1M PhoneLine Network + 10/100M Fast Ethernet 16-bit PC Card

Users' Guide

REGULATORY STATEMENTS

Part15, Class B

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interface, and

2. This device must accept any interface received, including interface that may cause undesired operation. 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 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 distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

☞ *Changes or modifications not expressly approved by party responsible for compliance could void the user the user authority to operate the equipment.*

FCC Part 68 Registration

This device complies with FCC Part 68 rules, and the use of this device is subject to the following restrictions:

The FCC has established rules which permit this device to be directly connected to the telephone network. Standardized jacks are used for these connections. This equipment should not be used on party lines or coin phones.

If this device is malfunctioning, it may also be causing harm to the telephone network; this device should be disconnected until the source of the problem can be determined and until repair has been made. If this is not done, the telephone company may temporarily disconnect service.

The telephone company may make changes in it's facilities, equipment, operation and procedures; if such changes affect the compatibility or use of this device, the telephone company is required to give adequate notice of the situation with the FCC.

If the telephone company requests information on what equipment is connected to their lines, inform them of:

    a. The telephone number to which this unit is connected.

    b. The Ringer Equivalence Number (REN).

    c. The USOC jack required.

    d. The FCC Registration number.

Items (b) and (d) are indicated on the label. The Ringer Equivalence Number (REN) is used to determine how many devices can be connected to your telephone line. In most areas, the sum of the REN's of all the devices on any one line should not exceed 5.0. If too many devices are attached, they may not ring properly.

INTRODUCTIONS

The 1M PhoneLine Network & 10/100 Fast Ethernet PC Card brings the latest technology of instant connectivity to multiple PCs over a home's existing telephone lines.

This PC Card is equipped with one RJ-45 10/100 dual-speed Fast Ethernet port that enables any computer with a PCMCIA socket easily connected to a 10Mbps or 10/100Mbps network.

The attached two standard RJ-11 telephone ports let you network any notebook computer by connecting it to any standard phone line. No switches, hubs, or even any additional cables is needed - the network runs on standard home-grade telephone wires just like the ones you use everyday.

Features

- Connects to a network using your existing telephone Line -- No additional hubs or network cables needed.

- 1Mbps transfer rate over telephone lines.

- Dual-speed RJ-45 port automatically detects Ethernet or Fast Ethernet speed.

- HomePNA compliant.

- Connects up to 25 devices together on your home phone network.

About Home Phone Networking Technology

The <u>1M PhoneLine Network + 10/100M Fast Ethernet</u> utilizes a technology known as Frequency Division Multiplexing (FDM) which essentially divides the data travelling over the phone lines into

separate frequencies - one for voice, one for high-bandwidth net access such as DSL, and one for the network data. These frequencies can coexist on the same telephone line without impacting one another.

The 1 Megabit-per-second (one million bits-per-second) data rate is 18 times that of the fastest analog modems available, which run at 56Kbps. Even high-speed modem, xDSL, and ISDN connections will perform at full speed on a home network.

Note: Because of the limitations of standard telephone cables, Home Phone Networking devices require that your cabling does not exceed a total length of 500 feet for your entire network.

System Requirements

- A notebook or desktop computer with at least one PCMCIA type II slot.

- Microsoft Windows 95/98, Windows NT pre-installed.

Specifications

Network Standard

- HomePNA specification 1.1

- IEEE 802.3 for 10BaseT

- IEEE 802.3u for 100BaseTX

- Standard phone wiring

- CAT 3/CAT 5 UTP, 100ohm STP cable up to 328ft/100M

Data Transfer Rate

- Up to 1 Mbps of HomePNA data transfer

- 10/100 Mbps[1] of Fast Ethernet data transfer
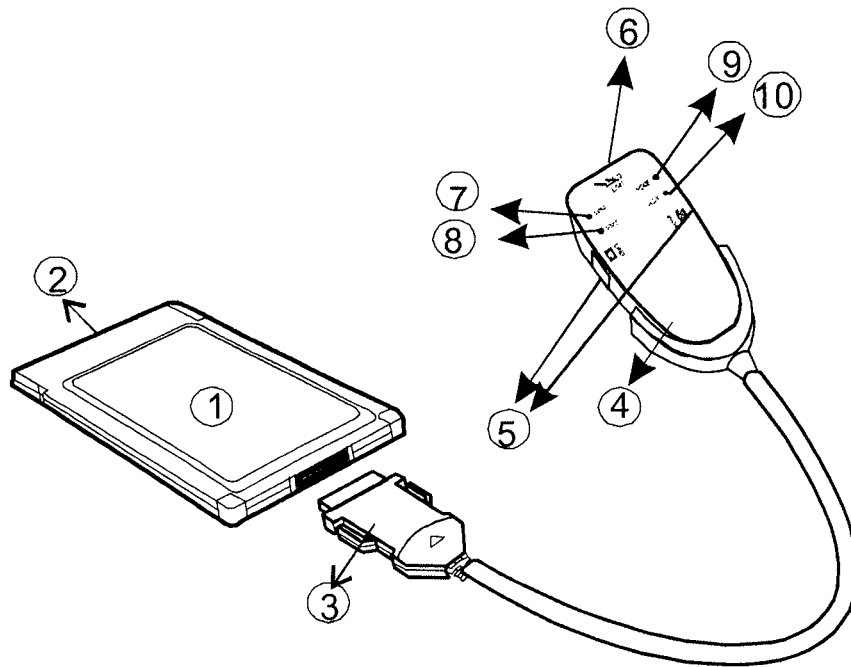- Doubled data transfer rate in Full duplex mode

Supported Operating Systems

- Auto Installation program
- DOS mode diagnostic program
- NOS Drivers:

    Packet Driver for TCP/IP

    DOS ODI

    NDIS 2.01 DOS

    Windows for Workgroups 3.11

    Windows NT 3.5/3.51/4.0

    Windows 95 All versions.

