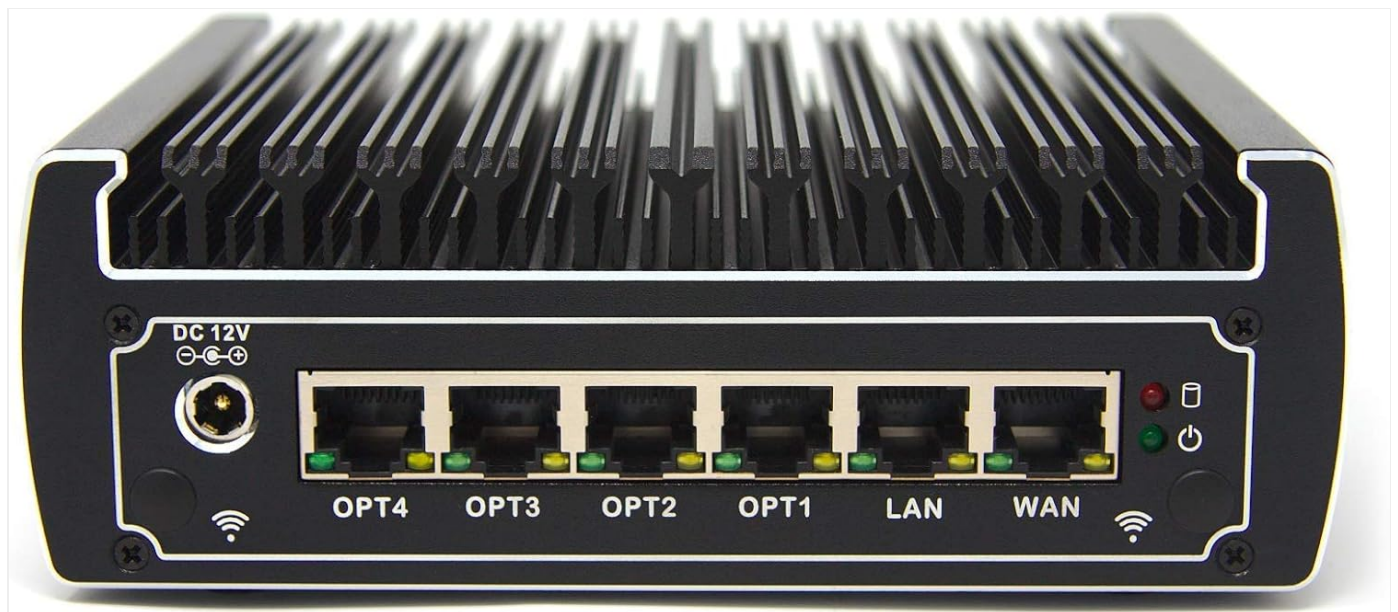## **Protectli FW6E**

Protectli Vault 6 Port Firewall/Mini PC User Manual

Model: FW6E

INTRODUCTION

This manual provides essential information for setting up, operating, and maintaining your Protectli Vault 6 Port Firewall/Mini PC. The Protectli Vault is a compact, fanless, and silent computing device designed for network security applications such as firewalls, routers, and other network appliances. It offers robust performance with an Intel Quad Core i7 processor, 8GB RAM, and a 120GB SSD, making it suitable for various open-source software solutions.

PRODUCT OVERVIEW

Figure 1: Protectli Vault 6 Port. This image provides a top-down perspective of the Protectli Vault, highlighting its compact form factor and the fanless design with prominent heatsink fins for passive cooling.

Key Features

- Compact, fanless, and silent design for discreet operation.
- Intel Quad Core Kaby Lake R i7-8550U processor with AES-NI hardware support for efficient encryption/decryption.

- Equipped with 8GB RAM and a 120GB SSD for reliable performance.
- Six Intel Gigabit Ethernet NIC ports for versatile network configurations.
- Multiple connectivity options including 4x USB 3.0, 1x RJ-45 COM port, and 1x HDMI port.
- Compatible with popular open-source software solutions such as pfSense, Untangle, and OPNsense.

Component Identification

Figure 2: Rear Panel. This image displays the rear panel of the Protectli Vault, featuring the DC 12V power input on the left and six Intel Gigabit Ethernet ports. These ports are labeled from left to right as OPT4, OPT3, OPT2, OPT1, LAN, and WAN, indicating their typical usage in network configurations. Status LEDs for power and network activity are also visible on the right.

Figure 3: Front Panel. This image shows the front panel of the Protectli Vault. From left to right, it includes the power button with an indicator LED, an HDMI output port, two USB 3.0 ports, an RJ-45 COM port, and two additional USB 3.0 ports. These ports provide essential connectivity for peripherals and console access.

Figure 4: Internal Components. This image provides an overhead view of the Protectli Vault's internal motherboard. Key components visible include two SODIMM RAM slots, an mSATA slot for the primary SSD, and a SATA connector with power cable for an optional 2.5-inch drive. The board is labeled YL-KBPL60-8550U VER-1.00.

SETUP

1. **Unpacking:** Carefully remove the Protectli Vault and all accessories from the packaging. Verify that all components listed in the packing slip are present.

