3Com®

3Com HomeConnect ADSL Modem Ethernet Installation Guide

Version 1.1

3Com Corporation ■ **3800 Golf Road** ■ **Rolling Meadows, Illinois** ■ **60008**

FCC INFORMATION

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.

This device has been tested to comply with FCC standards and is acceptable for home or office use.

The 3Com HomeConnect has been determined to comply with Part 15 of the FCC rules under the manufacturer's Declaration of Conformity procedures in Title 47 of the Code of Federal Regulations, section 2.906 (a). The party responsible for the Declaration of Conformity is:

3Com Corporation
3800 Golf Road
Rolling Meadows, IL 60008
(847) 262-5000
www.3com.com

Changes or modifications to this device not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

The manufacturer's Declaration of Conformity implies that this device was tested at a laboratory recognized by the FCC and found to meet the limits for a class B digital device. This device has not been certified by the FCC.

INTRODUCTION TO THE HOMECONNECT ADSL MODEM ETHERNET

Introduction

- Welcome to the 3Com HomeConnect ADSL Modem Ethernet
- What's Included in the Package
- Installation
- Operation
- Pin Assignments
- Important Safety Instructions
- Technical Support
- FCC Information
- Warranty Information

Welcome to the 3Com HomeConnect ADSL Modem Ethernet

The 3Com HomeConnect ADSL Modem Ethernet is your passport to full internetworking and high-speed multimedia communications from your home or office to a corporate network or the Internet.

With the ADSL Modem Ethernet connected to your computer, and an account activated by your network service provider, the ADSL Modem Ethernet provides a lightning-fast Digital Subscriber Line (DSL) connection between your PC or LAN and the service provider's network of high-speed digital facilities.

This booklet contains the information you need to install, use, and care for your 3Com HomeConnect ADSL Modem Ethernet.

What's Included in the Package?

First, check your package to be sure it's complete. You should have the following items:

- The 3Com HomeConnect ADSL Modem Ethernet
- An AC-to-DC power adapter and cable
- RJ45 to RJ45 Ethernet Cable
- Console Cable (DB-9 — DB-9)
- RJ11 to RJ11 telephone cable for connection to the DSL data line
- Ferrite clamp
- Installation Guide
- CD-ROM containing the printable CLI User's Guide,and other utilities

If anything is missing, contact 3Com Customer Support.

Installation of the 3Com HomeConnect ADSL Modem Ethernet

For protection against damage due to local lightning strikes and other electrical surges, we recommend that you install an AC surge arrestor in the AC outlet to which this device is connected.

Below is a representation of the rear panel of your ADSL Modem Ethernet:
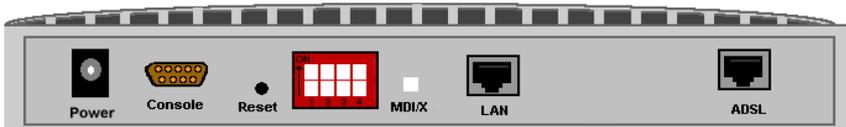
Connecting the HomeConnect ADSL Modem Ethernet is easy. Just follow these steps:

Note: Do not plug in the HomeConnect ADSL Modem Ethernet until you have carefully read all instructions below and have set the DIP switches on the back of your unit to the desired configuration.

1 Place your HomeConnect ADSL Modem Ethernet in a convenient spot where all of the cables can reach it, and

where air can flow freely through the air holes in the unit's sides and top.

2 Connect one end of the ADSL cable (RJ-11) to the connector on the rear of the HomeConnect ADSL Modem Ethernet marked ADSL and connect the other end to your ADSL wall jack (or Network Interface Device (NID)).

⚠ *CAUTION: The DSL line outlet uses the same type connector as a normal voice telephone line. Take care not to accidentally connect your HomeConnect ADSL Modem Ethernet to a telephone outlet, and never connect a phone to your HomeConnect ADSL Modem Ethernet.*

3 Select the DIP switch mode (this selects the boot option) you want to use from the table below (Table 1.1) and flip the appropriate switches.

4 Connect the Ethernet cable to the Ethernet port on your Modem and the other end to the PC or network hub.

⚠ *Do not confuse this cable with the RJ-11 ADSL cable. The two RJ jacks look alike.*

5 Install the ferrite clamp: Adding the ferrite clamp onto your Ethernet cable will minimize electromagnetic interference from your ADSL modem. In order to ensure compliance with EN55022 (CISPR 22) and FCC Part 15 Class B emission requirements, attach the ferrite clamp to the Ethernet cable as shown below.

