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control and versatility

SCANLAB's RTC® PC interface boards provide synchronous, interference-resistant control of scan systems and lasers in real time.

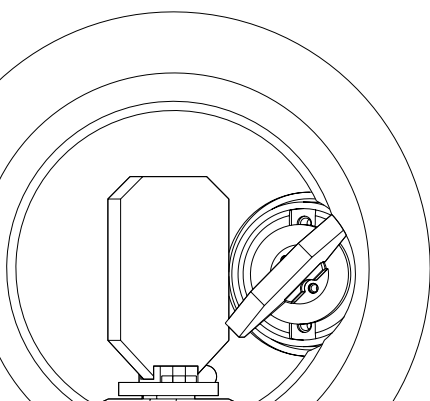
A high-performance signal processor and the supplied DLL simplify programming under Windows. Alternatively, industry-proven software packages from various third-party vendors are also available for handling a palette of standard applications.

Software instructions are loaded alternately in the RTC®'s two list buffers, processed by the DSP, and output as 16-bit control signals every 10 µs to the scan system. The RTC®'s processor automatically performs vital steps such as micro-vectorization and image field correction. Laser control is synchronized with the scanner movements. Various programmable laser signals are available for vector and bitmap processing (see diagram on reverse side).

The RTC®4 is downward-compatible with the RTC®3. Additionally, the RTC®4 is capable of communicating with the processors on-board SCANLAB's new intelliSCAN® scan heads – thus, it furnishes

to the control PC the real-time stream of scan head axis status parameters and enables extensive scan system diagnosis possibilities. Optimized intelliSCAN® scan head tuning profiles for diverse processing tasks can be selected via software commands. Compared to the RTC®3, the RTC®4 offers more memory, faster performance and additional software instructions (e.g. arc command). For controlling external components, the RTC®4 provides 16 digital input ports and 16 digital output ports.

SCANLAB's RTC® PC interface boards are available with numerous options, providing the extensive flexibility system integrators need for meeting diverse customer requirements. Furthermore, an I/O extension board is available for controlling additional external components.



Specifications RTC®3 and RTC®4

- PCI bus interface
- 16-bit positioning resolution
- 10 µs output period
- Software drivers (DLL) for (64-bit) Windows 7/Vista/XP/2000
- Outputs for control of one scan head and one laser
- Various laser modes selectable (e.g. YAG modes, CO₂ mode, polarity)
- Two analog outputs with 10-bit resolution; one 8-bit digital output
- Up to eight RTC® boards in one PC

RTC®4 Enhanced Features

- Scan system diagnosis and selection of IntelliSCAN® tuning profiles
- Additional software instructions (e.g. arc command)
- One 16-bit digital input and one 16-bit digital output for controlling external components

Options

- Control of 3-axis scan systems
- Optical data transfer via optical fiber interface
- Processing-on-the-fly functionality for objects in motion
- Dual-head capability for simultaneous control of two scan systems

I/O Extension Board (optional)

- 16-bit digital input, 4 bits are opto-decoupled
- 16-bit digital output, 4 bits are opto-decoupled
- 4 differential analog inputs, each with 10-bit resolution
- 4 analog outputs, each with 10-bit resolution

Laser Control Timing Diagram

