

Eye-Checker™

NEW Picosecond Optical Sampling Scope EYE-2000C

Key Features

- 1 picosecond sampling resolution
- Low sampling jitter <100fs
- Very high bandwidth >500GHz
- High signal sensitivity
- Low polarization dependency
- Software clock recovery without external clock
- Real-time algorithm with fast refresh rate
- Total bit-rate independent with tunable sampling rates
- Data modulation format independent
- External clock-in option available



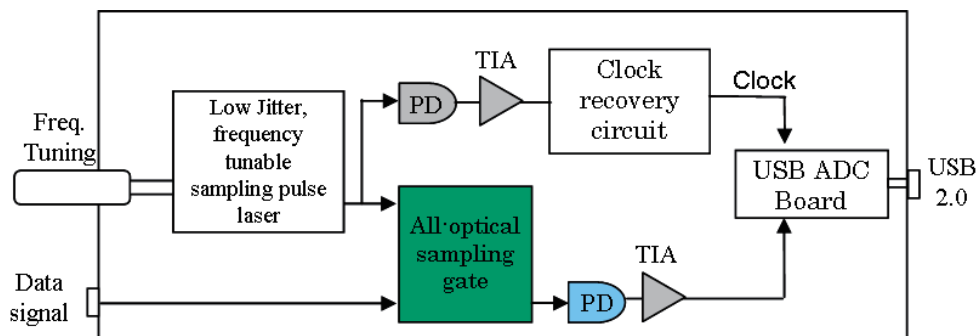
The Eye-Checker™ (EYE-2000C) optical sampling scope is a low-cost alternative to the conventional optical sampling oscilloscope, which requires an external electrical clock for synchronisation. The EYE-2000C employs an advance software algorithm, CODESYNC™, to accomplish clock-recovery on any optical signal without the need for an external clock. The software also includes eye-diagram analysis, Q-factor and BER performance prediction, to data bit pattern unravelling, sequence recognition and visualisation.

The Eye-Checker™ incorporates a proprietary carbon-nanotube-based pulsed laser with an ultra-low jitter and a tunable repetition rate, enabling a truly bit-rate independent measurement of any data format at bit-rates up to 500Gb/s.

Applications

- Optical eye-diagram measurement
- High-speed OTDM performance monitor
- Short pulsed source evaluation
- Picosecond pulse-shape characterisation
- Eye-penalty, Q-factor and BER analyses
- Data pattern visualisation and recognition
- Real-time optical network diagnosis
- Characterization of 40Gbps, 80Gbps, 160Gbps transmitter.

Functional Diagram



Specifications

Category	Parameter	Specification	Unit
Optical	Wavelength range	1530 to 1560	nm
	Power sensitivity	<1m (peak), <0.05(average)	mW
	Polarization dependency	<10	%
	Bandwidth	>500	GHz
	Modulation format	NRZ, RZ, CSRZ, Pulse	
Temporal	Short term jitter (rms)	<100	fs
	Sampling resolution	<1	ps
Data	Record length	64000	point
	Display length	8192, 16384, 32768	point
	PRBS length	Eye Diagram : $> 2^{31} - 1$ Data sequence : $> 2^{15} - 1$	
Connector	Optical input	FC/SPC or FC/APC	
Electrical	Interface	High-speed USB 2.0	
	Power supply	AC 100 to 250 V, 50/60Hz	
Operating Conditions	Operating Temperature	+15 to +35	
	Storage Temperature	0 to +50	
	Humidity (non-condensing)	<80% RH	
Physical	Dimensions (W x H x D)	485 x 135 x 435	mm
	Weight	approx. 13	kg

Note: The specifications are subjected to change without prior notice. Please contact Alnair Labs for more details.

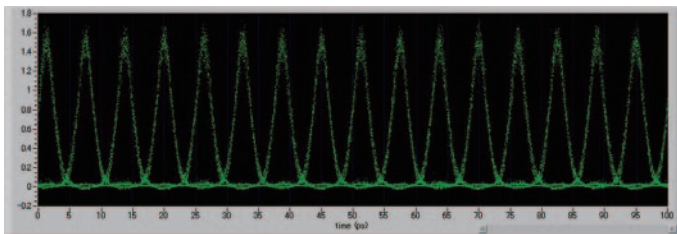
Measurement Examples


Fig. 1 Characterizing a160Gb/s RZ eye-diagram.

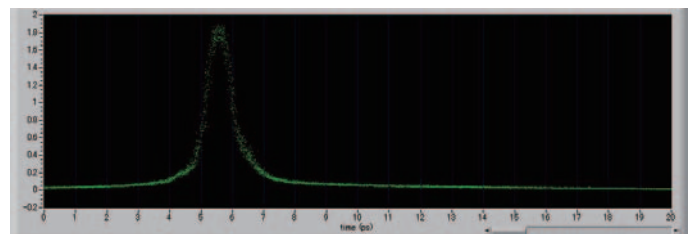


Fig. 2 Measuring 1ps optical pulse from a fiber laser.

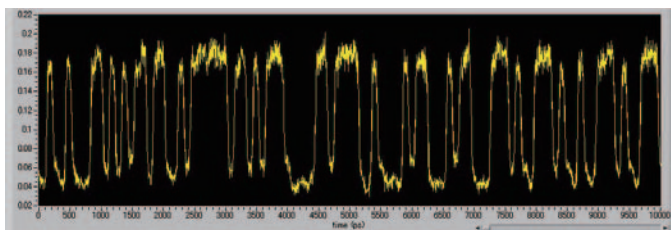


Fig. 3 Visualizing a distorted 10Gb/s NRZ signal pattern.

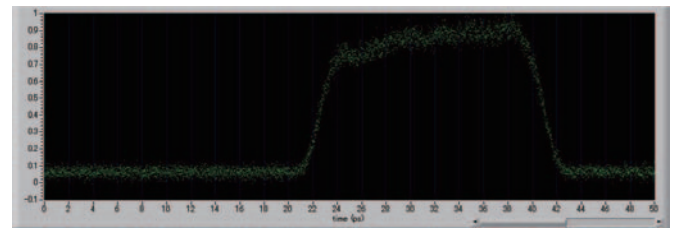


Fig. 4 Analysing an optical square pulse with 1 ps rise-time.

Ordering Information
EYE-2000C - 001 - FS

Option Code		Connector Type Code	
001	without PC	FS: FC/SPC	SS: SC/SPC
002	with PC	FA: FC/APC	SA: SC/APC