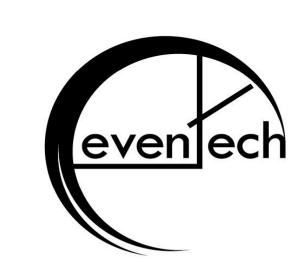# EXTENSION OF EVENT TIMER A033-ET FAMILY

eventech

Event Timer: A033-ET

Single-shot RMS resolution for the A033-ET is in the range 2.5-3.0 ps, allowing the repetition rate in burst up to 20,000,000 time-tags/sec

Temperature stability: Thanks to termo-compensated schematic the RMS resolution after calibration degrades only 0.3 ps in temperature variation ± 7.5 °C .

Integral non-linearity is an error depending on the position of measured event over interpolation interval 10 ns and is included in RMS resolution.

Interval non-linearity error for full measurement range from 50 ns up to 1.5 hours does not exceed ± 0.25 ps
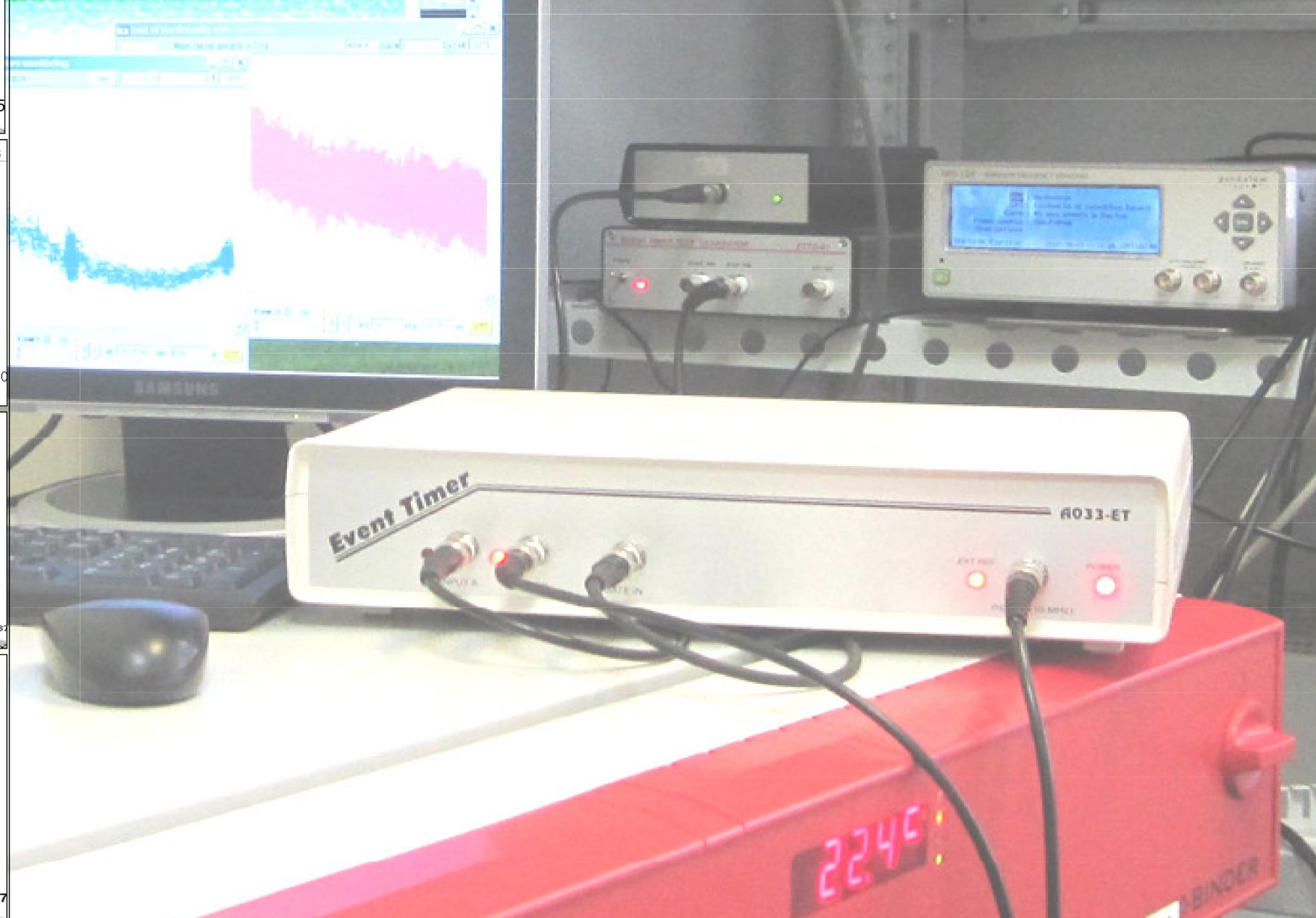
Input-to-input offset drift impacts on measured Start-Stop time interval value dependent on temperature. There it is less than 0.1 ps/oC.
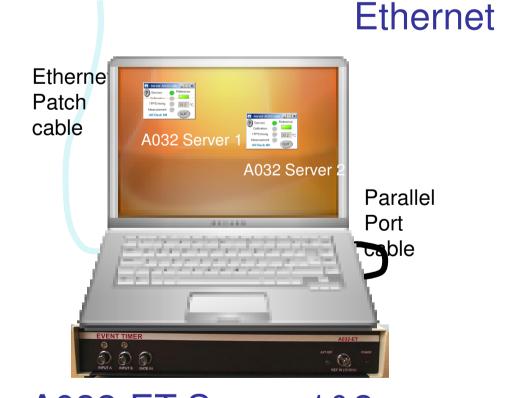
The Riga event timers (ET) are computer-based instruments that measure time instants when input events (represented by electrical pulses) occur. The Riga ETs are based on the innovative DSP-based technology for event timing (proposed by Yuri Artyukh in 2001), which uses a generation of a specific analogue signal directly from input events with its following digitizing and processing. This novel technology allowed to create the extreme precision and high-speed Event Timers having world-competetive performance characteristic and attractive price.