The clamp will be most effective when placed closest to the end of the Ethernet cable (see diagram below) which is connected to your modem. Place the open clamp around the cable portion close to the jack which will be connected to the ADSL Modem Ethernet unit. Close the clamp around the cord, making sure the two small clips are completely closed (they will be flush with the clamp body). The clamp is now properly attached to the Ethernet cable.

6 Determine if you want the MDI/X switch "out" or "in". The MDI/X Switch swaps the transmit (Tx) and receive (Rx) signal pairs on the Ethernet port. The MDI/X button must be pressed "in" to use the port for connection to a workstation. When the MDI/X button is "out", you can connect to a non-cascade port on another hub.

7 Plug one end of the power adapter into a wall socket, and connect the other end of the cable to the rear of the HomeConnect ADSL Modem Ethernet.

What are the Boot Options?

The 3Com HomeConnect ADSL Modem Ethernet has a set of 4 numbered DIP (Dual Inline Package) switches that can be used to select a pre-programmed configuration. **One of the pre-programmed configurations may match the settings required by your service provider.** Please check with your service provider. If so, installation is as simple as setting the DIP switches and powering on the unit. If not, you can still easily configure the unit using a serial console connection.

The following DIP switch combinations are valid:

Table 1-1   DIP Switch Modes

DIP Switch				Mode
1	2	3	4	**VPI/VCI**
off	off	off	off	Unconfigured Mode (CLI configuration required)
ON	off	off	off	0/33
off	ON	off	off	0/35
ON	ON	off	off	8/35
off	off	ON	off	0/38
ON	off	ON	off	0/33-35
off	ON	ON	off	0/33-38
all other settings				Unconfigured Mode (CLI configuration required)

Boot options only affect the operation of a unit which does not presently have any configuration settings (i.e., the unit is new, the Configuration Reset button has been pressed,

or a 'delete configuration' command has been executed from the CLI).

Changing Boot Options/Resetting Your Modem

You may choose a different boot option after you have already selected one previously and set up your unit.

To reset your unit and select a different boot option:

1 Set the appropriate DIP switch to match the configuration information provided by your service provider.

2 Unplug the power cable from your 3Com HomeConnect ADSL Modem Ethernet.

3 Press the Configuration Reset button for 5 seconds while plugging the power cable back in.

Following the above steps will power on the 3Com HomeConnect ADSL Modem Ethernet with the desired boot option and erase all previous parameters.

Unconfigured Mode

If you have not selected one of the preconfigured boot options, the unit will power up unconfigured. To enter configuration information, you must connect a PC running terminal emulation software (e.g., Hyperterminal, available on most PCs) to the unit's console port. Connect the 9-pin console cable from the terminal to the back of the unit. Configure your terminal with the following serial port settings: 9600-N-8-1.

Refer to the Command Line Interface (CLI) Guide for details on accessing this interface.

The 3Com HomeConnect ADSL Modem Ethernet bridges traffic between ATM PVCs (WAN ports). To configure a WAN port, use the following command syntax:

```
set port <port #> vpi <vpi #> vci <vci #>
```

where:

■ port # is the WAN port to use (2-9)

■ vpi # is the VPI of the ATM PVC

■ vci # is the VCI of the ATM PVC

Enable the port using the command:

enable port <port #>

Save the configuration using the command:

save all

For example, if your service provider instructed you to use VPI 0 and VCI 44, you would enter the following CLI commands:

```
set port 2 vpi 0 vci 44
enable port 2
save all
```

The CLI provides extensive configuration and monitoring capabilities. For more information, install the CLI User's Guide from the Installation CD supplied with your unit.

Operation

After you have properly connected your HomeConnect ADSL Modem Ethernet, and your new DSL link has been activated by your Network Service Provider, all you need to do is enjoy the high-speed DSL access to your network. There are no controls or adjustments to make. Just make sure that power is provided to your ADSL Modem Ethernet at all times, and that adequate ventilation is maintained.

The unit will take one minute to boot up when you power it on. If power to the unit is interrupted, the ADSL Modem Ethernet will automatically reconnect to the network when power is restored. The connection process is not instantaneous, however, and it may take several minutes for your service-provider's central-office equipment to perform its periodic check of your line and then do the necessary "handshaking" to restore full communication.

LED Indicators

There are four indicator lights (LEDs) on the front of the ADSL Modem Ethernet. The Alert and ADSL status can light red, orange, or green, depending on the status of the unit. The PWR and LAN Status LEDs can only light green.

Alert Indicator

The Alert Indicator is used to indicate the configuration and software download status of the modem.

Immediately after power-up, the indicator will light orange for one second. Then, if the Configuration Reset button has been pressed while powering-on the unit, the indicator will flash green five times a second for four seconds.

