

FLEXEGEN

Flexible Ethernet Generator



To sound Ethernet systems out

Today a reliable and powerful data handling is crucial for quality and efficiency of an entire system.

Realtime-Ethernet is increasingly used in systems of automation technology. Consequently robustness of communication as well as the performance of continuous protocols plays a key role. This requires appropriate devices for performing tests especially in the development departments and test laboratories.

OWITA has developed **FLEXEGEN** on an extensible FPGA-based platform to meet also customer specific test functions.



Feel free to contact us and we present you our latest product **FLEXEGEN**.

Flexibility characterises this device and that is also our companies' philosophy: OWITA offers versatile tools and a variety of services for the development and optimization of complex communication systems. Your demands are our challenge. Come and test us!

Range of Functions

Frame Manipulator

Bit Error Generator

For tests of Ethernet-components in industrial environments application errors can be generated in realtime due to the port forwarding process. In this way for example electromagnetic interferences (EMI) in machine halls can be emulated. Different configurations:

- Error source: Deterministic error rate or trigger input
- Single-Error, Burst-Error
- Configuration for each direction of communication
- Trigger pulse on error insertion
- Configurable defect types: Ones' complement, Nibble-to-High, Nibble-to-Low, Short preamble error, Dribble-bit-error

Direction specific blocking

A defective cable for example can be emulated by specific blocking of the communication directions.

Packet Filter:

Due to the packet filter the Bit Error Generator can react differently to the frame types.

- Different handling of up to 4 Ethernet-frame-types:
 - Generating trigger signal
 - Forwarding without error insertion
 - Blocking of frames
- Packet counter

Forward Delay Generator

The frame forward delay can be set from $0.66 \mu\text{s}$ up to $160 \mu\text{s}$. This function can be used to test long cable/networking delays.



Link Interrupter

- Single link interrupt function: Link is disconnected for an adjustable duration
- Cyclic link interrupt function: Link-uptime and Link-downtime adjustable

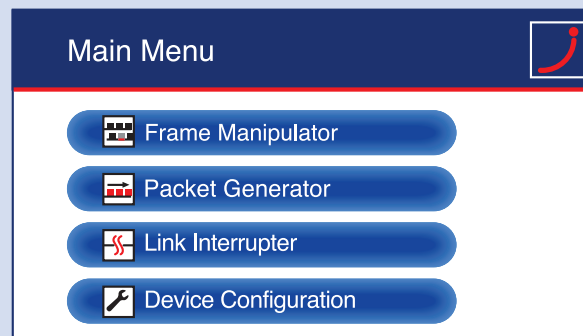
Frame Generator

Transmitting of preset packet series according to device testing specifications:

- Script-based configuration: Tests with defined packet types and load
- Transmitting of PCAP files (Wireshark Recording): Files of up to 2 MBytes can be replayed

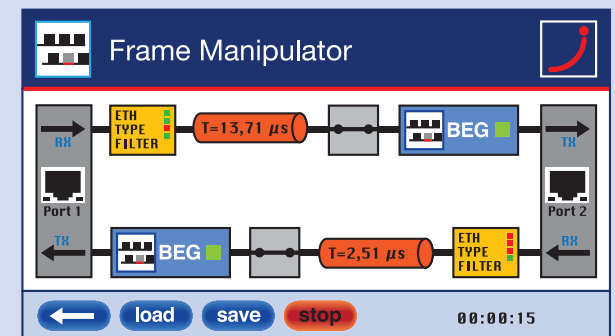
Connectors

- 2 100MBit/s Ethernet Testports
- 1 GBit/s Ethernet Control Port
- 1 USB Port
- 3 Trigger Outputs
- 1 Trigger Input



Device Handling

- Stand-alone mode via touch-panel
- Windows application for remote control (USB/Ethernet)
- DLL library for integration into own test environments



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