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Buacoz BZ-8125-EX1-1RJ45

Buacoz Single Port 2.5Gbps Gigabit Network Card User Manual

MODEL: BZ-8125-EX1-1RJ45

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of your Buacoz Single Port 2.5Gbps Gigabit Network Card. Designed for high-speed data transmission, this network card offers reliable and efficient connectivity for various computing environments.

2. Product Overview

The Buacoz 2.5Gbps Network Card is an internal PCI Express adapter featuring a single RJ45 port. It is engineered to provide lightning-fast internet speeds up to 2.5Gbps, supporting 10M/100M/1000M/2500Mbps with full and half duplex adaptive capabilities. The card is built around the advanced Realtek RTL8125BG chip, ensuring stable and efficient signal transmission.

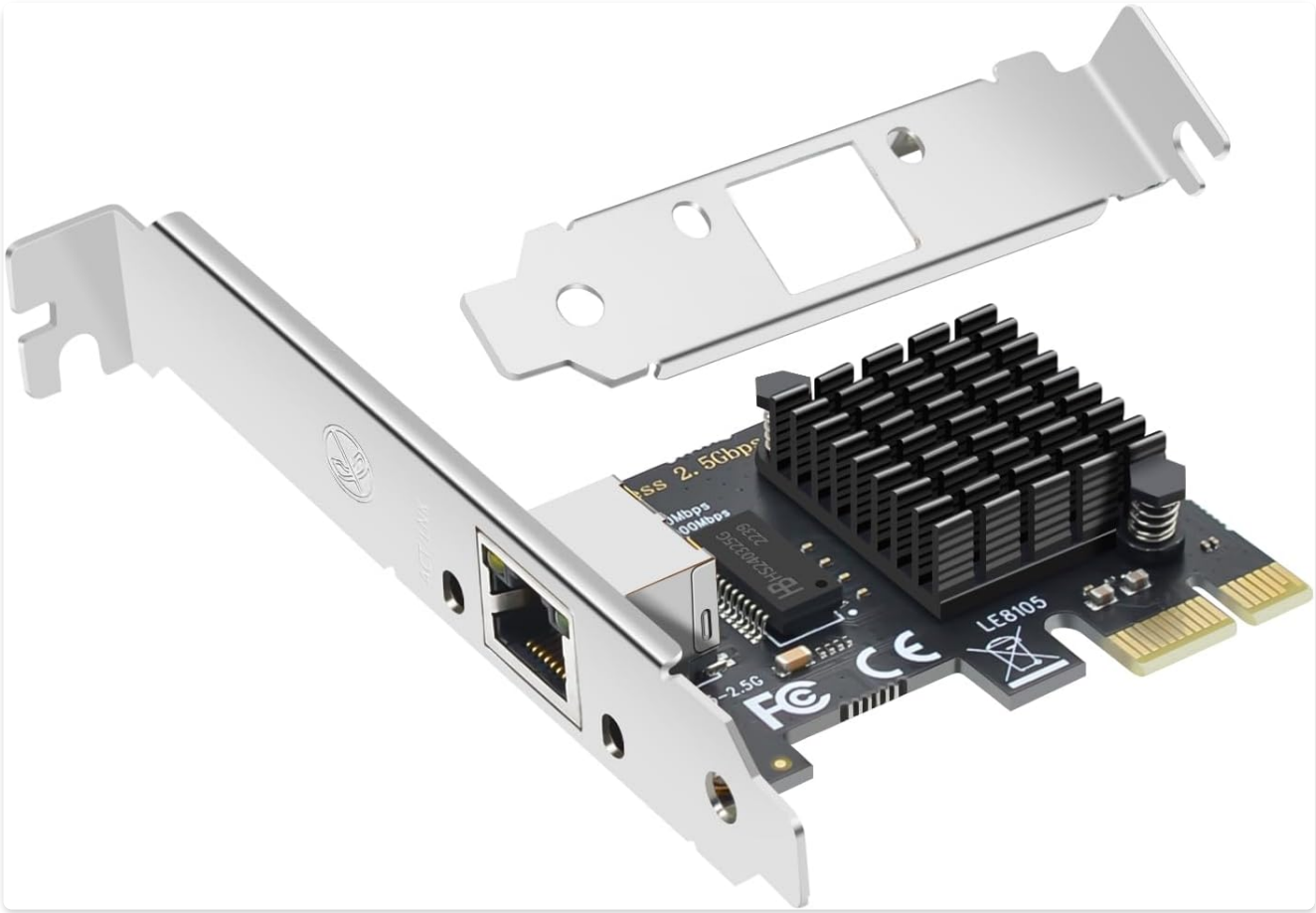


Image: The Buacoz Single Port 2.5Gbps Gigabit Network Card, shown with both the full-height and half-height mounting brackets.



