

IBM 4695-3XX and 2XX

NETWORKING INSTALLATION and CONFIGURATION INSTRUCTIONS For DOS, WINDOWS and OS2

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SECTION II. INTRODUCTION

This document provides driver support information for the IBM 4695-3XX DOS and Windows systems Network LAN's. Support is provided for the following network adapters:

SYMBOL	- OEM Wireless LAN (Symbol) support
ETHERNET	- IBM Ethernet LAN support
TOKEN-RING	- IBM Token-Ring LAN support
3XX_IEA	- The 4695-3XX Integrated Ethernet Adapter
2XX_IEA	- The 4695-2XX Integrated Ethernet Adapter

Network support is provided for the following Operating System and Networks:

DLS40	- DOS Lan Services Version 4.0
DLS50	- DOS Lan Services Version 5.0
LANT60	- Lantastic Networks Version 6.0
LANT70	- Lantastic Networks Version 7.0
NOVELL	- Novell Networks Version 3.12
WIN311	- Windows for Workgroup
WIN95	- Windows 95 w/ Service Pack 1
WINT351	- Windows NT 3.51
WINT40	- Windows NT 4.0

We recommend that you read the 4695-3XX Installation and Setup Instructions (4695INST.PDF) and the 4695-2XX OS Installation Recommendations (4695_REC.PDF) before proceeding with 4695-3XX or 2XX network driver installation.

- **HOW TO FIND:**

4695-3XX/2XX SOFTWARE DOWNLOADS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads

Download the appropriate 4695 Support files from the download table.

SECTION III

The IBM 4695-3XX Integrated 10/100 MB Ethernet Adapter

CHAPTER 3.0 INFORMATION

- **TIPS for Novell Netware**

The PCnet driver (PCNTNW) has the following NET.CFG options available for buses:

DMA (3, 5, 6, 7)
INT (3, 4, 5, 9)
PORT (300H, 320H, 340H, 360H)
NODE ADDRESS
FRAME
PROTOCOL (IPX)
FASTISA

FASTISA mode increases the performance of the PCnet-ISA, PCnet-ISA+, and PCnet II in ISA machines by reducing the memory read and write cycle time to 350Ns. Older machines with slower memory may not support this mode.

For the PCnet-ISA+, PCnet-32, and PCnet-PCI devices, the DMA, INT, and PO are not required for the driver. In some cases, using these keywords would be the bus specification. All other keywords may be used with the family. Keywords listed in the software keywords section may be used in NET.CFG

- **TIPS for using a NDIS Driver**

On the AMD Windows NT driver diskette, there are three directories for network device drivers. Listed below are the directories and a explanation of the differences.

\WINNT\MAC\NDIS3

MAC NDIS 3 is the older NDIS 3.A drivers written to the Windows NT 3.51 and older OS specifications.

\WINNT\MINIPOINT\NDIS3

Miniport NDIS 3 is the NDIS 3.1 written to the Windows NT4.0 miniprot spec that is compatible to both NT and 95 OSR2.

\WINNT\MINIPOINT\NDIS4

Miniport NDIS 4 is the 4.0 written to the Window NT 4.0 miniport spec and is compatible with both NT and 95 OSR2.

Below are examples of 4695-3xx config.sys, autoexec.bat, and protocol.ini files for using a NDIS Driver with a PCnet-ISA adapter card.

- **CONFIG.SYS**

```
DEVICE=C:\PROTMAN\PROTMAN.DOS  
/i:C:\PCNET  
DEVICE=C:\PCNET\PCNTND.DOS
```

- **AUTOEXEC.BAT**

```
SET PATH=C:\PROTMAN;C:\PCNET;%PATH%
```

- **PROTOCOL.INI**

[PROTMAN]

```
DRIVERNAME = PROTMAN$  
DYNAMIC      = YES  
PRIORITY     = NETBEUI
```

[NETBEUI_XIF]

```
DRIVERNAME = NETBEUI$  
SESSIONS   = 6  
NCBS       = 12  
BINDINGS   = "PCNTND_NIF"  
LANABASE   = 0
```

[PCNTND_NIF]

(AMD PCnet Ethernet Adapter)

```
DRIVERNAME = PCNTND$  
FDUP = OFF ( TURNS OFF FULL DUPLEX )  
FDUP = UTP ( FULL DUPLEX ON 10BASE T )  
FDUP = AUI ( FULL DUPLEX ON AUI PORT )
```


- **HOW TO FIND THE:**

4695-3XX INTEGRATED ETHERNET NETWORK DRIVERS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads

Download the appropriate 3XX Network Drivers from the download table.

- **HOW TO FIND THE:**

4695-2XX INTEGRATED ETHERNET NETWORK DRIVERS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads
- Download 4695 Supplemental Drivers Diskette (4695SUPP.EXE)
Refer to the various networking sub directories

- **HOW TO FIND THE:**

PCMCIA CARD and SOCKET SERVICES DEVICE DRIVERS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads
- Download 4695 Supplemental Drivers Diskette (4695SUPP.EXE)
Refer to the \PCMCIA sub directory.

- **HOW TO FIND THE:**

4694-124 Proxy Configuration for the 4695-0x2 Distributed Systems Diskette

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads
- Download the 4694-124 Proxy Configuration for the 4695-0x2 Diskette
(4694PROX.EXE)

Notes: The 4695-3XX Integrated 10MB Ethernet Adapter uses an AMD PCI Controller.
The 4695-2XX Integrated 10MB Ethernet Adapter uses National Semiconductor Controller.

The 4695-0X2 Distributed Unit

4695 POS Adapter II SETTINGS : (Dip Switches)

1 = DOWN, 2 = DOWN, 3 = DOWN, 4 = DOWN, 5 = UP, 6 = UP

I/O Address : 6C0 - 6DF

Shared RAM : DC000 - DFFFF

Interrupt : IRQ7

Possible Errors:	Recommendation
2 short beeps and	Use the Proxy diskette to disable the
1 long beep when powering on the 4694-124 or -104	RPL parameter in CMOS. This will resolve the conflict between the 4695 POS Adapter II and rpl rom.

- **HOW TO FIND THE:**

4694-124 Proxy Configuration for the 4695-0x2 Distributed Systems Diskette

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads

- Download the 4694-124 Proxy Configuration for the 4695-0x2 Diskette
(4694PROX.EXE)

- **The 4695-3XX Integrated Unit - Wake on LAN Feature**

In the customer's LAN Enterprise Environment, the use of the Magic Packet feature can be implemented using a LAN Management tool. NetFinity(IBM), LANDesk(Intel) and SMS(Microsoft) are just a few Lan Management tools that can take advantage of the Magic Packet feature to wake up (power up) the 4695-3XX remotely.

For example, NetFinity from IBM uses a piece of code (an agent) on the client's system that tells NetFinity the computer's model number, operating system, MAC address and whether the system has Wake on LAN capability. With this information and Wake on LAN enable on the 4695-3XX, NetFinity can generate and send a Magic Packet to power up this system remotely. NetFinity can also provide a menu item in an event scheduler to allow this function to take place at certain times during the day. For more information about Netfinity and Wake on Lan see IBM's web page at <http://netfinity.raleigh.ibm.com>. Also to enable the Wake Up on LAN in the 4695-3XX, power up the system and press the F1 icon when it appears in the up right hand corner of the display. The Configuration/Setup menu should appear.

Select " Power Management "

Select " Wake Up on Lan "

Press the Previous (->->) to "Enable" this parameter.

Select "Save configuration"

Select "Exit configuration"

The 4695-3XX is now set to execute a Magic Packet.

- **How to replace an installed driver using the IBM LAN Support Program**

If the IBM LAN Support Program is installed into the 4695-3XX use the PCNTND.DOS driver to replace the installed driver. To do so please follow the instructions below to change the contents of CONFIG.SYS and PROTOCOL.INI files.

1) Copy PCNTPK.DOS to the directory where the IBM LAN Support program resides. This PCNTPK.DOS driver can be found in Chapter 3.0 INFORMATION.

- **HOW TO FIND THE:**

4695-3XX INTEGRATED ETHERNET NETWORK DRIVERS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads
- Download the appropriate 3XX Network Drivers from the download table.

2) Modify the original NDIS device driver statement in CONFIG.SYS as follows:

DEVICE = [drive]:\path\PCNTND.DOS

3) Modify the PROTOCOL.INI file as follows:

BINDINGS = PCNTND

[PCNTND]

DRIVERNAME = PCNTND\$

- **Installation of IBM 4695-3XX Integrated Ethernet Driver using LSP**

1. Copy the following files into a directory called \DOS on a newly formatted diskette.

\DOS\PCNTND.DOS

\DOS\OEMSETUP.INF

2. Next, install IBM DOS 7.0 on your 4695-3XX system.

3. Insert IBM LAN Support Program diskette in drive a:\ and type a:dxmaid. Press Enter to run the LSP program.

>LSP --Pass all logo and information screens by pressing ENTER.

Select yes to " Do you have adapter option diskette?"

Select yes to " Do you need 802.2 interface support?"

Do not change any other options.

Press Enter for driver files to be processed

When instructed, insert the driver diskette you created in step 1 into the a: drive.

Press ENTER on "Process adapter option diskette"

On the screen titled "Current Configuration", at the "Selections for Adapter Window" select "AMD PCI Adapter (PCNTPK.DOS)"

You may want to leave other windows unchanged.

Press F4 to install the driver.

Follow instructions to complete installation of LSP.

Your CONFIG.SYS and PROTOCOL.INI files should reflect your card setup by including these statements:

```
\CONFIG.SYS  
:  
Device= \LSP\PCNTND.DOS  
:  
\LSP\PROTOCOL.INI  
:  
[PCNTND_NIF]
```

Drivername = PCNTND\$

4. Now install the LAN Requester program. For more information and instructions, please refer to Chapter 3.1

- HOW TO MODIFY THE PACKET DRIVERS FOR 4695-3xx**

In the AUTOEXEC.BAT file, add the following statements in lower case :

**For 4695 models 321 & 331 (10Base T)
pcntpk int=0x69 int=10 tp=1 bustype=pci fdup=00**

**For 4695 models 341, 342, 331, 321 (10/100Base T)
pcnptk2 int=0x6f irq=10 fdup=00**

CHAPTER 3.1

- **DOS 7.0 with DOS with PACKET Driver for the 4695-3XX**

Driver installation for the Packet Driver (PCNTKP)

Copy the AMD Packet Driver (PCNTPK.COM) into a directory. The packet driver can be loaded from the DOS prompt or from the AUTOEXEC.BAT file.

The command line format for the packet driver is:

```
PCNTPK [-n] [-d] [-w] <INT=packet_int_no> [IRQ=int_no]
        [IOADDR=io_addr] [DMA=dma_no] [BUSTYPE=bus]
        [DMAROTATE] [TP] [LED0=xx] [LED1=xx] [LED2=xx]
        [LED3=xx] [FDUP=xx]
```

When using Windows, use either the -w option or the WINPKT utility. (see install.doc) If the [IRQ=int_no] , [IOADDR=io_addr] , and the [DMA=dma_no] are specified for the PCnet-ISA adapter card, the default values are assumed packet driver.

Note: INT=packet_int_no is a handle for an upper layer interface (normally 0x60 - 66). This is optional. An upper layer application such as TCP scans for the INT Hal between 0x60 - 66.