In any case, the indicator will then flash orange twice a second for four seconds during which the modem will accept software download through the serial port (see Chapter 5 of the CLI User's Guide for a description of the Software Update process).

Approximately ten seconds after power-up, the Alert Indicator will begin flashing green twice a second while the unit's software is loading. It takes about 30 seconds for the unit to complete downloading. Once the download is complete, the indicator will be turned off.

PWR Indicator

The PWR Indicator lights green when power is applied. If this indicator is off, check to be sure that the power cable is connected at the rear panel, and that the power adapter is plugged in.

LAN Status Indicator

The LAN Status Indicator lights green when your modem is connected to your PC or Ethernet LAN.

If the connection to the LAN is broken, the indicator will go off and remain off. Be sure that the computer or hub cables are properly connected at the rear panel and at your PC or Ethernet hub. Also, check to make sure that the MDI/X (Ethernet Crossover) switch is properly set.

When data traffic is passing through the Ethernet port, the LED will rapidly flash green.

ADSL Status Indicator

After power-up and software downloading, the ADSL Status Indicator will light red until the modem begins to synchronize with the central office equipment. If the indicator remains red for an extended period, you should check to ensure that the ADSL line is properly plugged into the rear panel jack.

Once training begins, the indicator will flash orange once per second. When the unit has properly synchronized with the central office the indicator will light green. During data transfer, the indicator will rapidly flash green.

Pin Assignments

Pin assignments for the different jacks located on the back of your HomeConnect ADSL Modem Ethernet are listed below for your information.

ADSL Interface (RJ-11 jack)

Pin 1 — (Not Used)

Pin 2 — Ring

Pin 3 — Tip

Pin 4 — (Not Used)

LAN Interface (RJ-45 jack, with MDI/X set to OUT)

Pin 1 — Transmit Data +

Pin 2 — Transmit Data -

Pin 3 — Receive Data +

Pin 4 — NC (no connect)

Pin 5 — NC

Pin 6 — Receive Data -

Pin 7 — NC

Pin 8 — NC

Console Interface (DB-9) (Default configured as DCE)

Pin 1 — DCD LL <= PC

Pin 2 — Transmit Data LL => PC

Pin 3 — Receive Data LL <= PC

Pin 4 — DTR LL <= PC

Pin 5 — Ground

Pin 6 — DSR LL => PC

Pin 7 — RTS LL <= PC

Pin 8 — CTS LL => PC

Pin 9 — RI LL <= PC

Important Safety Instructions

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

■ Do not use this product near water, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

■ Avoid using this telephone equipment during an electrical storm. There may be a remote risk of electric shock from lightning.

■ Use only the power adapter that came with the unit. Replacement adapters can be obtained by contacting 3Com Customer Support.

In Case of a Problem

First, carefully review the contents of this booklet. Check all of the connection points. Ensure that cables and wires are intact and properly connected between:

■ Your 3Com HomeConnect ADSL Modem Ethernet and your computer.

■ Your 3Com HomeConnect ADSL Modem Ethernet and the DSL data line.

■ Your 3Com HomeConnect ADSL Modem Ethernet and the AC adapter.

Check that the AC adapter is plugged into a live AC socket. If all of the connections are correct, and you are still having difficulties, contact your Network Service Provider for assistance.

Power Requirements
■ AC Voltage: External DC adapter, 100 to 250 VAC, 50-60 Hz
■ Power: 10 watts maximum

Operating Environment
■ Temperature: 0° to 40° C. (operating)
              -35° to 70° C (shipping and storage)
■ Humidity: 0-95%, non-condensing

TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This section describes those services.

Technical Support Hotline

Technical questions about the 3Com HomeConnect ADSL Modem products can be answered by technical support representatives. This hotline is a toll call.

847-262-3700 8:00am - 6:00pm CST; Monday through Friday

Canadian customers can speak to a technical support representative by contacting Keating Technologies.

