

**Trust ISA Ethernet Combi**

**User's Manual**

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## Introduction

This manual is a guide to the installation and use of the Trust ISA Ethernet Combi.

Your ISA adapter is a high performance Ethernet adapter that is NE2000 compatible and software configurable. The Ethernet adapter is based upon Industry Standard Architecture (ISA) which means it can be used in any IBM PC, XT or AT personal computer which supports 8-bit or 16-bit, ISA or EISA (Extended ISA) bus, I/O channels. It automatically detects the data width by a built-in hardware mechanism.

The Ethernet adapter offers a complete network medium selection by providing four models, 10BASE-T only, 10BASE-2 only, 2-in-1 combo (10BASE2 and 10BASE-T), and 3-in-1 combo (10BASE2, 10BASE-T, and 10BASE5). It also includes 16K buffer RAM for faster network transmission and reception, and two LEDs for status indication.

The Ethernet adapter includes a complete set of NE2000 compatible drivers that are compatible with a wide range of Network Operating Systems. The optional BOOT ROM device allows a diskless workstation to be connected to the network.

Chapter 1 explains how to install the Ethernet Combi.

Chapter 2 describes the installation of the drivers and the BOOT ROM installation.

Chapter 3 provides solutions to problems.

Appendix A provides a list of cable specifications and technical specifications.

## Chapter 1 - Installation of the Trust ISA Ethernet Combi

This section describes how to install your Ethernet adapter. Perform the following steps to install the adapter.

1. Turn off your computer and all peripherals.
2. Make a note of the cables and cords that are connected to the computer and disconnect them.
3. Remove your personal computer's cover (refer to the owner's manual of your personal computer).
4. Select any available 8- or 16-bit expansion slot, and remove the slot cover. A 16-bit slot provides the better performance.
5. Carefully install the Ethernet adapter into the expansion slot by firmly pressing the card into the edge of the connector slot until the adapter is snugly seated in the expansion slot and fasten the retaining bracket with the screws from the slot cover.
6. Reinstall your personal computer's cover and reconnect the power cord and all cables.
7. Connect the Ethernet cable to your personal computer.

### 1.1 Configuration and Diagnostics

To configure your Ethernet adapter, insert the software diskette into your drive and execute the configuration file, EZSET. A screen menu will guide you to configure the adapter to fit your computer system's environment.

Below you will find a list with configuration parameters.

I/O Address:	240h, 280h, 2C0h, 300h, 320h, 340h, 360h
IRQ Line:	2(9), 3, 4, 5, 10, 11, 12, 15
BOOT ROM Address:	C800h, CC00h, D000h, D400h, D800h, DC00h
Data Width:	8 bits or 16 bits; auto sensing by hardware

The software diskette also includes a diagnostic utility. Before you install the drivers and connect the adapter to the network, make sure to run the diagnostics to assure the proper functioning of the adapter.

The diagnostics includes two groups of tests.

1. Card initialization and loopback test  
This test performs the function of verifying the components, connectors, and circuitry.
2. Network test  
This test performs the data transmission and reception of the adapter. A screen menu provides you with the instructions to conduct this test.

## Chapter 2 - Installation of the drivers

Before you connect your adapter to the network, you have to install the driver first.

The Ethernet adapter is fully NE2000 compatible and can use any NE2000 compatible driver that is included in your Networking Operating System. You can also use the drivers supplied by the software diskette compatible with your Networking Operating System.

The driver for each Networking Operating System is under a separate directory. Each directory includes a README.TXT file to describe the detailed installation procedure. A RELEASE.TXT file under the root directory lists the information of all the available drivers.

### 2.1 BOOT ROM Installation

The optional BOOT ROM device allows you to connect a diskless workstation to the network. Perform the following steps to install your BOOT ROM device.

1. Insert the BOOT ROM into the socket on the adapter.
2. Execute the EZSET file to enable the BOOT ROM function by selecting the appropriate BOOT ROM address from the configuration menu.
3. Refer to the installation procedure provided by your Networking Operating System. Below you will find a list with the reference subjects of three commonly used Networking Operating Systems.

Novell Netware: DOSGEN

Microsoft LAN MANAGER: Starting remote booting service

3COM 3+ LAN MANAGER: Creating a start-up volume

## Chapter 3 - Troubleshooting

This section describes causes of certain failures of the adapter and the actions to be taken to resolve the problems.

<b>PROBLEM</b>	<b>ACTION</b>
I/O address conflict	Change the I/O address
Possible interrupt conflict	Change the interrupt assignment
Connection failure if using an unshielded twisted pair (UTP) cable	Verify that the UTP cable is firmly attached
Connection failure if using coaxial cable	Verify that the coaxial cable is properly terminated

## Appendix A

### A.1 Cable Specifications

The Ethernet adapter has several connector alternatives. Each connector requires a different cable. This section describes each cable's specification.

\* Cable for RJ-45 connector for 10BASE-T network

Cable type:	UTP with 2 twisted pairs of 22, 24 or 26 AWG
Twists per foot:	2 to 3 (min.)
Nominal impedance:	100 $\Omega$
Maximum cable length:	300" (100 m)
Maximum Attenuation:	8 to 10 dB per 100 m at 10MHz

\* Cable for thin coaxial BNC connector for 10BASE2 network

Cable type:	RG-58A/U or RG-58C/U
Minimum distance:	0,5 m (between two nodes)
Maximum segment length:	185 m
Maximum nodes per segment:	30

#### **Note**

The coaxial cable must be terminated by a 50  $\Omega$  terminator at both ends.

## A.2 Technical Specifications

IEE 802.3 Standard:	10BASE-T, and 10BASE2, and 10BASE5
Wiring connector:	RJ-45, BNC, and DIX
Bus Characteristics:	8 bits or 16 bits ISA/EISA bus, auto sensing by hardware
I/O address:	240h, 280h, 2C0h, 300h, 320h, 340h, 360h
IRQ line:	2(9), 3, 4, 5, 10, 11, 12, 15
RAM buffer:	16 KB
BOOT ROM Address:	C800h, CC00h, D000h, D400h, D800h, DC00h
Dimensions:	6.20" x 2.95" (-T/-C/-CT model) 6.20" x 3.92" (-CAT model)
Power Consumption:	550 mA, at 5V (-T/-C/-CT model) 350 mA, at 5V, 180 mA at 12V (-CAT model)
Operating Temperature:	0 to 55 °C
Operating Humidity:	10 to 90 %, non-condensing