Keyword example

An example command line is: `pcntpk int=0x60 irq=3 ioaddr=0x300 dma=5`

Note: When using an Ethernet hub, turn OFF Full Duplex by adding: `fdup=00` (use lower case characters ONLY)

Example: `pcntpk int=0x60 irq=10 bustype=pci fdup=00`

- **DOS 7.0 with DOS Lan Services 5.0 for the 4695-3XX**

IBM 4695-3XX Integrated Ethernet Adapter

NDIS Driver Installation

Directory	Contents
\DOS	NDIS driver for DOS (PCNTND.DOS)

The IBM 4695-3XX Integrated Ethernet Adapter is usually configured by the PCI architecture. The default settings for this adapter will work with the IBM LAN Support Program 1.35 or later. The IBM 4695 NDIS driver program for DOS follows the Microsoft NDIS spec V2.0.1.

Installing DOS Lan Services is not easy. The installation error read as follows :

Install detected the following disk error. The listed file was not copied, error processing
-> PCNTND.DOS.

The following attempts to solve the problem:

1. Copy the driver to Disk 1 of the DOS Lan Services (DLS) Install Disk.
2. Copy the driver to the \net directory.

In order to install DOS Lan Services 5.0, select "no adapter card"; DOS Lan Services installs as if there is a card present. GUI, peer services and windows support will be installed. Complete the remainder of the installation as usual. Then use the files in Appendix A as an example to help configure the setup.

Other Possible Errors and Error Messages:	Recommendation:
You are logged on, but you have not been validated by the server.	Make sure the interrupt level in the protocol.ini is the same as the adapter.
Run-Time Error R6003 - Integer Divided by 0	Make sure the parameters used in the protocol.ini are correct

Refer to the examples in the 46953XX\DOS\DOSLAN directory.
If this problem continues get the DLS40.ZIP file.

CHAPTER 3.2

- DOS 7.0 with Lantastic 7.0 (3XX_IEA)

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Lantastic 7.0.

1. Copy the following files into a newly formatted diskette (A:):

\DOS\LANT70\PCNTND.DOS

\DOS\LANT70\PCNTND.NIF

\DOS\LANT70\PROTOCOL.INI

- 2. Start installation process for Lantastic 7.0. When prompted to select one of the following adapters to run with Lantastic software:**

Select "NDIS Support for Network Adapters" and press Enter.

- 3. At the next menu, "Insert the manufacturer's driver diskette".**

Insert the diskette created in step 1 into drive a: and type in the path of the driver: A:

- 4. After completing the installation of Lantastic, your CONFIG.SYS file should include the following statements to reflect the driver installation.**

DEVICE=..\LANTASTI\PCNTND.DOS

The protocol.ini file in the directory where your Lantastic files were written, such as C:\Lantasti, should include the following:

[PCNTND_NIF]

Drivename = PCNTND\$

Possible error code during Installation :

Cannot build a proper protocol.ini. And continue with installation;

Solution: Continue with the installation and review the protocol.ini in Appendix A. The protocol.ini in this directory should be used as an example to help configure the protocol.ini file.

Possible error code during IPL :

**Serial number not available. Fails at " REDIR XXXXX @STARTNET.CFG. "
(XXXXX = The workstation name)**

Solution: The licenses have run out for this Lantastic Software package.

If the Lantastic 7.0 Network Software is for a single user then it cannot be installed on both the server and 4695-3XX. Also the limit may have been exceeded for licenses purchased for Lantastic 7.0 Network Software.

CHAPTER 3.3

- **DOS 7.0 with Novell Netware 3.12 (3XX_IEA)**

The files in this NETWARE sub directory are organized as follows:

Directory	Contents
\NOVELL\DOS	IPX/SPX driver for DOS (ODI)

ODI Workstation for DOS

(The programs can be found in the 46953XX\DOS\NOVELL\WKSTN sub directory)

The ODI Driver program allows you to run multiple protocol stacks. It also allows you to install up to two network adapters in a workstation. The ODI driver supports "port, node address, protocol and frame" options. You can use these options to create your own NET.CFG file. The IBM 4695-3XX Integrated Ethernet Adapter uses INT=10 and PORT=1000 as default (Check SETUP for the correct settings of your IBM 4695). For detailed information on Keywords, please refer to Novell manual "NetWare ODI shell for DOS - NET.CFG options".

NOTE: The IPX.COM driver is not supported on the 4695-3XX. Use the PCNTNW.COM

to configure this system. An example is in Appendix A.

- 1) Copy the PCNTNW.COM and NET.CFG files (from this diskette) to the directory which contains Novell's LSL.COM, IPXODI.COM and NETx.COM files.
- 2) Follow Novell's instructions on using the ODI programs. You can substitute the PCNTNW.COM whenever a reference is made to the Hardware Specific Module.
- 3) A typical startup for an ODI workstation is as follows:

```
>LSL          --Link Support Layer Module provided by Novell
>PCNTNW       --Hardware Specific Module provided by IBM
>IPXODI       --IPX Protocol Stack Module provided by Novell
```

> NETBIOS.EXE -- Netbios Protocol provided by Novell
> NETx --DOS Support Module provided by Novell
>F:
>LOGIN

IBM DOS 7.0 is the preferred Operating System, this error could occur using a back level Novell NETX.EXE, network driver:

The Netware Workstation Shell (netx.exe) SHELL-332-29 Shell requires DOSv3.x through DOSv6.x.

To resolve this problem obtain the new version of " netx.exe " that supports DOS 7.0.

Possible Errors and Error Messages:	Recommendation:
Workstation hangs after the netx.exe driver is loaded.	Make sure the parameters in the NET.CFG are correct.
Workstation hangs after the ipxodi driver is loaded	Make sure the enabler parameter and path are in the NET.CFG file Review the NET.CFG file in sub-directory mentioned above.

Chapter 3.4

- DOS 7.0 with Windows for Workgroups (3.11) (3XX_IEA)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows for Workgroups.

1. Copy the following files into a newly formatted diskette (A:):

\WFW\PCNTN3.386

\WFW\PCNTND.DOS

\WFW\OEMSETUP.INF

2. Start installation process for Windows for Workgroups. When prompted to select an adapter from a menu to run with Windows for Workgroups software, select "Have a disk " press Enter.
3. At the next menu, Insert the manufacturer's driver diskette. Insert the diskette created in step 1 into drive a: and type in the path of the driver: A:\
4. Complete the installation of Windows for Workgroups.

Chapter 3.5

- Windows 95 (3XX_IEA)

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows 95.

NOTE: During the installation of Windows 95, the software's hardware detection (wizard) will automatically default the Integrated Ethernet Adapter to NE2000 driver. Retail Store Solutions would prefer/recommend the following driver to be used instead of the NE2000 driver.

1. Copy the following files into a newly formatted diskette (A:):

`\WIN95\MAC\NDIS3\PCNTN3.VXD`

`\WIN95\MAC\NDIS3\PCNTND.DOS`

`\WIN95\MAC\NDIS3\NETAMD.INF`

2. Select the " Control Panel " from the Desktop.
3. Select the " Network Icon ".

Select " Add "

Select " Adapter"

Select " Add "

Select "Have a disk " press Enter.

4. At the next menu, "Insert the manufacturer's driver diskette", Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:\
5. Complete the installation of adding an adapter to Windows 95.

6. Delete the NE2000 driver and protocols associated with it from the network.

Problem A: 4695-3XX installed with Windows 95 using Microsoft's TCPIP. Unable to copy a 6MB file from one workstation to another (peer to peer) or copy a 6MB file from a Windows NT 4.0 server to the 4695-3XX within a 15 second time frame.

SOLUTION: Change the Bus Type and Full Duplex parameters in the ethernet adapter to :

Bus Type = PCI

Full Duplex = OFF

Here's how to do it, from the Windows 95 Desktop:

Select " Control Panel "

Select " Network Icon "

Highlight the " AMD PCNET Family Ethernet Adapter (PCI&ISA)

Select " Properties "

Select " Advance "

Select Bus Type = PCI

Select Duplex = OFF

With this configuration a 6MB file was copied between to the two scenarios from Problem A, within 12 seconds.

**Note: The defaults for these two parameters are : Bus Type defaults to " ALL ".
Full Duplex defaults to " Defaults ".**

Chapter 3.6

- Windows NT 4.0 (3XX_IEA)**

Setup Information:

Note: While installing Windows NT 4.0 this error could occurred:

Setup is unable to locate the hard drive partition prepared by MS-DOS portion of Setup.

Other prompts : When you run the MS-DOS Windows NT setup program you must specify a temporary drive that is supported by Windows NT. See your system guide.

Solution : Installed DOS 7.0 on the hard drive then install Windows NT 4.0.

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows NT 4.0.

1. Copy the following files into a newly formatted diskette (A:\):

`\WIN\WINT40\AMDDL.G.DLL`

`\WIN\WINT40\AMDPCN.SYS`

`\WIN\WINT40\PCNET.HLP`

`\WIN\WINT40\OEMSETUP.INF`

2. Start installation process for Windows NT 4.0. When prompted to select an adapter from a menu to run with Windows NT 4.0 software:

Select "Have a disk " press Enter.

3. At the next menu, "Insert the manufacturer's driver diskette", insert the diskette created in step 1 into drive A: and type in the path of the driver or select the default: A:

4. Complete the installation of Windows NT 4.0.

Note: If Windows NT 4.0 was installed with or without an adapter, the following directions can be used to add the correct adapter (PCI AMD).

1. Copy the following files into a new formatted diskette (A:\):

`\WIN\WINT40\AMDDL.G.DLL`

`\WIN\WINT40\AMDPCN.SYS`

`\WIN\WINT40\PCNET.HLP`

\WIN\WINT40\OEMSETUP.INF

2. Select the " Control Panel " from the Desktop.

3. Select the " Network Icon ".

Select " Add "

Select " Adapter"

Select " Add "

Select "Have a disk " press Enter.

4. At the next menu, "Insert the manufacturer's driver diskette", insert the diskette created in step 1 into drive A: and type in the path of the driver: A:

5. Complete the installation for adding an adapter to Windows NT 4.0.

6. Delete the NE2000 driver and protocols associated with it from the network.

SECTION IV.

The Spectrum24 2.4GHz Wireless LAN PCMCIA Adapter (Symbol)

CHAPTER 4.0

- **INFORMATION**

Setup Information:

To test the Spectrum24 Wireless PCMCIA adapter card, the card's driver " slandis.exe " must be loaded. To load the slandis.exe driver a dos bootable diskette is needed with card and socket services in the config.sys file. During boot up of DOS 7.0, " Starting PC DOS " press F8 to step through config.sys to load the driver. Next, place the Spectrum24 Wireless Lan Software " PC Card Install Installation and Configuration Disk " V1.07-00, Part Number 21-16403-02 into the A: drive.

1. change directory to util

2. run s_info.exe

Check these parameters: Status " Associated "

Freq, Tx Bytes, Tx are changing

Make sure the NET_ID is the same for the

Spectrum24 Wireless adapter and the Access Point

Diversity " On " does not matter

If all of the parameters are set correctly and the Status is " Unassociated " either the Spectrum24 Wireless adapter or the Access Point is defective.