2. **Physical Placement:** Place the device on a stable, flat surface with adequate ventilation around the chassis. Although fanless, proper airflow aids in heat dissipation.

3. **Connect Peripherals:**

   - Connect a monitor to the HDMI port (Figure 3).
   - Connect a keyboard and mouse to the USB 3.0 ports (Figure 3).
   - (Optional) For console access, connect a serial cable to the RJ-45 COM port (Figure 3) and connect it to another computer.

4. **Network Connections:**

   - Connect your internet source (e.g., modem) to the WAN port (Figure 2).
   - Connect your internal network (e.g., switch, computer) to the LAN port (Figure 2).
   - Utilize the OPT1-OPT4 ports (Figure 2) for additional network segments as required by your chosen operating system.

5. **Power Connection:** Connect the provided 12V DC power adapter to the DC 12V input port on the rear panel (Figure 2), then plug the adapter into a power outlet.

6. **Initial Boot and OS Installation:**

   - Press the power button on the front panel (Figure 3).
   - The Protectli Vault does not come with a pre-installed operating system. You will need to install your preferred open-source firewall or routing software (e.g., pfSense, OPNsense, Untangle) from a USB drive or other bootable media.
   - Follow the installation instructions provided by your chosen operating system.

OPERATING INSTRUCTIONS

Once your chosen operating system is successfully installed and configured, the Protectli Vault will function according to the software's capabilities.

- **Power On/Off:** Use the power button on the front panel to turn the device on or off. A short press typically initiates a graceful shutdown (if supported by the OS), while a long press performs a hard power off.
- **Fanless Operation:** The Protectli Vault is designed for silent operation without active cooling fans. This reduces noise and dust accumulation, making it ideal for various environments.
- **Software Configuration:** All network routing, firewall rules, and other functionalities are managed through the installed operating system's interface. Refer to the documentation of your specific OS for detailed configuration steps.
- **Performance:** The Intel Core i7 processor and multiple Gigabit Ethernet ports provide ample performance for high-throughput network security applications.

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your Protectli Vault.

- **Cleaning:** Periodically clean the exterior of the device with a soft, dry cloth. Avoid using liquid cleaners directly on the device. Ensure the heatsink fins (top of the device) are free from dust buildup to maintain efficient passive cooling.
- **Software Updates:** Regularly update the operating system and any installed software to ensure you have the latest security patches and performance improvements. Refer to your OS documentation for update procedures.
- **Environmental Conditions:** Operate the device within recommended temperature and humidity ranges. Avoid placing it in direct sunlight or near heat sources.
- **Cable Management:** Ensure all cables are securely connected and not under strain. Proper cable management can prevent accidental disconnections and improve airflow.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Device does not power on.	Power adapter not connected or faulty; power outlet issue.	Ensure power adapter is securely connected to the device and a working power outlet. Test the outlet with another device.
No display output.	Monitor not connected; incorrect input selected on monitor; OS not fully booted or installed.	Verify HDMI cable connection. Check monitor input settings. Allow time for OS to boot. If no OS is installed, ensure bootable media is present and configured correctly in BIOS.
Network connectivity issues.	Incorrect cable connection; OS network configuration error; faulty port.	Check all Ethernet cable connections. Verify network settings within your installed operating system. Try a different port if available.
Operating system installation fails.	Corrupt installation media; incorrect BIOS settings; hardware incompatibility.	Re-create your installation media. Check BIOS settings for boot order and compatibility modes. Refer to Protectli's Knowledge Base for OS-specific installation guides.

If you encounter issues not covered here, please refer to the Protectli Knowledge Base or contact customer support.

SPECIFICATIONS

Feature	Detail
Brand	Protectli
Model Series	Mini
Hardware Platform	PC
Operating System	OS Agnostic (No OS pre-installed)
Processor	Intel Quad Core Kaby Lake R i7-8550U (1.8 GHz, 4GHz Turbo, 8MB Smart Cache, AES-NI)
Number of Processors	4
RAM	8 GB SODIMM
Hard Drive	120 GB SSD (Solid State Interface)
Graphics Coprocessor	Intel UHD Graphics 620 (Integrated)
Max Screen Resolution	4096x2160
Ports	6x Intel Gigabit Ethernet NIC, 4x USB 3.0, 1x RJ-45 COM, 1x HDMI
Item Weight	3 pounds (approx. 1.36 kg)
Product Dimensions (LxWxH)	5 x 7.13 x 2.63 inches (approx. 12.7 x 18.1 x 6.7 cm)
Power Supply	90W (included)

WARRANTY AND SUPPORT

Protectli is committed to providing reliable products and excellent customer service.

- **Money-Back Guarantee:** The Protectli Vault comes with a 30-day money-back guarantee.
- **US-Based Support:** Dedicated US-based customer service and technical support are available to assist you with any questions or issues. Our team of experts has decades of experience in networking and security.
- **Knowledge Base:** Protectli maintains an extensive and updated Knowledge Base website with detailed articles covering installation, configuration, and troubleshooting. This resource is designed to help you from initial setup to advanced configurations.
- **Contacting Support:** For direct assistance, you can speak with our US-based technicians. Refer to the Protectli website for contact information.