905-305-6570 8:00am - 8:00pm EST ; Monday through Friday

Online Technical Support

3Com offers product support 24 hours a day, 7 days a week, through:

World Wide Web	consumer.3com.com/support
3Com BBS	847-262-6000
Email	support@consumer.3com.com

If you need to Return the Modem to Us

Contact 3Com Customer Support. If the support representative determines that you need to return the modem, you will receive an SRO (Service Repair Order) number. You must have an SRO number before returning the modem to us. Ship the unit, postage paid, in a strong box made of corrugated cardboard with plenty of packing material. DO NOT send the modem back in the original box. Send ONLY the modem (NOT manuals, diskettes, etc.) Include your SRO number, name and address on the shipping label as well as inside the package. If possible, send the package via a courier capable of tracking the progress of the shipment. Ship to the following address:

3Com
SRO# _____
Attn: Dock 15 PCD
1800 W. Central Road
Mount Prospect, IL 60056

Customers in Canada needing to return a modem for repair or replacement should send the modem to the following address:

Keating Technologies
25 Royal Crest Court, Suite 120
Markham, ONT L3R 9X4

MANUFACTURER'S DECLARATION OF CONFORMITY

3Com Corporation
3800 Golf Road
Rolling Meadows, IL 60008
U.S.A.

declares that this product conforms to the FCC's specifications:

Part 15:
Operation is subject to the following two conditions:

(1) this device may not cause harmful electromagnetic interference, and

(2) this device must accept any interference received including interference that may cause undesired operations.

This equipment uses the following USOC jacks: RJ-11C.

FCC PART 68 STATEMENT

3Com Corporation: Model: **3Com HomeConnect ADSL Modem Ethernet**

There are no current FCC, Part 68, rules governing DSL modems however, care should be taken in connecting to a DSL network.

A FCC compliant, 26 AWG, telephone cord with a modular plug is provided with this equipment. This device connects to the telephone network via a RJ -11 plug and jack. The plug and jack also comply with FCC part 68 rules. Be sure that the telephone line you are connecting the modem to is a DSL line and not a standard analog, digital (PBX), party, or coin telephone line.

If this device causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But, if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could effect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this device, for repair and warranty information, please refer to the Warranty section of this User Guide.

In the event of device malfunction, all repairs should be performed by 3Com or an authorized agent. It is the responsibility of users requiring service to report the need for service to our company or to one of our authorized agents. In the event service is required, refer to the Warranty section for information.

Service can be obtained at: 3Com Corporation,1800 W. Central Avenue., Mount Prospect, IL 60056

If the device is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

This registered device is capable of providing users access to interstate providers of operator services through the use of equal access codes.

INTERNATIONAL STATEMENTS OF CONFORMITY

Electromagnetic Compatibility

This equipment was tested and found to conform to the Council Directive 89/336/EEC for electromagnetic compatibility. Conformity with this Directive is based upon compliance with the following harmonized standards:

EN 55022: 1994 Limits and methods of Measurement of Radio Interference.

A1: 1995 A2: 1997 This equipment conforms to the Class B limits. (CISPR 22, 1993)

AS/NZS3548 Australian / New Zealand Limits and Methods of Measurement of Information Technology equipment. This equipment conforms to the Class B limits.

EN 50082-1: 1992 Electromagnetic Compatibility Generic Immunity Standard: Residential, Commercial and Light-Industrial Environment (January 1992) With IEC 801-2(1984); IEC 801-3 (1984); IEC 801-4 (1988)

VCCI Conformity

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

> 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。

Safety (Low Voltage Directive)

This equipment was tested and found to conform to the Council Directive 72/23/EEC for safety of electrical equipment. Conformity with this Directive is based upon compliance with the following harmonized standard:

EN 60950 1992: A4 1997   Safety of Information Technology Equipment

TS001 & AS/NZS3260   Australian/ New Zealand standard for Safety of Information Technology Equipment Including Electrical Business Equipment.

Caution to the User

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

UL-Certified/CUL-Certified

This information technology equipment is UL-Certified and CUL-Certified for the uses described in the users guide.

Radio and Television Interference

This equipment generates and uses radio frequency energy and if not installed and used properly, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. The modem has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC rules, which are designed to provide reasonable protection against such 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 interference to radio and television communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause interference to radio or television reception, which you can determine by monitoring reception when the modem is installed and when it is removed from the computer, try to correct the problem with one or more of the following measures:

• Reorient the receiving antenna (for televisions with antenna reception only) or cable input device.

• Relocate the computer with respect to the receiver.

• Relocate the computer and/or the receiver so that they are on separate branch circuits.

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the following booklet, prepared by the Federal Communications Commission, helpful:

How to Identify and Resolve Radio-TV Interference Problems

Stock No. 004-000-0345-4
U.S. Government Printing Office
Washington, DC 20402

In accordance with Part 15 of the FCC rules, the user is cautioned that any changes or modifications to the equipment described in this manual that are not expressly approved by 3Com could void the user's authority to operate the equipment.

For Canadian Modem Users

Industry Canada (IC)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled Digital Apparatus, ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B préscrites dans la norme sur le matériel brouilleur: Appareils Numériques , NMB- 003 édictée par l'Industrie Canada.

