

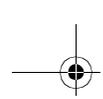


# 10/100 EtherJet CardBus Adapter with 56K Modem

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## *Installation and User's Guide*

OPTIONS  
*by IBM*



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**Note:** Before using this information and the product it supports, be sure to read the general information in Appendix C.

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**First Edition (July 1998)**

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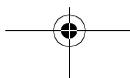
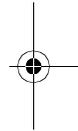
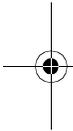
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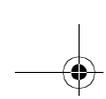
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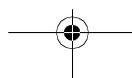
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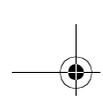
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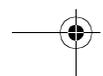
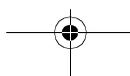
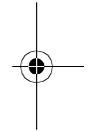
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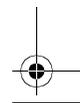
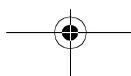
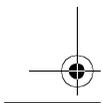
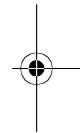
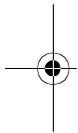
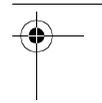
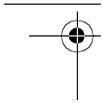
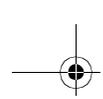
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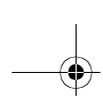




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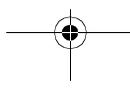
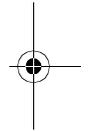
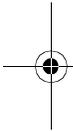
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**Danger:** Before you begin to install this product, read the safety information in *Caution: Safety Information—Read This First*, SD21-0030. This booklet describes safe procedures for cabling and plugging in electrical equipment.



**Gevarr:** Voodrat u begint met de installatie van dit produkt, moet u eerst de veiligheidsinstructies lezen in de brochure *PAS OP! Veiligheidsinstructies—Lees dit eerst*, SD21-0030. Hierin wordt beschreven hoe u elektrische apparatuur op een veilige manier moet bekabelen en aansluiten



**Danger:** Avant de procéder à l'installation de ce produit, lisez d'abord les consignes de sécurité dans la brochure *ATTENTION: Consignes de sécurité—A lire au préalable*, SD21-0030. Cette brochure décrit les procédures pour câbler et connecter les appareils électriques en toute sécurité.



**Perigo:** Antes de começar a instalar deste produto, leia as informações de segurança contidas em *Cuidado: Informações Sobre Segurança—Leia Primeiro*, SD21-0030. Esse folheto descreve procedimentos de segurança para a instalação de cabos e conexões em equipamentos elétricos.



危險：安裝本產品之前，請先閱讀  
"Caution: Safety Information—Read  
This First" SD21-0030 手冊中所提  
供的安全注意事項。這本手冊將會說明  
使用電器設備的纜線及電源的安全程序。



**Opasnost:** Prije nego što počnete sa instalacijom produkta, pročitajte naputak o pravilima o sigurnom rukovanju u Upozorenje: Pravila o sigurnom rukovanju - Prvo pročitaj ovo, SD21-0030. Ovaj privitek opisuje sigurnosne postupke za priključivanje kabla i priključivanje na električno napajanje.



**Upozornění:** než zahájíte instalaci tohoto produktu, přečtěte si nejprve bezpečnostní informace v pokynech „Bezpečnostní informace“ č. SD21-0030. Tato brožurka popisuje bezpečnost opatření pro kabeláž a zapojení elektrického zařízení.



**Fare!** Før du installerer dette produkt, skal du læse sikkerhedsforskrifterne i *NB: Sikkerhedsforskrifter – Læs dette først*, SD21-0030. Vejledningen beskriver den fremgangsmåde, du skal bruge ved tilslutning af kabler og udstyr.



**Gevarr:** Voordat u begint met het installeren van dit produkt, dient u eerst de veiligheidsrichtlijnen te lezen die zijn vermeld in de publikatie *Caution: Safety Information - Read This first*, SD21-0030. In dit boekje vindt u veilige procedures voor het aansluiten van elektrische apparatuur.



**VARRA:** Ennen kuin aloitat tämän tuotteen asennuksen, lue julkaisussa *Varoitus: Turvaohjeet–Lue tämä ensin*, SD21-0030, olevat turvaohjeet. Tässä kirjasessa on ohjeet siitä, miten sähkölaitteet kaapeloidaan ja kytketään turvallisesti.



**Danger :** Avant d'installer le présent produit, consultez le livret *Attention : Informations pour la sécurité–Lisez-moi d'abord*, SD21-0030, qui décrit les procédures à respecter pour effectuer les opérations de câblage et brancher les équipements électriques en toute sécurité.



**Vorsicht:** Bevor mit der Installation des Produktes begonnen wird, die Sicherheitshinweise in *Achtung: Sicherheitsinformationen–Bitte zuerst lesen*. IBM Form SD21-0030. Diese Veröffentlichung beschreibt die Sicherheitsvorkehrungen für das Verkabeln und Anschließen elektrischer Geräte.



**Κίνδυνος:** Πριν ξεκινήσετε την εγκατάσταση αυτού του προϊόντος, διαβάστε τις πληροφορίες ασφαλείας στο φυλλάδιο *Caution: Safety Information–Read this first*, SD21-0030. Στο φυλλάδιο αυτό περιγράφονται οι ασφαλείς διαδικασίες για την καλωδίωση των ηλεκτρικών συσκευών και τη σύνδεσή τους στην πρίζα.



**Vigyázat:** Mielőtt megkezdi a berendezés üzembe helyezését, olvassa el a *Caution: Safety Information–Read This First*, SD21-0030 könyvecskében leírt biztonsági információkat. Ez a könyv leírja, miyen biztonsági intézkedéseket kell megtenni az elektromos berendezés huzalozásakor illetve csatlakoztatásakor.



**Pericolo:** prima di iniziare l'installazione di questo prodotto, leggere le informazioni relative alla sicurezza riportate nell'opuscolo *Attenzione: Informazioni di sicurezza–Prime informazioni da leggere* in cui sono descritte le procedure per il cablaggio ed il collegamento di apparecchiature elettriche.



危険： 導入作業を開始する前に、安全に関する小冊子SD21-0030 の「最初にお読みください」(Read This First)の項をお読みください。この小冊子は、電気機器の安全な配線と接続の手順について説明しています。



위험: 이 제품을 설치하기 전에 반드시 "주의: 안전 정보-시작하기 전에" (SD21-0030) 에 있는 안전 정보를 읽으십시오.



ОПАСНОСТ  
Пред да почнете да го инсталирате овој продукт, прочитајте ја информацијата за безбедност:  
"Предупредување: Информација за безбедност: Прочитајте го прео ова", SD21-0030.  
Оваа брошура опишува безбедносни процедури за каблирање и вклучување на електрична опрема.



**Fare:** Før du begynner å installere dette produktet, må du lese sikkerhetsinformasjonen i *Advarsel: Sikkerhetsinformasjon – Les dette først*, SD21-0030 som beskriver sikkerhetsrutinene for kabling og tilkobling av elektrisk utstyr.



Uwaga:  
Przed rozpoczęciem instalacji produktu należy zapoznać się z instrukcją: "Caution: Safety Information - Read This First", SD21-0030.  
Zawiera ona warunki bezpieczeństwa przy podłączeniu do sieci elektrycznej i eksploatacji.