Note: To set power management mode for the Spectrum24 adapter add the following parameter to the PROTOCOL.INI file:

POWERMGMT = 1

CHAPTER 4.1

- **DOS 7.0 with DOS Lan Services 4.00 (Symbol)**

While installing DOS Lan Services an installation error read as follows :

Install Detected the following disk error. The listed file was not copied, error processing -> SLANDIS.EXE.

The following attempts to solve the problem failed:

- 1. Renamed SLANDIS.EXE to SLANDIS.DOS.**
- 2. Copied the driver to Disk 1 of the DOS Lan Services (DLS) Install Disk.**
- 3. Copied the driver to the \net directory.**

In order to install DOS Lan Services 5.0, select "no adapter card"; DOS Lan Services installs as if there is a card present. GUI, peer services and windows support will be installed and complete the remainder of the installation as usual. Then use the enclosed files as an example to help configure the setup. The configuration files, autoexec.bat and protocol.ini files are located in Appendix A.

Other Possible Errors and Error Messages:

Recommendation:

Unable to logon to the Server

**Make sure the Access Point is on
Make sure the SID, Channel and
Datarate match the Access Point's
parameters.**

**Make sure the ethernet cables from
Access Point and Server are in the
correct HUB or network.**

**You are logged on, but you have not
been validated by the server**

**Make sure the NetworkId in the
protocol.ini is the correct number.
Default is 101 or 1dd. In config.sys at
emm386.exe x=d000-d5ff Change
d000-d5ff to x=d000-d7ff.**

The Spectrum24 Wireless adapter needs 32kb instead of 24kb.

Run-Time Error R6003 - Integer Divided by 0 or Divide Overflow

Make sure the I/O Base 280 is not used in the protocol.ini.

Try interrupt 11 and I/O Base 300 320, 340, 380, or 400.

If this problem continues get the DLS40.ZIP file.

Note: In case of trouble logging onto the network, the DOS Lan Services Update files (DLS40.ZIP) may be needed. Obtain the update files from Austin Texas. The telephone number is 512-823-1148. Also, for Lan Support call 1-800-992-4777.

CHAPTER 4.2

- **DOS 7.0 with Lantastic 7.0 (Symbol)**

During the installation of Lantastic 7.0, when asked for the directory of the driver, leave it at the default - A:\. The Lantastic installation is looking for a *.DOS file and not the SLANDIS.EXE.

Solution : Rename or copy the SLANDIS.EXE to SLANDIS.DOS and the installation continues.

Possible error codes during Installation :

Cannot build a proper protocol.ini. And continue with installation

Solution: Continue with the install and review the protocol.ini in

Appendix A at the end of this document.

This protocol.ini should be used as an example to help configure the adapter.

Possible error code during IPL :

Serial number not available. Fails at " REDIR XXXXX @STARTNET.CFG. " XXXXX - The workstation name.

Solution: The licenses have run out for this Lantastic Software package. If the Lantastic 7.0 Network Software is for a single user then it cannot be installed on both the server and 4695-3XX. Also the limit may have been exceeded for licenses purchased for Lantastic 7.0 Network Software.

FAIL LOADHIGH AI-NDIS BIND_TO=SLAND_NIF

Solution: The SLAND_NIF does not match the parameter in the protocol.ini. Change the SLAND_NIF in the Startnet.cfg file, located in the lantasti directory, to match the correct parameter in the protocol.ini.

Example - Change SLAND_NIF to SLA_NIF.

Note: For help with setup and configuration of the Spectrum24 Wireless LAN PCMCIA adapter with the 4695-3XX refer to Appendix A at the end of this chapter for examples of config.sys, autoexec.bat, protocol.ini and startnet.cfg files.

CHAPTER 4.3

- **DOS 7.0 with Novell Netware 3.12 (Symbol)**

The CONFIG.SYS file should have the following entries :

device = c:\dos\power.exe

device = c:\dos\ibmdss01.sys

device = c:\dos\ibmdoscs.sys

install = c:\cardsoft\cs_apm.exe

Note: POWER.EXE and CS_APM.EXE are needed only if using APM.) After booting the PC, the following lines should be present in a batch file. These commands install the LSL IPX/ODI stack:

slainit (Installs the Spectrum24 CS/SS Client)

lsl

slaodi

ipxodi

netx

f:

login

Note: This is the same as the setup without card/socket services except for the addition of the SLAINIT program. If the PC is configured for audio tones, a standard beep-beep (low-high) should be heard indicating successful installation. A hi-low beep indicates successful removal.

The NET.CFG file should contain the statement "cardservices yes". Optionally, the slainit section may be specified, along with the "verbose" keyword:

link driver slaodi

frame ethernet_II

frame ethernet_802.2

cardservices yes

socketservices yes

Mode

IOAddress 300

Memory D000

Interrupt 5

; IF you have dual antennas, enable the following:

; Diversity 1

net_id 132

link driver slainit

verbose yes

Note: The "link driver" lines must start in column 1. Comments start in column 1 with a ";". Other lines must have a space in column 1. The socket services keyword is optional - it is overridden by the card services keyword if Card Services is installed.

1.2. Socket Services.

The following example shows the installation of the ODI driver using Socket Services. SLAINIT will, by default, first search for Card Services. If CS is not installed, it will look for Socket Services. Using Socket Services, the card should be installed at boot time, however dynamic insertion, removal and APM are not supported. Dynamic window resources are also not supported.

```
device = c:\dos\ibmdss01.sys
```

After booting the PC, the following lines should be present in a batch file. These commands install the LSL IPX/ODI stack:

```
slainit      (Installs the Spectrum24 CS/SS Client)
```

```
lsl
```

```
slaodi
```

```
ipxodi
```

```
netx
```

```
f:
```

```
login <user_name>
```

The NET.CFG file should contain the statement "socket services yes":

```
link driver slaodi
```

```
frame ethernet_II
```

```
frame ethernet_802.2
```

```
socketservices yes
```

Mode

IOAddress 300

Memory D000

Interrupt 5

; IF you have dual antennas, enable the following:

; Diversity 1

net_id 101

link driver slainit

verbose yes

Possible Errors and Error Messages:

Recommendation:

**NET_ID and Diversity 0 failed
Error Code - Invalid Keyword was
specified in NET.CFG**

**In the NET.CFG file change NET_ID
to Domain. Example NET_ID 101
should be Domain 101 for versions
less than 3.00 for firmware and 2.64
for the slandis.com mac driver.**

**The workstation hangs after the
ipxodi driver is loaded**

**Make sure the frame ethernet_802.3
parameter is present in the NET.CFG
file.
Make sure the mode parameter is
commented out or removed from the
NET.CFG file.**

**The workstation hangs after the
netx.exe driver is loaded.**

**Make sure the Domain's value is
the Access Point NET_ID value.**

Note: For help with setup and configuration of the Spectrum24 Wireless LAN PCMCIA with the 4695-3XX refer to Appendix A for examples of config.sys, autoexec.bat and net.cfg files.

Chapter 4.4

- **DOS 7.0 with Windows for Workgroups (3.11) Symbol**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for for Windows for Workgroups.

1. Use Disk 1 from Symbol to configure the wireless adapter.
2. Start installation process for Windows for Workgroups. When prompted to select an adapter from a menu to run with Windows for Workgroups software:

Select "Have a disk " press Enter.

3. The next menu, Insert the manufacturer's driver diskette and type in the path of the driver: A:\
4. Complete the installation of Windows for Workgroups.

Chapter 4.5

- **Windows 95 (Symbol)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows 95.

NOTE: During the installation of Windows 95, the software's hardware detection (wizard) will automatically default the Integrated Ethernet Adapter to NE2000 driver. Retail Store Solution would prefer/recommend the following driver were used instead of the NE2000 driver.

1. Use Disk 2 from Symbol to configure the wireless adapter.

The following files should be in the \WIN95 sub-directory:

\WIN95\S24TRANS.VXD

\WIN95\SLANT.SYS

\WIN95\NETSLA.INF

2. Select the " Control Panel " from the Desktop.

3. Select the " Network Icon ".

Select " Add "

Select " Adapter"

Select " Add "

Select "Have a disk " press Enter.

4. The next menu, Insert the manufacturer's driver diskette. Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:

5. Complete the installation of adding an adapter to Windows 95.

6. Delete the NE2000 driver and protocols associated with it from the network.

For troubleshooting read the 4695-3XX Installation and Setup Instructions (4695INST.PDF) and the 4695-2XX OS Installation Recommendations (4695_REC.PDF).

- **HOW TO FIND:**

4695-3XX/2XX SOFTWARE DOWNLOADS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support

- 4695 Software Downloads

Download the appropriate 4695 Support files from the download table.

Chapter 4.6

- **Windows NT 4.0 (Symbol)**

Setup Information:

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows NT 4.0.

- 1. Use Disk 2 of the Spectrum24 ISA/PCCARD Installation disk in the \WINNT35 sub-directory.**
- 2. Start installation process for Windows NT 4.0. When prompted to select an adapter from a menu to run with Windows NT 4.0 software:**

Select "Have a disk " press Enter.

- 3. The next menu, Insert the manufacturer's driver diskette and type in the path of the driver or select the default:**

A:\WINNT35

- 4. Complete the installation of Windows NT 4.0.**

SECTION V.

AN OEM (Xircom) 10/100 Ethernet Credit Card Adapter

CHAPTER 5.0

- **INFORMATION (Xircom)**

The Xircom 10/100 Ethernet Credit Card was used to evaluate a 100MB adapter with 4695-3XX.

CHAPTER 5.1

- **DOS 7.0 with DOS Lan Services 5.0 (Xircom)**

While installing DOS Lan Services an installation error read as follows :

Install Detected the following disk error. The listed file was not copied, error processing -> CE3NDIS.EXE.

The following attempts to solve the problem failed:

1. Copied the driver to Disk 1 of the DOS Lan Services (DLS) Install Disk.
2. Copied the driver to the \net directory.

In order to install DOS Lan Services 5.0 select "no adapter card"; DOS Lan Services installs as if there is a card present. GUI, peer services and windows support will be installed and complete the remainder of the installation as usual.

Note: In case of trouble logging onto the network, the DOS Lan Services Update files (DLS40.ZIP) may be needed. Obtain the update files from Austin Texas. The telephone number is 512-823-1148. Also, for Lan Support call 1-800-992-4777.

CHAPTER 5.2

- **DOS 7.0 with Lantastic 6.0 (Xircom)**

When asked for the driver get the Xircom Ethernet Adapter Software diskette and input A:\NDIS. Lantastic will build or add the protocol.ini and other needed network files. If an error occurs during the installation rename the CE3NDIS.EXE to CE3NDIS.DOS.

Possible error codes during Installation :

Cannot build a proper protocol.ini. And continue with installation

Solution: Continue with the installation and review the protocol.ini on the Xircom Installation Disk (Disk 1).

Possible error code during IPL :

**Serial number not available. Fails at " REDIR XXXXX @STARTNET.CFG. "
(XXXXX - The workstation name)**

Solution: The licenses have run out for this Lantastic Software package. If the Lantastic 7.0 Network Software is for a single user then it cannot installed on both the server and 4695-3XX. Also the limit may have been exceeded for licenses purchased for Lantastic 7.0 Network Software.

Note: For help with setup and configuration of the Xircom 10/100 Ethernet LAN PC Card with the 4695-3XX refer to the README.TXT on the Installation Diskette (Disk 2).

