BOCA HAN
HOME AREA NETWORK

HLTP01 (Home Area Network only)
HLKTP01 (2 HAN Cards)

Hardware Reference Guide
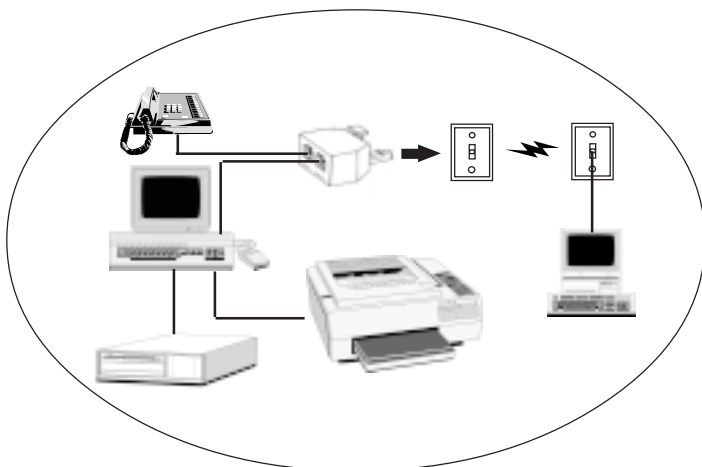
Home
Phoneline
Network
C E R T I F I E D ™

C O N E X A N T

BOCA
R E S E A R C H

Before You Begin your Installation

The product you have purchased is designed to be easily installed into most IBM PC or compatible systems. Many products have large, easy-to-read legends to allow for the easy configuring of the product. This installation manual contains detailed instructions. Most included software has automatic installation programs to place the software correctly onto your computer. However, as all computers are configured differently, you may be required to perform some basic MS-DOS or Windows tasks. If you are not familiar with basic MS-DOS commands such as DIR, CD, or EDIT, you should check your MS-DOS manual, or seek assistance from you local computer dealer to install the product.

How to get Technical Assistance

The dealer that you purchased this product or your computer from is the first place you should go for technical assistance. The dealer is usually the most qualified source of help, and is most familiar with your system and how this product should be installed. Many dealers have customer service and technical support programs, with varying levels of support offered, depending on your needs and computer knowledge. ***Please contact the dealer first whenever a problem occurs.*** **International customers will find that contacting the place of purchase for assistance will be much more efficient than contacting Boca Research directly.**

If your Dealer Can't Assist you

If you can't get assistance from your dealer, the manufacturer provides varying levels of technical assistance as summarized on the following page. **All phone numbers are based in the United States.**

Boca BBS
561-241-1601

Standard Free
Technical Support
561-241-8088

Automated
Fax Retrieval
System
561-995-9456

Priority Service
900-555-4900
($2 per minute)

Technical
Support Fax
561-997-2163

On-Line Support!
CompuServe: **GO BOCA**
Internet:
email:
support@bocaresearch.com
on the World-wide WEB:
http://www.bocaresearch.com

The Standard Free Technical Support number is for quick answers to specific inquiries on product features and technical questions (call **561-241-8088**; M-F, 8 am to 6:30 pm EST). Direct access to technical support representatives is provided on a limited basis. If you require immediate attention or in-depth help with the installation of the product, please call our 900-priority support number for service. This number gives you immediate access to senior-level technicians. The number is **900-555-4900**. You will be charged $2.00 per minute. The charges will appear on your next phone bill.

Damaged or Missing Items

We use many world-class quality assurance programs to ensure the product you purchased is of the highest caliber. Sometimes, however, a component may be missing from the box, or is damaged or corrupt in some way. If this happens, immediately return the entire package to your place of purchase so you may exchange it for a new one. Your dealer should be able to provide you with an exchange far more quickly than by contacting us directly. If for some reason you are unable to return the product directly to its place of purchase, refer to the "Servicing Your Product" and "Warranty" sections in this manual for instructions.

Using this manual...

This manual provides installation and operating instructions for your HAN. The manual assumes the user has basic computer skills and is familiar with personal computers. Its primary purpose is to provide physical installation instructions and basic troubleshooting. All sections should be read carefully before beginning any installation procedures. Customer support experience has shown that many costly and time-consuming calls to technical support staff can be avoided with closer attention to the information provided here. **In addition to following the instructions provided in this manual, you will also need to consult the documentation supplied with your productivity and Internet software.**

IMPORTANT NOTICE

FCC Requirements

The Federal Communications Commission (FCC) restricts the way you can use modems. Read the FCC compliance statement found in Appendix B of this manual.

