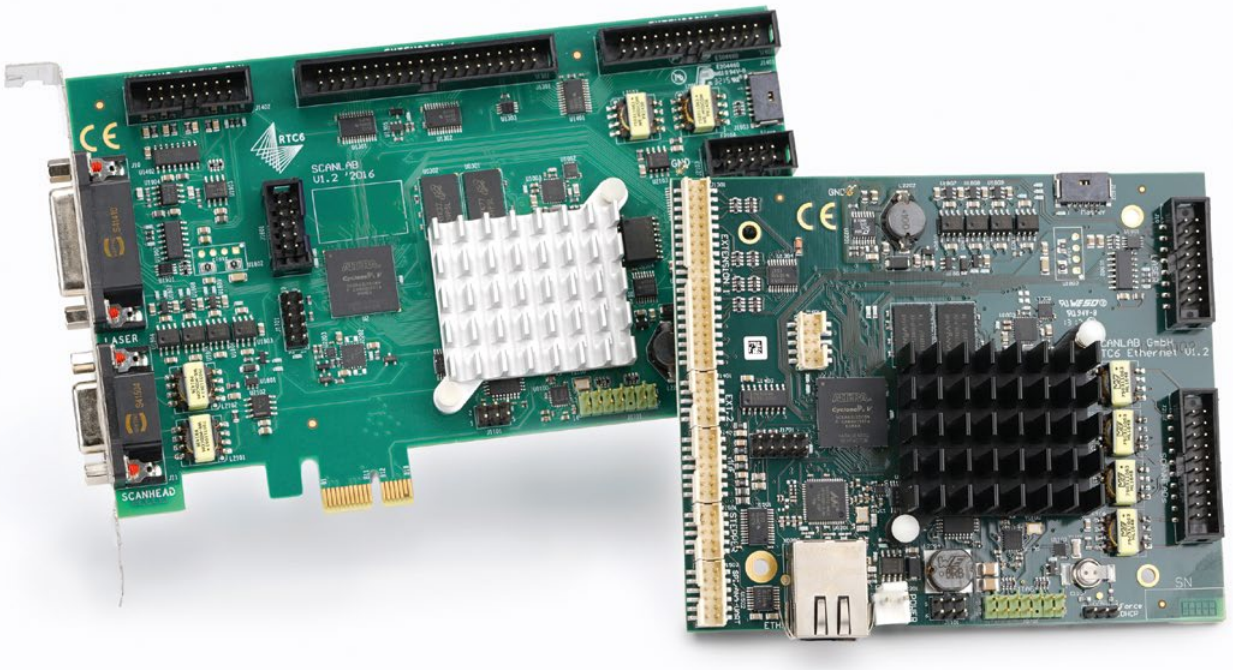
RTC6



High Performance. Advanced Scan Control.

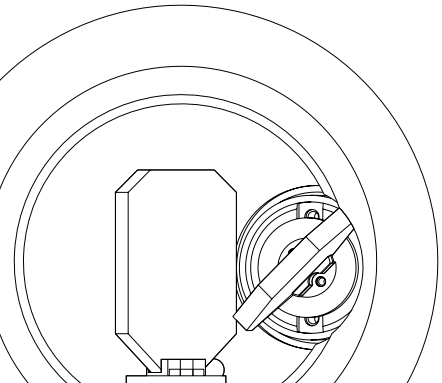
RTC6 control boards enable smart and flexible control of scan systems, lasers and peripheral devices in real time.

Key Features:

- *SCAN*ahead control
- UltraFastPixelMode (up to 3.2 MHz)
- Enlarged list memory
- Standalone functonality for RTC6 Ethernet

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.



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System Integration

- PCIe bus interface, Ethernet interface
- Up to 255 RTC6 control boards per PC
- Master/slave synchronization
- Driver for Windows 10 (x64)
  Legacy driver for previous Windows versions
- 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
- 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

- *SCAN*ahead
- 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 *SCAN*ahead and with special pulse-on-demand lasers)

Accessories

- laserDESK
  laser processing software

Comparison of RTC6 – RTC5

	RTC6	RTC5
PC Interface	PCIe, Ethernet	PCI, PCIe
***SCAN*ahead control**	for controlling excelli*SCAN* (optional)	no
Synchronization (scan system control)	10 µs RTC clock synchronization	output synchronization
Pixel frequency (bitmap mode)	800 kHz maximum	308 kHz maximum
UltraFastPixelMode (UFPM)	3.2 MHz maximum (optional)	no
List memory	8 million list positions	1 million list positions
3D correction files	up to eight 3D correction files	up to two 3D correction files
Output period	10 µs	10 µs
Transfer protocol	SL2-100	SL2-100
Software drivers	Driver for Windows 10 (x64) Legacy driver for previous Windows versions	Driver for Windows 10 (x64) Legacy driver for previous Windows versions

11/2026 Information is subject to change without notice.
Product photos are non-binding and may show customized features.

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