**Perigo:** Antes de iniciar a instalação deste produto, leia as informações de segurança *Cuidado: Informações de Segurança–Leia Primeiro*, SD21-0030. Este documento descreve como efectuar, de um modo seguro, as ligações eléctricas dos equipamentos.



**ОСТОРОЖНО:** Прежде чем установить этот продукт, прочтите Инструкцию по технике безопасности в документе "Внимание: Инструкция по технике безопасности -- Прочсть в первую очередь", SD21-0030. В этой брошюре описаны безопасные способы каблирования и подключения электрического оборудования.



**Nebezpečnostvo:** Pred inštaláciou výrobku si prečítajte bezpečnosté predpisy v  
**Výstraha:** Bezpečnosté predpisy - Prečítaj ako prvé, SD21 - 0030. V tejto brožúrke sú opísané bezpečnosté postupy pre pripojenie elektrických zariadení.



**Pozor:** Preden začnete z inštalacijo tega produkta preberite poglavje: "Opazorila: Informacije o varnem rokovanju-preberl pred uporabo," SD21-0030. To poglavje opisuje pravilne postopke za kabliranje.



**Peligro:** Antes de empezar a instalar este producto, lea la información de seguridad en *Atención: Información de Seguridad—Lea Esto Primero*, SD21-0030. Este documento describe los procedimientos de seguridad para cablear y enchufar equipos eléctricos.



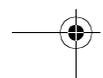
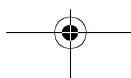
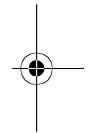
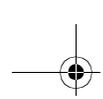
**Varning — livsfara:** Innan du börjar installera den här produkten bör du läsa säkerhetsinformationen i dokumentet *Varning: Säkerhetsföreskrifter – Läs detta först*, SD21-0030. Där beskrivs hur du på ett säkert sätt ansluter elektrisk utrustning.

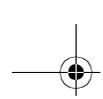


安裝此產品之前，請先閱讀安全資訊。

閱讀 - 安全資訊 SD21-0030

子說明插接電器設備之電纜線的安全程序。





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## About This Manual

This manual contains instructions for installing and configuring the IBM 10/100 EtherJet CardBus Adapter with 56K Modem under Microsoft Windows 95, Windows 98, and Windows NT and general diagnostics and troubleshooting information.

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## Who Should Read This Manual

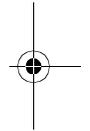
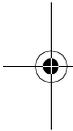
This manual is intended for both the end-user and network administrator of the EtherJet CardBus Adapter with 56K Modem.

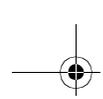
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## How This Manual Is Organized

This manual contains the following chapters and appendixes:

- Chapter 1, "Hardware Installation," lists the equipment and system requirements and describes the hardware installation procedure.
- Chapter 2, "Windows 95 and Windows 98 Installation," provides information on the drivers supplied for installation under Windows 95.
- Chapter 3, "Windows NT Installation," provides information on the drivers supplied for installation under Windows NT.
- Chapter 4, "Diagnostics and Troubleshooting," contains supplementary diagnostics and troubleshooting information for the EtherJet CardBus Adapter with 56K Modem.
- Appendix A, "Product Support Services," list the services available for the EtherJet CardBus Adapter with 56K Modem.
- Appendix B, "Specifications," list the general and physical specifications for the EtherJet CardBus Adapter with 56K Modem.
- Appendix C, "Notices," contains any notices associated with EtherJet CardBus Adapter with 56K Modem.





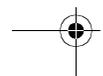
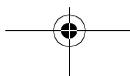
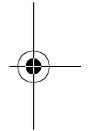
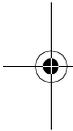
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## Additional Information

For information on IBM OS/2, 32-bit ODI drivers, and Windows 3.x, and supplementary information on Windows 95, and modem command reference information, see the Windows Help file **HELPDOCS.HLP** on the DOS, Windows 3.x, and NetWare Installation Diskette. Also view the **README.TXT** file on the DOS, Windows 3.x, and NetWare Installation Diskette.

For software updates and troubleshooting information, visit the IBM web site at:

<http://www.networking.ibm.com/support/ejetcrdbus56>



## Chapter 1. Hardware Installation

The IBM 10/100 EtherJet CardBus Adapter with 56K Modem supports both 10 Mbps and 100 Mbps EtherJet networks and modem speeds up to 56 Kbps for high-performance connectivity in any environment. It plugs into your computer's Type II PC Card slot to connect to an Ethernet LAN and to the telephone network.

### Installation Overview

Follow the instructions in this chapter to install the EtherJet CardBus Adapter with 56K Modem hardware and network and modem cabling. Then proceed to the software installation chapter for your operating system environment, as follows:

- Chapter 2, "Windows 95 and Windows 98 Installation"
- Chapter 3, "Windows NT Installation"
- Chapter 4, "Diagnostics and Troubleshooting"

#### Notes:

1. Some computers may require that you configure the built-in system setup or control program to enable the use of CardBus adapters. Refer to your computer's User's Guide for configuration information.
2. For information on Windows 3.x, IBM OS/2, and 32-bit ODI installation and troubleshooting, supplementary information for other operating systems, and modem command reference information, see the Windows Help file HELPDOCS.HLP on the DOS, Windows 3.x, and NetWare Installation Diskette.

The EtherJet CardBus Adapter with 56K Modem provides access to both 10 Mbps and 100 Mbps networks with a single adapter cable, and auto-negotiates 10 Mbps or 100 Mbps network speed.

**Note:** Category 5 (data grade) unshielded twisted pair (UTP) cabling is required for 100 Mbps or Category 3 or 5 for 10 Mbps.

---

## Viewing HELPDOCS.HLP

For information on Windows 3.x, IBM OS/2, and 32-bit ODI installation and troubleshooting, and supplementary information for HELPDOCS.HLP on the DOS, Windows 3.x, and NetWare Installation Diskette.

You can view the HELPDOCS.HLP file in one of the following ways:

- From Windows 3.x:
  1. Click **File** from the Program Manager.
  2. Click **Run**.
  3. In the Run window, enter a: \helpdocs.hlp.
  4. Click **OK** to view the help file.
- From OS/2:
  1. Click **OS/2 System** icon.
  2. Click **Command Prompts** icon.
  3. Click **Win-OS/2 Full Screen** icon or **Windows/3.1** icon.  
This opens Windows' Program Manager.
  4. Click **File** from the Program Manager.
  5. Click **Run**.
  6. In the Run window, enter a: \helpdocs.hlp.
  7. Click **OK** to view the help file.

## Power-Saving Modes

The EtherJet CardBus Adapter with 56K Modem is designed for very low-power consumption minimizing the computer's battery drain. When the LAN cable is detached, the adapter senses the change and enters low-power mode. Normal power is restored when the cable is reattached.

---

## Before Installing Hardware

### Check Package Contents

- IBM 10/100 EtherJet CardBus Adapter with 56K Modem
- EtherJet adapter cable with a 16-pin PC Card connector at one end and a female RJ-45 connector at the other
- Modem cable with a 26-pin PC Card connector at one end and a female RJ-11 modular telephone connector at the other
- RJ-11 modular telephone cable
- Software and online documentation on 3.5-inch diskettes
- EtherJet CardBus Adapter with 56K Modem User's Guide
- *CAUTION: Safety information - Read This First booklet.*

If any item is missing or damaged, contact your place of purchase.