Connecting a Modem

You can connect a modem to various types of telephone jacks. The acceptable phone jack types are RJ-11, RJ-12, RJ-13, RJ-41S, and RJ-45S. Most homes and businesses use one of these jacks. If your phone system does not have a modular jack, you can purchase an adapter to convert your jack into an RJ-11C jack. Adapters may be purchased from any local phone or electronics store.

Contents

HOW THIS MANUAL IS ORGANIZED

Section One: Introduction. An overview of the features of your Home Area Network (HAN) adapter.

Sections Two: Installation. This section provides physical installation instructions for the HAN.

Section Three: Driver Installation. This section provides procedures for installing drivers for the Windows 98 and Windows 95 operating systems.

Section Four: Troubleshooting. This section provides solutions to common installation problems.

Appendices. These include technical specifications, FCC compliance information, as well as information on obtaining service, and your warranty.

Section One: Introduction

Using the new HomePNA technology from Conexant, **BOCA'S HAN™** (Home Area Network) provides low-cost LAN connectivity for homes and small offices with more than one computer, using existing telephone wiring. The Home Area Network is configurable with one or two phone line installations—a Boca exclusive. The HomeLAN single board solution comes in two varieties:

• HLTP01 (Home Area Network only)
• HLKTP01 (2 HAN cards)

Each package includes a CD-ROM containing installation software, a free copy of MidCore Midpoint Companion Lite (see below) software for modem/Internet access sharing, and modem software.

Performance: 1 mbps, up to 500 feet between nodes (18 times faster than a 56K modem connection)

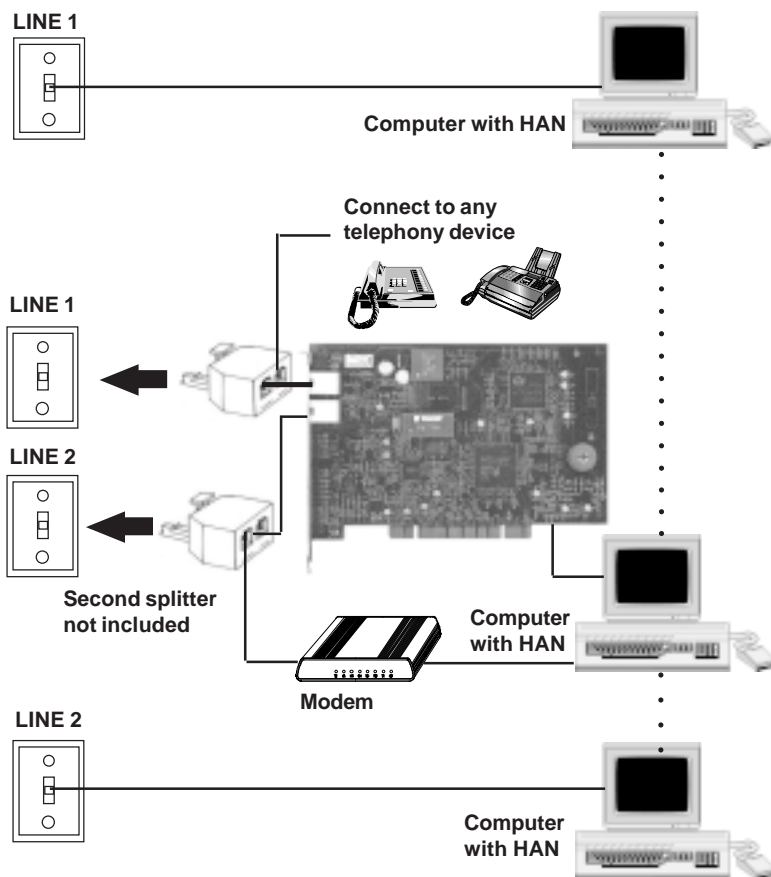**Software:** Windows 98/95 and Windows NT standard NDIS driver model, including Plug and Play installation, plus the Midpoint Companion Lite modem/Internet access sharing software.