CHAPTER 5.3

- **DOS 7.0 with Novell Netware 3.12 (Xircom)**

For installation and setup use the CE3ODI.COM driver from the Installation Diskette. Since IBM DOS 7.0 is the preferred Operating System, this error could occur using Novell NETX.EXE, network driver:

The Netware Workstation Shell (netx.exe).SHELL-332-29 Shell requires DOSv3.x through DOSv6.x.

To resolve this problem obtain the new version of " netx.exe " that supports DOS 7.0 or use install the vlm's from the Xircom Installation Diskette (Disk 2) in the \ODI sub-directory.

Possible Errors and Error Messages:

Recommendation:

The workstation hangs

Make sure Link Driver CE3ODI is being used in the NET.CFG file.

The workstation hangs after the netx.exe driver is loaded

Make sure the Frame Ethernet_802.3 is in the NET.CFG file. Make sure the interrupt level is set to 10.

Note: The Sure Point Card and Socket Services will set the default memory and interrupt level if these parameters are not in the NET.CFG file. My recommendation : Allow the Sure Point Card and Socket Services to determine the memory location, but set the interrupt level manually in NET.CFG file.

Chapter 5.4

- **DOS 7.0 with Windows for Workgroups (3.11) (Xircom)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows for Workgroups.

1. Use Disk 2 of the Xircom Credit CARD Ethernet Adapter 10/100 Installation disk. The following files should be in the \WFW sub directory.

\WFW\CE3NDIS.386

\WFW\CE3NDIS.DOS

\WFW\OEMSETUP.INF

2. Start installation process for Windows for Workgroups. When prompted to select an adapter from a menu to run with Windows for Workgroups software:

Select "Have a disk " press Enter.

3. The next menu, Insert the manufacturer's driver diskette. Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:\WFW
4. Complete the installation of Windows for Workgroups.

Chapter 5.5

- Windows 95 (Xircom)

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows 95.

NOTE: During the installation of Windows 95, the software's hardware detection (wizard) will automatically default the Integrated Ethernet Adapter to NE2000 driver. Retail Store Solution would prefer/recommend the following driver were used instead of the NE2000 driver.

1. Use Disk 2 of the Xircom Credit CARD Ethernet Adapter 10/100 Installation disk. The following files should be in the \WIN95 sub-directory.

\WIN95\CE3.VXD

\WIN95\CE3NDIS.DOS

\WIN95\NETXIR.INF

2. Select the " Control Panel " from the Desktop.
3. Select the " Network Icon ".

Select " Add "

Select " Adapter"

Select " Add "

Select "Have a disk " press Enter.

- 4. The next menu, Insert the manufacturer's driver diskette insert the diskette created in step 1 into drive A: and type in the path of the driver: A:\WIN95**
- 5. Complete the installation of adding an adapter to Windows 95.**
- 6. Delete the NE2000 driver and protocols associated with it from the network.**

Chapter 5.6

- Windows NT 4.0 (Xircom)**

Setup Information:

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows NT 4.0.

- 1. Use Disk 2 of the Xircom Credit CARD Ethernet Adapter 10/100 Installation disk. The following files should be in the directory.**

\CE3.DLL

\CE3.SYS

\OEMSETNT.INF

- 2. Start installation process for Windows NT 4.0. When prompted to select an adapter from a menu to run with Windows NT 4.0 software: Select "Have a disk " press Enter.**
- 3. The next menu, Insert the manufacturer's driver diskette. Insert the diskette created in step 1 into drive A: and type in the path of the driver or select the default: A:**
- 4. Complete the installation of Windows NT 4.0.**

SECTION VI.

The IBM Token-Ring 16/4 Credit Card Adapter

CHAPTER 6.0

- **INFORMATION (TRCC)**

For the IBM Token-Ring 16/4 Credit Card Adapter to work, 3 drivers are needed for DOS:

IBMDSS01.SYS -> IBM SUREPATH Socket Services

IBMDOSCS.SYS -> IBM SUREPATH Card Services

RMU210.SYS -> IBM SUREPATH Resource Manager

Example: DEVICE=C:\DOS\HIMEM.SYS

DOS=HIGH,UMB

DEVICE=C:\DOS\EMM386.EXE RAM NOEMS X=C000-CFFF X=D000-DFFF

DEVICE=C:\IBMDSS01.SYS

DEVICE=C:\IBMDOSCS.SYS

DEVICE=C:\RMU210.SYS /MA=C000-CFFF

REM Resource Manager gets a block of memory (C000-CFFF) to work with

FILES=120

BUFFERS=50

PROTOCOL.INI FILE

[PROTMAN]

DriverName=PROTMAN\$

[TCPIP_V21]

DriverName=DOSNDIS\$

Bindings=IBMTOKCS

[IBMTOKCS]

DriverName=IBMTOK\$

MAXTRANSMITS=6

RECVBUFS=2

RECVBUFSIZE=256

XMITBUFS=1

PCMCIA

EARLYRELEASE

RINGSPEED=16

- 1. Recommendation, do not set the specified rom and ram addresses in the protocol.ini file. Let the Resource Manager find a place for them.**
- 2. There are two types of tones for the token-ring driver.**
 - 2 beeps -> the adapter is OPERATIONAL.**
 - 4 beeps -> the driver was unable to allocate resources (memory, interrupt, etc).**
- 3. Make sure the Resource Manager is configured correctly.**
- 4. Make sure Card and Socket Services are configured correctly**
- 5. Make sure the rom and ram were not specified in the protocol.ini.**
- 6. Replace the Defective ethernet adapter.**

- HOW TO FIND THE:**

PCMCIA CARD and SOCKET SERVICES DEVICE DRIVERS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads
- Download 4695 Supplemental Drivers Diskette (4695SUPP.EXE)

Refer to the \PCMCIA sub directory.

THE LATEST TOKEN-RING CREDIT CARD NETWORK DRIVERS CAN BE FOUND At <http://www.network.ibm.com/tra/traprod.html>

CHAPTER 6.1

- **DOS 7.0 with DOS Lan Services 4.00 (TRCC)**

While installing DOS Lan Services if an installation error occurred proceed as follows, install Detected the following disk error. The listed file was not copied, error processing IBMTOKCS.DOS.

The following attempts to solve the problem failed:

1. Copied the driver to Disk 1 of the DOS Lan Services (DLS) Install Disk.
2. Copied the driver to the \net directory.

In order to install DOS Lan Services 5.0 select "no adapter card"; DOS Lan Services installs as if there is a card present. GUI, peer services and windows support will be installed and complete the remainder of the installation as usual.

Note: In case of trouble logging onto the network, the DOS Lan Services Update files (DLS40.ZIP) may be needed. Obtain the update files from Austin Texas. The telephone number is 512-823-1148. Also, for Lan Support call 1-800-992-4777.

CHAPTER 6.2

- **DOS 7.0 with Lantastic 6.0 (TRCC)**

CHAPTER 6.3

- **DOS 7.0 with Novell Netware 3.12 (TRCC)**

Interrupt 11 and I/O Base 380 are the preferred settings for this LAN driver. Alternatively, I/O Base 340 and 360 will work with this driver and interrupt levels 9 and 10. Since IBM DOS 7.0 is the preferred Operating System, this error could occur using Novell NETX.EXE, network driver: The Netware Workstation Shell (netx.exe).SHELL-332-29 Shell requires DOSv3.x through DOSv6.x. To resolve this problem obtain the new version of " netx.exe " that supports DOS 7.0.

Possible Errors and Error Messages:

Recommendation:

The workstation hangs

Make sure Link Driver TOKENCS is used in the NET.CFG file

The workstation hangs after the netx.exe driver is loaded

Make sure the Frame Ethernet_802.3 is in the NET.CFG file.

Note: The Sure Point Card and Socket Services will set the default memory and interrupt level if these parameters are not in the NET.CFG file.

Recommendations : Allow the Sure Point Card and Socket Services to determine the memory location, but set the interrupt level manually in NET.CFG file.

Chapter 6.4

- **DOS 7.0 with Windows for Workgroups (3.11) (TRCC)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows for Workgroups.

1. Copy the following files into a newly formatted diskette:

\WFW\PCNTN3.386

\WFW\PCNTND.DOS

\WFW\OEMSETUP.INF

2. Start installation process for Windows for Workgroups. When prompted to select an adapter from a menu to run with Windows for Workgroups software:

Select "Have a disk " press Enter.

3. The next menu, Insert the manufacturer's driver diskette. Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:

4. Complete the installation of Windows for Workgroups.

Chapter 6.5

- **Windows 95 (TRCC)**

WINDOWS 95 DEVICE DRIVERS

Diskette #1 contains the latest device drivers for Windows 95, IBMTOK.VXD. This driver is an update to the same driver delivered with Windows 95. Some changes must be made to your system for IBMTOK.VXD to load properly. Please follow the instructions below:

Verify the correct version of IBMTOK.VXD is installed. To do this, go to the WINDOWS\SYSTEM sub directory on your machine. DIR IBMTOK.VXD on the command line. The entry should appear as IBMTOK.VXD dated 12-21-95 9:34PM or later. If this entry is not there, copy IBMTOK.VXD from the diskette to this location and re-boot the machine.

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows 95.

NOTE: During the installation of Windows 95, the software's hardware detection (wizard) will automatically default the Integrated Ethernet Adapter to NE2000 driver. Retail Store Solution would prefer/recommend the following driver were used instead of the NE2000 driver.

1. Copy the following files into a newly formatted diskette (A:):

IBMTOK.VXD

IBMRA301.VXD

NETIBMC4.INF

FIXWIN95.BAT

2. Select the " Control Panel " from the Desktop.

3. Select the " Network Icon "

Select " Add "

Select " Adapter"

Select " Add "

Select "Have a disk " press Enter.

4. The next menu, Insert the manufacturer's driver diskette. Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:

5. Complete the installation of adding an adapter to Windows 95.

6. Delete the NE2000 driver and protocols associated with it from the network.

Chapter 6.6

- **Windows NT 4.0 (TRCC)**

Setup Information:

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows NT 4.0.

WINDOWS NT AND WINDOWS 95 DEVICE DRIVERS

Diskette #2 contains the latest device drivers for Windows NT: IBMTKPCM.SYS

Get the latest device drivers from: <http://www.networking.ibm.com/tra/traprod.html>

IBMTKPCM.SYS is an NDIS 3.0 device driver for Windows NT 3.51 or greater.

This driver REQUIRES that Service Pack #2 or higher has been applied to your Windows NT system. It will only function in a computer with an Intel 82365SL or compatible socket controller. Windows NT does not support the Databook socket controllers at this time. To install this driver:

- 1. Copy the following files into a newly formatted diskette (A:):**

TOKCFG.DLL

IBMTKPCM.SYS

TOKCFG.HLP

OEMSETUP.INF

TOKCFG.CNT

- 2. Insert the Token-Ring Credit Card into a standard PCMCIA socket.**
- 3. On the Windows NT desktop, select Main**
- 4. In the Main Window, select Control Panel**
- 5. In the Control Panel Window, select Network**
- 6. Select Add Adapter. The computer will go out and generate a list of available adapters. When this window comes up, scroll to the bottom of the list. This entry requires a requires a diskette from the manufacturer. Use the newly formatted**

Note: Use the newly formatted diskette created in step 1 or Disk 2 from the IBM Token-Ring Auto 16/4 Credit Card Adapter. Select this entry.