NOTICE: The Industry Canada (IC) label identifies certified equipment. This certification means the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department 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. Currently, telecommunication companies do not allow users to connect their equipment to jacks except in precise situations that are spelled out in tariffing arrangements with those companies.

Repairs to certified equipment should be coordinated by a representative 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.

For your own protection, make sure 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: Do NOT attempt to make such connections yourself. Instead, contact an electric inspection authority or electrician, as appropriate.

«AVIS : L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées cidessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations

ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

Centre de guarantie et de service après-vente:

Keating Technologies
25 Royal Crest Court, Suite 120
Markham, ONT L3R 9X4

3COM CORPORATION LIMITED WARRANTY

This warranty applies to customers located in the United States, Australia, Canada (except Quebec), Ireland, New Zealand, U.K., and other English language countries, and countries for which a translation into the local language is not provided.

3COM HOMECONNECT ADSL MODEM ETHERNET

HARDWARE: 3Com warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for the following length of time from the date of purchase from 3Com or its authorized reseller:

FIVE (5) YEARS

3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, 3Com may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products may be new or reconditioned. 3Com warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

SOFTWARE: 3Com warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from 3Com or its authorized reseller. 3Com warrants the media containing software against failure during the warranty period. No updates are provided. 3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to refund the purchase

price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable 3Com published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. 3Com makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with 3Com's published specifications or user manual.

THIS 3COM PRODUCT MAY INCLUDE OR BE BUNDLED WITH THIRD PARTY SOFTWARE, THE USE OF WHICH IS GOVERNED BY A SEPARATE END USER LICENSE AGREEMENT. THIS 3COM WARRANTY DOES NOT APPLY TO SUCH THIRD PARTY SOFTWARE. FOR THE APPLICABLE WARRANTY, PLEASE REFER TO THE END USER LICENSE AGREEMENT GOVERNING THE USE OF SUCH SOFTWARE.

YEAR 2000 WARRANTY: In addition to the Hardware Warranty and Software Warranty stated above, 3Com warrants that each product sold or licensed to Customer on and after January 1, 1998 that is date sensitive will continue performing properly with regard to such date data on and after January 1, 2000, provided that all other products used by Customer in connection or combination with the 3Com product, including hardware, software, and firmware, accurately exchange date data with the 3Com product, with the exception of those products identified at 3Com's Web site, http://www.3com.com/products/yr2000.html, as not meeting this standard. If it appears that any product that is stated to meet this standard does not perform properly with regard to such date data on and after January 1, 2000, and Customer notifies 3Com before the later of April 1, 2000, or ninety (90) days after purchase of the product from 3Com or its authorized reseller, 3Com shall, at its option and expense, provide a software update which would effect the proper performance of such product, repair such product, deliver to Customer an equivalent product to replace such product, or if none of the foregoing is feasible, refund to Customer the purchase price paid for such product.

Any software update or replaced or repaired product will carry a Year 2000 Warranty for ninety (90) days after purchase or until April 1, 2000, whichever is later.

OBTAINING WARRANTY SERVICE: Customer must contact a 3Com Corporate Service Center or an Authorized 3Com Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from 3Com or its authorized reseller may be required. Products returned to 3Com's Corporate Service Center must be pre-authorized by 3Com with a Return Material Authorization (RMA) number or User Service Order (USO) number marked on the outside of the package, and sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. Responsibility for loss or damage does not transfer to 3Com until the returned item is received by 3Com. The repaired or

replaced item will be shipped to Customer, at 3Com's expense, not later than thirty (30) days after 3Com receives the defective product.

3Com shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to 3Com for repair, whether under warranty or not.

Dead- or Defective-on-Arrival. In the event a product completely fails to function or exhibits a defect in materials or workmanship within the first forty-eight (48) hours of installation but no later than thirty (30) days after the date of purchase, and this is verified by 3Com, it will be considered dead- or defective-on-arrival (DOA) and a replacement shall be provided by advance replacement. The replacement product will normally be shipped not later than three (3) business days after 3Com's verification of the DOA product, but may be delayed due to export or import procedures. The shipment of advance replacement products is subject to local legal requirements and may not be available in all locations. When an advance replacement is provided and Customer fails to return the original product to 3Com within fifteen (15) days after shipment of the replacement, 3Com will charge Customer for the replacement product, at list price.

WARRANTIES EXCLUSIVE: IF A 3COM PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY FOR BREACH OF THAT WARRANTY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT 3COM'S OPTION. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, AND NON-INFRINGEMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. 3COM NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF ITS PRODUCTS.

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GOVERNING LAW: This Limited Warranty shall be governed by the laws of the State of California, U.S.A. excluding its conflicts of laws principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

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