Image: A close-up rendering of the Realtek RTL8125BG main control chip, highlighting its central role in the network card's performance.

3. Installation Guide

3.1 Package Contents

- Buacoz Single Port 2.5Gbps Gigabit Network Card
- Full-height bracket (pre-installed or included)
- Half-height bracket (for small form factor PCs)

3.2 System Requirements

- Available PCIe X1/X4/X8/X16 slot (not compatible with PCI slots)
- Operating System: Windows 10/11, Linux (modern kernels 5.9+ for native support)

3.3 Physical Installation

1. **Power Off and Disconnect:** Ensure your computer is completely powered off and disconnected from the

power source.

2. **Open Computer Case:** Remove the side panel of your computer case to access the motherboard.
3. **Select Appropriate Bracket:** The card comes with both a full-height (12cm) and a half-height (8cm) bracket. Choose the bracket that fits your chassis size. If necessary, unscrew the pre-installed bracket and attach the correct one.



Image: Illustration showing the full-height (12cm) bracket suitable for common computer cases and the half-height (8cm) bracket for 2U chassis.

4. **Locate PCIe Slot:** Identify an available PCIe X1, X4, X8, or X16 slot on your motherboard.

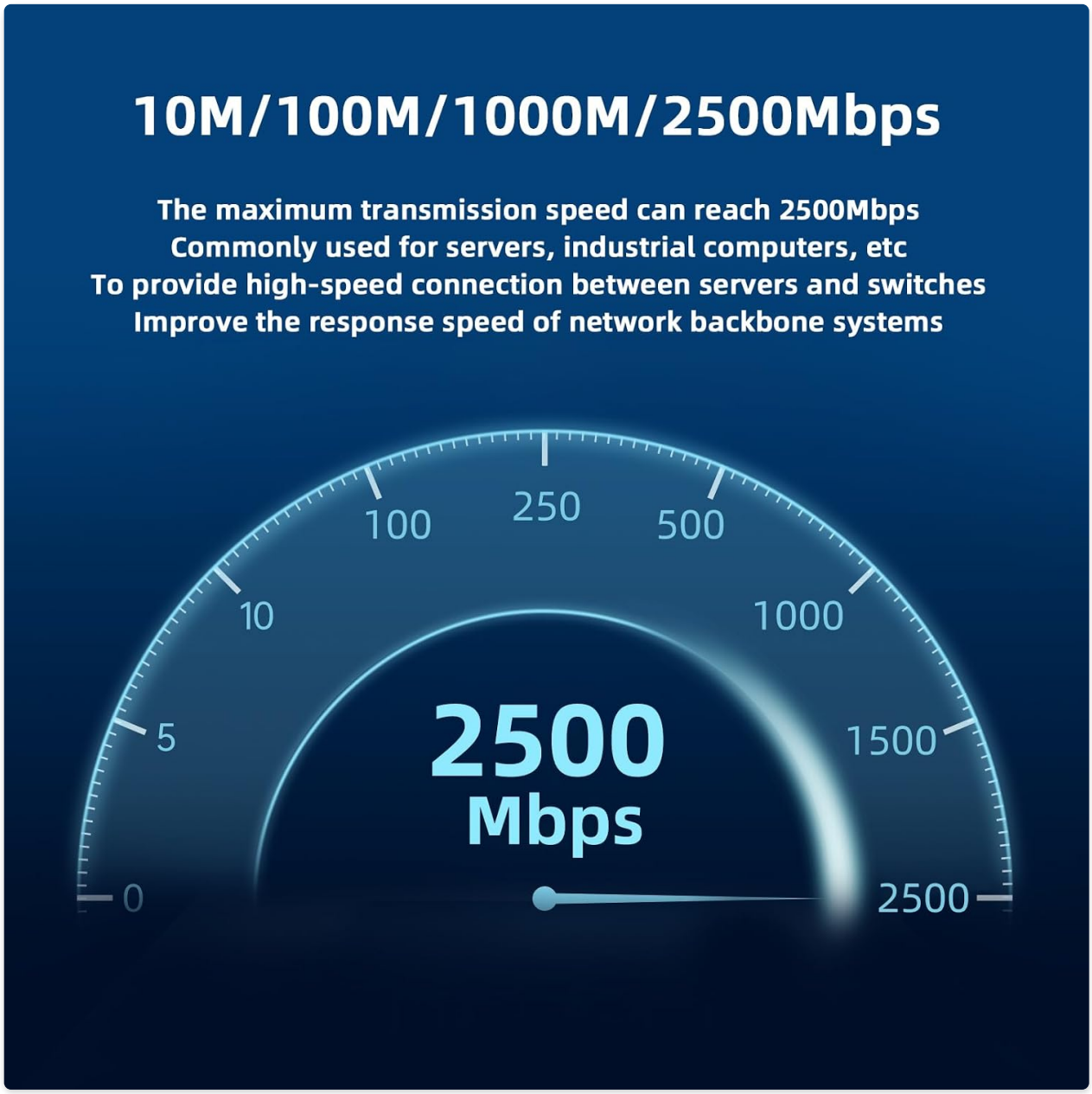


Image: Diagram illustrating the different sizes of PCIe slots (X1, X4, X8, X16) and the network card's compatibility with them.

5. **Insert Network Card:** Gently but firmly insert the network card into the chosen PCIe slot until it is fully seated. Secure the card with the case's retention mechanism or a screw.
6. **Close Case and Reconnect:** Replace the computer case side panel and reconnect all cables.

3.4 Driver Installation

After physical installation, power on your computer. For Windows 10/11, the operating system may automatically detect and install the necessary drivers (plug-and-play). For Linux distributions with modern kernels (5.9+), native support for the RTL8125 series chips is often included, requiring no additional driver installation. If drivers are not automatically installed, please refer to the manufacturer's website for the latest driver downloads.

4. Operation

4.1 Network Speed Capabilities

This network card supports various speeds, automatically adapting to your network environment:

- 10 Mbps

- 100 Mbps
- 1000 Mbps (1 Gigabit)
- 2500 Mbps (2.5 Gigabit)

The maximum transmission speed can reach 2500Mbps, providing rapid data transfer for demanding applications.