- 7. Place the driver diskette in the diskette drive and select OK.**
- 8. Select OK on the Select OEM option listing IBM Token-Ring PCMCIA Compatible Adapter**
- 9. A list of parameters are displayed to the user. Choose the defaults or change any parameter. Select OK when you are finished.**
- 10. Select OK on to accept the configuration.**
- 11. Restart the machine.**

SECTION VII. The IBM Turbo Token-Ring 16/4 Adapter

CHAPTER 7.0

- **INFORMATION (TURBO_TR)**

For a configuration of 4694-244,-144,-124 and -104, with the 4695 POS Adapter II and the auto or auto wake 16/4 token-ring adapter or the turbo 16/4 token-ring adapter. Token-Ring Adapter Setting using Lanaid to configure it.

Adapter Mode = Auto16 Compatible
Configuration = Legacy (Note at the end)
I/O Address = A20-A23
Interrupt = 11 (Note at the end)
Ram Address = D0000 - D3FFF
Rom Address = D4000 - D5FFF
Remote IPL = Enable
Token-Ring Date Rate = 4 or 16
Auto Sense Date Rate = Enable or Disable
Adapter Bus Width = 16

Notes: Configuration = Legacy : The 4694-144 and predecessor models were not design for Plug and Play (PnP), so Legacy is required.

Interrupt Level = 11 : This interrupt level will work if the SIO is set to 7. If SIO or the 4695 POS Adapter II is set to 11 then use interrupt level 9. There will be a conflict (9*) on this parameter when you viewing it using lanaid but the adapter will function correctly.

• **OTHER SETTINGS**

4694 SETUP

NVRAM start : D9000

NVRAM 1st 4k : Enabled

NVRAM 2nd 4k : Page 1

SRAM start : D8000

SIO Interrupt : IRQ7 (If 4695 POS Adapter II is used, set the interrupt to 11)

4695 POS Adapter II SETTINGS : (Dip Switches)

1 = DOWN, 2 = DOWN, 3 = DOWN, 4 = DOWN, 5 = UP, 6 = UP

I/O Address : 6C0 - 6DF

Shared RAM : DC000 - DFFFF

Interrupt : IRQ7

Possible Errors:

2 short beeps and

**1 long beep when powering
on the 4694-124 or -104**

IBM POS Error 830E

**Shared Buffer Latch
Adapter
the Example**

IBM POS Error 830E

Recommendation

Use the Proxy diskette to disable the

**RPL parameter in CMOS. This will resolve
the conflict between the 4695 POS Adapter
II and rpl rom.**

Base I/O address conflict between

**4694-XXX SRAM and the 4695 POS
II. Resolve the conflict by using**

above.

Base I/O address conflict between

**NVRAM Corrupted
Adapter**

**4694-XXX NVRAM and the 4695 POS II.
Resolve the conflict by using the Example
above.**

Other 4695 POS Adapter II switch configurations:

4695 POS Adapter II SETTINGS : (Dip Switches)

1 = DOWN, 2 = UP, -> I/O Address : 640-65F

3 = DOWN, 4 = UP, -> Shared RAM : D0000 - D3FFF

5 = UP -> PRIMARY ADAPTER

6 = UP -> IRQ7

1 = UP, 2 = DOWN, -> I/O Address : 680-69F

3 = UP, 4 = DOWN, -> Shared RAM : D8000 - DBFFF

5 = UP -> PRIMARY ADAPTER

6 = UP -> IRQ7

NOTE: SWITCH 5 = DOWN -> SECONDARY ADAPTER

SWITCH 6 = DOWN -> IRQ11

**The TURBO TOKEN-RING NETWORK DRIVERS can be found at:
<http://www.network.ibm.com/tra/traprod.html>**

**Updated diskette images for the IBM Turbo 16/4 Token-Ring ISA Adapter or IBM Auto
Wake Token-Ring Adapter can now be obtained via the World Wide Web at:**

<http://www.raleigh.ibm.com/nes/nestoken.htm>

**Select your Adapter. All the items in the list are complete diskette images. This is in
addition to the dial-in BBS at 1-919-517-0001.**

CHAPTER 7.1

- **DOS 7.0 with DOS Lan Services 5.00 (Turbo_TR)**

A common source of install problems is conflicts between EMM386 and the RAM and ROM areas assigned to the adapter. Please ensure that you exclude the area (ROM and RAM) used by the adapter from use by EMM386. '/X=CC00-D000' on the EMM386 line in CONFIG.SYS will exclude the region from CC00 through D000 from being used by EMM386. Remember to reboot your machine after changing CONFIG.SYS. The 3.0 System hangs when windows starts. When running Windows 3.1 or WFWG, you must prevent windows from using the memory locations assigned to the adapter. In the file system.ini (in the windows directory) under the heading 386Enh, Add the statement "EMMExclude=xxxx-yyyy". For example, if the adapter is configured in enhanced mode at location D000, add "EMMExclude=D000-D200". While installing DOS Lan Services if an installation error occurs proceed as follows, Install Detected the following disk error. The listed file was not copied, error processing -> IBMTOKCS.DOS.

The following attempts to solve the problem failed:

1. Copied the driver to Disk 1 of the DOS Lan Services (DLS) Install Disk.
2. Copied the driver to the \net directory.

Install DOS Lan Services 5.0 select "no adapter card"; DOS Lan Services installs as if there is a card present. GUI, peer services and windows support will be installed and complete the remainder of the installation as usual.

CHAPTER 7.2

- **DOS 7.0 with Lantastic 6.0 (Turbo_TR)**

CHAPTER 7.3

- **DOS 7.0 with Novell Netware 3.12 (Turbo_TR)**

Interrupt 11 and I/O Base 380 are the preferred settings for this LAN driver. Alternatively, I/O Base 340 and 360 will work with this driver and interrupt levels 9 and 10. Since IBM

DOS 7.0 is the preferred Operating System, this error could occur using Novell NETX.EXE, network driver: The Netware Workstation Shell (netx.exe).SHELL-332-29 Shell requires DOSv3.x through DOSv6.x. To resolve this problem obtain the new version of " netx.exe " that supports DOS 7.0.

Possible Errors and Error Messages:

Recommendation:

The workstation hangs

Make sure Link Driver TOKENCS is being used in the NET.CFG file

The workstation hangs after the netx.exe driver is loaded

Make sure the Frame Ethernet_802.3 is in the NET.CFG file.

Note: The Sure Point Card and Socket Services will set the default memory and interrupt level if these parameters are not in the NET.CFG file.

Recommendation: Allow the Sure Point Card and Socket Services to determine the memory location, but set the interrupt level manually in NET.CFG file.

Chapter 7.4

- **DOS 7.0 with Windows for Workgroups (3.11) (Turbo_TR)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows for Workgroups.

- 1. Use Disk 2, the IBM Turbo 16/4 Token-Ring ISA Adapter Device Drivers: The Windows for Workgroups device driver (IBMTOK5.386) is located in the \WFW sub-directory.**
- 2. Start installation process for Windows for Workgroups. When prompted to select an adapter from a menu to run with Windows for Workgroups software:
Select "Have a disk " press Enter.**
- 3. At the next menu, "Insert the manufacturer's driver diskette", Insert the Disk 2 into drive a: and type in the path of the driver: A:**
- 4. Complete the installation of Windows for Workgroups.**

Chapter 7.5

- **Windows 95 (Turbo_TR)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows 95.

NOTE: During the installation of Windows 95, the software's hardware detection (wizard) will automatically default the Integrated Ethernet Adapter to NE2000 driver. The following procedure is recommended instead of using the NE2000 driver.

1. Copy the following files into a newly formatted diskette (A:):

IBMTOK5.VXD

NETIBM.INF

2. Select the " Control Panel " from the Desktop.

3. Select the " Network Icon ".

Select " Add "

Select " Adapter"

Select " Add "

Select "Have a disk " press Enter.

4. At the next menu, "Insert the manufacturer's driver diskette", Insert the diskette created in step 1 or use Disk 2, from the IBM Turbo 16/4 ISA Adapter Device Drivers into drive A: and type in the path of the driver:

A:\ for the diskette created in step 1.

A:\WIN95 for Disk 2.

5. Complete the installation.

6. Delete the NE2000 driver and protocols associated with it from the network.

Chapter 7.6

- Windows NT 4.0 (Turbo_TR)**

Setup Information:

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows NT 4.0.

1. Copy the following files into a newly formatted diskette (A:):

EDITSRAM.DLL

IBMTOK5.SYS

EDITSRAM.HLP

OEMSETUP.INF

2. Start installation process for Windows NT 4.0. When prompted to select an adapter from a menu to run with Windows NT 4.0 software, Select "Have a disk " press Enter.

3. AT the next menu, "Insert the manufacturer's driver diskette", Insert the diskette created in step 1 or use Disk 2, from the IBM Turbo 16/4 ISA Adapter Device Drivers into drive A: and type in the path of the driver:

A:\ for the diskette created in step 1.

A:\NT for Disk 2.

4. Complete the installation.

NOTE: Problems installing Windows NT 4.0. When installing Windows NT 4.0 with the Turbo 16/4 adapter, the user will be asked to select from a list of network adapters or to select 'have disk'. If 'have disk' is selected, sometime later you will get the error 'unable to open file ... editsram.dll'. To install NT 4.0 look at <http://www.raleigh.ibm.com/nes/nestoken.htm#tri164t> and select the item named 16/4 ISA Turbo NT 4.0 adapter install fix. This package contains both instructions and a changed inf file that will let you work around this problem.

SECTION VIII.

The IBM 4695-2XX Integrated 10 MB Ethernet Adapter

CHAPTER 8.0

- **INFORMATION**

IBM 4695-2XX Integrated Ethernet Adapter NDIS Driver Installation

Directory	Contents
\DOS	NDIS driver for DOS (IBMENI.DOS)

The IBM 4695 Integrated Ethernet Adapter is usually configured for IOBase=300 and IRQ=5 but IRQ=10 is recommended. Both IRQ levels are supported by IBM LAN Support Program 1.35 or later. Run SETUP to check the IOBase and IRQ values for your IBM 4695. The IBM 4695 NDIS driver program for DOS follows the Microsoft NDIS spec V2.0.1.

HOW TO FIND THE:

4695-2XX INTEGRATED ETHERNET NETWORK DRIVERS

At <http://www.raleigh.ibm.com/rds/>

- Terminal Hardware Support
- 4695 Software Downloads
- Download 4695 Supplemental Drivers Diskette (4695SUPP.EXE)
- Refer to the various networking sub directories

How to replace an installed driver using the IBM LAN Support Program

To install the IBM LAN Support Program into the 4695-2XX system use the IBMENI.DOS driver to replace the installed driver program. Follow the instructions below to change the contents of CONFIG.SYS and PROTOCOL.INI files.

1) Copy IBMENI.DOS to the directory where the IBM LAN Support program resides. The IBMENI.DOS driver can be found on the 4695-2XX Supplemental Drivers Diskette.

