the system and load the network drivers manually. To do this, change to the LANTASTI directory and run the commands on the next page, which are located in your STARTNET.BAT file:

NR <Enter> (for example)

AILANBIO <Enter>

REDIR <name> <Enter>

SERVER <Enter> (only if this computer is a server)

where **<name>** is your computer's name.

If you're using a third-party vendor's network adapter card and NDIS drivers, the approach is slightly different:

In CONFIG.SYS, make sure you load

DEVICE=C:\LANTASTI\PROTMAN.DOS /I:C:\LANTASTI

DEVICE=C:\LANTASTI\DRIVER.DOS

where **DRIVER.DOS** is the filename for your specific NDIS driver. Then, run the following commands which are in your STARTNET.BAT file:

AI-NDIS BIND_TO=DRIVER_NIF

AILANBIO

REDIR <name>

SERVER   (if this computer is a server)

where DRIVER_NIF refers to the section in C:\LANTASTI\PROTOCOL.INI for your specific driver.

Note the version of each driver as it loads, and verify that all of your computers are loading identical versions.

Retest the problem. If the problem goes away, add the removed lines back to your CONFIG.SYS and AUTOEXEC.BAT one at a time, until you can reproduce the problem. This will help pinpoint the cause.

Save these files and restart. After you return to the DOS prompt, change directories to C:\LANTASTI to then load the network into memory, either by hand-loading your network drivers, or just typing STARTNET.

Windows 3.x

For the network and Windows 3.x to work properly, Windows needs to be configured for the proper network type. If you're running LANtastic for Windows 3.x, then Windows should already be properly configured.

Technical bulletins are available for the Windows 3.0, 3.1, and 3.11 environments. Information on using the Arti-Facts BBS and FaxReturn systems appears in the Directory of Support Services.

Some of the main tips in these bulletins are:

- Run the Windows 3.x setup program and select LANtastic as the network type.

- Don't loopback network drive redirections to your own computer. Instead, use the SUBSTitute command (**C:\DOS\SUBST G: C:**).

- Turn off Print Manager, and Fast Direct Printing to Port in the Windows Control Panel. Fast direct to port is under the "connect" area of printers in the control panel.

- Add these lines to the SYSTEM.INI file:

  [LANTASTIC]

  NETWORK_IRQ=15

  (NOTE: The IRQ should match the setting of your network adapter card)

  [boot]

  network.drv=C:\LANTASTI\LANTNET.DRV

  [386Enh]

  NETWORK=*VNETBIOS, C:\LANTASTI\LANTASTI.386

- If you're using a third-party network adapter card that requires a shared RAM address, make sure there's a line in the SYSTEM.INI file [386Enh] section that excludes the RAMBASE address for the adapter. For example:

  EMMEXCLUDE=D800-DFFF

Try removing other TSR programs to isolate the problem. Don't remove the HIMEM.SYS driver; it's needed to run Windows 3.x.

For Windows for Workgroups, REMark or delete the DEVICE=IFSHLP.SYS driver line in the CONFIG.SYS file, and the DEVICE=VSHARE.386 line in the SYSTEM.INI file.

Without network

Test your print job without the network loaded to ensure that the problem isn't with the printer, computer or application. On occasion, this may require moving the printer to the computer with the problem.

Without Windows 3.x

Run your print test without loading Windows 3.x. This will require restarting the computer, starting the network, but not loading Windows 3.x. If your test runs at DOS, then load Windows and try the same test. If the test fails at DOS, try the print test without loading the network to ensure that it isn't a printer, computer or application error. If the problem happens only in Windows 3.x, ensure that your Windows is properly configured for a network and/or your print server is properly configured for running Windows.

You can test from DOS by copying a file to the printer port. For example:

COPY C:\CONFIG.SYS LPT1 <Enter>

(or whatever port your printer is using). If you have a laser printer, you'll probably need to perform a manual form feed at the printer. If you have a PostScript printer, the copy command won't work; instead try the following commands. From the DOS prompt type:

COPY CON LPT1 <Enter>
SHOWPAGE <Enter>
F6 <Enter>

NET SHOW

Make sure the computer to which the printer is attached is set up to share its drives and printers. Complete these steps:

- Go to the computer and type NET SHOW **<Enter>** at the DOS prompt.
- In the display, look for a message such as "Computer Nicks_PC is being used as a Redirector and a Server."
- If you don't such a message, you can run the Server program until the computer is next shut down by typing **SERVER** <Enter> at the DOS prompt. To make that computer start up as a server every day, you'll need to reinstall LANtastic and, during installation, choose the option to share this computer's drives and printers.

Compatibility with LANtastic

The following checklists can help you determine whether an application is compatible with LANtastic:

- An application is very likely compatible with LANtastic if:
  - It's compatible with MS-DOS 3.1, 3.3 or above.
  - It's advertised as "network aware," and/or as supporting DOS-based LANs.