### Verify Other Required Equipment

To install the 10/100 EtherJet CardBus Adapter with 56K Modem, you need the following:

1. A portable PC with a CardBus PC Card slot.
2. A local area network supporting 10 or 100 Mbps EtherJet, as required, and a network operating system supported by the EtherJet CardBus Adapter with 56K Modem.

**Note:** Since the EtherJet CardBus Adapter with 56K Modem automatically detects the speed of the network to which it is connected, it may be safely connected to either a 100Base-TX or 10Base-T network, as specified in items 3 and 4 below.

3. For connection to a 100Base-TX 100 Mbps EtherJet network, a Category 5 (data grade) unshielded twisted pair (UTP) network cable terminating in a male RJ-45 connector and connected to a 100 Mbps hub or switch.
4. For connection to a 10Base-T twisted pair EtherJet network, a network cable terminating in a male RJ-45 connector and connected to a 10 Mbps hub or switch.

5. For modem operations: an analog telephone line, RJ-11 modular telephone cable (supplied), and if needed, an RJ-11 adapter for the local telephone system. Communications software is also required for modem and fax operations.

**Note:** Do not connect to a digital telephone line or digital PABX system. In case of inadvertent connection to a digital line, there is digital protection for the modem.

## Determine System Requirements

During installation of the 10/100 EtherJet CardBus Adapter with 56K Modem hardware, the computer should be ON and your standard operating software should be loaded. If configured to do so, your system will detect the EtherJet CardBus Adapter with 56K Modem. For details on how to install driver software, see the chapter for your operating system environment.

**Note:** The EtherJet CardBus Adapter with 56K Modem hardware is compatible with Types II and III PC Card slots that support CardBus technology. Installation and removal procedures may vary on different computers.

---

## Installing the Hardware

### Insert the EtherJet CardBus Adapter with 56K Modem

1. Grasp the CardBus Adapter by the edges with the IBM label facing upward and the wide PC Card connector next to the insert slot.
2. Insert the card into a CardBus Adapter slot and push it in until it is firmly seated.

**Note:** The CardBus adapter can only be used in CardBus-compliant PC Card slots.



Figure 1-1. Inserting the CardBus Adapter into the Computer

## Connecting the LAN Adapter Cable to the CardBus Adapter

- Attach the 16-pin connector at the end of the IBM adapter cable to the matching receptacle on the left side of the EtherJet CardBus Adapter with 56K Modem. Press the connector gently into the receptacle on the card until it's firmly in place. Do not force the connection.

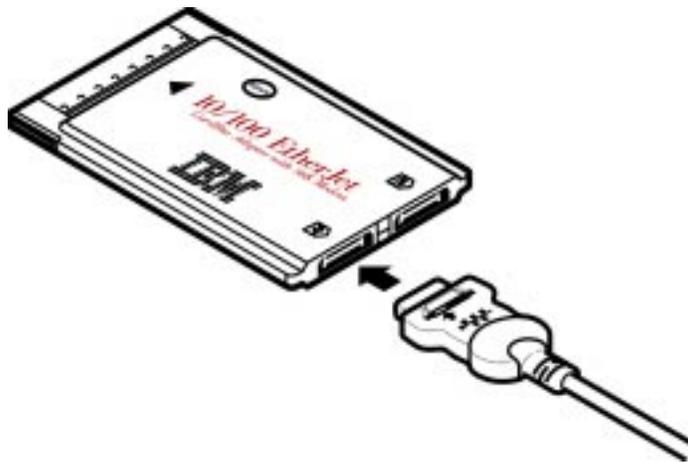


Figure 1-2. Connecting the LAN Adapter Cable to the CardBus Adapter

## Disconnecting Modem Cable from the CardBus Adapter

- Grasp the small connector with the thumb and forefinger and gently pull it free of the card.

## Connecting the Network Cable to the LAN Adapter Cable

- Plug the network cable into the female RJ-45 connector, as shown in the figure.

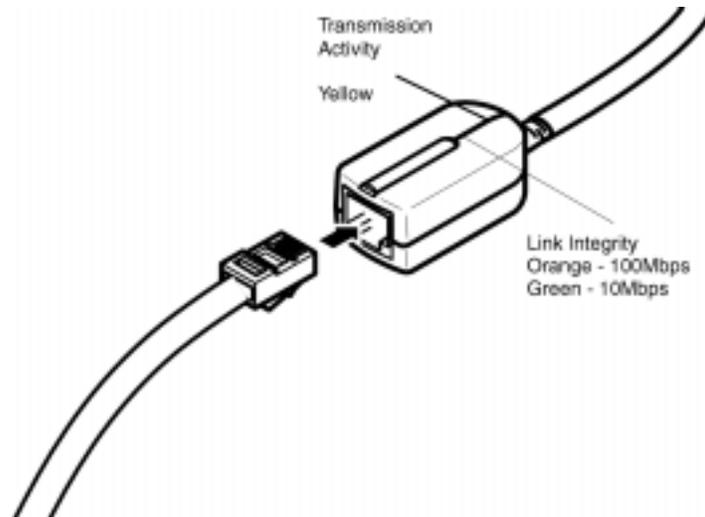


Figure 1-3. Connecting to the Network Cable to LAN Adapter Cable

## Connecting the Modem Cable to the CardBus Adapter

- Attach the 26-pin connector at the end of the IBM modem cable to the matching receptacle on the right side of the EtherJet CardBus Adapter with 56K Modem. Press the connector gently into the receptacle on the card until it's firmly in place. Do not force the connection.

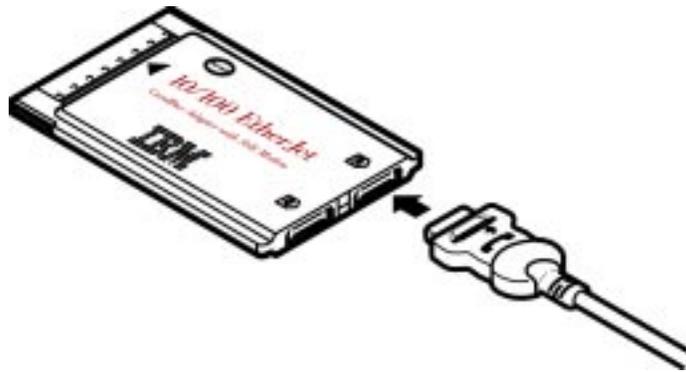


Figure 1-4. Attaching the Modem Cable to the CardBus Adapter

## Disconnecting Modem Cable from the CardBus Adapter

- Grasp the small connector with the thumb and forefinger and gently pull it free of the adapter.

## Connecting the Modem Cable to the Telephone Line

- Plug one end of the RJ-11 modular telephone cable into the RJ-11 receptacle on the modem cable, and the other end into an analog (single-line) RJ-11 telephone wall jack.

**Note:** The EtherJet CardBus Adapter with 56K Modem does not work with digital telephone lines or digital PBX systems and is designed to protect your modem against damage from inadvertent connection to a digital line.