2) Modify the original NDIS device driver statement in CONFIG.SYS as follows:

DEVICE = [drive]:\path\IBMENI.DOS

3) Modify the PROTOCOL.INI file as follows:

BINDINGS = IBMENI

[IBMENI]

DRIVERNAME = IBMENI\$

IOBase = 0X300

Interrupt = 10

Installation of IBM 4695 Integrated Ethernet Driver using LSP

1. Copy the following files into a directory called \dos on a newly formatted diskette.

\DOS\IBMENI.DOS

\DOS\IBMENI.NIF

2. Install IBM DOS 7.0 into the 4695-2XX.

3. Insert IBM LAN Support Program diskette in a: drive and type a:dxmaid. Press Enter to run the LSP program.

>LSP --Pass all logo and information screens by pressing ENTER.

Select yes to " Do you have adapter option diskette?"

Select yes to " Do you need 802.2 interface support?"

Do not change any other options.

Press Enter for driver files to be processed.

When instructed, insert the driver diskette you created in step 1 into the a: drive. Press ENTER on "Process adapter option diskette" On the screen titled "Current Configuration", at the "Selections for Adapter Window" Select "IBM 4695 Integrated Ethernet Adapter (IBMENI.DOS)". You may want to leave other windows unchanged.

Press F4 to install the driver. Follow the instructions to complete installation of LSP. The CONFIG.SYS and PROTOCOL.INI files should reflect the integrated ethernet adapter's setup by including these statements:

```
\CONFIG.SYS
```

```
Device= \LSP\IBMENI.DOS
```

```
\LSP\PROTOCOL.INI
```

```
[IBMENI_MOD]
```

```
Drivername = IBMENI$
```

```
IOBase = 0X300
```

```
Interrupt = 10
```

4. Install LAN Requester 5.0 software. For more information and instructions, please refer to chapter 3.1.

CHAPTER 8.1

- DOS 7.0 with Lantastic 6.0 (2XX_IEA)

IBM 4695-2XX Integrated Ethernet Adapter Installation procedure for Lantastic 7.0.

1. Copy the following files into a directory called \dos on a newly formatted diskette.

```
\LAN\NDIS\DOS\IBMENI.DOS
```

```
\LAN\NDIS\DOS\IBMENI.NIF
```

```
\LAN\NDIS\DOS\PROTOCOL.INI
```

2. Start installing Lantastic on your file server. When prompted to select one of the following adapters to run with your Lantastic software, Select "NDIS Support for Network Adapters" and press Enter.

3. At the next menu will ask you to "Insert the manufacturer's driver diskette", Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:\DOS
4. After completing the installation of Lantastic, your CONFIG.SYS file should include the following statements to reflect the driver installation.

DEVICE=..\LANTASTI\IBMENI.DOS

The protocol.ini file in the directory where your Lantastic files were written, such as C:\Lantasti, should include the following:

[IBMENI_NIF]

Drivername = IBMENI\$

Possible error code during Installation: Cannot build a proper protocol.ini.

Solution: Continue with the installation and review the protocol.ini in Appendix A. The protocol.ini in Appendix A should be used as an example.

Possible error code during IPL : Serial number not available. Fails at " REDIR XXXXX @STARTNET.CFG. " (XXXXXX - The workstation name)

Solution: The licenses have run out for this Lantastic Software package. If the Lantastic 7.0 Network Software is for a single user then it cannot installed on both the server and 4695-2XX. Also the limit may have been exceeded for licenses purchased for Lantastic 7.0 Network Software.

Chapter 8.2

- DOS 7.0 with Novell Netware 3.12 (2XX_IEA)

An alternative to using these drivers is to use drivers for a Novell NE2000 adapter since the 4695-2XX LAN adapter is generally compatible with the NE2000 driver. The IBM 4695-2XX LAN adapter defaults to I/O address 300H, and IRQ 5. You must run the SETUP program to change the I/O address and IRQ setting of your IBM 4695-2XX. Use the NE2000 drivers as long as they are configured for the above addresses and interrupt levels. Editing of NET.CFG or equivalent files is usually required as NE2000 may default to INT=3 and PORT=300H. The files in this NETWARE sub directory are organized as follows:

Directory	Contents
\NOVELL\DOS	IPX/SPX driver for DOS (ODI)
\NOVELL\OS2	IPX/SPX driver for OS/2 (ODI)

NETWARE LITE USERS

- 1) Follow the normal installation procedures as instructed by NetWare Lite. When asked to select a network driver, simply choose "NOVELL NE2000".**
- 2) After installation completed, modify the STARTNET.BAT file as follows:**

From:

LSL

NE2000

IPXODI A

CLIENT

To:

LSL

IBMENIO

IPXODI A

CLIENT

- 3) Copy \NOVELL\DOS\NET.CFG and \NOVELL\DOS\IBMENIO.COM files to the NWLITE sub directory which was created when you installed NetWare Lite.**
- 4) You may run STARTNET to access the Novell network.**

ODI DRIVER SETUP

ODI Workstation for DOS

(These programs can be found in the \NOVELL\DOS sub directory)

The ODI Driver program allows you to run multiple protocol stacks. It also allows you to install up to two network adapters in a workstation. The ODI driver supports "port, node address, protocol and frame" options. You can use these options to create your own NET.CFG file. The IBM 4695 Integrated Ethernet Adapter uses INT=5 and PORT=300 as default (Check SETUP for the correct settings of your IBM 4695). For detailed info on Keywords, please refer to Novell manual "NetWare ODI shell for DOS - NET.CFG options".

- 1) Copy the IBMENIO.COM and NET.CFG files (from this diskette) to the directory which contains Novell's LSL.COM, IPXODI.COM and NETx.COM files.
- 2) Follow Novell's instructions on using the ODI programs. You can substitute the IBMENIO.COM whenever a reference is made to the Hardware Specific Module.
- 3) A typical startup for an ODI workstation is as follows:

```
>LSL          --Link Support Layer Module provided by Novell
>IBMENIO      --Hardware Specific Module provided by IBM
>IPXODI       --IPX Protocol Stack Module provided by Novell
>NETx         --DOS Support Module provided by Novell
>F:
>LOGIN
```

ODI Workstation for OS/2

(These programs can be found in the \NOVELL\OS2 sub directory)

- 1) You must first install the Requester on the workstation. For detailed information, refer to Novell manual "NetWare Requester for OS/2".
- 2) Copy IBMENIOP.SYS and NET.CFG (from this diskette) to your C:\NETWARE directory. Afterwards, add the following device driver statement to your

CONFIG.SYS file:

DEVICE=C:\NETWARE\IBMENIOP.SYS

3) The ODI driver supports "port, node address, protocol and frame" options. You can use these options to create your own NET.CFG file. For detailed information on Keywords, please refer to Novell manual "NetWare Requester for OS/2 - Reconfiguring the NetWare Requester".

Chapter 8.3

- **DOS 7.0 with Windows for Workgroups (3.11) (2XX_IEA)**

Setup Information:

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows for Workgroups (3.11). Retail Store Solution does not have a specific driver (like the de22x driver for DOS). The NE2000 driver from Novell is recommended.

To install the NE2000 driver :

- 1. Select the " Control Panel " from the Desktop.**

Note: If this the initial installation of Windows NT proceed to section 2.4.

- 2. Select the " Network Icon ".**

Select " Add "

Select " Adapter"

Select " Add "

Page down the list of adapters until the " Novell " appears.

- 3. Select the NE2000 Compatible.**

Chapter 8.4

- **Windows 95 (2XX_IEA)**

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows 95.

NOTE: During the installation of Windows 95, the software's hardware detection (wizard) will automatically default the Integrated Ethernet Adapter to NE2000 driver. This is the driver to use. Interrupt level 10 instead of 5 is preferred. This can be changed in Setup.

Chapter 8.5

- **Windows NT 4.0 (2XX_IEA)**

Setup Information:

IBM 4695-3XX Integrated Ethernet Adapter Installation procedure for Windows NT 4.0.

Retail Store Solution does not have a specific driver (like the de22x driver for DOS). The NE2000 driver from Novell is recommended. To install the NE2000 driver :

1. **Select the " Control Panel " from the Desktop.**

Note: If this the initial installation of Windows NT proceed to section 2.4.

2. **Select the " Network Icon ".**

Select " Add "

Select " Adapter"

Select " Add "

Page down the list of adapters until the " Novell/Anthem " appears.

3. **Select the NE2000 Compatible.**

Note : I have tested the NE2000 Plus but I do not know what advance features the " Plus " provide.

Chapter 8.6

- **OS2 WARP 3.0 (2XX_IEA)**

Note: The 4695-2XX Integrated Ethernet Adapter default to I/O 300 and interrupt level 5. To install OS/2 the Integrated Ethernet Adapter's I/O address should be changed to 340. During power on select F1 at the keyboard to go into SETUP. Once in SETUP, input the correct address.

How to install IBMENI.OS2 for OS/2 server and requester

1. Copy the following files to the root directory of a new formatted diskette.

`\OS2\IBMENI.OS2`

`\OS2\IBMENI.NIF`

2. First install IBM OS/2 in your system: Bootup with OS/2 Install Disk in drive 'A' and install OS/2

3. When the adapter menu appears, select " other ". Insert the diskette created in step 1.

1. choose "Install" again and insert your prepared Driver disk in drive 'A'
2. choose "Configure"
3. select "IBM 4695 integrated Ethernet adapter" --> Add
4. select "IBM OS/2 NETBIOS" --> Add
5. select "IEEE 802.2" --> Add
6. select OK --> Exit --> Continue

Reboot your computer

The CONFIG.SYS and PROTOCOL.INI files should reflect your card setup:

`\CONFIG.SYS`

`Device=d:\IBMCOM\MACS\IBMENI.OS2`

`\IBMCOM\PROTOCOL.INI`

`[IBMENI_NIF]`

`Drivename = IBMENI$`

4. Now complete the installation of LAN Server or Requester program. For more instruction, please refer to your IBM LAN Server "Planning and Installation" manual.

SECTION IX.

The Spectrum24 2.4GHz Wireless LAN PCMCIA Adapter (Symbol)

CHAPTER 9.0

- **INFORMATION (Symbol)**

For help with setup/installtion of Operating Systems return to Chapter 4, THE SPECTRUM24 2.4 GHz LAN PCMCIA Adapter for the 4695-3XX.

SECTION X.

The IBM AS/400 Wireless LAN PCMCIA Adapter - 2.4 GHz (Telxon)

CHAPTER 10.0

- **INFORMATION**

Setup Information:

The protocol.ini and net.cfg ask for a Datarate and Channel but the Access Point asks for a Bitrate and Frequency. The " Datarate " is equivalent to the " Bitrate " and the " Channel " is equivalent to the " Frequency ". Values for North America are as follows: (Appendix B in the AS/400 Wireless LAN PCMCIA Adapter User's Manual).

Datarate	Bitrate
-----------------	----------------

1	= 354.84 kb/s
2	= 500 kb/s
3	= 1000 kb/s
4	= 2000 kb/s

Channel	Frequency
----------------	------------------

- 1 = 2412 Mhz
- 2 = 2427 Mhz
- 3 = 2442 Mhz
- 4 = 2457 Mhz
- 5 = 2465 Mhz

During setup of an Access Point and 4695-2XX the Datarate # of PCMCIA adapter must match the Bitrate # of the Access Point. And the Channel # of the PCMCIA adapter must match the Frequency # of the Access Point. Also make sure the following parameters are set correctly on the Access Point :

The Root parameter is " on ".

