

## Compaq D510 PGA478B Mirage Motherboard 277977-001 NWD-BRKDL-G-SFF

# Compaq HP Evo D510 PGA478B Mirage Motherboard User Manual

Model: D510 PGA478B Mirage Motherboard 277977-001 NWD-BRKDL-G-SFF

## 1. INTRODUCTION

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This manual provides comprehensive instructions for the installation, operation, and maintenance of your Compaq HP Evo D510 PGA478B Mirage Motherboard. Please read this manual thoroughly before proceeding with installation to ensure proper setup and to prevent damage to the component or other system parts.



Image 1.1: The Compaq HP Evo D510 PGA478B Mirage Motherboard, showing its various ports and slots.

## 2. SAFETY INFORMATION

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Always observe the following safety precautions when handling computer components:

- Ensure your computer is powered off and unplugged from the wall outlet before installation.
- Discharge static electricity by touching a grounded metal object (e.g., the computer chassis) before handling the motherboard.
- Handle the motherboard by its edges to avoid touching sensitive components.
- Wear an anti-static wrist strap if available.
- Keep the motherboard away from liquids and extreme temperatures.

## 3. PACKAGE CONTENTS

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Verify that all items are present in your package:

- Compaq HP Evo D510 PGA478B Mirage Motherboard (Part No. 277977-001)
- (Optional, may vary by seller) I/O Shield
- (Optional, may vary by seller) SATA/IDE Cables
- (Optional, may vary by seller) Driver CD/DVD

## 4. SETUP AND INSTALLATION

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### 4.1. Preparing Your System

1. Power down your computer and unplug the power cord from the wall outlet.
2. Open the computer case.
3. Remove any existing motherboard if you are replacing one.

### 4.2. Motherboard Installation

1. Align the motherboard with the standoffs in your computer case.
2. Gently place the motherboard onto the standoffs.
3. Secure the motherboard with screws, ensuring not to overtighten.

### 4.3. Component Installation

Install the following components onto the motherboard:

- **CPU (Processor):** Carefully open the CPU socket lever, align the CPU with the socket (matching the golden triangle/notch), gently place it in, and close the lever. Apply thermal paste and install the CPU cooler.
- **RAM (Memory Modules):** Open the clips on the memory slots. Align the RAM module with the slot notch and press firmly until the clips snap into place. This motherboard has 2 memory slots available.
- **Expansion Cards:** Insert any necessary PCI or AGP expansion cards into their respective slots and secure them.

### 4.4. Cable Connections

Connect the following cables:

- **Power Supply:** Connect the main 20/24-pin ATX power connector and the 4-pin CPU power connector to the motherboard.
- **Storage Devices:** Connect SATA or IDE cables from your hard drives/SSDs and optical drives to the motherboard.
- **Front Panel Connectors:** Connect the power button, reset button, HDD LED, power LED, and USB/audio headers from your case to the corresponding pins on the motherboard. Refer to your case manual for specific pin layouts.

## 5. OPERATING INSTRUCTIONS

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### 5.1. Initial Boot and BIOS Setup

After connecting all components and cables, close your computer case and plug in the power cord. Power on your system.

- During startup, press the designated key (commonly DEL , F2 , F10 , or F12 ) to enter the BIOS/UEFI setup utility.
- Configure basic settings such as date, time, boot order, and enable/disable integrated peripherals as needed.
- Save changes and exit the BIOS.

### 5.2. Driver Installation

After installing your operating system, install the necessary drivers for the motherboard's chipsets, audio, network, and other integrated components. These drivers are typically found on a CD/DVD included with the motherboard or can be downloaded from the Compaq/HP support website.

## 6. MAINTENANCE

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Proper maintenance ensures the longevity and stable operation of your motherboard:

- **Cleaning:** Periodically clean dust from the motherboard and CPU cooler using compressed air. Ensure the system is powered off and unplugged before cleaning.
- **BIOS Updates:** Check the Compaq/HP support website for BIOS updates. Only update the BIOS if necessary and follow the instructions carefully to avoid system instability.
- **Driver Updates:** Keep your drivers updated to ensure optimal performance and compatibility.