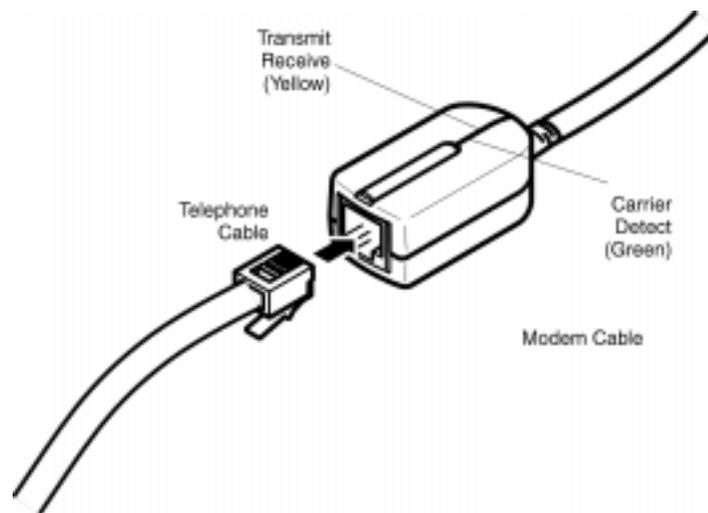
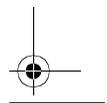
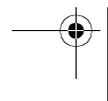
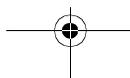
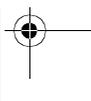
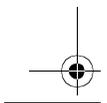
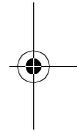
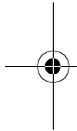
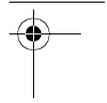
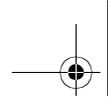
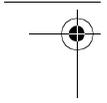
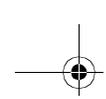


Figure 1-5. Connecting the Telephone Cable to the Modem Cable





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## Chapter 2. Windows 95 and Windows 98 Installation

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### Plug and Play Installation

Plug and play installation of the EtherJet CardBus Adapter with 56K Modem is supported under Windows 95 OSR2 (version 950b) and Windows 98. Installation with these versions of Windows is described in this chapter.

**Note:** If you are using an earlier version of Windows 95 (version 950 or 950a), see the README.TXT file on the Windows 95, 98, and NT Network Drivers Diskette for installation information.

### Drivers Available

The following drivers for Windows 95 and 98 are supplied with the EtherJet CardBus Adapter with 56K Modem:

- an NDIS3 driver (IBMC.SYS)
- an NDIS4 driver (IBMCN4.SYS)
- 32-bit ODI driver (IBMC.LAN) with promiscuous support

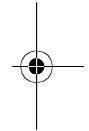
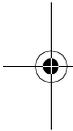
The NDIS3 driver IBMC.SYS is installed by default using the procedures in this chapter. For NDIS4 instructions, see the README.TXT file on the Windows 95, 98, and NT Network Drivers Diskette.

---

### Installing under Windows 95 and 98

#### Insert the EtherJet CardBus Adapter with 56K Modem

1. With Windows running, insert the EtherJet CardBus Adapter with 56K Modem into the CardBus PC Card slot and connect cables as shown in Chapter 1, "Hardware Installation".



---

## Plug and Play Installation (Versions 950b OSR2 and later)

1. If Windows displays the New Hardware Found window, insert the Windows 95, 98, and NT Installation Diskette and follow the instructions on the screen to complete the installation. The networking and modem components will be installed separately. If prompted to do so, reboot the system. IBM files will be copied from the IBM diskette and both network and modem functionality will be installed. If the New Hardware Found window does NOT appear, proceed to step 2.
2. If the New Hardware Found window does NOT appear, you may be running an earlier version of Windows 95 (950 or 950a). If that is the case, see the README.TXT file on the Windows 95, 98, and NT Network Drivers Diskette.

---

## Windows 95 and 98 Driver Parameters Reference

IBMC.SYS is an NDIS3 driver. IBMCN4.SYS is an NDIS4 driver. Both conform to the Microsoft Network Driver Interface Specification (NDIS).

Required files for using IBMC.SYS with Windows 95 and 98 include:

**NETIBMC.INF** Installation file for Windows 95 and 98

**IBMC.SYS** NDIS3 driver for Windows 95 and 98

There are user-configurable parameters to the IBMC.SYS and IBMCN4.SYS drivers which can be modified using the Network Control Panel built into Windows 95 and 98. This applet queries the user for parameter selections and sets the corresponding parameters in the registry. User-configurable parameters follow:

Parameter	Valid Values	Reg. Value
CableDetect	Off On	0 1

Parameter	Valid Values	Reg. Value
DirectEnable	OFF	1
	ON	2
	AutoDetect	0
EarlyTransmit	OFF	0
	ON	1
InterruptStyle	AutoDetect	0
	PCI-IRQ	1
	ISA-IRQ	2
LineSpeed	AutoDetect	0
	10 Mbps	1
	100 Mbps	2
LineMode	AutoDetect	0
	Half-Duplex	1
	Full-Duplex	2
Network Address	See Network Administrators, note below.	
Socket	Autodetect	0
	1, 2, 3, 4	1, 2, 3, 4

**For network administrators only:** The network node address can be modified by specifying a value for the Network Address such as 0080C7112233. If the user does NOT specify a Network Address, then the IBMC.SYS driver uses the network node address contained in the EtherJet CardBus Adapter with 56K Modem Card Information Structure.

**Note:** For definitions of the keywords above, see the Keyword Reference (All Drivers) in Chapter 4, "Diagnostics and Troubleshooting".

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## Troubleshooting Modem Installation

Review this section if any of the following problems occur:

- Modem initialization errors occur when attempting to dial-out using a communications application.
- Connection failures or other problems occur.

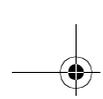
It may be necessary to define a modem type within your communications application. If the IBM modem is not listed, choose a "Generic Hayes compatible" device.

If your computer is equipped with an infrared communications port, you may need to disable this port. These ports often use COM port resources required for other communications devices. Disable the infrared port both in the computer's CMOS or BIOS setup program and the Windows 95 Device Manager, as follows:

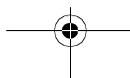
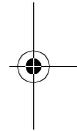
1. Some computers use a hardware setup utility to configure the infrared port in the BIOS. See your computer documentation.
2. To disable the infrared communications port in Windows 95, go to Device Manager tab under System in the Control Panel.
3. Double-click the **Ports (COM & LPT)** entry and the **IR Serial Port** entry. Remove the check mark under Device Usage. (**Note:** In Windows 95 version 950b or later check the **Disable** in this Hardware Profile option to disable the device.)

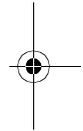
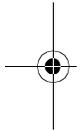
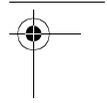
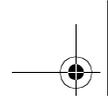
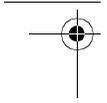
## Use the Modem Diagnostics Tool to Verify the Computer-to-Modem Interface.