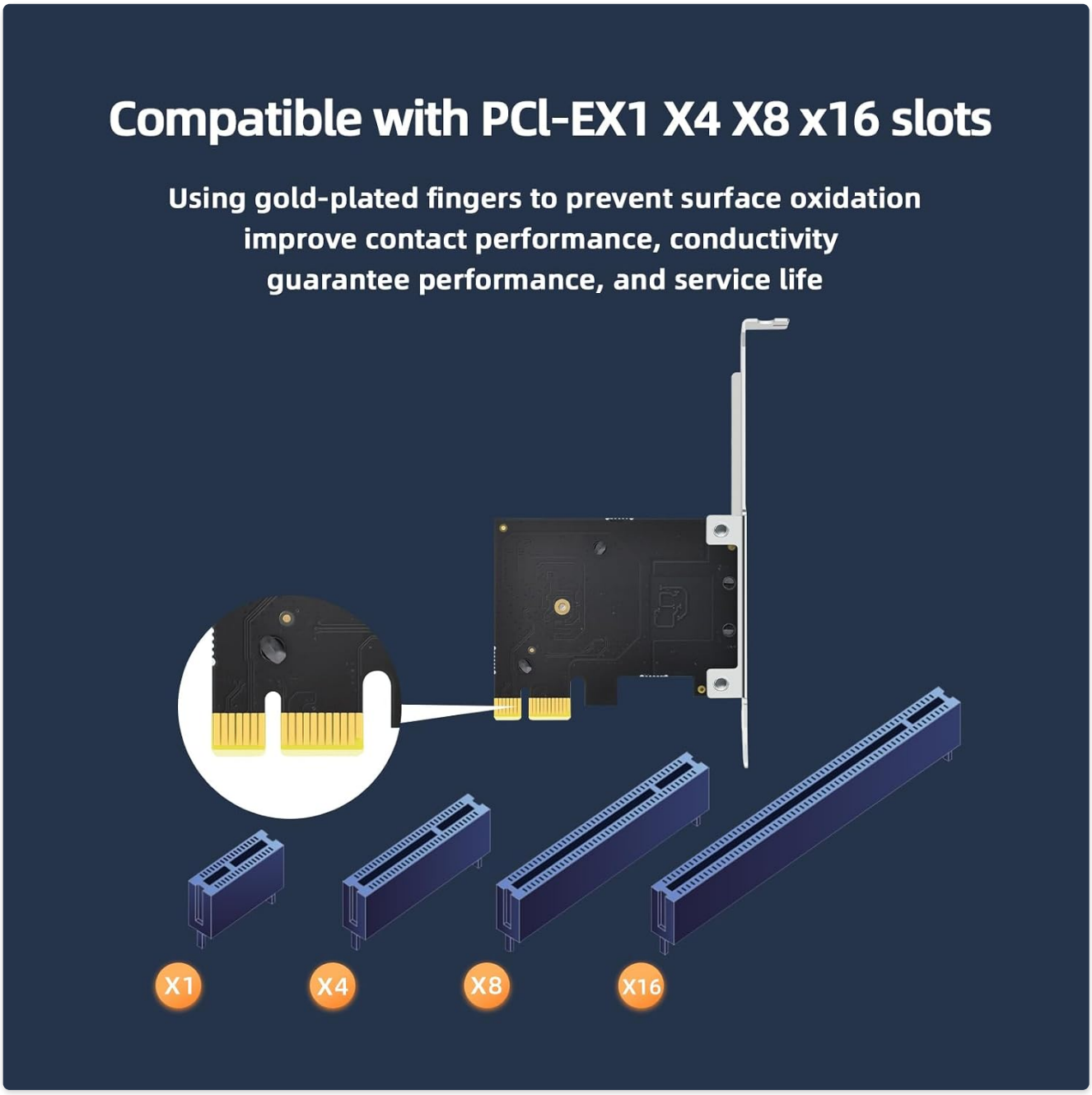


Image: A graphical representation of network speeds, highlighting the 2500 Mbps capability of the card.

4.2 LED Indicators

The network card features LED indicators on the RJ45 port to display link status and speed. Consult your system's network settings to confirm the negotiated link speed.

4.3 Application Scenarios

The card's robust performance and wide compatibility make it ideal for various applications, including:

- Servers
- Network-Attached Storage (NAS)
- Soft Routers

- Firewalls
- Industrial Computers
- VMware Virtualization
- Cloud Computing Services
- AI Robot Learning Projects



Image: Visual examples of diverse application scenarios for the network card, including database construction, smart cities, industrial automation, and AI projects.

5. Maintenance

The Buacoz network card is designed for long-term, stable operation with minimal maintenance. To ensure optimal performance:

- Keep the inside of your computer case clean and free of dust to prevent overheating.
- Periodically check for updated drivers on the Realtek or Buacoz support website to ensure compatibility and performance improvements.

- Ensure proper airflow within your computer case to dissipate heat effectively.

6. Troubleshooting

If you encounter issues with your network card, consider the following troubleshooting steps:

- **No Network Connection:**
  - Verify the network cable is securely connected to both the network card and your router/switch.
  - Check the LED indicators on the network card for activity. No lights may indicate a loose connection or a driver issue.