    Windows 98 all versions.

    Windows 2000

Parts Names and Functions

① **1M PhoneLine Network + 10/100M Fast Ethernet PC Card**

② **68-pin connector**

③ **15-pin connector**

④ **Media Attachment Unit (MAU)**

⑤ **LINE, PHONE (RJ-11 telephone) ports**

⑥ **LAN (RJ-45) Port**
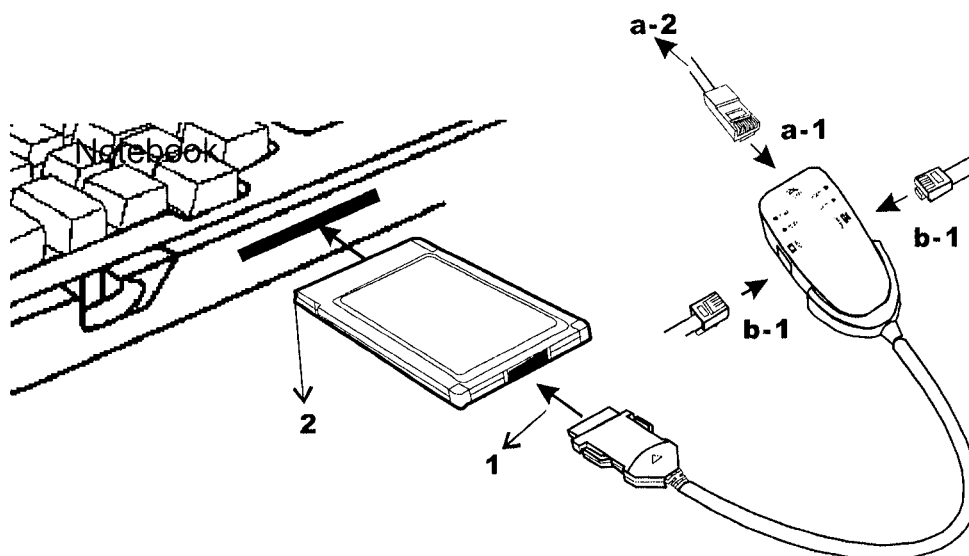
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[1] CAT5 cable is required for 100M data transfer rate

⑦ **10M LED** indicator: glows green when this
adapter is linking to another 10 Mbps Fast
Ethernet.

⑧ **100M LED** indicator: glows green when this
adapter is linking to another 100 Mbps Fast
Ethernet.

⑨ **HOME LED** indicator: glows green when the
adapter is connecting to another 1Mbps
PhoneLine Network adatper.

⑩ **ACT LED** indicator: flashes orange when the
Adapter is transmitting/receiving data via
Ethernet or Home Phoneline Networking.

HARDWARE INSTALLATION

Before you begin, make sure you turn off all power to your computer.

1. Connect the 15-pin keyed connector to the PC Card until it locks firmly into place.

2. Locate the PCMCIA slot of your system. Align the **1M PhoneLine Network + 10/100M Fast Ethernet** PC Card with the 68-pin connector toward the PCMCIA slot. Push evenly and steadily until it is seated.

Installing Ethernet Cabling

a-1. Connect the UTP Ethernet cable to the **LAN** (RJ-45) port of the 1M PhoneLine Network + 10/100M Fast Ethernet.

a-2. Plug the other end of the cable into a 10BaseT or 10/100 switching hub[2].

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[2] If you plan to use both 10BaseT and 100Mbps network segments on the same network, you'll need a dual-speed hub or switch that allows segments of different speeds to communicate.

Installing Telephone Cabling

b-1. Attach one end of the telephone wire to the Phone (RJ-11) port of <u>1M PhoneLine Network + 10/100M Fast Ethernet</u>. Connect the other end of the cable into a telephone jack in your wall.

The <u>1M PhoneLine Network + 10/100M Fast Ethernet PC Card</u> is now connected to your PC. Perform the following procedures to install the Telephone cabling or Ethernet cabling.

Note:
If you choose to use the RJ-45 port on your <u>1M PhoneLine Network + 10/100M Fast Ethernet</u>, the RJ-11 Phoneline networking capabilities automatically become disabled. The two cannot operate at the same time.

SPECIFICATIONS

Bus Type

16-bit PCMCIA PC Card Standard

Network Standard

- HomePNA specification 1.1

- IEEE 802.3 for 10BaseT

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- CAT 3/CAT 5 UTP, 100ohm STP cable up to 328ft/100M

Data Transfer Rate

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- 10/100 Mbps of LAN data transfer

- Doubled data transfer rate in Ethernet Full duplex mode

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    Windows NT 3.5/3.51/4.0
    Windows 95 All versions.
    Windows 98 all versions.
    Windows 2000

Power Consumption:

Ethernet: 5V DC, 305mA

Phone Line: 5V DC, 158mA

Certifications

FCC Part 15 Class B

FCC Part 68

CE Mark

Physical Specifications

LEDs: Link/Act, 10, 100, Phone Line

Ports:
- 1.Auto-sensing 10Mbps/100Mbps RJ-45 port
- 2 Standard Modular Telephone RJ-11 Ports

Dimensions: 3.4" x 2.1" x 0.2"

Weight: 1.7 oz.