1. In the Modems option in the Control Panel, click **Diagnostics**.
2. In Diagnostics properties, highlight the COM port associated with the IBM modem and click the **More Info** button. This causes Windows 95 to send commands to and read responses from the modem and display information about the modem and its COM port. The Port Information box should display the following information:
  - The IRQ and I/O address of the modem's COM port. These should match the physical configuration of the port or modem adapter.
  - Modem responses to various AT commands. The IBM modem may return ERROR for some AT commands that are not supported. This does not indicate a failure.
3. The Record a Log File option in the Modems option can also help identify modem problems by recording modem commands and responses in a MODEMLOG.TXT file. To create the MODEMLOG.TXT file, go to Control Panel, Modems,

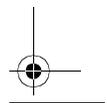
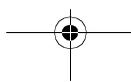
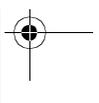
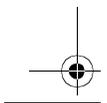


Properties, Connection, Advanced. In the Advanced Connection Settings window, place a check mark in the Record a log file option box. A MODEMLOG.TXT file is created in the C:\WINDOWS directory the next time the modem is used.





2-6 10/100 EtherJet CardBus Adapter with 56K Modem



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## Chapter 3. Windows NT Installation

The EtherJet CardBus Adapter with 56K Modem supports manual installation under Microsoft Windows NT 4.0. Plug and Play installation and hot swapping of the EtherJet CardBus Adapter with 56K Modem are not directly supported by Windows NT.

When the EtherJet CardBus Adapter with 56K Modem is installed, the other PC Card slot is available for use by another PC Card.

---

### Drivers Available

The following drivers for Windows NT can be found on the Windows 95, 98, and NT Network Drivers Diskette:

- IBMC.SYS - NDIS3 driver
- IBMCN4.SYS - NDIS4 driver
- IBMMODEM.SYS - Modem enabler

**Note:** For the latest information on CardBus Adapter support in Windows NT, review the README.TXT file on the Windows 95, 98, and NT Network Drivers Diskette.

---

### Installing under NT 4.0

1. Insert the EtherJet CardBus Adapter with 56K Modem into the CardBus PC Card slot, as described in Chapter 1.
2. With the EtherJet CardBus Adapter with 56K Modem in the PC Card slot, click **Start**, click **Settings**, and select the **Control Panel**. The Control Panel opens.
3. Double-click the **Network** icon. The Network Settings window opens.
4. Click the **Adapters** tab. The Network Adapters window opens.
5. Click **Add**. The Select Network Adapter window opens.
6. Click **Have Disk** and insert the Windows 95, 98, and NT Network Drivers Diskette.

7. Click **OK**. The Select OEM Option window opens.
8. Click **OK**. The Windows NT Setup window briefly displays.
9. IBM 10/100 EtherJet CardBus Adapter with 56K Modem Settings window opens, displaying the default settings.  
**Note:** In most circumstances, the default settings properly operate the CardBus Adapter. However, consult the README.TXT file on the Windows 95, 98, and NT Network Drivers Diskette for the latest recommendations.
10. Click **OK**. The Network Settings window redisplay.
11. Click **Close**. If any dialog boxes appear related to setting up network protocols, click **Cancel**, and contact your Network Administrator.
12. When the Network Settings Change window opens, click **Yes** to restart the computer.

---

## Modem Setup

1. After the computer has been restarted, select **Modems** from the Control Panel.
2. At the Install New Modem screen make sure that the Don't detect my modem; I will select it from a list checkbox is NOT checked. Click **Next**. NT will query the COM ports looking for the IBM modem. Once the modem is found, click **Next>**.
3. If a Standard Modem is found, click **Change**. On the next screen, click **Have Disk**. With a:\ selected, click **OK**.
4. The CountrySelect utility will be automatically launched. Make the appropriate country selection (U.S.A. is the default).
5. At the Install New Modem screen click **Finish**.
6. At the Modems Properties screen click **Dialing Properties...** to set up dialing properties (not necessary if a modem had been previously installed). Click **Close**.

## Windows NT Driver Parameters

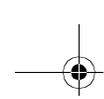
IBMCSYS and IBMCSYS4 driver parameters can be modified using the Windows NT Network Control Panel. This applet uses the OEMSETNT.INF file to set the corresponding parameters in the registry.

**Note:** For definitions of the keywords listed, see the section Keyword Reference (All Drivers) in Chapter 4, "Diagnostics and Troubleshooting".

Parameter	Valid Values	Registry Value
CableDetect	OFF ON	0 1
EarlyReceive	OFF ON	0 1
EarlyTransmit	OFF ON	0 1
InterruptNumber	3-15	same
InterruptStyle	AutoDetect PCI IRQ ISA IRQ	0 1 2
IOBaseAddress	0x1000-0xF800	same
LineMode	AutoDetect Half-Duplex Full-Duplex	0 1 2
LineSpeed	AutoDetect 10 Mbps 100 Mbps	0 1 2
Link Integrity	OFF ON	0 1
MemoryMapped BaseAddress	0xC0000- B000C000	same
Socket	AutoDetect 1 2 3	0 1 2 3

Parameter	Valid Values	Registry Value
LEDEnable	OFF ON	0 1
RXBuffersize	0-100	
TXBuffersize	0-100	
MemoryMode	OFF ON	0 1

**For Network Administrators Only.** To modify the network node address manually, select **Run**, type `regedit` and press **Return**. Select **HKEY\_LOCAL\_MACHINE, System, CurrentControlSet, Services, IBMCI**. Click the **Edit** menu, select **New, String Value**. Rename the new value `NetworkAddress` (no spaces, case sensitive), press **Enter**. Double-click **NetworkAddress** and enter the 12 digit address (no spaces) in the "Value Data" box, click **OK**.



---

## Chapter 4. Diagnostics and Troubleshooting

This chapter contains supplementary diagnostics and troubleshooting information for the EtherJet CardBus Adapter with 56K Modem. For troubleshooting information specific to your operating environment, see the appropriate installation chapter. This supplementary information is intended for users or network administrators who are already familiar with the EtherJet CardBus Adapter with 56K Modem and its user documentation, and who have run into difficulties after having completed the appropriate installation and troubleshooting procedures for their operating environment.

**Note:** For additional troubleshooting information, see the Windows Help file HELPDOCS.HLP on the DOS, Windows 3.x, and NetWare Installation Diskette.

---

### Diagnostic Self Tests

IBM provides both a DOS-based and Windows-based self-test diagnostics program. These programs test several EtherJet CardBus Adapter with 56K Modem functions and report test results, the serial number of the unit, and the node address.

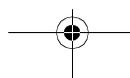
For additional information and instructions see the Help features in the utilities.

**IBMCTEST.EXE** For MS-DOS and Windows 3.x. Found on the DOS, Windows 3.x, and NetWare Installation Diskette.

**IBMCDIAG.EXE** For Windows 95, 98, and NT. Found on the Windows 95, 98, and NT Network Drivers Diskette.

### Executing the MS-DOS/Windows 3.x Diagnostic Program

**Note:** IBMCTEST can only be run from the MS-DOS command line. It cannot be run from a DOS box within Windows.



1. Install the EtherJet CardBus Adapter with 56K Modem according to the instructions contained in Chapter 1, "Hardware Installation".
2. Power down and restart the computer from MS-DOS. DO NOT load a network driver.
3. Run the diagnostic test by typing IBMCTEST at the MS-DOS prompt, then press **Enter**.