Minimum System Requirements
• IBM-compatible P100 or greater system
• One available PCI expansion slot
• 8MB system RAM
• 2X CD-ROM drive
• Windows 98/95/NT
• 1-10MB hard disk space needed (will vary based on included options/extras)

Section Two: Physical Installation

The diagram on the next page represents a multiple phone line network.Connect phone cables as shown. Use the second port on the HAN adapter to connect one logical Home Area Network across two separate phone lines.

LINE 1

Computer with HAN

Connect to any telephony device

LINE 1

LINE 2

Second splitter not included

Computer with HAN

Modem

LINE 2

Computer with HAN
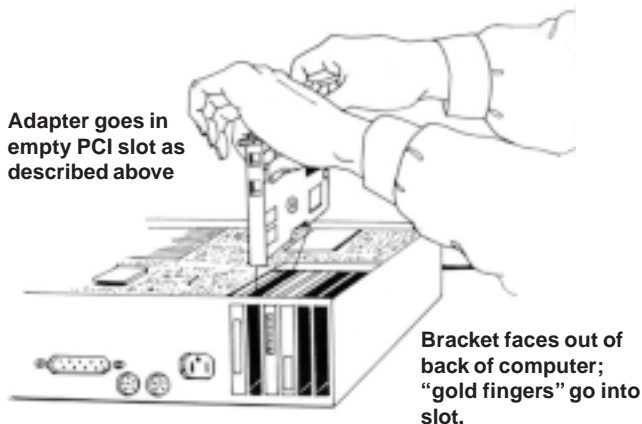
IMPORTANT NOTES ON PCI CONFIGURATION

The adapter must be installed in a PCI-bus connector. PCI expansion slots are shorter than standard ISA slots.

PCI slots are configured by the system BIOS, or by jumpers on the motherboard. Refer to your computer's documentation for more information.
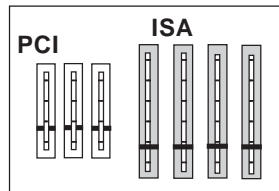
1. With power off, remove your computer's cover and locate an available PCI expansion slot. Remove that expansion slot cover and save the screw.

2. Remove the Home Area Network adapter (HLTP01) from its antistatic bag, handling by the edges and retaining bracket. Be careful not to touch the edge connector or any components on the card.

3. Carefully insert the adapter into the expansion slot you selected, applying pressure to the upper board edge until it is seated in the slot.

CAUTION: Electronic components are sensitive to static electricity. To prevent damage, discharge any static electricity from your body by touching a known grounded metal surface, such as your computer's chassis before and during installation of the component. To prevent damage to your new Boca adapter, avoid contact with any circuitry and only handle the adapter by its edges.

Adapter goes in empty PCI slot as described above

Bracket faces out of back of computer; "gold fingers" go into slot.

4. Secure the adapter into place by aligning its metal retaining bracket with the hole in the top edge of the system's rear panel. Fasten the adapter's metal bracket with the screw removed in step 1.

5. Disconnect your present phone cord from the wall jack. Plug one end of the phone cord that came with the adapter into the wall jack, and the other end into the topmost jack. IF you want to continue using your telephone in this room or office, plug the phone splitter into the wall jack. Attach your adapter to one connector on the splitter using the supplied phone cord and plug your phone into the other splitter's connector with your existing phone cord..

Primary Phone Line
(use splitter to continue using telephone)

