Error Analyzer SBF 12G

(Illustration similiar)

Self-synchronizing, Wideband Error Analyzer with Error Counters

Gap Free Coverage of Bit Rates from 100 Mbps to 12 Gbps

Data Threshold and Clock Phase Adjustment for Eye Contour Analysis

Complete BERT System together with SYMPULS Pattern Generator BPG 12G

Operation via Front Panel or Graphical User Interface on PC (via USB-Interface)

Optionally available:

- **Internal Clock Recovery for Data Rates between 50 Mbps and 11.3 Gbps**

Brief Description

The Bit Error Analyzer SBF 12G is used to detect errors contained in a data stream. Together with the SYMPULS Pattern Generator BPG 12G it forms a complete measurement set for bit error rate testing (BERT).

Synchronous clock and data signals are needed to perform a measurement. The optionially available *Clock Recovery* circuit allows to recover the clock signal from the connected data signal. Six different pseudo random binary sequences (PRBS) of length 2^7-1, 2^9-1, $2^{11}-1$, $2^{15}-1$, $2^{23}-1$ and $2^{31}-1$ structured according to the CCITT standard can be analysed at bit rates between 100 Mbps and 12 Gbps.

The instrument can perform error measurements in two modes: Errors per Bit and Errors per Time. The time interval for error measurements can be chosen between 10^6 and 10^{15} periods for the Error/Bit measurement and between 10^{-5} und 10^4 seconds for the Error/Time measurement.

The integrated data threshold and clock phase adjustment allows a detailed analysis of the connected data signal, e. g. eye contour analysis.

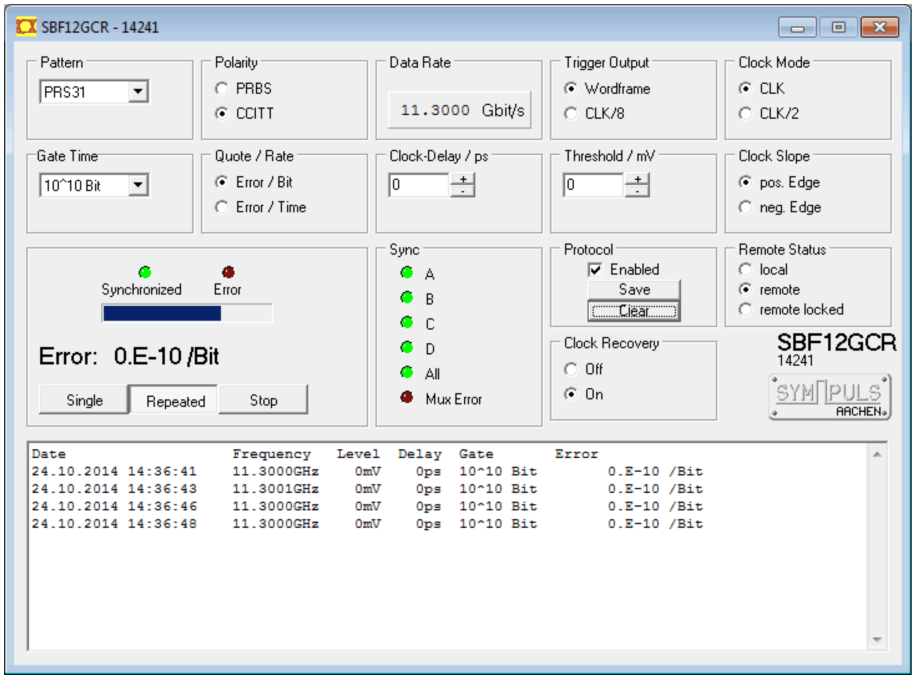
The instrument can be operated via its front panel or remotely controlled via its USB-interface. An easy-to-use graphical user interface is included in the supplied software. Additionally self-programmed software may be used to control the instrument.

Technical Specifications

SBF 12G	
Synchronisation	100 Mbps ... 12 Gbps (with External Clock), Phase Shifting of ±50 ps through Adjustable Delay, Resolution 1 ps Self-Synchronizing in the Complete Frequency Range, Synchronisation LED
Clock Input	Clock (=Bit Rate) or Clock/2 (=Bit Rate/2), 50 MHz ... 12 GHz, AC Coupled, $U_i = 0,3 \ldots 1,0\,V_{pp}$, 50 Ω SMA, $\lvert r\rvert < 0,2$
Pattern	PRBS $2^{31}-1$, $2^{23}-1$, $2^{15}-1$, $2^{11}-1$, $2^{9}-1$, $2^{7}-1$
Data Input	NRZ or /NRZ, Polarity Reversible, $U_i = 0,05 \ldots 0,8\,V_{pp}$, 50 Ω SMA, $\lvert r\rvert < 0,2$, Manually Selectable Threshold, Display of Data Balance: LED Display of 1 / 0 Distribution after Decision Unit
Clock Output	(Bit Rate)/2, $0,4\,V_{pp}$, 50 Ω SMA
Trigger Output	Selectable: 1. Clock/8 2. Word Frame Trigger $0,4\,V_{pp}$, AC Coupled, 50 Ω SMA, $\lvert r\rvert < 0,2$
Error Counter	Error Rate Measurement (Resolution 6 Digits: 5 Mantissa, 1 Exponent): 1. Error/Time: $10^{7} \ldots 10^{-4}$/ s Gate Time: $10\,\mu s \ldots 10.000\,s$ 2. Error/Bit: $10^{-3} \ldots 10^{-14}$ Gate Time: $10^{6} \ldots 10^{15}$ Clock Periods Single or Repetitive Measurement, Error Display: LED
Interface	High Speed USB, Max. Data Transmission Rate 2 MByte/s
Software	Graphical User Interface for Operation
Dimensions	19" Desktop, W x H x D = 448 x 90 x 315 mm
Weight	approx. 8 kg
Power Supply	115 V/230 V/50-60 Hz/50 VA
Optionally Available	
Option 1	Clock Recovery for Data Rates between 100 Mbps and 11.3 Gbps

Graphical User Interface

All instrument settings can be changed via an easy-to-use graphical user interface on your PC. The measurement results are displayed and can be saved to a file.



Graphical User Interface of the Operating Software (Illustration similiar)

Ordering Information

SYMPULS GmbH

Römerstr. 39
D-52064 Aachen

Phone: +49 241 35334
Fax: +49 241 35335
Email: mail@sympuls-aachen.de
Internet: www.sympuls-aachen.de

Included in delivery:

- SBF 12G
- User Manual, 115/230 V Mains, USB Cable,
- CD-ROM with Device Drivers and Operating Software

The instrument is produced by SYMPULS in Germany.
We offer a reliable service and 24 month warranty.