**Note:** Do not run IBMCTEST with a network driver loaded. Loading a network driver before running IBMCTEST may cause unpredictable results when exiting the test utility.

## Main Screen

The program consists of several function buttons and a view pane. Pressing or invoking a function brings up the corresponding screen in the view pane. This view remains until another is selected. To exit IBMCTEST type x or push the **Exit** button.

When a function is active, the button appears to remain down or pushed. Once the button pops up, the function is completed and the screen is a passive results display.

Nine functions can be invoked by pushing the associated button on the main screen, using the highlighted letter indicated on the button, or the left mouse button. Online help is provided.

**Note:** Write down the EtherJet CardBus Adapter with 56K Modem model and serial numbers for reference.

## Executing the Windows 95, 98, and NT Diagnostic Program

1. Verify that the EtherJet CardBus Adapter with 56K Modem has been installed and configured to work in your version of Windows.
2. Insert the Windows 95, 98, and NT Network Drivers Diskette in the diskette drive.
3. Select **Start, Run, a:\ejetdiag.exe**.
4. Navigate through the diagnostic program by clicking the appropriate tab. When finished, click **OK** to exit.

---

## Troubleshooting Checklist

- Review the README.TXT file on the DOS, Windows 3.x, and NetWare Installation Diskette or Windows 95, 98, and NT Network Drivers Diskette.
- Be sure you have the current drivers for your adapter. Check the IBM website at <http://www.networking.ibm.com/support/ejetcrdbus56>.
- When loading drivers or running the test utility, keep the LAN adapter cable attached to the EtherJet CardBus Adapter with 56K Modem.
- Under Novell, ensure that the FRAME TYPE you are using is the same as that of the file server. The server frame type should be specified as the first frame type in the NET.CFG.
- In a twisted pair environment, try plugging directly into the hub or concentrator.
- Plug in to a known working network connection.
- Try using the EtherJet CardBus Adapter with 56K Modem on a different computer.
- Try another EtherJet CardBus Adapter with 56K Modem if available.
- If your computer has multiple PC Card sockets, move the adapter to another socket.
- If you have more than one PC Card device in your computer, remove the non-IBM PC Card devices.
- Test the EtherJet CardBus Adapter with 56K Modem without loading Card and Socket Services to prevent conflicts between the EtherJet CardBus Adapter with 56K Modem and Card and Socket Services. The interrupt, memory address location, and I/O address for Card and Socket service drivers must match the IBM configurations in NET.CFG or PROTOCOL.INI (if used).
- Make sure that the IBM interrupt, memory address, and I/O address do not conflict with other installed hardware (such as sounds cards, CD-ROM drives and PEN devices).

- Try loading the CardBus drivers at different memory locations (i.e.: C800, CC00, D400, D800).
- Try using different interrupt locations (i.e.: 5, 10, 11).
- Try using different port addresses (i.e.: 280, 290, 310, 320).

---

## Keyword Reference (All Drivers)

**CABLEDETECT** turns the automatic cable detect feature on or off. When on, cable detect senses when there is no LAN cable attached to the card, and puts the adapter into a low-power mode. Normal power is restored when the cable is reattached. **CACHE** sets system cache line size on the CardBus bridge. Values are system dependent and may include only 0 (cache disabled), 4, 8, 16, or 32. Changes could affect network performance.

**DIRECTENABLE (32-bit NDIS3 Driver IBM.CSYS)** forces method used by driver to determine if a EtherJet CardBus Adapter with 56K Modem is present. Valid parameters are AutoDetect, Off, and On. AutoDetect allows the driver to determine if the CardBus bridge has already been set up by another enabler such as Socket and Card Services. If so, the driver uses the current configuration. On forces the driver to enable the CardBus bridge without checking its current state.

**DRIVERNAME=IBM\$** required as first item in the IBM section of the PROTOCOL.INI file for the IBM.CNDIS driver.

**EARLYRECEIVE** see NOEARLYRX.

**EARLYTRANSMIT** see NOEARLYTX.

**ERT** specifies Advanced Look-ahead Pipelining threshold. Valid settings are LOW, MEDIUM, and HIGH. Changing this value will affect network performance, depending on the computer system.

**INT, INTERRUPTNUMBER** see IRQ.

**INTERRUPTSTYLE (For 32-bit NDIS3 Driver IBM.CSYS only)** forces the driver to use ISA IRQ routing or PCI IRQ routing. Some CardBus bridges have the capability of supporting both PCI and ISA style IRQ routing. Valid parameters are AutoDetect, PCI-IRQ, and ISA-IRQ. The default keyword is AutoDetect.

**IOADDRESS, IOBASEADDRESS** specifies the base I/O address of the EtherJet CardBus Adapter with 56K Modem I/O ports, in hexadecimal notation. The EtherJet CardBus Adapter with 56K Modem requires 128 contiguous I/O addresses if run in I/O mode. If using memory-mapped I/O mode, no I/O ports are necessary. If not used, the driver detects an I/O port automatically.

**I/O PORT** see IOADDRESS

**IRQ** specifies a hardware interrupt for the adapter. If PCI interrupts are used on the CardBus bridge, this parameter is ignored (unless the ISAIRQ keyword is used as an override). If this parameter is not specified the driver detects an IRQ automatically.

**ISAIRQ** use this keyword to force ISA IRQ routing. Some CardBus bridges have the capability of supporting both PCI and ISA style IRQ routing. The driver automatically determines the best choice for this option unless this keyword is used as an override.

**LATENCY** specifies the latency timer for the CardBus Bridge. This parameter affects the bus mastering capabilities of the EtherJet CardBus Adapter with 56K Modem. Changing this parameter may affect system performance. The range is a decimal number between 1 and 255. The default is 32. The latency should be lowered if more than one peripheral device, such as a modem, is being used. If the EtherJet CardBus Adapter with 56K Modem is the only peripheral being used, use a higher latency, such as 255.

**LINEMODE (For 16-bit DOS Drivers)** selects either half-duplex or full-duplex mode for the network. Valid parameters are AUTO, HALF or FULL. Selecting full-duplex enables the EtherJet CardBus Adapter with 56K Modem to send and receive data simultaneously when connected to a full-duplex hub. Default is AUTO.

**LINEMODE (For 32-bit NDIS3 Driver IBMC.SYS)** selects either half-duplex or full-duplex mode for the network. Valid parameters are AutoDetect, Half Duplex, and Full-Duplex. Selecting full-duplex enables the EtherJet CardBus Adapter with 56K Modem to send and receive data simultaneously when connected to a full-duplex hub. Default is keyword is AutoDetect.

**LINESPEED (For 16-bit DOS Drivers)** forces operation to 10 or 100 Mbps. If the keyword is not present the line speed will be automatically detected (default).

**LINESPEED (For 32-bit NDIS3 Driver IBMC.SYS)** forces operation to 10 or 100 Mbps. Valid parameters are AutoDetect, 10 Mbps, and 100 Mbps. Default is AutoDetect.

**LINKDISABLE** disables link integrity for non-IEEE 10BASE-T networks such as StarLAN 10. Without this keyword in the driver command line, the driver defaults to link integrity ENABLED.