HLTP01
(Home Area
Network)
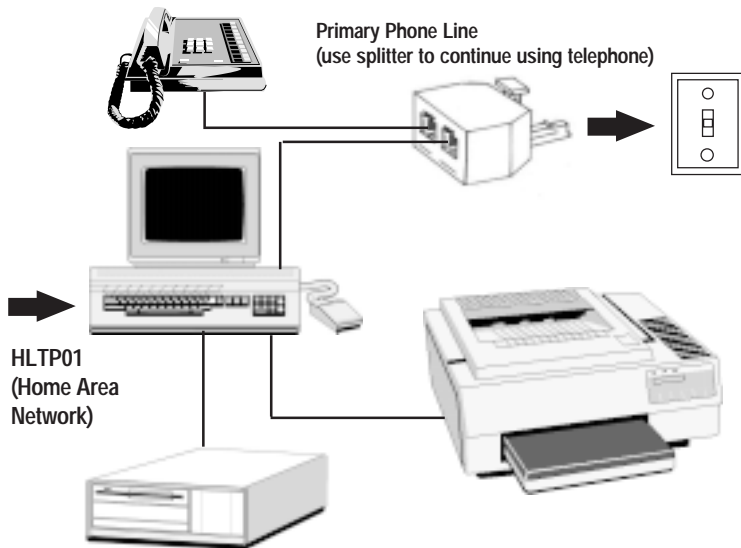
6. Replace the system cover and reconnect any detached devices and power cords. Repeat steps 1-5 for your secondary computer. Attaching the HLTP01 to a wall phone jack in another room enables this computer to communicate with the other computer and to allow file and peripheral sharing, in addition to sharing a single Internet access account using included software.

When complete, continue with the next page to install drivers for your operating system.

Section Three: Device Setup for Windows 98 and 95

Once you have connected all devices and cables, turn on your computer and then install the device drivers according to the operating system you are using.

NOTE: Windows NT users should refer to the Windows NT Installation document on CD.

Windows 98 Users

Windows 98 presents a checklist of possible sources for the driver. Simply check "CD". The Wizard will detect the following:

• PCI Ethernet Controller

Simply follow all-on-screen directions. When complete, continue with the CD Installation (for instructions, consult the printed *EZ Install Guide*).

Windows 95 Users

Depending on the version of Windows 95 you have, devices are detected and installed in slightly different ways. When the adapter is physically installed, start Windows 95 as you normally would.

NOTE: Some versions of Windows 95 may prompt you for the path of your drivers on your CD-ROM. Type in your CD-ROM drive path (e.g., D:\)

You will be prompted with either "The Update Device Driver Wizard" or "The New Hardware Found Dialog Box". Continue as appropriate.

NOTE: After Windows 95 finishes copying files, it may detect other devices. If so, simply repeat the instructions above, depending on your version of Windows 95.

The Update Device Driver Wizard

- In this case, simply insert the Boca HAN CD, click **Next**, then **Finish**. The Wizard may automatically locate the correct drivers and install them. If it does not, it will ask for the location of the driver. When complete, continue with the CD Installation (for instructions, consult the printed *EZ Install Guide*).

The New Hardware Found Dialog Box

• **New Hardware Found** dialog box. Here, you are asked what driver files are associated with the new hardware. Do the following:

1. From the choices given, select **Driver from disk provided by hardware manufacturer**.

2. Windows 95 then displays the **Install from Disk** dialog box. Here, you are asked for the location of the driver files.

3. Insert the CD and type the path for the location of the drivers (usually D:\). If 'D:' is not the CD-ROM drive letter, substitute the correct letter. When complete, continue with the CD Installation (for instructions, consult the printed *EZ Install Guide*).

Section Four: Troubleshooting

- **Computers cannot detect each other across the phone wire network?**
  Make sure each phone jack connection is to the top RJ-11 port (single phone line installation).
  Make sure the phone line used at each computer for networking is actually the same line.

- **Telephone or separate internal/external modem doesn't work?**
  Be sure it is connected to the splitter and not the bottom RJ-11 connector.

- **Connection is intermittent or slow.**
  Try selecting one of the alternate power/speed settings. Go to **Network Neighborhood** and right-click. Select **Properties**. The Network Configuration screen is displayed. Highlight the 'Boca HAN Card'. Click **Properties** and then select the **Advanced Tab**. Under 'Property:' highlight 'Connection Type'. In the 'Value' drop-down list are the following values:

Value	What it Means and When to Use:
Normal (default) (high-speed/low power)	Yields optimum performance for most household configurations.
HiPwr/LoSpd	High-power/Low speed. Can remedy intermittent connections (improves reliability)
LoSpd	Low-power/Low speed. Best used when two computers are connected by six feet of cable or less.
HiPwr	High-power/High-speed. Increases throughput speed to remedy slow connection.

• HAN Card does not function properly with Windows 95

Some early versions of Windows 95 require that certain files to
be updated. For your convenience we have provided the necessary files.
Simply perform the following steps:

Go to **Settings**.
Control Panel,
System. Click on the
Device Manager Tab.
Expand the Network
Adapter List.