- It's advertised as NetBIOS-compatible.
- It uses DOS file and record locking conventions compatible with SHARE.EXE.
- It supports other DOS-based peer-to-peer LANs such as IBM PC LAN or Microsoft's MS-NET.

- An application is most likely not compatible with LANtastic if:
  - It was designed for pre-3.1 versions of MS-DOS.
  - It's advertised as compatible with only Novell NetWare or specifically uses the Netware API or is in a NetWare NLM format.
  - It's a Client/Server application that isn't compatible with NetBIOS transport or requires a specific client type such as a NetWare client.

- An application may or may not be compatible if:
  - It requires physical access to a hardware device (security-dongle, tape drive adapter, etc.).
  - It was designed as a single-user application.
  - It's a TSR (terminate-and-stay-resident) program.

DOS SHARE-compatible

Files don't need to be marked as "share-able" on a LANtastic server. LANtastic relies on DOS's SHARE.EXE program (or the LANtastic server's Internal SHARE) for file and record locking support. In fact, LANtastic doesn't have its own file system; it uses DOS for all file operations. So, when your program opens a file, it will need to open it in a DOS file-sharing mode.

Most popular computer languages support shared file operations. Your application programming language reference manual should have full details.

Sharing violations and exclusive access

If two users attempt to open the same network file and the first user has "exclusive" access to that file, you can receive a sharing violation message even though your software is network-aware. If you get a sharing violation when someone else tries to start up a program from a network drive, it's probably because you have "exclusive" access to an executable or overlay file associated with the application.

To correct this, mark the program's executable and overlay files as read-only using the DOS ATTRIB command. For example, issuing this command

ATTRIB +R *.EXE <Enter>

in the program directory will mark all executable files as read-only. Use the same command on all *.OVL and *.OVR files as well.

Increase SHARE parameters

The SHARE.EXE program is included with DOS versions 3.0 and higher. Applications can use SHARE to "lock" a file or region so that only one person at a time can make changes. Most multi-user and network software packages use SHARE to implement file and record locking. This section discusses how SHARE works and how it can affect your LANtastic network.

Two parameters can be manipulated with switches when loading SHARE. The first parameter – /F:xxxx - controls the size (in bytes) that SHARE reserves for file path information. The second parameter – /L:xxxx - determines the maximum number of files and/or records/fields that can be open and locked at any one time.

- **The /F parameter.** Each open file requires space for the path, plus 11 bytes. If the average path length is 20 characters, the default value of 2,048 bytes is sufficient for 66 simultaneously open files (2048 / (20 + 11)). The syntax for using the /F parameter is **SHARE /F:n,** where **n** is any number from 0 to approximately 62,000.

- **The /L parameter.** The /L parameter controls the number of simultaneous locks that SHARE can handle. The default is /L:20 (20 locks), although some versions of DOS have a default value of 60. On a network like LANtastic, which can open 5,100 files per server, it's easy to see that 20 locks isn't enough. The syntax for the /L parameter is **SHARE /L:n,** where **n** is any number from 1 through 3700.

DOS SHARE actually has two buffer areas (both /L and /F) that added together can't equal more than 64K. Internal SHARE doesn't have this limitation.

Opening a file on a server requires at least one lock. The /L setting should be at least the number of files you've specified in your CONFIG.SYS file or in the NET_MGR server startup parameters option (whichever is larger). If you're running a multi-user program that uses many files, consider setting /L to at least twice the number of open files allowed.

Increase file handles

Multi-user applications (applications shared over the network) normally open many files per user. If there aren't enough file handles, applications may report an error of insufficient file handles, simply lock up, or behave unpredictably.

DOS is limited to a maximum of 255 available file handles, but the LANtastic Server program lets you open additional file handles. The FILES= parameter and/or the Maximum Open Files parameter under server startup parameters must be set high enough for the needs of the largest application.

If the Maximum Open Files parameter is set to zero (0), the server reverts to using the FILES= value that's set in your CONFIG.SYS file. This value will serve as the total file handles available to both the LANtastic server itself and all users accessing files through the server.

If the Maximum Open Files parameter is set at a value other than zero (50 – 5,100), that value will serve as the number of file handles available to users accessing files through the server. And the value after FILES= in CONFIG.SYS will serve as the number of file handles available to the LANtastic server node itself.

How files are opened on a LANtastic server: If your program requires 20 file handles for a single user to run the application, the LANtastic server and workstation's CONFIG.SYS file will need 20 file handles available for the workstation to open the application from the server over a redirected drive.

When a second workstation runs the same application from the same server another 20 file handles must be available on the server for the second loading of the program. The second workstation, however, will need only 20 file handles available in CONFIG.SYS.