The Autoscan parameter is " off ".

Below is an example setup for the Access Point :

SID [2]

Bitrate [2000] <- this refers to Datarate 4 in the protocol.ini or net.cfg

Frequency [2412] <- this refers to Channel 1 in the protocol.ini or net.cfg

Root [on]

Autoscan [off]

Linktest [menu]

Extended [menu]

Note: If the parameters in protocol.ini or net.cfg match the Access Point's parameters correctly, the Status LED (the left light on the radio) should be a SOLID GREEN.

This means that the adapter is registered and communicating with the Access Point.

When running the diagnostics tests on the IBM AS/400 Wireless PCMCIA using the ARLANDGS.EXE located on the IBM AS/400 LAN PC Adapter Software - IBM P/N 51H5460, the interrupt test will always FAIL on the 4695-2XX.

"Interrupt Test - No interrupt, test failed"

This does not mean the IBM AS/400 Wireless LAN PCMCIA Adapter is DEFECTIVE. This means interrupt levels 2 - 7 are in use by the 4695-2XX. If this occurs, DO NOT REPLACE THE PCMCIA ADAPTER. The IBM AS/400 Wireless LAN PCMCIA adapter will allow the interrupt level to be configured in the protocol.ini or net.cfg file.

Possible Errors during bootup: Card not recognized in socket 00 or 01.

**Solution: Make sure card and socket services are loaded.
The AS400 PCMCIA Wireless adapter is defective.**

CHAPTER 10.1

- **DOS 7.0 with DOS Lan Services 4.00 (Telxon)**

While installing DOS Lan Services an installation error can occur as follows:

Install Detected the following disk error. The listed file was not copied, error processing AWCN690.DOS.

The following attempts to solve the problem :

- 1. Copied the driver to Disk 1 of the DOS Lan Services (DLS) Install Disk.**
- 2. Copied the driver to the \net directory.**

In order to install DOS Lan Services 4.0 select "no adapter card"; DOS Lan Services installs as if there is a card present. GUI, peer services and windows support will be installed and complete the remainder of the installation as usual.

Other Possible Errors and Error Messages:	Recommendation:
Unable to logon to the Server	Make sure the Access Point is on
If Status LED is - Blinking Green	Make sure SID, Channel and
Activity LED is - Green Flashing	Datarate match the Access Point's parameters.
If Status LED is - Solid Green	Make sure the ethernet cables from
Activity LED is - OFF	Access Point and Server are in the correct HUB or network.
You are logged on, but you have not been validated by the server.	Make sure the NetworkId in the protocol.ini is the correct number. Default is 101 or 1dd.
Run-Time Error R6003 - Integer Divided by 0	Make sure the parameters you use in the protocol.ini are correct. Also check interrupt level or try

**interrupt 11.
If this problem continues get the
DLS40.ZIP file.**

Note: In case of trouble logging onto the network, the DOS Lan Services Update files (DLS40.ZIP) may be needed. Obtain the update files from Austin Texas. The telephone number is 512-823-1148. Also, for Lan Support call 1-800-992-4777.

CHAPTER 10.2

- **DOS 7.0 with Lantastic 6.0 (Telxon)**

When asked for the driver get the IBM AS/400 Lan PC Adapter Software diskette and input A:\DOS. Lantastic will build or add the protocol.ini and other needed network files.

**Possible error codes during Installation :
Cannot build a proper protocol.ini. And continue with installation**

Solution: Continue with the installation & review the protocol.ini on Installation Diskette.

**Possible error code during IPL :
Serial number not available. Fails at " REDIR XXXXX @STARTNET.CFG. "
(XXXXX - The workstation name)**

Solution: The licenses have run out for this Lantastic Software package. If the Lantastic 6.0 or 7.0 Network Software is for a single user then it cannot installed on both the server and 4695-2XX. Also the limit may have been exceeded for licenses purchased for Lantastic 6.0 or 7.0 Network Software.

CHAPTER 10.3

- **DOS 7.0 with Novell Netware 3.12 (Telxon)**

Interrupt 9 and I/O Base 300 are the preferred settings for this LAN driver. Alternatively, I/O Base 340 and 380 will work with this driver and interrupt levels 11 and 15. Since IBM DOS 7.0 is the preferred Operating System, this error could occur using Novell NETX.EXE, network driver: The Netware Workstation Shell (netx.exe).SHELL-332-29 Shell requires DOSv3.x through DOSv6.x. To resolve this problem obtain the new version of " netx.exe " that supports DOS 7.0.

Possible Errors and Error Messages:

Recommendation:

Arlan: PCMCIA Slot Failed to initialize

Make sure the correct PCMCIA Card and Socket Services are installed. These files are located on 4612 Support Diskette. Do not use the Phoenix Card and Socket Services that come with DOS 7.0.

The workstation hangs

Make sure Link Driver AWC0DI is being used in the NET.CFG file and not Link Driver AWC0690.

The workstation hangs after the lsl.com driver is loaded.

Make sure the SID in the NET.CFG has six digits. Example SID 000002 and not SID 0x000002 .

The workstation hangs after the netx.exe driver is loaded

Make sure the Frame Ethernet_802.3 is in the NET.CFG file.

The Novell Workstation Shell Shell-332-21: A network server could not be found.

Make sure the Access Point is on. Make sure the ethernet cables from Access Point and Server are on the same HUB / Network.

Note: The Sure Point Card and Socket Services will set the default memory and interrupt level if the parameters are not assigned in the NET.CFG file.

Recommendation :

Allow the Sure Point Card and Socket Services to determine the memory location, but set the interrupt level manually in NET.CFG file.

Chapter 10.4

- **DOS 7.0 with Windows for Workgroups (3.11) (Telxon)**

The IBM 4695-2XX Integrated Ethernet Adapter Installation procedure for Windows for Workgroups.

1. Copy the following files into a newly formatted diskette (A:):

\WIN\WINT40\PCNTN3.386

\WIN\WINT40\PCNTND.DOS

\WIN\WINT40\OEMSETUP.INF

2. Start installation process for Windows for Workgroups. When prompted to select an adapter from a menu to run with Windows for Workgroups software:

Select "Have a disk " press Enter.

3. At the next menu, "Insert the manufacturer's driver diskette", Insert the diskette created in step 1 into drive A: and type in the path of the driver: A:

4. Complete the installation.

Chapter 10.5

- **Windows 95**

The IBM 4695-2XX Integrated Ethernet Adapter Installation procedure for Windows 95. At the present time the drivers for Windows NT 4.0 95 were unavailable.

Chapter 10.6

- **DOS 7.0 with Windows NT 3.51, 4.0 (Telxon)**

Setup Information:

The IBM 4695-2XX Integrated Ethernet Adapter Installation procedure for Windows NT 3.51 or 4.0.

At the present time the drivers for Windows NT 4.0 95 were unavailable.

SECTION XI.
The IBM Token-Ring 16/4 Credit Card Adapter

CHAPTER 11.0

- **INFORMATION (TRCC)**

For help with setup/installation of Operating Systems please see Chapter 6.1, - 6.6, the IBM Token-Ring 16/4 Credit Card Adapter for the 4695-3XX.

- **OS2 WARP 3.0 (TRCC)**

OS/2 DEVICE DRIVER STATEMENT ORDER

For OS/2, the order of statements in CONFIG.SYS is very important. The order must be:

DEVICE=C:\OS2\PCMCIA.SYS <-- Card Services

DEVICE=C:\IBMCOM\MACS\IBMTOKCS.OS2 <-- Client Token-Ring Driver

DEVICE=C:\IBM2SS02.SYS <-- Socket Services

DEVICE=C:\ICRMU02.SYS <-- Resource MAP utility

The installation program will examine CONFIG.SYS and move Socket Services and the Resource Map Utility to the bottom of the file, if they are not there already. They do not have to be the last statements in CONFIG.SYS, they must be after every PCMCIA client driver you have installed; the bottom of CONFIG.SYS is the most logical place to ensure they are after every client driver.

SECTION XII.

The IBM Turbo 16/4 Token-Ring Adapter

CHAPTER 12.0

- **INFORMATION**

For a configuration of 4694-244,-144,-124 and -104, with the 4695 POS Adapter and the Auto Wake 16/4 Token-Ring adapter or the Turbo 16/4 Token-Ring adapter.

Token-Ring Adapter Setting using Lanaid to configure it.

Adapter Mode = Auto16 Compatible

Configuration = Legacy (Note at the end)

I/O Address = A20-A23

Interuupt = 11 (Note at the end)

Ram Address = D0000 - D3FFF

Rom Address = D4000 - D5FFF

Remote IPL = Enable

Token-Ring Date Rate = 4 or 16

Auto Sense Date Rate = Enable or Disable

Adapter Bus Width = 16

Notes:

Configuration = Legacy : The 4694-144 and predecessor models were not design for Plug and Play (PnP), so Legacy is required.

Interrupt Level = 11 : This interrupt level will work if the ISO is set to 7.
If SIO or the 4695 POS Adapter is set to 11 then use interrupt level 9.

There will be a conflict (9*) on this parameter when viewing it using lanaid but the adapter will function correctly.

OTHER SETTINGS :

4694 SETUP

NVRAM start : D9000

NVRAM 1st 4k : Enabled

NVRAM 2nd 4k : Page 1

SRAM start : D8000

SIO Interrupt : IRQ7 (If the 4695 POS Adapter is used, set the interrupt to 11)

4695 POS Adapter SETTINGS : (Dip Switches)

1 = UP, 2 = UP, 3 = DOWN, 4 = DOWN, 5 = UP, 6 = UP

I/O Address : 600 - 61F

Shared RAM : DC000 - DFFFF

Interrupt : IRQ7

For help with setup/installtion of Operating Systems please set Chapter 7, the IBM Turbo 16/4 Token-ring Adapter for the 4695-3XX.

