

## high-performance. advanced scan control.

RTC6 control boards enable smart and flexible control of scan systems, lasers and peripheral devices in real time.

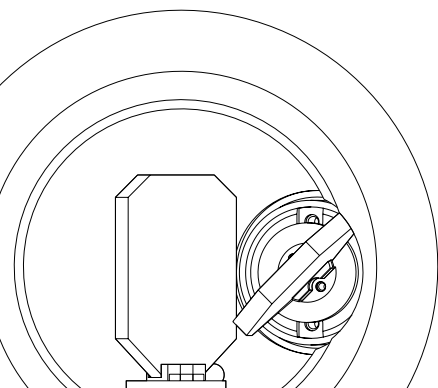
### Key Features:

- SCANahead control
- UltraFastPixelMode (up to 3.2 MHz)
- Enlarged list memory

The RTC6 is available as a PCI-Express board and as an Ethernet variant (soon incl. standalone functionality).

Based on the field-proven RTC5, the RTC6 control board delivers new functionalities to tackle complex control tasks. Examples are improved speed and position-dependent laser control and the synchronization of the usually faster x/y scan axes with the slower z-axis. This allows more precise results in 3D processing.

Complete incorporation of all RTC5 functions ensures quick, easy migration to the new RTC6 board.



## System Integration

- PCIe bus interface, Ethernet interface
- Up to 255 RTC6 control boards per PC
- Master/slave synchronization
- Drivers for Windows 10/8/7 (32-bit and 64-bit)
- Multi threading, multi processing

## Scan System Control

- SL2-100 transfer protocol (control of scan systems with XY2-100 transfer protocol via an optional converter)
- 20-bit positioning resolution
- Virtual processing field (29 bit)
- 10 µs output period
- Synchronization of the 10 µs RTC clock to an external laser clock signal
- Galvanically isolated signals
- Tuning selection
- Vector and jump mode, tuning auto-switching
- Scan-system diagnosis
- Reading back actual-position values

## Laser Control

- 15-pin D-Sub connector
- Laser signals with 15 ns resolution and 20 mA output current
- Various laser modes for controlling all typical lasers
- Bitmap mode with pixel frequencies up to 3.2 MHz, 0-100% laser pulse width (15 ns resolution), additional digital-ports as output ports
- RS232 interface
- Speed- and position-dependent laser control

## Control of Peripheral Equipment

- 16-bit digital output and input
- 8-bit digital output
- 2-bit digital output and input
- 12-bit analog output (0...10 V)
- McBSP interface
- Stepper motor signals

## Command Management

- Configurable list buffers with more than 8 million list positions, protected memory area definable
- Lists and subroutines
- "Short" list commands for changing (laser) output signals without interrupting polygonal traversal or laser switch-off

- Download verification
- Enhanced list and list execution status
- Definable and selectable character sets
- Marking of dates, times and serial numbers
- Marking of circles and ellipses
- Sky writing
- Conditional execution of all list commands possible

## Options

- SCANAhead
- Control of 3-axis scan systems
- Processing-on-the-fly functionality for objects in motion (two encoder inputs with 32-bit counter, up to 8 objects between trigger and marking position, etc.)
- Simultaneous control of two scan systems
- Customer-specific software extensions possible
- UltraFastPixelMode (UFPM) for frequencies higher than 800 kHz
- Spot Distance Control (SDC) (only with SCANAhead and with special pulse-on-demand lasers)

## Accessories

- **laserDESK**  
laser processing software

## Comparison of RTC6 – RTC5

	RTC6	RTC5
<b>PC Interface</b>	PCIe, Ethernet	PCI, PCIe
<b>SCANAhead control</b>	optional, for controlling excellSCAN	no
<b>Synchronization (scan system control)</b>	10 µs RTC clock synchronization	output synchronization
<b>Pixel frequency (bitmap mode)</b>	800 kHz maximum (standard)	308 kHz maximum
<b>UltraFastPixelMode (UFPM)</b>	3.2 MHz maximum (optional)	no
<b>List memory</b>	8 million list positions	1 million list positions
<b>3D correction files</b>	up to eight 3D correction files	up to two 3D correction files
<b>Output period</b>	10 µs	10 µs
<b>Transfer protocol</b>	SL2-100	SL2-100
<b>Software drivers</b>	drivers for Windows 10/8/7 (32-Bit and 64-Bit)	drivers for Windows 10/8/7 (32-Bit and 64-Bit) Vista/XP (ab SP2)

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