Therefore, in the above example the server must have FILES=40 in CONFIG.SYS or the second workstation won't be able to run the application.

Unable to bind to module <name>

There are several possible causes for this error message. Check each of the points in this section.

- Your PROTOCOL.INI file may be missing critical lines, or the lines may be "commented out" or "remarked out" (a line that begins with a semicolon (;) or the letters **REM <space>** is inactive).

  Make sure your PROTOCOL.INI file contains these lines, and that there are no semicolons at the beginning of these lines:

  [PROTMAN]
  DRIVERNAME = PROTMAN$
  DYNAMIC = YES

  [DRIVER_NIF]
  DRIVERNAME = DRIVER$
  INTERRUPT = 15
  IOBASE = 0X300

- Make sure the header name (e.g., [DRIVER_NIF] for AEXNDIS_NIF) in your PROTOCOL.INI file matches the BIND-TO statement in your STARTNET.BAT file.

- Make sure your PROTOCOL.INI file contains IRQ and I/O Base settings that match those of your network adapter.

Out of environment space

This error is returned when you don't have enough environment space allocated for SET and PATH commands. The environment space is allocated by the following line in the CONFIG.SYS file:

SHELL=C:\DOS\COMMAND.COM C:\DOS /E:512 /P

There are times when this shell line is there, but there are so many commands being set in the environment that a buffer of 512 bytes isn't sufficient. If the line isn't in the CONFIG.SYS add it at the end of the CONFIG.SYS. If the line is in the CONFIG.SYS increase the /E: parameter. It's a good idea to start by doubling it. The line would read as follows:

SHELL=C:\DOS\COMAND.COM C:\DOS /E:1024 /P

Insufficient NetBIOS resources

This error is the result of not having enough NetBIOS resources allocated for the number of users on the network. First make sure that the number of users being allocated is actually the number of users logging in to this particular server. Open NET_MGR, navigate to view the server startup parameters, and check the Maximum Number of Users setting. This should be no higher than the actual number of users who will be logged in to the server concurrently, plus two.

If the number of users is already set, then the next step is to take a look at the AILANBIO driver. This is where the NetBIOS resources are allocated. These switches are NCBS, MAX_NCBS, SESSIONS and MAX_SESSIONS. These will be listed on the AILANBIO line or in the STARTNET.CFG file. By default these settings are:

NCBS=32

MAX_NCBS=32

SESSIONS=32

MAX_SESSIONS=32

Normally these settings need to be set only to the number of users logging in, plus two. But other factors, such as the size of the network buffer, request size, and network tasks being allocated can require a change in this setting. Try increasing these numbers to double what they are currently. If this solves the problem, start reducing that number. Increasing these parameters will increase the amount of memory AILANBIO will use. Setting the network buffers too high can result in insufficient NetBIOS resources.

If you're using another company's NetBIOS that doesn't allow you to allocate more NCBs and/or sessions, you may want to use the NBSETUP program to allocate more NCBs and sessions. For more information about NBSETUP, see the file Nbset_dw.pdf in the LANtastic Online Library. Instructions for using the PDF files in the Online Library appear in the *LANtastic Installation and Setup Manual*.

Increasing buffers

Increase the buffers allocated for the CD-ROM drive on the MSCDEX line. This parameter is usually /M:XX. /M:10 is usually sufficient, but try increasing that number to 15-20.

Non-DOS disk support

Increase the number of non-disk support files in the LANtastic NET_MGR program. This will be located under the server startup parameters. By default, non-DOS disk support is set to 100. Try doubling that number.

MSCDEX line

MSCDEX needs to load after the REDIR line (LANtastic Redirector program). Move the MSCDEX line to either follow the CALL statement for LANtastic in the AUTOEXEC.BAT file or after the REDIR line in the STARTNET.BAT file.

Redirector loading

Make sure that REDIR (LANtastic Redirector) is loading before Server. Usually this error occurs when MSCDEX isn't loading after REDIR.

MSCDEX not loading

MSCDEX isn't loading for the CD-ROM. This could be due to a hardware conflict with another device in the computer. Also, confirm the MSCDEX driver will load without LANtastic.

/S switch

Check the MSCDEX line for the /S switch. Remove the /S switch because it conflicts with the LANtastic Server program.

/L switch

Look for /L:X on the MSCDEX line (where X is any drive letter from A to Z). This changes the drive designation for the CD-ROM. For instance, the CD-ROM is typically D. If the MSCDEX line says /L:E then the drive designation has been changed to E.

Disk drive type

The shared resource for the CD-ROM that has been set up in NET_MGR under Shared Resource Management has the wrong disk drive type specified.

Press **Enter** on the shared resource and look at the disk drive type. It should read CD-ROM. If it doesn't, highlight it and press **Enter**. A list will pop up. Select CD-ROM. Restart the computer and test again.

INDEX