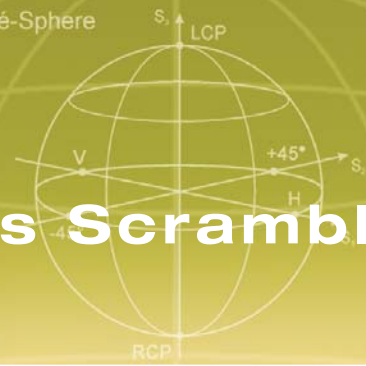




A3200 Synchronous Scrambler

Poincaré-Sphere



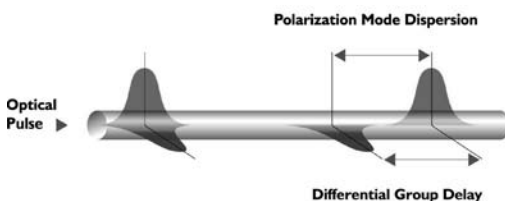
PRODUCT HIGHLIGHTS

- High-Speed Operation
- Covers S-, C- and L-Band plus 1.3 μ m Window
- Compact Size
- Standalone Operation
- Robust, no Moving Parts
- PC Software: polarizationNAVIGATOR™



APPLICATIONS

- Recirculating Loop Experiments: Loop-Synchronous Polarization Scrambling
- System Test: Polarization Sensitivity Analysis on Link / Transmission Quality
- Component Test: Measurement of PMD / PDL Characteristics of Optical Components



The A3200 is a high-speed Synchronous Scrambler. It contains a polarization controller plus microcontroller based driving circuitry. This unit can operate in various modes:

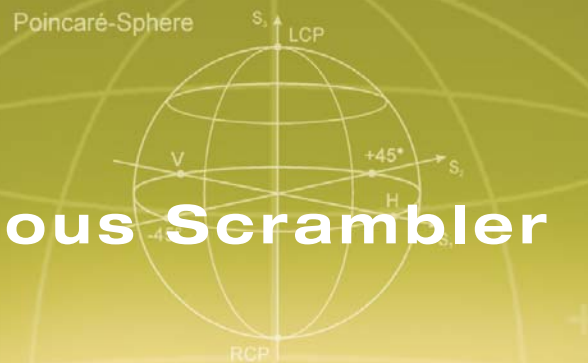
- As **Synchronous Scrambler** the device switches the SOP of the output signal in a (pseudo) random way. Switching of the SOP occurs within few microseconds. The SOP is stable for a predefined time until it again switches to a new SOP. During every switching operation the unit provides an electrical (TTL) trigger signal which allows synchronization of external processes. Alternatively an electrical trigger input can be used to synchronize the scrambler with external events.
- As **SOP Switch** the A3200 switches to a set of SOPs which allow PMD / PDL testing of optical components according to the Muller Matrix method or to the Jones-Matrix-Eigenanalysis (JME) method. The JME based measurements are in particular easily performed by using Adaptif Photonics' A1000 High Speed Polarization Analyzer as receiving unit (see section "Application Examples" in this data sheet).
- As traditional **Scrambler** the A3200 varies the output SOP in a completely random/pseudo random way.

The unit does not contain any moving parts and therefore is robust and withstands even rough environmental conditions.

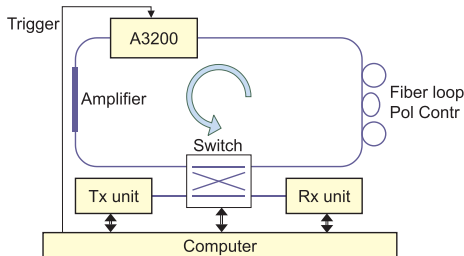
All abovementioned applications of the A3200 are supported by Adaptif Photonics' polarizationNAVIGATOR™ PC based application software which comes along with this instrument.

Other instrument drivers for various software interfaces are available.



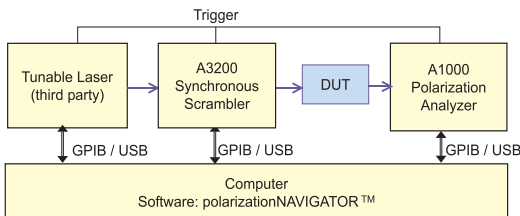


APPLICATION EXAMPLES



Recirculating loop

The results obtained in recirculating loop experiments depend heavily on the PMD properties of the loop. In order to achieve results comparable with real deployed systems loop synchronous polarization scrambling schemes have proven to be advantageous. The A3200 is ideally suited to provide the synchronous scrambling capability in the experiment.



Component Test

PMD/PDL testing on optical components can be performed with the scheme shown on the left. Adaptif Photonics implementation of the JME method guarantees high speed testing of components (PMD/PDL test across C+L band with update rates of less than 10 seconds).



Scrambling

Light which has been emitted by a laser typically is highly polarized. In order to avoid polarization effects it is common in some applications to depolarize light. This can be achieved highly effectively using the A3200 unit.

CHARACTERISTICS

Wavelength Range	1260 - 1640 nm
Speed	SOP Switching time < 10 μ s
	Scrambler: Up to 100 k SOPs/s
DOP	< 5% (when working as scrambler)
Insertion loss	< 3 dB
Input power range	Max: +20 dBm
Connectors	FC/PC or FC/APC, others on request
Trigger input/output	TTL
Operating Temperature	+10°C .. 40°C
Interface	GPIB, USB, RS232
Power	100 - 240 VAC, <36W
Dimension	330 x 270 x 70 mm ³

ORDER INFORMATION

A3200-X

X: 0 for FC/PC
1 for FC/APC (recommended for Standard applications)

Comment: A state of the art PC with GPIB/USB/RS232 Interface is required; it is not included in Adaptif's delivery

Your local sales contact

CONTACT

Phone +49 -40 766 29 2160
Fax +49 -40 766 29 2161
sales@adaptif.de
www.adaptif.de