NOTE: Please send comments or suggestions to: Ken Douglas

IBM ID:

Kennethd at CLTVM1

Internet ID:

kfd@us.ibm.com

Appendix A

DOS LAN REQUESTER 5.0

- CONFIG.SYS
- 4695-3XX CONFIG.SYS FOR DOS/WIN DLS

DEVICE=C:\DOS\HIMEM.SYS

DOS=HIGH,UMB

DEVICE=C:\DOS\EMM386.EXE RAM

FILES=100

BUFFERS=30

DEVICE=C:\DOS\SETVER.EXE

STACKS=9,256

LASTDRIVE=Z

REM-----FOLLOWING LINES ADDED BY DLS INSTALL-----

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

DEVICE=C:\NET\DL SHELL.SYS

rem ***** 4695-3XX IEA Dos Network Driver *****

DEVICE=C:\NET\PCNTND.DOS

- END OF CONFIG.SYS

- **AUTOEXEC.BAT**
- **4695-3XX AUTOEXEC.BAT FOR DOS/WIN DLS**

C:\WINDOWS\SMARTDRV.EXE

@ECHO OFF

SET PATH=C:\NET;C:\NWDBPATH;C:;\;C:\DOS;C:\WINDOWS;%PATH%;

SET TEMP=C:\DOS

LH C:\DOS\MOUSE.COM

LH C:\DOS\DOSKEY.COM

SHARE

C:\NET\NET START

WIN

- **END OF AUTOEXEC.BAT**

- **PROTOCOL.INI**
- **4695-3XX PROTOCOL.INI DOS/WIN DLS, PCMCIA ETHERNET**

[network.setup]

version=0x3100

netcard=PCNTND_NIF,1,PCNTND_NIF

transport=ibm\$netbeui,IBM\$NETBEUI

lana0=PCNTND_NIF,1,ibm\$netbeui

[protman]

DriverName=PROTMAN\$

PRIORITY=ibm\$NETBEUI

- **4695-3XX EXAMPLE BLOCK CREATED BY DLS INSTALL**

[PCNTND_NIF]

DriverName=PCNTND\$

[IBM\$NETBEUI]

DriverName=netbeui\$

SESSIONS=20

NCBS=20

BINDINGS=PCNTND_NIF

LANABASE=0

- **END of PROTOCOL.INI**

- **NETWORK.INI**
- **4695-3XX NETWORK.INI DOS/WIN DLS**

[network]

computername=BRIAN

lanroot=C:\NET

autostart=netbeui

guiconfig=0,0,1

username=BRIAN

domain=NETWORKT

lslogon=yes

reconnect=yes

passwordcachini=yes

[Password Lists]

ARUBA=C:\NET\BRIAN.PWL

- **END OF NETWORK.INI**

END OF DOS LAN REQUESTER

LANTASTIC 7.0

- **CONFIG.SYS**
- **SYMBOL'S SPECTRUM24 PCMCIA ADAPTER**

FILES=200

BUFFERS=30

DOS=HIGH,UMB

DEVICE=C:\DOS\HIMEM.SYS

DEVICE=C:\DOS\EMM386.EXE NOEMS X=CC00-CDFF X=D000-D7FF

REM ** CARDPORT 2x CD-ROM PCMCIA DRIVERS ******

REM DEVICE=C:\PCM\CNFIGNAM.EXE /DEFAULT

REM DEVICEHIGH=C:\PCM\PCMSS.EXE

REM DEVICEHIGH=C:\PCM\PCMCS.EXE

REM DEVICE=C:\DRIVERS\CTCNFC.D.SYS /D:MSCD001

REM ** CARDPORT 2x CD-ROM ******

REM ** IBM SUREPOINT PCMCIA DRIVERS ******

DEVICEHIGH=C:\SURE\IBMDSS01.SYS /S0=1 /I2

DEVICEHIGH=C:\SURE\IBMDOSCS.SYS /MA=D000-D7FF /MX=C000-CDFF

rem DEVICE=C:\SURE\RMU210.SYS /MA=D000-DFFF

REM ** END IBM SUREPOINT DRIVERS ******

DEVICEHIGH=C:\DOS\SETVER.EXE

rem INSTALL=C:\DOS\SHARE.EXE

LASTDRIVE=Z

STACKS=9,256

REM *** IBM BackPack CD-ROM driver *******

devicehigh=\bpcdrom\bpcddrv.sys /d:bpcddrv\$

REM *** IBM BackPack CD-ROM driver *******

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

REM ** Symbol DOS Network Driver *******

DEVICE=C:\LANTASTI\SLANDIS.DOS

- **END OF CONFIG.SYS**

- **AUTOEXEC.BAT**

- **SYMBOL'S SPECTRUM24 PCMCIA ADAPTER**

call C:\LANTASTI\STARTNET.BAT

IF EXIST BPCDDRV\$ \BPCDROM\MSCDEX /D:BPCDDRV\$

@ECHO OFF

SET PATH=C:\DOS;%PATH%

SET TEMP=C:\DOS

LH C:\DOS\MOUSE.COM

LH C:\DOS\DOSKEY.COM

- **END OF AUTOEXEC.BAT**

- **PROTOCOL.INI**
- **SYMBOL'S SPECTRUM24 PCMCIA ADAPTER
PROTOCOL.INI for LANtastic Version 7.0**

[PROTMAN]

DRIVERNAME = PROTMAN\$

DYNAMIC = YES

:[SLANDIS_NIF]

;version=0x3100

;netcard=ibm\$sla_nif,1,IBM\$sla_nif

;transport=ibm\$netbeui,IBM\$NETBEUI

;lana0=ibm\$sla_nif,1,ibm\$netbeui

:[protman]

;DriverName=PROTMAN\$

;PRIORITY=ibm\$NETBEUI

[IBM\$NETBEUI]

DriverName=netbeui\$

SESSIONS=20

NCBS=20

Bindings=SLANDIS_NIF

LANABASE=1

[SLANDIS_NIF]

DRIVERNAME=SYMBOL\$

; MODE

IOADDRESS=0x320

; INT=9

INT=5

MEM=0xD000

SOCKET=1

Net_ID=0x1DD

; The following line is used to set the antenna diversity setting

; Setting it to No or removing it sets antenna diversity off

; Setting it to Yes sets antenna diversity on

; Diversity=Yes

;

; Remove semicolon to enable Power Save Polling (PSP):

; Powermgmt=Yes

; Remove semicolon to configure the Traffic Indicator Message (Beacon)

; listen algorithm number (1 to 11) where 11 is the dynamic algorithm:

; Beacon_Algorithm=11

; If the algorithm is 11, set the minimum and maximum interval:

; Beacon_Minimum=1

; Beacon_Maximum=10

; The FOLLOWING OPTIONS ARE USED FOR A MICROAP INSTALLATION ONLY

; If card is used as a MicroAP, set to Yes

; MicroAP=Yes
; Default AP_ID is 1
; MicroAP_ID=1
; Default Hopping Sequence is 1
; MicroAP_Hop_Seq=1
; Default BDelay is 10
; MicroAP_BDelay=10

- **END of PROTOCOL.INI**
- **STARTNET.BAT**
- **SYMBOL'S SPECTRUM24 PCMCIA ADAPTER**

@echo off

rem LANtastic Version 7.0 installed 97/11/12 16:43:30

rem (for DOS)

C:

cd C:\LANTASTI

SET LAN_CFG=C:\LANTASTI

@echo ===== Begin LANtastic configuration =====

PATH C:\LANTASTI;%PATH%

SET LAN_DIR=C:\LANTASTI.NET

LOADHIGH NETBEUI

REM *** SLANDIS_NIF must match a parameter in the protocol.ini *******

```

LOADHIGH AI-NDIS BIND_TO=SLANDIS_NIF
LOADHIGH AILANBIO @STARTNET.CFG
REDIR BEAST @STARTNET.CFG
SERVER C:\LANTASTI.NET @STARTNET.CFG
NET LPT TIMEOUT 10

rem If CONNECT.BAT exists, run it to set up connections.
IF EXIST CONNECT.BAT GOTO :CONNECT

rem Otherwise set up connections specified during install.
GOTO :CONNECT_DONE

:CONNECT

@echo Setting up LANtastic connections from CONNECT.BAT
rem Modify CONNECT.BAT by running: NET CONNECTIONS/FORCE
rem (or run the batch file SETNET.BAT)

call CONNECT.BAT

:CONNECT_DONE

@echo ===== End LANtastic configuration =====

:STARTNET_DONE

cd \

• END OF STARTNET.BAT

```

- **STARTNET.CFG**
- **SYMBOL'S SPECTRUM24 PCMCIA ADAPTER
STARTNET.CFG - LANtastic switch settings**

[AILANBIO]

MAX_NCBS=44

NCBS=44

MAX_SESSIONS=38

SESSIONS=38

[REDIR]

LHIGH

; BUFFERS=2

; SIZE=2048

LOGINS=15

SMB_SUPPORT

[SERVER]

LHIGH

- **END OF STARTNET.CFG**

END OF LANTASTIC 7.0 SETUP

MIKE TEDESCO'S NOVELL SETUP

- **CONFIG.SYS**

BREAK = OFF

DOS = HIGH,UMB

DEVICE = C:\DOS\HIMEM.SYS /numhandles=127

DEVICE=C:\DOS\SETVER.EXE

DEVICE=C:\DOS\SMARTDRV.EXE /DOUBLE_BUFFER

DEVICE=C:\4695\BASE.SYS /C1 /NBASE1

DEVICE=C:\4695\CDR-DRVR.SYS /P1A /NCDR1

DEVICE=C:\4695\OED-DRVR.SYS /P1A /NOED1

DEVICE=C:\4695\TCH-DRVR.SYS /P1A /NTCH1 /K

DEVICE=C:\4695\VFD-DRVR.SYS /P1A /NDIS1

FILES=83

BUFFERS=26

STACKS=9,256

- **END OF CONFIG.SYS**

- **AUTOEXC.BAT**

path=c:\dos;c:\editors;c:\pos3;c:\4695;C:\ENETWORK;c:\utils;

prompt \$P\$G

C:\4695\HBMOUSE /B=0

C:\4695\HBSYSSRV /B=0 /N=1 /C1 /R1=1

c:\4695\setcon /B=0

CHOICE /n /t:y,5 "Press CTRL-C if you want to abort network load"

cd\enetwork

LSL.COM

PCNTNW.COM

IPXODI.COM

netbios.exe

cd\pos1

NETWERKS POS1.NET

rem kitprt kit2ibm.kfg

DOSKEY

goto pos_load

:pos_load

cd\pos1

4695w pos1IBM RV L2 999

if errorlevel=99 goto dos

if errorlevel=100 goto dos

```
if errorlevel=333 goto setcontrast  
  
goto end_it  
  
:dos  
  
cd\  
  
goto end_it  
  
:setcontrast  
  
cd\4695  
  
call setconl5  
  
cd\pos1  
  
4695w pos1IBM RV L2 999  
  
if errorlevel=99 goto dos  
  
if errorlevel=100 goto dos  
  
if errorlevel=333 goto setcontrast  
  
goto end_it  
  
:end_it  
  
cd\  
  
• END OF AUTOEXEC.BAT
```

- **NET.CFG**

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This file is a sample network configuration file (NET.CFG)

Revision History:

Date	Who	Rev	Comments
07/06/91	SFK	.00	Genesis.
11/05/92	SFK	2.05	Disable intelligent configuration.
11/1/94	GKG	1.0	Supported for IBM 4695
5/11/95	GKG	1.1	Updated I/O address to 1000

Configure the Link Support Layer (LSL).

Link Support Buffers 8 1514

Default values are as follows:

Port 1000 AMD's PCI ethernet controller. At this Int 10 bios and hardware setup defaults to Mem D0000 400 port 1000 and interrupt 10 Adapter Access I/O (Describes how the adapter buffer memory is access. Via programmed I/O or RAM) Cable Thin Link Driver PCNTNW Use for Adapter accessed by I/O.

port 1000

int 10

Frame Ethernet_802.3
Frame Ethernet_802.2
Frame Ethernet_II
Frame Ethernet_SNAP
Protocol IPX 0 Ethernet_802.3
Protocol IPX E0 Ethernet_802.2
Protocol IPX 8137 Ethernet_II
Protocol IPX 8137 Ethernet_SNAP

- **END OF NET.CFG**

- **SHELL.CFG**

NETBIOS COMMANDS=32

NETBIOS SESSIONS=32

NETBIOS NAMES=32

NETBIOS SEND BUFFERS=20

NETBIOS RECEIVE BUFFERS=20

- **END OF SHELL.CFG**

END OF MIKE TEDESCO'S NOVELL SETUP

