



MEDICAL TECHNOLOGY

APPLICATION EXAMPLE

Industrial PC for medical laser applications

HEITEC is supporting a leading eye laser company with innovative electronics development, testing technology, and the design and integration of medical PCs for customer applications. The laser in the system is used in refractive surgery to treat short-sightedness, farsightedness, astigmatism, and presbyopia.

During eye surgery, HEITEC's medical PCs – preconfigured as per the customer's specifications – provide physicians with a graphical user interface containing necessary information. The treating physician enters data into the PC to determine where to apply the laser and at what intensity. The PC then transfers this information to a treatment controller, which controls the laser. But HEITEC's contribution of these system solutions doesn't end with the mere provision of hardware: Based on special logistics services, HEITEC offers the customer long-term supply capability and product stability. In its development and production, HEITEC consistently implements all the restrictive processes applicable in medical technology. Developments for medical products are based on the EN ISO 13485, EN ISO14971, EN 60601-1, and EN 62304 standards. These standards apply to quality and risk ma-

agement as well as safety, including essential features and the lifecycle processes of medical electrical equipment. With product design the job is not done. Medical equipment must generally continue to be operational over many years. This means that lifecycle management must be designed for the long term.

In terms of technology, a system solution was selected that includes a classic 19" industrial PC standard whose compact, robust structure is ideally suited for the sophisticated, high-availability, high-precision application as well as for complex software requirements. Nevertheless, some adaptations of the standard hardware were required in this case: For example, the customer wanted dedicated cutouts in the rear of the housing to provide additional connections for complex data processing. Ventilation was improved by means of a special bracket for graphic cards. The housing was also designed to be EMC-proof so as to minimise regulatory risks.

Multifaceted industrial PC application



View of the open industrial PC with specific fan concept



Rear view of the industrial PC with customer-specific cutouts for subsequent on-site retrofits by the customer

Technical Summary

- › Industrial PC ATX housing
- › Industrial mainboard
- › W x H: 19" x 4U
- › CPU: Intel® Core™ i7-3770K
- › HDD: Raid 2 x 2 TB
- › Graphics card: Nvidia Geforce GTX680
- › Integration of customer-specific interfaces and power on/off logic

Customer Benefits

- › Individualised design and specification as per customer request
- › Selection of robust components compliant with medical standards
- › Support for customer's product lifecycle
- › Long-term availability and product stability
- › Use of reliable standard HEITEC 19-inch technology
- › Cost-optimised product design

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