If an exclamation
point (!) is displayed
next to the Boca HAN
card, insert the Boca
HAN Installation CD.
Using Windows
Explorer, go to the

Updates\Win95 subdirectory and double-click on each of the following.
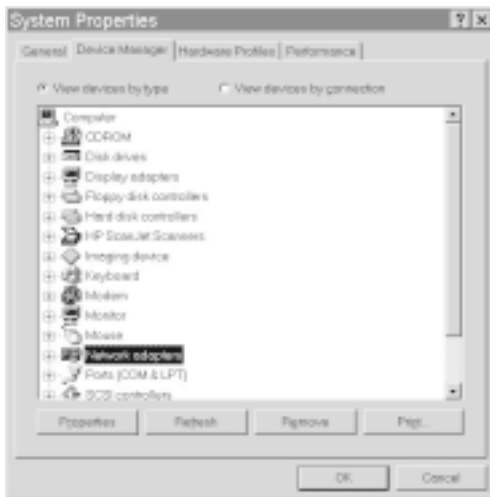You will need to reboot your computer

    KRNLUPD
    MSDUN12

When finished, return to Device Manager to make sure the exclamation
point (!) is gone. Windows 95 update is complete.

• Connection is intermittent or fails

Certain types of telephones draw power directly from the
telephone wall jack. If so, unplug the telephone and see if the
condition improves.

Appendix A: Technical Specifications

Home Network

• Single-chip Home Network controller supports PCI Bus interfaces

• **System compatibilities**
–   Windows 95, Windows 95 OSR2, Windows 98, Windows NT 4.0, Windows NT 5.0 operating systems
–   Microsoft's PC 98 Design Initiative compliant

• Multifunction logic supports simultaneous modem and network operation

Power

+5V, 1.2 watts (maximum)
+/-12V, 0.5 watts (maximum) (from host computer power supply)

Power/Speed Settings for Connection Types

Normal (default)	1.0 Mb/s @600mv
HiPwr/LoSpd	0.7 Mb/s @ 1.2v
LoSpd	0.7 Mb/s @ 600mv
HiPwr	1.0 Mb/s @1.2v

Dimensions: 6.42 inches x 4.2 inches (16.31cm x 10.67cm)

Appendix B: Regulatory Statements

FCC Statement:

"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.
(2) This device must accept any interference received including interference 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 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 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:

• Re-orient or relocate the receiving antennae.
• Increase the separation between the equipment and the receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance. (external units only)

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment."

Appendix C: Servicing Your Product

If your product requires service, first contact the authorized dealer from whom you purchased the product. If the dealer is unable to assist you, and you must contact Boca Research, Inc., please follow the instructions below.

Our electronic BBS is available 24 hours a day at (561) 241-1601 and will support data transmission speeds up to 33.6Kbps with settings of N, 8, 1. Once your product is functional, the BBS may be helpful (especially during off hours) if you have a question about product settings, or if you wish to download special software or utilities.

If the Troubleshooting section did not resolve your problem, you may call our technical support staff for assistance. If you haven't referred to the Troubleshooting sections, do so now.

> **NOTE: CALLING TECHNICAL SUPPORT WITHOUT COMPLETE AND ACCURATE INFORMATION CONCERNING YOUR PROBLEM MAY BE BOTH TIME-CONSUMING AND FRUSTRATING FOR YOU.**

1. When calling Boca Research Technical Support, have the following information available:

• **Board name and part number**
• **Computer manufacturer**
• **Computer Model**
• **Peripherals in system**
• **Operating system and version**

> If you suspect a problem with a specific program or software package, make note of the name, version or release number, and manufacturer of the software.

2. Call our Technical Support Department between the hours of 8:00 a.m. and 6:30 p.m. EST Monday through Friday at (561) 241-8088. A technician will be available to discuss the problem(s) you are experiencing.

   If factory service is required, you will be given a Return Merchandise Authorization (RMA) number. <u>Please place this number on the outside of the package</u> when you return the item(s) for service and reference it on any correspondence included in the package. Boca Research, Inc. will return any product which is not accompanied by an RMA number.