  - Ensure the network card is properly seated in the PCIe slot.
- **Slow Network Speed:**
  - Confirm your router/switch supports 2.5Gbps speeds.
  - Check the network cable; ensure it is a Cat5e or Cat6 cable for optimal performance.
  - Update the network card drivers to the latest version.
  - Verify your operating system's network settings are configured for the correct speed.
- **Driver Not Recognized:**
  - Reboot your computer.
  - Manually install the driver from the manufacturer's website if automatic installation fails.
  - Check Device Manager (Windows) or `lshw -C network` (Linux) to see if the card is detected but has driver issues.

7. Specifications



Image: A table detailing the basic parameters and dimensions of the network card.

Feature	Detail
Brand	Buacoz
Model Number	BZ-8125-EX1-1RJ45
Controller Chip	Realtek RTL8125BG
Interface Type	RJ45
Slot Compatibility	PCIe X1/X4/X8/X16 (PCIe 2.0 x1)
Port Rate	10M/100M/1000M/2500Mbps
Barrier Height	Half-height (8cm) and Full-height (12cm) configurations
Product Dimensions	0.39 x 5.9 x 5.9 inches (0.39"L x 5.9"W x 5.9"H)

Feature	Detail
Item Weight	2.89 ounces
Operating Temperature	0°C-55°C (32°F-131°F)
Storage Temperature	-25°C-65°C (-40°F-150°F)
Authentication	FCC, CE, ROHS

8. Support

For any assistance, technical support, or inquiries regarding your Buacoz Single Port 2.5Gbps Gigabit Network Card, please contact our customer support team. Refer to the product packaging or the vendor's website for specific contact information.

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