**MEM, MEMORY** specifies the host PC memory location for the EtherJet CardBus Adapter with 56K Modem in hexadecimal notation, when MODE MEMORY (memory-mapped I/O) is being used (see MODE). The memory block occupies 4K bytes of host memory.

**MODE** when set to IO disables requests for memory-mapped mode on systems that only support an I/O-driven card. The MEMORY setting provides increased performance on computers that allow simultaneous availability of memory and I/O resources.

**NETWORKADDRESS** allows user to override adapter's unique network node address by specifying a different node address.

**NOBURST** disables burst mode reads on the EtherJet CardBus Adapter with 56K Modem. Using this keyword will force the adapter to initiate a bus-master request for each read, negatively impacting performance

**NOCHECK** disables verification of adapter resources. If the driver detection and verification code is causing problems when loading, this keyword can be used to turn the feature off.

**NODEADDRESS** see NETWORKADDRESS.

**NOEARLYRX** disables Advanced Look-ahead Pipelining features of the adapter. This keyword may be used to troubleshoot systems that have inexplicable network problems. Using this keyword may negatively impact performance.

**NOEARLYTX** disables early transmit capability of the Adapter. This keyword may be used to troubleshoot systems with inexplicable network problems. Keyword could negatively impact performance.

**NOLED** turns off LED indicators to conserve power.

**NOPREFETCH** disables prefetching in memory-mapped I/O mode by turning off this capability on the CardBus bridge. Using this keyword may negatively impact performance.

**NOWRITEPOST** disables write posting by turning off this capability on the CardBus bridge. Using this keyword may negatively impact performance.

**PCIIRQ** forces the driver to use PCI IRQ routing. Some CardBus bridges have the capability of supporting both PCI and ISA style IRQ routing. The driver automatically determines the best choice for this option unless this keyword is used as an override.

**PORT (ODI driver)** see IOADDRESS.

**RXBUFFERSIZE** sets size of the adapter receive packet buffer. This is a number in decimal in the range 1 - 30 for 16-bit drivers and 1 - 100 for the 32-bit ODI driver. Each packet adds approximately 1520 bytes to the resident size of the driver. The default is 15 packets.

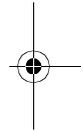
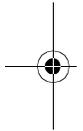
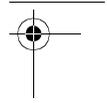
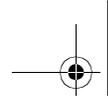
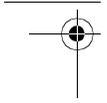
**SINT (Packet Driver)** is a number from hexadecimal 60 to 80 designating a software interrupt. Default is 60.

**SOCKET (16-bit DOS Drivers)** identifies number of host computer PC Card slot into which the EtherJet CardBus Adapter with 56K Modem is inserted. If a socket number is specified, only the specified socket is checked for the EtherJet CardBus Adapter with 56K Modem. If no socket is specified, all sockets are searched until the EtherJet CardBus Adapter with 56K Modem is found.

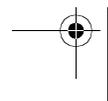
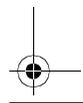
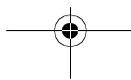
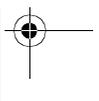
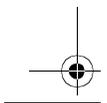
**SOCKET (For 32-bit NDIS3 Driver IBMC.SYS)** identifies the number of the host computer's PC slot or socket into which the EtherJet CardBus Adapter with 56K Modem is inserted. Valid parameters are AutoDetect, 1, 2, 3, and 4. If a socket number is specified, only the specified socket is checked for the EtherJet CardBus Adapter with 56K Modem. The default keyword is AutoDetect, and the driver then automatically checks all slots for the EtherJet CardBus Adapter with 56K Modem.

**TXBUFFERSIZE** sets the size of the adapter transmit packet buffer. This is the number of transmit packets in decimal in the range 1 - 10 for 16-bit drivers and 1 - 100 for the 32-bit ODI driver. Each packet adds approximately 1520 bytes to the resident size of the driver. The default is 2 packets.

**VERBOSE** displays additional configuration information when the driver loads, including information about the CardBus controller on the PCI to CardBus bridge on the host computer.



4-8 10/100 EtherJet CardBus Adapter with 56K Modem



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## Appendix A. Product Support Services

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### Help Files

The HELPDOCS.HLP file, contained on the DOS, Windows 3.x, and NetWare Installation Diskette, provides detailed information about the EtherJet CardBus Adapter with 56K Modem.

Topics include:

- Windows 95 Help
- IBM OS/2 Help
- 32-Bit OD1 Help
- Windows 3.x Help
- Modem Reference
- IBM Product Support

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### IBM Product Support

The following IBM product support is available:

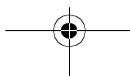
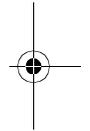
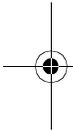
- Download the code from the Internet.  
You can download the latest drivers and related code from the IBM web site.
- **World Wide Web:**
  - On a Web Browser:
    1. Open  
<http://www.networking.ibm.com/support/ejetcrdbus56>
    2. You now have access to all the latest drivers, technical tips, and product information.
  - For more information regarding other IBM Networking Products go to the IBM Networking Home page:  
<http://www.networking.ibm.com>
- IBM Product Support
  - 1-800-772-2227 for IBM HelpCenter
  - 1-800-565-3344 for HelpPC (Canada)



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## Warranty Service Procedures

For details about warranty coverage and service, see Appendix C, "Notices".



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## Appendix B. Specifications

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### General Specifications

Model 10/100 EtherJet CardBus Adapter with 56K Modem

**Cable:** 100BASE-TX-unshielded twisted pair for use on Category 5 (data grade) cabling; 10BASE-T-unshielded twisted pair (UTP)

**Connector:** RJ-45

**Operating Distance:** 328 ft (100 m)

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### Ethernet Specifications

Ethernet IEEE 802.3 for 10 Mbps, 802.3u for 100 Mbps

Type II CardBus PC Card

10/100 Mbps full-duplex

**Size:** 3.37 in (86 mm) x 2.13 in (54.0 mm) x 0.20 in (5.0 mm) excluding adapter cable and network connection

**Weight:** 1.20 oz (34 g)

**Power Requirements:**

10BASE-T 3.3V DC, 130 mA typical

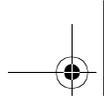
100BASE-TX 3.3V DC, 140 mA typical

Modem 3.3V DC, 240 mA typical

**Power Management:**

Supports ACPI, CardBus Power Management

Specification, Magic Packet, and Wake on LAN



**Temperature Range:**

**Operating:** 32°F to 131°F (0°C to 55°C)

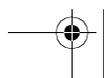
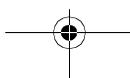
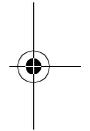
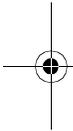
**Storage:** -4°F to 149°F (-20°C to 65°C)

**Humidity:** 95% max. noncondensing

**LEDs:** Link integrity, transmission activity

**Certification:** FCC Part 15, Class B

CE Mark (EN 55022, Class B, EN50082)



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## Appendix C. Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service in this publication is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, programs, or services, except those expressly designated by IBM, are the user's responsibility.