New embedded server system Event Timing Server Console (ETSC) is designed for providing the TCP/IP interface for the A033-ET devices with parallel interface. This solves problem of PC with Parallel Port and increases the average measurement rate up to 160,000 time-tags per second.
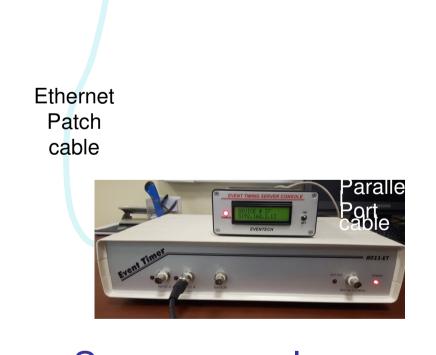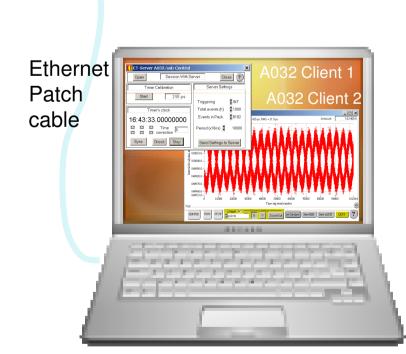
ETSC software executes all functions of the Server 1 and Server 2 of the Event Timer A033-ET system providing the time measurements for distributed Clients of this system. This software interacts with the A033-ET device via parallel interface in accordance to the EPP protocol and data/command exchange procedures, defined for the A033-ET device. Via Ethernet interface this software interacts with the existing Client 1 and Client 2 of the Event Timer A033-ET system or other application-specific Client system supporting the same application protocol.
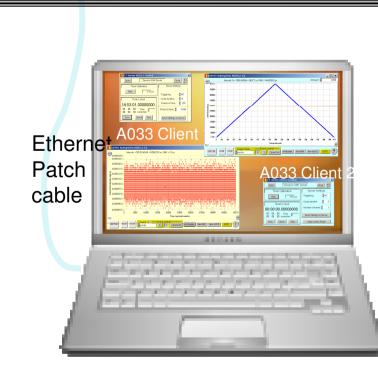
Distributed network of A032-ET A033-ET A033-ET/usb A033-ET/R
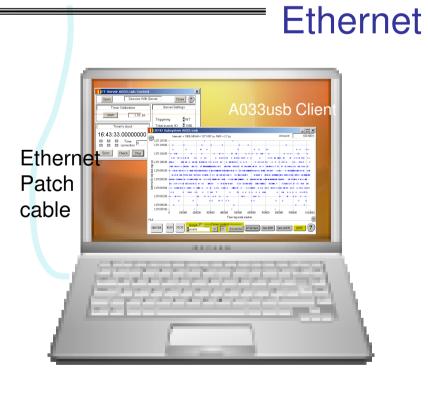

| A032-ET Server 1&2 | A033-ET Server 1&2 | Server console | A033-ET/usb Server | A032-ET Client1&2 | A033-ET Client 1&2 | A033-ET/usb Client |

	A032-ET	A033-ET	A033-ET/usb	ETSC
Average measur. rate	12,000 time-tag/sec	30,000 time-tag/sec	1,000,000 time-tag/sec	160,000 time-tag/sec
The distribution of the corresponding ET device that are bought in different countries				
China	12	23	2	37	35?
USA	0	12*	0	12	12?
Russia	1	8	2	11	9?
Japan	3	4	0	7	7?
Lithuania	0	1	5	6	1?
Latvia	2	1	0	3	3?
Korea	1	2	0	3	3?
Finland	1	2	0	3	3?
Poland	2	0	1	3	2?
Switzerland	2	0	0	2	2?
Germany	2	0	0	2	2?
Austria	1	0	1	2	1?
Spain	1	0	0	1	1?
UK	0	1	0	1	1?
Total are sold	28	42	11	93	82?

The models A032-ET and A033-ET are well known in ILRS community and are using in many SLR stations around the world.
In 2011 under Licensee Agreement the rights for manufacturing and distributing of all A033-ET systems are transferred to Eventech Ltd (Latvia).
Today 81 devices and 12* sets of ET modules are sold not only for SLR applications but also for Time Transfer by Laser Link, Gravimetry, Jitter Measurement and Analysis etc.
New Event Timing Server Console decides the problem of PC with Parallel Port and essentially increases the measurement rate.

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