## 7. TROUBLESHOOTING

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If you encounter issues, consider the following common troubleshooting steps:

- **No Power/No Boot:**
  - Check all power connections (20/24-pin ATX, 4-pin CPU).
  - Ensure the power supply is functional.
  - Verify the front panel power button connection.
- **No Display:**
  - Ensure the monitor is connected and powered on.
  - Reseat the graphics card (if applicable) and RAM modules.
  - Check if the monitor is connected to the correct video output (integrated or discrete GPU).
- **POST Beep Codes:**
  - If your system emits a series of beeps, consult the motherboard's BIOS manufacturer documentation (e.g., AMI, Award, Phoenix) to interpret the beep code, which indicates a specific hardware issue.
- **System Instability/Crashes:**
  - Check for overheating (CPU, GPU).
  - Ensure all drivers are correctly installed and up to date.
  - Test RAM modules for errors.

## 8. SPECIFICATIONS

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Key specifications for the Compaq HP Evo D510 PGA478B Mirage Motherboard:

Feature	Detail
Model Number	D510 PGA478B Mirage Motherboard
Part Number	277977-001, NWD-BRKDL-G-SFF
Brand	Compaq
Compatible Devices	Personal Computer

Feature	Detail
Memory Slots Available	2
S/PDIF Connector Type	Optical
Item Weight	3 pounds
ASIN	B004571LSE
UPC	788490600565
Date First Available	September 29, 2010

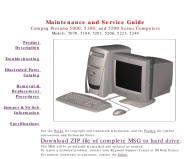


## 9. WARRANTY AND SUPPORT

This product includes a warranty. For specific details regarding the warranty period and coverage, please refer to the documentation provided with your purchase or contact the seller directly. For technical support, please visit the official Compaq or HP support website for your region.

You can find more information and support resources on the [Compaq Store on Amazon](#).

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### Related Documents - D510 PGA478B Mirage Motherboard 277977-001 NWD-BRKDL-G-SFF

	<p><a href="#">Compaq Presario 5000, 5100, 5200 Series Maintenance and Service Guide</a></p> <p>This maintenance and service guide provides comprehensive information for Compaq Presario 5000, 5100, and 5200 series personal computers. It covers product descriptions, troubleshooting steps, illustrated parts, detailed removal and replacement procedures, jumper and switch configurations, and technical specifications to aid in servicing and maintaining these Compaq desktop systems.</p>
	<p><a href="#">Compaq Evo™ Notebook N400c Series Hardware Guide</a></p> <p>User guide for the Compaq Evo™ Notebook N400c Series, covering hardware and software setup, component details, upgrades, external connections, and specifications. Part Number: 231967-001. Published April 2001.</p>
	<p><a href="#">Compaq Evo N200 Series Maintenance and Service Guide</a></p> <p>Comprehensive maintenance and service guide for Compaq Evo N200 Series notebooks, covering troubleshooting, parts identification, removal/replacement procedures, and technical specifications.</p>



[Compaq Portable III Personal Computer Operations Guide](#)

Comprehensive operations guide for the Compaq Portable III Personal Computer, detailing setup, system initialization, operation, maintenance, options, and warranty information. Learn to effectively operate and maintain your portable computing device.



[Compaq Portable 486c Maintenance and Service Guide](#)

Comprehensive guide for the Compaq Portable 486c Personal Computer, detailing specifications, troubleshooting, error codes, parts, and repair procedures.



[Compaq Presario 1200 Series Maintenance and Service Guide](#)

This guide provides comprehensive maintenance, service, and troubleshooting information for Compaq Presario 1200 Series portable computers, covering models 1255 through 1275. It details hardware specifications, parts catalog, and step-by-step repair procedures.