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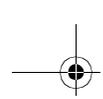
### Notice to Users of Online Versions of This Book

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

**THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**



Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

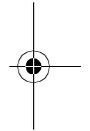
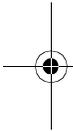
Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine-readable documentation.

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## Safety Notices

### Telecommunications Safety Requirements in the United Kingdom

This IBM product is made to high safety standards. It complies inherently with telecommunications safety standard BS 6301. It is not designed to provide protection from excessive voltages appearing externally at its interfaces. Therefore, when this product is connected to a public telecommunications network via any other equipment, and you connect to this product items not supplied by IBM United Kingdom Ltd., you must comply with mandatory telecommunications safety requirements.



### Statement of Compliance with the United Kingdom Telecommunications Act 1984

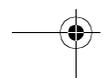
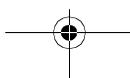
This apparatus is approved under approval number NS/G/1234/J/100003 for indirect connections to the public telecommunications systems in the United Kingdom.

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## Electronic Emission Notices

### Federal Communications Commission (FCC) Statement

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and



used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

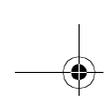
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

International Business Machines Corporation  
New Orchard Road  
Armonk, NY 10504  
Telephone 1-919-543-2193



## Industry Canada Class B Emission Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

## Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## European Norm (EN) Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for an failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richtlinie 89/336).

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

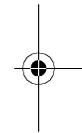
Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

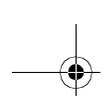
Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse B.

EN 55022 Klasse B Geräte müssen mit folgendem Warhinweis versehen werden:

C-4 10/100 EtherJet CardBus Adapter with 56K Modem





"Warnung: dies ist eine Einrichtung der Klasse B. Diese Einrichtung kann im Wohnbereich funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen."

EN 50082-1 Hinweis

"Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrößern."

Anmerkung

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

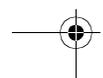
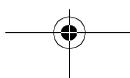
**Japanese Voluntary Control Council for Interference (VCCI) Statement**

This product is a Class B Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Technology Equipment (VCCI). This product is aimed to be used in a domestic environment. When used near a radio or TV receiver, it may become the cause of radio interference. Read the instructions for correct handling.

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをして下さい。

**Korean Statement**

Please note that this device has been certified for residential use and may be used in any environment.



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## Telecommunication Notices

### Federal Communications Commission (FCC) and Telephone Company Requirements

1. This adapter complies with Part 68 of the FCC rules. A label is affixed to the adapter that contains, among other things, the FCC registration number and Ringer Equivalency Number (REN) for this equipment. If these numbers are requested, provide this information to your telephone company.
2. The REN is useful to determine the quantity of devices you may connect to your telephone line and still have those devices ring when your number is called. In most, but not all areas, the sum of the RENs of all devices should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should call your local telephone company to determine the maximum REN for your calling area.
3. If the adapter causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance; if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.
4. Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper operation of your equipment. If they do, you will be given advance notice to give you an opportunity to maintain uninterrupted service.
5. If you experience trouble with this product, contact your Authorized Reseller, or call IBM. In the United States, call IBM at **1-800-772-2227**. In Canada, call IBM at **1-800-565-3344**. You may be required to present proof of purchase. The telephone company may ask you to disconnect the adapter from the network until the problem has been

corrected, or until you are sure the adapter is not malfunctioning.

6. No customer repairs are possible to the adapter. If you experience trouble with the adapter, contact your Authorized Reseller or see Appendix A for information.
7. This adapter may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. Contact your state public utility commission or corporation commission for information.
8. When ordering network interface (NI) service from the local Exchange Carrier, specify service arrangement USOC RJ11C.

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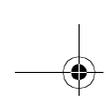
## Industry Canada Information

**NOTICE:** The Industry Canada Label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. Industry Canada does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected



together. This precaution may be particularly important in rural areas.

**CAUTION:**

**Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.**

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

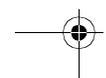
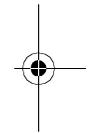
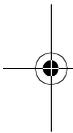
The Ringer Equivalence Number for the Adapter is 0.5

AVIS : L'étiquette d'Industrie Canada permet d'identifier un équipement homologué. Cette homologation signifie que cet équipement satisfait certaines exigences en matière de protection, d'exploitation et de sécurité du réseau de télécommunications. Industrie Canada n'offre aucune garantie que le fonctionnement de cet équipement soit à la satisfaction de l'utilisateur.

Avant d'installer cet équipement, l'utilisateur doit s'assurer qu'il a la permission de le raccorder aux installations de l'entreprise de télécommunications. L'installation de cet équipement doit aussi se faire selon un mode de raccordement acceptable. Dans certains cas, le câblage interne de l'entreprise associé au service individuel offert par une ligne d'abonné peut être prolongé au moyen d'un connecteur homologué (prolongateur de téléphone). Le client devrait être informé que la conformité de son équipement aux conditions susmentionnées n'est pas une prévention contre la dégradation du service dans certaines situations.

Toute réparation d'un équipement homologué devrait être effectuée par un service de maintenance canadien autorisé qui a été désigné par le fournisseur. Toute réparation ou modification d'équipement faite par l'utilisateur, ou tout mauvais fonctionnement, pourrait entraîner la déconnexion de cet équipement par l'utilisateur à la demande de l'entreprise de télécommunications.

Pour sa protection personnelle, l'utilisateur devrait s'assurer que les mises à la terre des services publics électriques, des lignes téléphoniques et du système interne des canalisations d'eau à



tuyaux métalliques, advenant leur présence, sont interconnectées. Dans les zones rurales, il s'agit-là d'une précaution particulièrement importante à prendre.

**ATTENTION :** Toute tentative de connexion par l'utilisateur est à déconseiller. Il est préférable de communiquer avec le responsable de l'inspection en électricité ou un électricien, selon le cas.

**AVIS :** L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

L'indice d'équivalence de la sonnerie pour l'adaptateur est 0.5.

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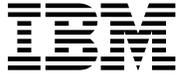
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**Machine** IBM 10/100 EtherJet CardBus Adapter with 56K Modem

**Warranty Period\*** Lifetime

*\*Elements and accessories are warranted for three months. Contact your place of purchase for warranty service information.*

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This warranty is non-transferable by the end-user customer.

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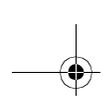
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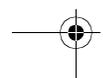
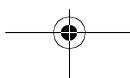
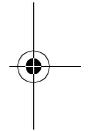
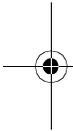
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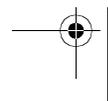
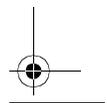
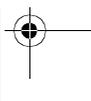
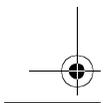
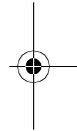
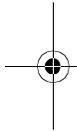
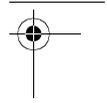
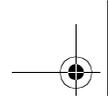
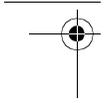
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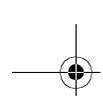
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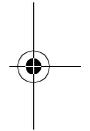
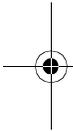
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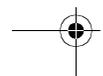
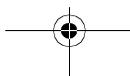
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X-2 10/100 EtherJet CardBus Adapter with 56K Modem



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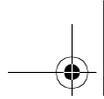
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