

AKHET®

Case Study / Success Story

Customized Workstations for Controlling Electron Microscopes

Introduction

The control of electron microscopes is complex and requires workstations with specialized technical features. These include mainboards that offer the largest possible number of PCI-E slots. Expansion cards that provide Firewire, RS-232 and additional LAN connections are plugged into these slots. A large number of USB ports is also required.

Pyramid Computer develops and produces workstations in the classic midi tower format for controlling scanning electron microscopes. These are used in a wide variety of applications, ranging from semiconductor and electronics testing and materials science research to the examination of plants, animals and microorganisms, as well as forensics.

Services:

- Component procurement
- Long-term stockpiling for at least 5 years
- System production
- Installation of the customer-images provided by customers
- Functional and operational tests
- Quality assurance
- Technical service & after-sales support
- Monitoring the life cycle of components

„Pyramid Computer is a preferred supplier. Our decision to assess Pyramid as an important technology partner is based on their comprehensive support, proactive communication, short delivery times and adherence to agreed delivery dates.“

Strategic Purchaser

Development, Production, Services

An electron microscope’s hardware configuration differs according to its intended use. For example, different components are required for quality control in the semiconductor industry than for analyzing geological samples.

Pyramid Computer as a hardware supplier develops and manufactures the various workstation models required to control this wide variety of microscopes based on a single platform, and therefore cost-efficiently.

The workstations are produced at Pyramid’s own factory in Ichtershausen, Thuringia. Depending on the model, CPUs, graphics cards and I/O plug-in cards are assembled, and the images with the operating system and specific software are installed in Ichtershausen.

For our customers, purchasing an electron microscope is a long-term investment. Therefore, the workstation must also have a corresponding product lifetime. Pyramid guarantees this by monitoring the life cycle of the components and keeping them in stock for the long term.

Another Pyramid service is the certification of the workstations for various target markets. For example, UL or CCC certificates are required to market microscopes in the United States or China.

Our customers inform us about their experiences with and wishes for the product in monthly meetings. We explain the technical innovations on the market that could be interesting for integration into the next product generation. The roadmap for future technology development is determined together with the customer based on the results of these discussions.

SEM Control Computers

Chassis: Desktop

Connectivity

- Graphics cards
- 6x RS232 (serial), USB2 and USB 3
- Firewire 1394b
- Frame grabber

Other features and functions

- CCC (China compliance) certification
- UL approval
- Quad Core CPU
- 16GB DDR4 RAM, 256GB SSD
- Additional drives 1TB HDD



The Pyramid Computer GmbH and it´s trademarks AKHET®, faytech® and POLYTOUCH® provides solutions for the comprehensive digitalization of entire industries.

AKHET® offers high-quality computer systems in the areas of industry, trade, network and security for medium-sized and large companies.