3. Refer to the Warranty Statement if the product is covered under the five-year Boca Research, Inc. Limited Warranty.

4. Certain parts will not be covered under the Boca Research, Inc. Limited Warranty. Dealer installed parts are warranted by the dealer. Parts which you have installed yourself are covered only by the supplier's warranties. In these cases, Boca Research, Inc. can identify which parts are defective, but will not replace such parts until specific written authorization is received from you. The cost of parts and labor involved in making such repairs will be billed to you C.O.D.

5. When sending the product to Boca Research, Inc. for repairs, please be sure to include:

- **the product**
- **your name**
- **your return street address (for UPS purposes)**
- **phone number**
- **the RMA number mentioned above**

Package the product securely in a container equivalent to the original packaging, and insure the package to protect against loss or damage during transit. Shipping charges must be prepaid; C.O.D. shipments will not be accepted. Please use the address below for all correspondence:

<div align="center">

Boca Research, Inc.
RMA Department - RMA # _____
6500 West Rogers Circle
Boca Raton, FL 33487-2841

</div>

NOTE ON INTERNATIONAL SHIPMENTS: Customer is responsible for all charges associated with shipping product directly to Boca Research's facility. This includes but is not limited to freight charges, customs charges, freight forwarding fees, storage fees, handling fees, documentation fees, duties, taxes, port charges, etc. Boca Research will NOT pay charges on freight which is not correctly routed directly to Boca Research's facility.

6. If the repairs performed on your product were covered by the warranty, Boca Research, Inc. will return it prepaid via UPS.

Appendix D: Warranty Information

Limited Warranty

Boca Research, Inc. (BRI) warrants to the original buyer of this BRI product that the hardware is free of defects in materials and workmanship for a period of five years from the date of purchase from BRI or its authorized dealer. Should the product fail to be in good working order at any time during the five-year period, BRI, will at its option, repair or replace this product as described below. This warranty does not cover defects resulting from misuse, abuse, negligence, accident, repairs, or alterations made by either the customer or another party. Boca Research reserves full rights to determine whether a defective product falls into this category.

The entire risk as to the quality and performance of the product rests with the customer. Any written or oral information or advice given by Boca Research dealers, distributors, agents, or employees will in no way increase the scope of this warranty. This warranty applies only to the product described in this manual and not to any other value-added software which may be included.

All products will be serviced and returned via UPS-ground at no charge to customers. All customers are required to demonstrate proof of purchase when requesting a Return Merchandise Authorization (RMA). The period of service commences on the date of purchase. A copy of the sales slip must be included with the returned merchandise.

Products which require Limited Warranty service during the warranty period should be delivered to BRI at the address in the Appendix (Servicing Your Boca Product) with proof of purchase and the Return Merchandise Authorization (RMA) number provided by BRI Technical Support. Refer to the Appendix in your manual. Replacement parts or complete products will be furnished on an exchange basis only. Replaced parts and/or products become the property of BRI.

If the returned product is sent by mail, the purchaser agrees to prepay shipping charges, insure the product or assume the risk of loss or damage which may occur in transit, and to use a shipping container equivalent to the original packaging. ALL EXPRESS AND IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS OF PURPOSE FOR THE PRODUCT ARE LIMITED IN DURATION TO THE ABOVE PERIOD. UNDER NO CIRCUMSTANCES (WHETHER BASED IN CONTRACT OR TORT) SHALL BOCA RESEARCH BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE, LOSS OF BUSINESS, OR OTHER FINANCIAL LOSS AS A RESULT OF THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR DISRUPTION OF ITS PRODUCTS.

Boca's products are manufactured from new and serviceable used parts tested to Boca Research's quality assurance standards. Occasionally, some new products may contain used, serviceable parts. If the product proves to be defective, Boca Research will bear the costs of labor and materials for hardware replacement or repair during the above specified warranty period. Boca Research or its Authorized Service Providers shall have the option to replace any defective part(s) with new part(s) or, at the option of Boca Research, with serviceable used parts that are equivalent to new parts in performance. Boca Research shall also have the option to replace any defective product(s) with functionally equivalent product(s).

Boca Research reserves the right to make periodic changes or enhancements to any Boca Research product without prior notification, but has no obligation to modify or update products once sold. This warranty gives you specific legal rights, and you have other rights which may vary from state to state. This warranty is valid only in the United States.

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